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TECHNICAL REPORT  
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**SUMMARY OF SPECIFICATION REQUIREMENTS  
FOR MILITARY FABRICS**

*CSX 048*

by

Test Methods Development Branch

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UNITED STATES ARMY  
NATICK LABORATORIES  
Natick, Massachusetts 01760



Clothing & Personal Life Support Equipment  
Laboratory

TS-102A(Revised)

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U. S. Army Natick Laboratories

Natick, Massachusetts 01760

CLOTHING & PERSONAL LIFE SUPPORT EQUIPMENT LABORATORY

Textile Series Report No. 102A

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SUMMARY OF SPECIFICATION REQUIREMENTS FOR MILITARY FABRICS

Prepared by

Test Methods Development Branch

of the

Textile Research and Engineering Division

October 1968

## FOREWORD

The present report supersedes Textile Series Report No. 102 (Revised) dated July 1967.

The task of revising specifications requires that one keep abreast of changes in the state of the art, to standardize and improve on test methods, and to revise requirements or incorporate new requirements to meet changing Military needs.

In the use of this report, it is important to take into account the fact that specification requirements are subject to change. Such changes are reflected by issuance of amendments, new or revised specifications and/or interim procurement documents, or by deviations cited in Invitations to Bid. In this respect, it is essential that Invitations to Bid be carefully reviewed, as requirements stated at the time of actual procurement may supersede specification requirements stated herein.

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Cloth, Denim, Cotton	MIL-C-11854E	Oct. 1966	20
Cloth, Denim, Cotton, Shrunk and Unshrunk	CCC-C-421b	May 1967	20
Cloth, Drill, Cotton, Int. Amd. 1 (Army-GL)	CCC-C-426c	Jan. 1966	21
Cloth, Duck, Cotton Bleached	CCC-C-442b	May 1965	22
Cloth, Duck, Cotton; Fire, Water, Weather and Mildew Resistant, Amd. 1	CCC-C-428d	Aug. 1965	23
Cloth, Duck, Cotton; Fire Water, Weather, and Mildew Resistant, Light Dry Finish-Amd. 1	MIL-C-41808B	Jun. 1967	24
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Cloth, Coated Glass Vinyl-Coated, Fuel and Flame Resistant Amd. 1	MIL-C-22787 (BA)	Jun. 1964	166
Cloth, Coated (Neoprene, Asbestos, Glass, Cotton; Aluminized)	MIL-C-21890 (Rvy)	Aug. 1960	167
Cloth, Coated; Non Slip Table Covering Amd. 1	MIL-C-19635 (CO)	Jan. 1957	168
Cloth, Coated, Nylon, Buna-N Coated, 1 Side	MIL-C-8135A (USAP)	Nov. 1956	169
Cloth, Coated, Nylon, Chloroprene Coated Amd. 1	MIL-C-26712A (ASG)	Aug. 1961	170
Cloth, Coated, Nylon, Copolymer of Butadiene and Acrylonitrile (Rubber)	MIL-C-22916 (NB)	May 1961	171
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Cloth, Coated, Nylon, Polyvinyl Butyral	MIL-C-14366B	Jul. 1963	173
Cloth, Coated, Nylon, Rubber-Coated, Fuel Resistant	MIL-C-8060B (ASG)	Jul. 1963	174
Cloth, Coated (Nylon Taffeta) Amd. 1	MIL-C-19699A (EA)	Dec. 1962	175
Cloth, Coated (Nylon Twill, Low Count)	MIL-C-19759A (BA)	Sep. 1961	175

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Cloth, Coated, Nylon, Vinyl Coated (For Air Supported Shelters)	MIL-C-43006A	Oct. 1967	178
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Cloth, Coated, Polychloroprene: (For Pneumatic Floating Equipment)	MIL-C-14505B	Jan. 1965	181
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Cloth, Coated, Raft Bottom	MIL-C-21109A (WEP)	Apr. 1962	183
Cloth, Coated (Rubber and Plastic) and Plastic Sheeting for Hospital use	ZZ-C-450b	Oct. 1962	184
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Cloth, Coated, Synthetic and Fibrous Glass	MIL-C-7514C (USAF)	Nov. 1966	186
Cloth, Coated, Synthetic Rubber (Nitrile and Polychloroprene)	MIL-C-82255 (Navy)	Dec. 1964	187
Cloth, Coated (Table and Shelf) Amd. 2	CCC-C-417c	Oct. 1964	188
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Cloth, Laminated, Fabric Air-Retaining Mattress	MIL-C-40056 (CE)	Apr. 1959	198
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Cloth, Laminated, Sateen, Rubberized, Amd. 1	MIL-C-9074B (GL)	Jul. 1965	200
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Cloth, Nylon, Coated; Waterproof and Flame Resistant	CCC-C-00480 (GSA-FSS)	Feb. 1953	203
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Cambric	CCC-C-81	Dec. 1938	5
Seteen; Cotton	CCC-S-91a	Jan. 1947	50
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Cloth, Silesia, Cotton	MIL-C-326F	May 1965	41
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Cloth, Wind Resistant, Twill and Poplin, Cotton Amd. 4	MIL-C-312E	Jan. 1966	46
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Cloth, Duck, Cotton, Untreated, Flied-Yarns, Army and Numbered	CCC-C-419b	Jul. 1964	26
Cloth, Denim, Cotton, Shrunk and Unshrunk	CCC-C-421b	May 1967	20
Blanket, Bed (Other than all wool)	DDD-B-421f	Mar. 1967	4
Cloth, Cotton, Muslin (Mercerized)	CCC-C-00422a (O&A-P&S)	Jan. 1963	17
Cloth, Birdseye and Gause; Cotton	CCC-C-425c	May 1967	9
Cloth, Drill, Cotton Int. Amd. 1 (Army-GL)	CCC-C-426c	Jan. 1966	21
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Cloth, Sheeting, Cotton, and Polyester and Cotton	CCC-C-430d	Nov. 1967	37
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Cloth, Sheeting, Cotton (Laundry Cover Cloth)	CCC-C-435c	Aug. 1966	37
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Cloth, Cotton, Broadcloth, Mercerized	CCC-C-437b	Nov. 1960	16
Cloth, Buckram, Cotton	CCC-C-438c	Feb. 1968	10
Cloth, Bunting, Cotton, Mercerized, Amd. 2	CCC-C-439d	May 1964	11
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Cloth, Corduroy, Cotton	CCC-C-441a	Jun. 1964	14
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Cloth, Duck, Cotton; (Single and Flied Filling Yarns, Flat) Int. Amd. 1 (Army-GL)	CCC-C-443e	May 1967	25
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Cloth, Pajama-Check, Cotton	CCC-C-00455a (O&A-P&S)	Jun. 1967	33
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Cloth, Flannel, Cotton (Heavy, for Table Felts)	CCC-C-460a	Feb. 1967	28
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Cloth, Wind Resistant; Oxford; Cotton, Quarpel Treated-Amd.-1	MIL-C-484E	Oct. 1964	44
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Cloth, Terry, Cotton	MIL-C-1164C	Oct. 1966	42
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Cloth, Waffle, Cotton	CCC-C-001375 (O&A-P&S)	Aug. 1967	44
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Cloth, Duck, Cotton; Flied and Single Yarns (High Slay)	MIL-C-2384C	Nov. 1963	25
Cloth, Damask, Cotton	MIL-C-2758C	Feb. 1966	20
Cloth, Cotton, Oxford, Amd. 1	MIL-C-4122 (USAF)	Dec. 1951	18
Cloth, Muslin, Cotton (Parachute Canopy)	MIL-C-4279B	Jan. 1966	30
Cloth, Airplane Cotton	MIL-C-5646E	Aug. 1967	6
Cloth, Cotton, Inflatable Equipment	MIL-C-6820D	May 1964	17
Cloth, Sheeting, Cotton, Treated	MIL-C-8104B (ABG)	Nov. 1967	38

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<b>I. COTTON CLOTHES - WOVEN (cont'd)</b>			
Cloth, Cotton, Basket Weave and Plain Weave	MIL-C-9231 (USAF)	Mar. 1954	15
Cloth, Cotton, Netting	MIL-C-9278 (USAF)	May 1954	18
Cloth, Cotton, Airplane Curtain, Amd. 1	MIL-C-9336 (USAF)	Feb. 1954	14
Cloth, Sateen, Cotton	MIL-C-10296F	Jul. 1966	34
Cloth, Oxford, Cotton (Permeable), Amd. 2	MIL-C-10859F	Dec. 1964	32
Cloth, Denim, Cotton	MIL-C-11854E	Oct. 1966	20
Cloth, Wind-Resistant Sateen, Cotton; Fire and Water Resistant	MIL-C-12095E	Dec. 1967	45
Cloth, Cotton, Balloon	MIL-C-12318A (CF)	Apr. 1959	15
Cloths, Cable Wiping	MIL-C-13194A (SL)	May 1967	47
Cloth, Cotton, Sheeting (For Bandoleers)	MIL-C-13453A (ORD)	Jun 1959	19
Cloth, Wigan, Cotton	MIL-C-16345F	Jun. 1968	44
Cloth, Twill, Cotton, Fire Retardent Treated	MIL-C-18317E	Aug. 1967	43
Cloth, Impregnated; Cotton, Colloid Treated	MIL-C-18543A	Aug. 1963	28
Cloth, Cotton, Cartridge, Amd. 2	MIL-C-20313	Nov. 1951	16
Cloth, Cotton, Oxford and Uniform Twill, For Summer Uniforms	MIL-C-26959A (USAF)	Nov. 1959	19
Cloth, Batiste, Cotton, Polishing	MIL-C-40129A (GL)	Sep. 1963	9
Blanket, Combat Casualty	MIL-B-41805	Nov. 1961	4
Cloth, Duck, Cotton; Fire, Water, Weather, and Mildew Resistant, Lightdry Finish-Amd. 1	MIL-C-41808B	Jun. 1967	24
Cloth, Cotton, Water Repellent	MIL-C-43033 (ORD)	Jul. 1961	19
Cloth, Sateen, Cotton, Flame Resistant Treated	MIL-C-43122C	May 1967	35
Binding, Textile, Bore Cleaning; and Swebs, Small Arms, Cleaning	MIL-B-43318	Mar. 1965	3
Cloth, Camouflage Pattern; Wind Resistant Poplin, Cotton	MIL-C-43468B	Mar. 1968	12
Cloth, Cotton, Organdy	MIL-C-85252 (WP)	Apr. 1965	18
<b>II. WOOL CLOTHES - WOVEN</b>			
Bunting; Wool- Amd. 3	CCC-B-801	Jul. 1931	60
Cloth, Serge, Wool; Wool and Nylon-Amd. 4	MIL-C-823E	Mar. 1965	67
Cloth, Wool, Gabardine (Venetian), 13-Ounce, Blue 84	MIL-C-824	Jul. 1949	68
Blanket, Bed (Wool) Amd. 1	MIL-B-844Q	Jun. 1967	59
Cloth, Fleece, Wool, 21.5-Ounce	MIL-C-2049C	Jul. 1964	64
Cloth, Flannel, Wool, 10 1/2-Ounce Shrink Resistant	MIL-C-2184D	Nov. 1965	63
Cloth, Flannel, Wool, Lining, 12-Ounce	MIL-C-3191D	Apr. 1966	63
Cloth, Barsthea, Wool- Amd. 1	MIL-C-3727C	Aug. 1964	60
Cloth, Elastique, Wool	MIL-C-3738E	Mar. 1965	62
Cloth, Gabardine; Wool, Polyester and Wool Amd. 3	MIL-C-10176F	Jun. 1965	65
Cloth, Flannel, Wool, Undercollar Cloth	MIL-C-15062F	Aug. 1967	64
Cloth, Serge, Wool (12 1/2-Ounce)	MIL-C-15506D (SA)	Oct. 1965	66
Cloth, Melton, Wool- Amd. 1	MIL-C-16290F (SA)	Jul. 1965	65
Cloth, Flannel, Wool	MIL-C-16291D (SA)	Oct. 1965	62
Cloth, Whipcord, Wool	MIL-C-17248C (SA)	Jul. 1965	62
Cloth, Billiard	MIL-C-17566A (SAA)	Dec. 1962	60
Cloth, Tropical; Wool; Polyester/Wool-Amd. 4	MIL-C-21115E	Apr. 1965	68
Cloth, Broadcloth, Wool, and Wool Synthetic	MIL-C-8225E	Nov. 1964	61
<b>III. SYNTHETIC OR MIXED SYNTHETIC CLOTHES - WOVEN</b>			
Screening, Insect, Nonmetallic- Int. Amd. 1	L-S-125a	Jun. 1967	113
Net, Laundry (Nylon) Int. Amd. 1	JJ-N-190a	Jun. 1967	111
Cloth, Tow Target, Acetate and Rayon	MIL-C-333D	Mar. 1967	107
Cloth, Satin, Rayon and Cloth, Twill, Rayon Amd. 1	MIL-C-368F	Dec. 1964	102
Cloth, Bunting, Nylon; and Nylon and Wool	CCC-C-476e	Apr. 1967	74
Cloth, Pressing, Nylon	CCC-C-482a	Oct. 1964	101
Cloth, Parachute, Synthetic-Fiber (For Ammunition Parachutes)	MIL-C-498B	May 1966	95
Cloth, Oxford, Nylon, 3-Ounce Amd.-1	MIL-C-508E	Dec. 1964	91
Cloth, Curtain, Modacrylic Warp and Saran Filling	CCC-C-525b	Nov. 1966	77
Cloth, Twill, Nylon, 1.6 and 3.0-Ounce Amd.-1	MIL-C-577F	Jul. 1964	108
Cloth, Banner, Rayon	MIL-C-606D	May 1966	73
Cloth, Netting, Nylon	MIL-C-003395F (GL)	Mar. 1968	84
Cloth, Duck, Nylon	MIL-C-3953C	Mar. 1966	77
Cloth, Nylon and Rayon, Spun	MIL-C-4072A (USAF)	Nov. 1953	85
Cloth, Plastic, Mesh	MIL-C-4141A (USAF)	Mar. 1953	100
Cloth, Synthetic Fiber, Duck	MIL-C-4224B (USAF)	Jan. 1959	105
Cloth, Nylon, Twill- Amd. 4	MIL-C-4294 (USAF)	Apr. 1952	89
Cloth, Parachute, Nylon- Amd. 1	MIL-C-7020E	Oct. 1965	93
Cloth, Duck, Nylon, Parachute Packs Notica 1	MIL-C-7219C	Oct. 1964	78
Cloth, Nylon, Parachute, Cargo- Amd. 1	MIL-C-7350C (ASO)	Oct. 1957	88
Cloth, Nylon, Ballistic	MIL-C-7812C (Aer)	Mar. 1959	86
Cloth, Nylon, Twill, 6-Ounce	MIL-C-797B (Aer)	Aug. 1952	90
Cloth, Parachute, Nylon, Cargo and Deceleration	MIL-C-8021C	Nov. 1965	95
Cloth, Nylon, Dobby	MIL-C-8321 (USAF)	Apr. 1953	87



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Cloth, Glass, Finished, for Polyester Resin Laminates - Amd. 2	MIL-C-9084B	Jan. 1960	81
Scarf, Neckwear, Rayon, Woman's	MIL-B-10679C (Navy)	Mar. 1966	112
Cloth, Rayon (For Liners for Recoilless Cartridge Cases) Amd. 1	MIL-C-11460 (ORD)	Sep. 1951	101
Fabric, Glass, Woven	MIL-F-12298A (MU)	Oct. 1965	109
Cloth, Ballistic, Nylon- Amd. 1	MIL-C-12369D (GL)	Sep. 1964	73
Cloth, Acrylic (For Cartridge Bags) Amd. 1	MIL-C-12800 (ORD)	Jun. 1953	71
Cloth, Cartridge, High Tenacity Direct Spun Viscose Rayon	MIL-C-13540 (ORD)	Jul. 1954	75
Labels, Garment (Woven, Rayon)	MIL-L-15040E	Nov. 1965	110
Cloth, Parachute, 240 Permeability; for use with Underwater Ordnance Amd.-2	MIL-C-17208A (BuOrd)	Jan. 1953	96
Cloth, Saran, Utility Bag	MIL-C-18449A (NAVY)	Jun. 1963	102
Cloth, Twill, Nylon (Low Count, 3.5-Ounce)	MIL-C-19256C	Aug. 1967	108
Cloth, Parachute (For Ring-Slot Type Parachutes used in Underwater Ordnance) Amd. 2	MIL-C-19262 (WOrd)	Jan. 1956	92
Cloth, Nylon, Twill, Inflatable Life Preserver- Amd.- 1	MIL-C-19377A (Navy)	May 1957	90
Cloth, Glass, Woven Roving, for Plastic Laminate	MIL-C-19663B (NAVY)	Feb. 1965	83
Cloth, Glass; Tape, Textile, Glass; and Thread. Uses	MIL-C-20079D	Feb. 1963	82
Cloth, Cartridge, Rayon	MIL-C-20300	Nov. 1951	76
Cloth, Nylon, Raft Bottom	MIL-C-21108A (Wep)	Jun. 1962	88
Cloth, Nylon, Ribbed, Aircraft Upholstery	MIL-C-21318A (Aer)	Nov. 1959	89
Cloth, Poplin, Modacrylic	MIL-C-21841A (SA)	May 1965	100
Cloth, Plain Weave, Polyester and Rayon Amd. 1	MIL-C-21844A (S&A)	Sep. 1964	99
Cloth, Taffeta, Nylon (2.0-ounce)a	MIL-C-21852A (S&A)	Jul. 1968	106
Cloth, Bunting, Acrylic	MIL-C-22775A	Mar. 1966	74
Cloth, Synthetic, Twill, Melt Resistant Amd. 1	MIL-C-23882 (Wepa)	Sep. 1963	105
Cloth, Nylon, Marquisette, Parachute	MIL-C-26643 (USAF)	Jan. 1959	87
Cloth, Parachute, Nylon, Aromatic, Nonmelting	MIL-C-38351 (USAF)	Mar. 1965	94
Cloth, Acrylic-Rayon (for Cartridge Bags)	MIL-C-40070 (Ord)	Jun. 1959	72
Cloth, Gabardine, Polyester and Rayon Amd. 1	MIL-C-41820B	Nov. 1965	80
Cloth, Plain Weave, Nylon: Water Repellent, OG-106	MIL-C-43128A	Jul. 1966	98
Cloth, Cartridge, Polyester-Viscose Rayon (for Cartridge Bags)	MIL-C-43153 (MU)	Jul. 1963	76
Cloth, Spun Viscose Rayon, Resin Impregnated	MIL-C-43157 (MU)	Sep. 1963	104
Cloth, Spacer (Treated)	MIL-C-43204 (GL)	Mar. 1964	101
Cloth, Plain Weave, Acrylic	MIL-C-43234 (GL)	Jun. 1964	97
Cloth, Pile, Acrylic Fiber Pile	MIL-C-43251	Sep. 1964	96
Cloth, Plain Weave, Nylon-Cloth, Plain Weave, Polyester	MIL-C-43286	Oct. 1964	97
Cloth, Plain Weave, Polyester, Low Air Permeability	MIL-C-43347C	Aug. 1967	99
Cloth, Duck, Nylon, 12.5-Ounce	MIL-C-43375A (GL)	Sep. 1966	79
Cloth, Flannel, Acrylic, Rayon and Acetate	MIL-C-43462 (GL)	Oct. 1966	79
Cloth, Taffeta, Polyester	MIL-C-43487	Mar. 1967	106
Cloth, Satin, Rayon Face, Acrylic Back	MIL-C-43525 (GL)	Aug. 1967	103
Cloth, Silics, Phenolic Impregnated	MIL-C-81251 (WP)	Apr. 1965	103
Cloth, Nylon	MIL-C-81268 (WP)	Mar. 1964	84
Cloth, Herringbone Twill, Polyamide, High Temperature Resistant	MIL-C-81280A (WP)	Jul. 1965	87
<b>IV. MIXED FIBER CLOTHS - WOVEN</b>			
Bedsread, Cotton or Cotton/Rayon Blend, Amd. 1	DDD-B-151e	Jan. 1966	117
Cloth, Interlining, Cotton Warp, and Spun Hair-Wool Filling	MIL-C-297D	Feb. 1965	126
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Cloth, Sheeting, Cotton, and Polyester and Cotton Int. Amd. 1 (Army-GL)	CCC-C-430d	Nov. 1967	132
Cloth, Bunting, Nylon: and Nylon and Wool	CCC-C-476e	Apr. 1967	121
Cloth, Pile, Alpaca; and Cloth, Pile, Wool	MIL-C-483B	Jun. 1964	129
Towel or Dishcloth (Crash, cotton, and cotton and Linen-Mixed); Cloth, Crash, Cotton	DDD-T-511c	Apr. 1966	137
Cloth, Serge, Wool; Wool and Nylon, Amd.-4	MIL-C-823E	Mar. 1965	131
Cloth, Fleece, Cotton Warp and Wool Nylon Filling: Lining, 15-oz. Shrink Resistant	MIL-C-2069D (GL)	Nov. 1964	125
Cloth, Flannel, Wool and Cotton	MIL-C-3760C	Nov. 1965	124
Cloth, Oxford, Cotton Warp and Nylon Filling, Quarpel Treated- Amd. 1	MIL-C-3924D	Jun. 1967	128
Cloth, Nylon and Cotton, Intervoven	MIL-C-4487 (USAF)	Oct. 1952	127
Cloth; Cotton Back Rayon Twill, Amd. 1	MIL-C-5545	Feb. 1950	123
Cloth, Taffeta, Nylon Face Wool Back and Cloth, Satin, Rayon Face Wool Back	MIL-C-8797A (AGG)	Dec. 1965	134
Cloth, Gabardine: Wool, Polyester and Wool, Amd. 3	MIL-C-10176F	Jun. 1965	125
Cloth, Flannel, Wool and Nylon, 16-ounce Shrink Resistant	MIL-C-11065D (GL)	Jan. 1966	124

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Cloth, Tropical: Wool; Polyester/Wool, Amd.-4	MIL-C-21115E	Apr. 1965	135
Cloth, Sateen, Cotton Warp and Nylon Filling	MIL-C-21848A (SA)	May 1965	130
Cloth, Twill, Cotton and Polyester Amd. 1	MIL-C-21851A (SA)	Feb. 1967	133
Cloth, Broadcloth, Polyester and Cotton; Cloth poplin, Polyester and Cotton	MIL-C-21881B (S&A)	Oct. 1963	120
Cloth, Satin, Rayon Warp and Cotton Filling	MIL-C-21883A (S&A)	May 1964	131
Cloth, Broadcloth, Polyester and cotton	MIL-C-22148A (MC)	May 1966	118
Cloth, Cotton and Polyester Fiber, for Summer Uniforms	MIL-C-27353A	J. 1. 1966	122
Cloth, Corded Polyester-Cotton Warp and Polyester Filling	MIL-C-40052C	Apr. 1966	122
Cloth, Duck; Cotton and Nylon, Amd. 4	MIL-C-41836A	Feb. 1966	123
Cloth, Wind Resistant Sateen, Cotton and Nylon Amd. 2	MIL-C-43191A	Dec. 1966	136
Cloth, Broadcloth, Polyester and Cotton	MIL-C-43479	Feb. 1967	139
Cloth, Poplin, Cotton and Polyester (Quarrel-Treated)	MIL-C-43482 (GL)	Feb. 1967	130
Cloth, Broadcloth, Wool and Wool Synthetic	MIL-C-82252	Nov. 1964	121
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Wall Covering, Vinyl Coated	CCC-W-4c8	May 1963	222
Cloth, Coated (Table and Shelf) Amd. 2	CCC-C-417c	Oct. 1964	198
Cloth, Coated (Rubber and Plastic) and Plastic Sheeting for Hospital use	ZZ-C-450b	Oct. 1952	184
Cloth, Glass, Coated, (For Membrane Waterproofing and Built-Up Roofing)	HH-C-466b	Aug. 1963	192
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Cloth, Nylon, Coated; Waterproof and Flame Resistant	CCC-C-00480 (GSA-FSS)	Feb. 1953	203
Cloth, Coated: Pyroxylin Coated	CCC-C-501b	Apr. 1965	182
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Cloth, Laminated, Cotton; Rubber or Synthetic Rubber-Coated, Double Texture	MIL-C-678A	May 1953	197
Artificial Leather, Cloth, Coated, Vinyl Resin, (Upholstery), Amd.1	CCC-A-700e	Jun. 1965	140
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Cloth, (Cotton Duck) Laminated Synthetic Rubber-Impregnated Oil Resistant	MIL-C-882B	Oct. 1959	190
Paulin, Waterproof, Special Purpose, 10 Feet Long by 8 Feet Wide	MIL-P-1956C	May 1967	216
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Cloth, Coated, Cotton (Creped, Phenolic Resin Treated)	MIL-C-3154	Mar. 1950	155
Pontoon Float (18-Ton, with Emergency Kit and Carrying Case), Amd.1	MIL-P-3671	Oct. 1952	218
Cloth, Coated and Laminated, Chloroprene on Nylon	MIL-C-5302B	Sep. 1959	144
Cloth, Laminated and Tape, Coated Cloth, Natural Rubber on Cotton, Pneumatic Flotation Equipment	MIL-C-6819C	Oct. 1959	194
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Cloth, Coated, Cotton, Twill Weave, 1 Side Vinyl Resin Coated, Amd. 2	MIL-C-7642 (USAF)	Mar. 1957	157
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Cloth, Coated, Nylon, Rubber Coated, Fuel Resistant	MIL-C-8068B (ASJ)	Jul. 1963	174
Cloth, Coated, Nylon Twill, Vinyl-Coated Both Sides	MIL C-8077	Apr. 1953	176
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Cloth, Laminated: Cotton, Balloon, 3 Fly, Air Retaining, Chloroprene	MIL-C-11390C (GL)	Feb. 1966	196
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Cloth, Cotton, Laminated, Waterproof and Gasoline-and-Grease Resistant	MIL-C-13695 (ORD)	Sep. 1954	191
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Cloth, Coated, and Webbing, Inflatable Boat and Miscellaneous Use, Amd. 1	MIL-C-17415E (SHIPS)	Apr. 1964	148
Cloth, Coated; and Tape, Coated Cloth-Chloroprene on Nylon, Pneumatic Life Preserver, Amd. 2	MIL-C-19002B	Oct. 1962	146
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Cloth, Coated (Nylon Taffeta) Amd. 1	MIL-C-19699A (SA)	Dec. 1962	175
Cloth, Coated (Nylon Twill, Low Count)	MIL-C-19759A (SA)	Sep. 1961	175
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Cloth, Coated, Raft Bottom	MIL-C-21109A (WEP)	Apr. 1962	183
Cloth, Laminated, ZP <sup>2</sup> and ZP <sup>2</sup> W Type Airship Envelope, Amd. 1	MIL-C-21189 (AER)	Jul. 1959	202
Dunnage Mattress, Pneumatic, Cargo Showing	MIL-D-21857A	Jun. 1961	211
Cloth, Coated (Neoprene, Asbestos, Glass, Cotton; Aluminized)	MIL-C-21890 (Navy)	Aug. 1960	167
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Cloth, Laminated, Rubber or Nylon, Inflatable Floor	MIL-C-22427 (WEP)	Feb. 1960	199
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Cloth, Laminated, and Tape, Coated Cloth, Natural Rubber on Nylon	MIL-C-23070A (WEP)	Apr. 1966	195
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Cloth, Coated, and Tape, Rubber Coating on Nylon, For Pneumatic Life Rafts.	MIL-C-27268 (USAF)	Feb. 1960	147
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Cloth, Laminated, Fabric, Air-Retaining Mattress	MIL-C-40056 (CE)	Apr. 1959	198
Cloth, Laminated, Vinyl-Nylon, High Strength Flexible, Amd. 3	MIL-C-43006B	Mar. 1967	201
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Twine, Cotton, Wrapping Int. Amd. 1 (GSA-FSS)	T-T-871d	Nov. 1965	260
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Twine, Cotton, Mattress	T-T-931b	May 1966	258
Lines, Cotton, Braided (Lead Lines and Taffrail Log Line)	MIL-L-1145D	Mar. 1967	242
Rope, Tent-Lay	MIL-R-1670D	Jun. 1968	253
Rope, Nylon, Climbing Type, Amd. 1	MIL-R-1688C	Feb. 1966	248
Twine, Linen (Waxed and Blocking)	MIL-T-2520C	Dec. 1967	264
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Cord, Cotton, Braided, Prewaxed, Amd. 1	MIL-C-5649B (ASG)	Jul. 1953	226
Cord, Elastic, Exerciser and Shock Absorber for Aeronautical Use, Amd. 1	MIL-C-5651B	Dec. 1961	228
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Rope, Nylon (Spun Yarn)	MIL-R-43161	Sep. 1963	250
Cord, Polyester, Solid Braid	MIL-C-43256A	May 1967	234
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Undershirt, Men's, (Cotton, Quarter-Sleeve)	JJ-U-513b	Apr. 1967	283
Stockinet Surgical	JJ-S-746a	Dec. 1956	280
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Cloth, Knitted Nylon Fleeca	MIL-C-17157C (SA)	May 1966	269
Cloth, Knitted, Cotton Waffle Type	MIL-C-17157C (SA)	Feb. 1965	269
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Webbing, Textile, (Cotton, Elastic) Amd.-1	JJ-W-155d	Dec. 1965	318
Webbing, Cotton, 1.2-oz., Bleached 2-inch (USMA)	P/Dss 295	Oct. 1965	312
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Webbing and Tape, Textile, Cotton, General Purpose Natural or in Colors	MIL-W-530E	Feb. 1968	314
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Tape, Insulating (Electrical) Linen-Finish, Plain	MIL-T-638A	Oct. 1962	296
Braid, Textile, Cord-edge	MIL-B-1667D	Nov. 1965	286
Tape, Textile, Nylon, Woven, White or Dyed	MIL-T-2283D	Feb. 1966	311
Webbing, Textile, Woven Nylon, Amd. 2	MIL-W-4088P (OL)	Jun. 1967	330
Webbing, Textile, Woven, Cotton and Rayon, Amd. 2	MIL-W-4576 (USAF)	Oct. 1960	329
Tape, Textile and Webbing, Textile, Reinforcing, Nylon	MIL-T-5038D	Nov. 1965	301
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Webbing, Textile, Cotton, Warp, Amd.-1	MIL-W-5665E	Jan. 1966	320
Tape, Textile Nylon, Multiple Tubular	MIL-T-5666B	Dec. 1965	309
Tape, Textile, Nylon, Parachute Construction	MIL-T-6134B	Apr. 1960	310
Webbing, Textile, Nylon, Latex Impregnated, Amd.-2	MIL-W-8630C	Apr. 1965	325
Webbing, Textile, Cotton, Stow-Loop	MIL-W-9406 (USAF)	Oct. 1965	319
Tape, Textile, 1-inch	MIL-T-10372A (MU)	Dec. 1965	302
Webbing, Textile, Woven, Low Elongation	MIL-W-10828D (OL)	Mar. 1968	332
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Webbing, Woven, Nylon	MIL-W-17337A (NAVY)	Jul. 1965	333
Tape, Nylon; Elastic; One-Inch	MIL-T-17964A (MC)	Jul. 1964	298
Webbing, Textile; Knitted, Nylon; Elastic; 1/4 Inch Width	MIL-T-17965A (MC)	Jul. 1964	323
Cloth, Glass; Tape, Textile, Glass; and Thread, Glass	MIL-C-20079D	Feb. 1963	291
Webbing, Textile, Nylon-Pneumatic Life Preserver	MIL-W-21733 (AMR)	Jun. 1962	326
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Felt Sheet (Hair) and Felt Roll (Hair)	C-F-202c	Nov. 1963	343
Felt, Sheet, Wool, Pressed, Amd. 1	C-F-206b	Jul. 1963	347
Felt, Cattlehair or Wool; Mildew Resistant, and Moisture Resistant, Treated, Amd. 1	MIL-F-2312C	Mar. 1966	342
Yarn, Wool	MIL-Y-16654c	May 1966	362
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**ABSTRACT**

Specification requirements for military fabrics and related military textile materials such as felts and cordage are summarized in tables which give details for yarn, texture, finish and key performance parameters. Included are finishing, after-treatment specifications and test methods.

This report brings up to date and adds to the data contained in Textile Series Report No. 102 (Revised) dated July 1967.

GENERAL NOTES

COTTON CLOTHS - WOVEN

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- |   |   |
|---|---|
| (1) To be specified.  | (9) Formula approval required.  |
| (2) Nonfibrous, etc., restrictions.                                   | (10) Bid sample and laboratory report.  |
| (3) See specification for applicable tolerances.                      | (11) Width exclusive of selvage.  |
| (4) Colormatching.  | (12) Width inclusive of selvage.  |
| (5) Preproduction sample.   | (13) See specification for requirements after laundering.   |
| (6) Restrictions on use of sulfur dyes.                               | (14) See specification for woven design and insignia requirements.  |
| (7) See specification for weave diagrams and instructions.            | (15) Use of dyestuffs which would cause deterioration in storage or cause dermatitis on prolonged skin contact is prohibited. |
| (8) Yarns of grade and ply and length of staple to meet requirements. | (16) See exception to test method.  |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Cz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Paint Value Max
	Min	Max												
<b>Bedspread, Cotton Or Cotton/Rayon Blend</b>														
<b>DDO-B-151a And. 1</b> (of finished bedspread)														
<b>Type I - Cribble</b>														
Size 1 - 63 x 97	24.0	-	(7)		1	1	72 in							50 50
Size 2 - 63 x 106	25.5	-	(7)		1	1	plain 62							50 50
Size 3 - 72 x 97	27.0	-	(7)		1	1	ground							50 50
Size 4 - 72 x 106	29.0	-	(7)		1	1	62 in cribble stripe							50 50
<b>Type II - Dimity</b>														
81 x 103	32.5	-	(7)		1	1	70 60							75 45
<b>Type III - Herringbone Stripe 56 x 88</b>														
	23.0	-	(7)		1	1	68 38							80 50
<b>Type IV - Corded</b>														
<b>Style A-with 4 square cut corners</b>														
Size 1 - 63 x 103	38.0	-	plain with		1	1	65 32							85 70
Size 2 - 76 x 103	46.0	-	pronounced		1	1	incl. 32							85 70
Size 3 - 76 x 113	49.0	-	warp-wise		1	1	the 32							85 70
Size 4 - 90 x 113	57.0	-	cord		1	1	cotton 32 cords							85 70
<b>Style B-with 2 square cut corners and 2 round cut corners at opposite end.</b>														
Size 1 - 63 x 103	37.0	-	plain with		1	1	65 32							85 70
Size 2 - 76 x 103	45.0	-	pronounced		1	1	incl. 32							85 70
Size 3 - 76 x 113	48.0	-	warp-wise		1	1	the 32							85 70
Size 4 - 90 x 113	56.0	-	cord		1	1	cotton 32 cords							85 70

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
DDO-B-151a Type I Size 1 Size 2 Size 3 Size 4  Type II  Type III  Type IV Size 1 Size 2 Size 3 Size 4 Styles A and B	(2)	Type I - Color (1). Colorfastness - (5660-5612-5600). Type II - Bleached white. Marked for medical procurement (1). Type III - Color (1). Colorfastness - (5660-5612-5600). Type IV - Color (1). Colorfastness - (5660-5612-5600).	(5)	Standard sample available as guide. Bedspreads shall be made of cotton/rayon blend when so specified by purchaser.



**COTTON CLOTHS-WOVEN**

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarn Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- lency	Dynamic Absorp- tion Max.	Hydra- -tatic Pressure low range Min.	Wear Permea- bility Max.	Paint Value Max.
	Min	Max												

**Binding, Textile, Bore  
Cleaning; and Swabs,  
Small Arms, Cleaning**  
MIL-B-43318

Type I - Rolls (Bindings)		Weave	W	F	W	F	W	F
Class 1 - 2 1/4" wide	4.7 5.1							
Class 2 - 4" wide	4.7 5.1	"	1	1	43	39	40	30
Type II - Cut pieces (Swabs)		"	1	1	43	39	40	30
Class 1 - 2" sq.	4.7 5.1							
Class 2 - 2-9/16" sq.	4.7 5.1	"	1	1	43	39	40	30
Class 3 - 2.187" in diameter, cir.	4.7 5.1	"	1	1	43	39	40	30

**Binding, Textile, Cotton,  
Bias - Cut**  
DDO-B-1199

Type I - Cambric	2.7	-	Plain	(1) 1/32	-	-	64	55	-	-
Type II - Percale	3.0	-	"	(1) 1/32	-	-	85	72	-	-
Type III - Satene	2.8	-	Satin	(1) 1/32	-	-	88	140	-	-
Type IV - Twill	3.2	-	1/2 Twill	(1) 1/32	-	-	76	112	-	-
Class 1 - Bleached										
Class 2 - Dyed										

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
--------------	--------	----------------------------	--	---

MIL-B-43318 Type I Class 1 Class 2 Type II Class 1 Class 2 Class 3	Secured, with an evenly developed nappe'd surface on one side.	Color - natural, unbleached.	Cutting - Type I - Class 1 - and Class 2 - cut parallel to warp yarns. Type II - Class 1 and 2 swabs shall not be cut on the bias.	Intended Use - for cleaning bores of artillery and small arms.
DDO-B-1199	Type I cloth shall contain suf- ficient sizing to produce a cambric finish.	Color - shall be blea- ched, or dyed the color specified (4-6) Color- fastness - Standard sample available (5610- 5600-5651-5660-5680). The sizing shall not affect the fastness re- quirements.	Construction - The cloth to be cut into bias bin- ding shall have the sel- vages removed, and then shall be cut on an angle of 45° ± 5°. The bin- ding shall then be joined together. Types II and IV shall have the edges of the binding treated with sizing to prevent raveling.	Intended Use - primarily for the binding of seams in wearing approval.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq Yd		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb Min.	Air Permea- bility	Shrink- age Max	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				W	F								

Blanket, Bed (Other Than All Wool) - (See also under Mixed Fiber Cloths)  
DDD-B-421r

Type I - All cotton  
Class 1 - Twill,  
(double woven)  
Size 1 - 30 x 40 in. 7.8 9.0 (7) - (8) 30 35 23 15 11% 6%  
Size 4 - 66 x 90 in. 3.45# 3.7# (7) - (8) 37 36 30 25 11% 6%

Class 2 - Plain,  
weave  
Size 2 - 72x 90 in. 1.5# 1.7# (7) - (8) 27 28 27 17 12% 6%

Type III - Blended  
wool-nylon-rayon-  
cotton and other  
fibers (see under  
Mixed Fiber Cloths)

Blanket, Combat Casualty  
MIL-B-41805

9.85 - Plain (1) 2 2 52 40 160 110 4  
1 up  
1 down

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
DDD-B-421r Type I Class 1 Size 1 Size 4 Class 2 Size 2 Type III	(2) Nap and hand to be same to stan- dard sample which is available.	Color - Type I (1) - standard sample avail- able (4). Colorfastness - Type I - meet requirements for fin- standard sample available finished blankets. (5605-5651). See specification for in- formation on marking and labels (2).	Cotton yarns shall be spun from cotton of grade and length of staple to meet requirements for fin- standard sample available finished blankets. (5605-5651).	Intended Use - Type I, Class 1, Size 1 infants use in hospitals, and nurseries. Class 1, size 4 bed covering. Type I, Class 2, Size 2 - used as sheet and bath blankets.
MIL-B-41805	treated for fire, water, weather, and made mildew resistant, in ac- cordance with Type I, Class 1 of CCC-C-428.	Color - dyed in accord- (14) ance with Type I, Class 1 of CCC-C-428.		

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Paint Value Max.
	Min	Max				W	F								
<u>Cambric</u> CCC-C-81	2.4	-	Plain	(1)	-	-	100	90	50	32	5%	5%			

Cheesecloth (For  
Wiping Purposes  
Remnants and Seconds)  
DD-C-301, Am. 2

Type I - Bleached					
Class A - Short					
lengths or				(3)	
remnants	1/2	2 1/2	Plain	20-40	
Class B - Long					
lengths	1/2	2 1/2	"	20-40	
Type II - Unbleached					
Class A - Short					
lengths or					
remnants	1/2	2 1/2	"	20-40	
Class B - Long					
lengths	1/2	2 1/2	"	20-40	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
CCC-C-81	Bleached and sized to a cambric finish.	Color (1).		
DD-C-301 Type I Class A Class B Type II Class A Class B	Bleached or unbleached (1).		Class A - short lengths shall be of not less than 1 yard. Class B - long lengths shall be of not less than 10 yards.	

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Plv	Yarns Per Inch			Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)	(5450)								
Cloth, Airplane. Cotton						F	W	F	W	F						
MIL-C-5646E	4.0	4.5	Plain 1 up 1 down	(1)	2	2	80-84	80-84	80	80						
											Elongation % max 70 lbs. tension W (5104) F					
	-	4.0	Flair 1 36 <sup>(12)</sup> 1		2	2	80-84	80-84	80	80	13.0		11.0			
	-	4.5	Plain 1 60 <sup>(1)</sup> 1		2	2	80-84	80-84	80	80	14.0		11.0			
	-	4.5	Plain 1 90 <sup>(1)</sup> 1-1/2		2	2	80-84	80-84	80	80	16.0		11.0			

NOMENCLATURE	FINISH	SHADE COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
MIL-C-5646E	(2) Washed, framed, and medium-cold calendered. Smooth and wrinkle free. Avoid excess roll pressure on cloth. pH: 5.0-8.0. (2611) Finished cloth shall contain not more than 0.003% copper, or 0.0025% manganese (D-377, ASTM manual)		Bursting Strength, P.S.I. Mullen Points (min.)- 170 (5122). Cloth shall be compatible with sir- craft dope. Dope shall dry in 45 min. when applied to finished cloth. (4.4.1)	Intended Use - In covering control surfaces, fuselages, and wings of airplanes. As base for a modified butyl rubber coated fabric used in the mfg. of prot. clothing and resistant to rocket fuel and oxidizers.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Paint Value Max.
	Min	Max				W	F								
Cloth, Awning, Cotton CCC-C-406b															
Type I - Awning Cloth, Yarn-dyed Stripes.	(3)			(3)	(Flat warp)	(3)							(16) under 10 oz./sq. yd-hydro- static height=8 in. 10-15 oz./sq. yd. hydro- static height=10 in.		
Class 1 - 8.40 oz. 8.5	-		Plain	31	2-ply	61 28	150 70						40.00		
Class 2 - 10.00 oz. 9.75	-		or	31	2-ply	66 37	175 95						40.00		
Class 3 - 12.00 oz. 12.0	-		Modified	31	2-ply	64 31	210 100						40.00		
Class 4 - 15.00 oz. 15.0	-		Plain	31	2-ply	68 34	240 120						40.00		
Type II - Awning, Cloth, painted Stripes or painted solid colors.	10.0	-	"	32	-	-	150 150						"	40.00	
Type III - Awning Cloth, piece dyed	10.0	-	"	31	2-ply	54 42	185 125						"	40.00	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
CCC-C-406b Type I Class 1 Class 2 Class 3 Class 4 Type II Type III	(2) Mildew resistant finish to comply with Class A of CCC-D-950. Water resistant-of untreated cloth shall have a leakage of not more than 50c.c. at heights specified above under Water Permeability (5516)	Color (1) - Standard sample available (4-6) Colorfastness - fair fastness to dry crocking (5651) and (5670)	(5) Breaking strength of finished treated cloth after accelerated weath- ering shall be not less than 75% of that required.	Intended Use - window awnings, canopies, patio awnings, pool- side accessories, fences, and wind-breakers.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.		Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min. (5514)	Water Permea- bility Max. (5516)	Point Value Max.	
	Min	Max				W	F	W	F								W
<b>Cloth, Ballroom, Cotton</b>																	
<b>MIL-C-332F</b>																	
<b>Class 1 - Unbleached</b>																	
Type I - 3.9 oz.	-	3.90	Plain	(12)	(1)	1	1	124	118	70	70	Freshrink (1)					30.00
Type III - 2.25 oz.	-	2.25	"	(1)	1	1	116	124	40	40		1%	1%	85%			30.00
Type IV - 3.6 oz.	-	3.60	"	(1)	1	1	96	100	55	55		1%	1%	85%			30.00
<b>Class 2 - Dyed and finished</b>																	
Type I - 3.9 oz.	-	3.90	Plain	(1)	1	1	126	112	63	63		1%	1%	85%	25 (13)	30 (13)	25.00
Type III - 2.25 oz.	-	2.25	"	(1)	1	1	120	120	35	35		1%	1%	85%			25.00
Type IV - 3.6 oz.	-	3.60	"	(1)	1	1	100	95	50	50		1%	1%	85%			25.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
MIL-C-332F Class 1 Type I Type III Type IV Class 2 Type I Type III Type IV	(2) Class 1 - Unbleached. Class 2 - Singed before dyeing and finishing. Type I, Class 1, Types III & IV, Classes 1 and 2 - when specified, cloth shall be given a non-durable water-repellent finish. Type I, Class 2 - when specified, cloth shall be given an approved durable water-repellent treatment. Initial spray rating shall be 90, 90, 80 min. (5526). Down and feather retention - "satisfactory" (5530). Mildew resistance - to deposit 1.35 ± 0.25% of inhibitor on total wgt. of finished cloth. (2011) >M5.5-8.5.(2011)	Color - Class 2 (1) - standard sample available (4.6). (2020) Colorfastness - Class 2 - standard sample available (5660-5682-5605).		Intended Use - In the manufacture of clothing and equipment items. Type I - In sleeping bags.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure Low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)								
<u>Cloth, Batiste, Cotton, Polishing</u>															
MIL-C-40125A (AL)															
						W	F	W	F	W	F				
Class 1 - Rolls	-	1.9	Plain	(11) 39½	1	1	90	75	45	35					30.00
Class 2 - Cut pieces	-	1.9	1 up 1 down	min. 41 1/6	1	1	90	75	45	35					30.00
<u>Cloth, Birdseye and Gauze Cotton</u>															
CCC-C-425															
Type I - Birdseye				(12)								(5502)			
Class 1 - Diaper Cloth (bleached)	4.0	-	Single layer	26½-27½			60	48	40	60	20% total	80% min.			45.00
Class 2 - Coverall Cloth (bleached)	3.4	3.8	birdseye	(1)			60	46	40	60	2% total	65% min.			45.00
Class 3 - Coverall Cloth (dyed)	3.7	4.2		(1)			60	46	40	60	2% total	65% min.			40.00
Type II - Gauze-double layer	3.35	-	Plain interlocking-type weave (7)	39½-40½			74	45	25		20% total	80% min.			45.00
							(Sum of warp and filling) determined on single ply of panel.								

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-40125A Class 1 Class 2	(2) Singed on both sides, desized, bleached white, and mercerized.			Intended Use - For cleaning and polishing coated optics.
CCC-C-425 Type I Class 1 Class 2 Class 3 Type II	(2)	Color - Type I, Classes 1 and 2 and Type II chemically bleached to match standard sample. Optical brightener or tinting compound may be used (5660-16) Type I Class 3 shall be 00-107 or (1). (4) (6) (2020) Colorfastness - dyed (5605-5680-5660-5651)	Type II - filling wise Intended Use - Type I - Class 1 pinking bars to be woven and Type II - Fabrication of infant into cloth to form panels (Diapers Type I, Classes 2 and 3 - measuring 19 1/2 inch. Fabrication of coveralls, cooling. Folding stripes at option A.P. and rocket fuel handlers. of supplier - see para. 3.4.1.2.3 of specification.	

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max.	Paint Value Max.
	Min	Max				W	F								
<u>Cloth, Practice, Cotton, Fire-Resistant</u> MIL-C-788D (SRIPS)	12	13		(1) 1 1/2		22-26	19-21	120	80						
<u>Cloth, Buckram, Cotton</u> CCC-C-438c															
Type I - Resin fin.				(12)											
Class 1 - fine tex.	5.7	-	Flair.	(1)	1	1	52	44	63	54					
Class 2 - med. tex.	5.7	-	"	(1)	1	1	44	22	80	54					
Type II - Nonchlorine retentive resin fin.															
Class 1	4.5	-	"	(1)	1	1	50	42	60	50					40.00
Type III - Starch fin.															
Class 1	3.8	-	"	(1)	1	1	46	42	50	40					40.00
Class 2	12.0	-	herringbone twill	(1)	1	1	48	20	140	125					40.00
Type IV - Starch fin. Double texture (2 plies of Type III Class 2)															
Class 1	24.0	-	herringbone twill	(1)	1	1	-	-	140	125			0.70	0.570	40.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
MIL-C-788D	Fire resistant - flame time, 3 sec. max. Average length of char- 3 in. Treatment must be compa- tible with adhesive Type I of MIL- A-3316 (5903F). Flexibility (3.2).		Drying time and adhesive strength (3.5.1).	Intended Use - For repairing and covering the surface of fibrous glass insulation board.
CCC-C-438c	(2) Type I - resin finish. Type II - nonchlorine retentive resin finish. Shall show no discoloration & max. loss of breaking strength 10% (5100). Type III - starch swing finish (4.4.1). Class 2 - starch finish. Type IV - made of 2 plies of Type III Class 2 cloth. Plies shall be joined by lamination. Laminating material shall be of a synthetic resin type, unaffected by wet drycleaning (5622) and causing no objectionable odor. pH: 5.5-8.5 (2811)	Color (1) - standard sample available (4-6). When natural is speci- fied, cloth shall be fabricated from un- bleached yarn. Use of reused or dyed fiber will be allowed, sub- to colorfastness tests. Colorfastness - Natural cloth - standard sample available - (5610-5622- 5680). Dyed cloth - standard sample available - (5610-5622-5680-5651).	Non-fibrous Content: Type I Class 1 25% Class 2 10%  Type II Class 1 60%  Type III Class 1 35% Class 2 50%	Intended Use - Types I, II and III as interlining for clothing. Type IV - Use when a high degree of stiffness is required, as in the standup collar for cadet uniforms. Type II - Also suitable for lining shirt collars.



### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)								
<u>Cloth, Bunting, Cotton, Mercerized</u> CCC-C-439d, Amd. 2			Plain	(11) 37 1/2 Mil. 35-3/4 Civ.	2	2	31	30	50	50					55.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
CCC-C-439d	(2) Fully mercerized. pH: 5.0 - 8.0 (2611)	Color (1) - standard sample available (4-6). Colorfastness - standard sample available - (5651- 5660-5630-5632). (16)		Intended Use - In the manufacture of signal, semaphore, ensign (including U.S. flag), and other type flags.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.		Seam Effic- iency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max.	Paint Value Max.
	Min	Max				W	F			W	F					
Cloth, Camouflage Pattern; Wind Resistant Poplin, Cotton MIL-C-43468B	5.7	6.7	Ripstop (7)	(12) (1)	2	2 or 1	106	52	120	72	15.0	2.0%	2.0%	80%		35.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
MIL-C-43468B	(2) Thoroughly prepared, singed, and mercerized. Cloth shall be given a sewing side finish which shall not make the cloth hydrophobic (6.4) pH: 5.0-8.5	Color - The dyeing of the ground shade and the printing of the cloth shall be accomplished with organic colorants as specified in para. 3.4.1 of spec. to provide a match to the sev- eral shades of the pattern and to provide the infrared reflectance levels spec- ified in para. 3.5 (4-6). Standard Sample available - Resin bonded pigment print- ing not permitted. Colorfastness - standard sample available - (5605- 5680-5660-5651) (16) - Pattern repeat shall be 17.5 ± .25 inches. Pattern shall show sharp demarkations minimum of feathering or spew. All pattern areas shall show solid coverage.		Intended Use - To be used in camouflage clothing.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	(5050)	(5100)												

Cloth, Chambray,  
Cotton  
CCC-C-231c

Min		Max		W		F		W		F		W		F	
Type I - Mercerized															
Style A - 3.0 oz.	3.0	-		Plain	(12)	1	1	90	75	45	38		2%	2%	85%
Type II - Unmercerized															
Style A - 5.3 oz.	5.3	-		"	(1)	1	1	67	58	75	52				32.00
Style B - 4.3 oz.	4.3	-		"	(1)	1	1	68	50	65	34				22.00

Cloth, Cheesecloth,  
Cotton, Bleached And  
Unbleached  
CCC-C-440c

Min		Max		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
Class 1 - Unbleached	1.60	1.88		Plain	36	-	-	76	84	22	13				70.00
Class 2 - Bleached	1.35	1.99		"	36	-	-	76	84	20	9				60.00
Type II - 20x24															
Class 1 - Unbleached	0.98	1.16		"	36	-	-	49	55	10	5				70.00
Class 2 - Bleached	0.87	1.03		"	36	-	-	49	55	8	4				60.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-231c Type I Style A Type II Style A Style B	(2) Type I - Singed, desized and mer- cerized, with a clear lustrous finish (standard sample available). Type II - Regular commercial finish.	Color (1) - Standard sample available (4-6). Colorfastness - Standard sample available. Type I - (5660-5610-5600- 5680-5651). Type II - (5660-5610).	Dyed warps for Type I and Type II. Bleached filling for Type I. Natural white filling for Type II.	Extended Use - For the fabrica- tion of clothing items.
CCC-C-440c Type I Class 1 Class 2 Type II Class 1 Class 2	Class 1 - Unbleached. Class 2 - Bleached.			Extended Use - In items of clothing and for polishing and cleaning operations.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- lency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value M. Y.	
	Min	Max													W
<b>Cloth, Corduroy, Cotton</b>															
CCC-C-441a															
Type I - Unbleached, unshrunk															
Wales/in. min.															
Class 1	8.0	-	Single or	(12)	(1)	Single	45	126	65	60					
Class 2	10.5	-	Double tie	(1)	(1)	or ply	58	142	76	74				45.00	
Type II - Dyed and shrunk															
Preshrunk															
Class 1	7.2	-	"	(1)	"	"	46	126	60	55	5 1/2	3 1/2	15	35.00	
Class 2	9.5	-	"	(1)	"	"	59	142	70	66	5 1/2	3 1/2	12 1/2	35.00	
<b>Cloth, Cotton, Airplane Curtain</b>															
MIL-C-9336 (USAP)															
Amd. 1															
	6.0	6.5	Plain (1/1)	(1)	2	2	56	52							
Tearing Strength, lbs., min.															
(510k) (513k)															
W F W F W F															
4.0 4.5															
(on unaged & oven aged samples.)															

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-441a Type I Class 1 Class 2 Type II Class 1 Class 2	(2) Type I - Unbleached and unshrunk. Type II - preshrunk.	Color - Type I - natural. Type - (1) - standard sample available (4-6). Colorfastness - standard sample available for dyed and finished cloth - (5660-5610-5600-5680-5651).	(a) For double tie type the minimum number of warp yarns shall be twice that specified herein.	Intended Use - In the manufacture of clothing items.
MIL-C-9336	(2) (15) Considered; smooth and free from wrinkles. Mercerized, either yarn or piece mercerization is accept- able. Treated for flame resistance. pH: 4.0-10.0 (after oven aging) (2611).	Color - to match shade No. 3406 of Spec. TT- C-595. Vat dyed. Uni- form color. Either yarn or piece dyeing is acceptable. Colorfastness - "good" (5610-5660).	Cloth shall lose no more than 15% of init- ial breaking strength after oven aging. Flame resistance: length of flame - 0 sec., length of char - 3.5 in. max.	Intended Use - In the manufacture or replacement of aircraft curtains.

**COTTON CLOTHS-WOVEN**

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max	Point Value Max.
	Min	Max				(5050)	(5100)								
<u>Cloth, Cotton, Balloon</u>															
<u>MIL-C-12315A (CF)</u>															
						W	F	W	F	W	F				
				(11)								V	F		
Type I - EB	-	2.90	Plain 1 up	40.5- 41.5	1	1	100	100	58	58					Shrinkage (1) 1% 1%
Type II - EH	-	2.05	1 down	41.5- 42.5	2	2	120	120	40	40					1% 1%
Type III - EK	-	1.40	"	53.5- 54.5	1	1	120	120	24	24					1% 1%
Type IV - EM	-	4.00	"	41.5- 42.5	2	2	80	80	80	80					1% 1%
Type V - ER	-	5.65	Basket, 5 up	41.5- 42.5	3	3	94	94	140	140					1% 1%
Type VI - ES	-	1.70	5 down Plain 1 up 1 down	39.5- 40.5	1	1	120	120	32	30					1% 1%

Cloth, Cotton, Basket  
Weave and Plain Weave

<u>MIL-C-9231 (UMAF)</u>															
Type I - Plain Weave	-	(a) 4.5	Plain, 1 up 1 down	(3) (1)	2	2	86	80	72	72	(5104)				
Type II - 4x4 Basket Weave	-	4.5	4x4 Basket (4 warp ends weav- ing as 1; 4 picks in each shed)	(1)	2	2	86	80	72	72					

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
<u>MIL-C-12315A</u> Type I Type II Type III Type IV Type V Type VI	(2) Clean, singed, desized and calen- dered, with a smooth even surface. Excess pressure during calendaring shall be avoided. Type ER shall be made from bleached & mercerized yarns. pH: 5.0-9.0 (2610).	Color - Type ER shall be bleached white. All other types shall be dyed & unbleached.	(5) Copper content shall not exceed 0.001 of 1%, manganese content shall not exceed 0.0005 of 1%.	Intended Use - For impregnation with either synthetic or natural rubber.
<u>MIL-C-9231</u> Type I Type II	(2) (15) Washed, framed, and medium-cold calendered, with a smooth even surface. Excessive roll pressure shall not be applied during calendaring. Type I shall be mercerized, smooth and wrinkle free. pH: 5.0-9.0 (2611).		(a) Except for cloth having a nominal length of 90 in., weight shall not exceed 4.75 oz/sqyd.	Intended Use - In coated fabrics, It is not intended for use as a covering for airfoils.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarn No. Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				W	F								
<b>Cloth, Cotton, Broad-</b>															
<b>Cloth, Mercerized</b>															
CCC-C-437b															
Type I - 140x74	3.5	-	Plain	(11)	1	1	140	74	74	28	Freshrun		1%	1%	85%
Type II - 140x56	3.2	-	"	(1)	1	1	140	56	65	25			1%	1%	85%
Type III - 132x64	3.2	-	"	(1)	1	1	132	64	75	30			1%	1%	85%
Type IV - 116x56	3.2	-	"	(1)	1	1	116	56	60	25			1%	1%	85%
Type V - 102x56	3.2	-	"	(1)	1	1	102	56	55	25			1%	1%	85%
Type VI - 82x56	2.8	-	"	(1)	1	1	82	56	30	25			1%	1%	85%
Class 1 - Bleached															
Class 2 - Unbleached															
Class 3 - Dyed															

<b>Cloth, Cotton,</b>										
<b>Cartridge</b>										
MIL-C-80313, Am. 2										
Grade	Weight	Weave	Width	Stretch (max)			Water Extract			
				W	F	Y	(max)	(max)		
Grade A	5.0	-	36-42 (40 pref)	74	66	70	70	12%	20%	0.5%
Grade B	3.1	-	"	-	-	30	30	-	-	0.5%
Grade C	2.1	-	"	87-93	76-82	28	25	-	-	2.0%
Grade D	8.2	1 right 1 will	"	116	56	180	130	12.5%	12.5%	0.5%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, leading strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
CCC-C-437b Type I Type II Type III Type IV Type V Type VI	(2) Singled, desized, and mercerized, with a clear, lustrous finish. Class 1 shall be bleached.	Color (1) - standard sample available (4-6). Colorfastness - standard sample available - (5660- 5600-5680-5651-5610).		Intended Use - In the manufacture of men's and women's shirts.
MIL-C-80313 Grade A Grade B Grade C Grade D	(2) Grade A - free from starch and calendered. Grade B - free from starch and calendered. Grade C - lightly sized with starch and calendered. Starch shall be undegraded (e.g. no gums or dextrines). Grade D - free from starch and calendered. pH: Neutral / 0.1%	Color - white.	Grade A - shall be manu- factured from Type 140 of bags for leading propellant sheeting, narrow or wide, split to correct width. Grade B - shall be manu- factured from commercial print cloth. Grade C - shall be manufactured from commercial combed lewn cloth. Grade D - shall be manufactured from commercial cloth of a 4-harness will.	Intended Use - In the manufacture of bags for leading propellant charges.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.	
	Min	Max				W	F									W
<b>Cloth, Cotton, Inflatable Equipment</b>																
<u>MIL-C-68200</u>																
Class 1 - Plain	-	2.2	Plain, 1 up 1 down	40	(8)	120	120	40	40							
Class 2 - Twill	-	8.0	1/2 left 1 twill			90	90	145	140							
<b>Cloth, Cotton, Jean (Bleached)</b>																
<u>CCC-C-444b</u>																
	4.7	-	2 twill	(12)	-	98	60	85	48							
<b>Cloth, Cotton, Muslin (Mercerized)</b>																
<u>CCC-C-00422a (08A-F88)50</u>																
	-	-	Plain	35-36	1	1	53	46	60	60						

Tearing Strength, lbs, min.  
513<sup>4</sup>

Freshrunk  
1% 1%

Freshrunk  
1% 1%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-68200 Class 1 Class 2	Smooth surface. Finished cloth shall contain no more than 1.0% methyl ethyl ketone extractible matter. pH: 6.0-8.0		Material - The cotton cloth shall be woven, singed, unbleached, and undyed calendered cloth.	Intended Use - In the manufacture of laminated cloths or coated cloths which provide gas & air impervious properties suitable for components of life rafts, flotation bags, and other inflatable items.
CCC-C-444b	(2) Singed, desized, and bleached.			Intended Use - In the manufacture of clothing and equipage items.
CCC-C-00422a	(2) Mercerized, with a crisp, lustreous finish - standard sample available. No change in appearance or hand after three launderings (5550).	Color (1) - standard sample available (4-6). Colorfastness - standard sample available - (5660-5680-5651).	(5)	Intended Use - As dress goods and suiting material.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)								
Cloth, Cotton, Netting MIL-C-9278 (UBAF)	5	1	Conventional Leno	42 41	W min.	F 8	8	85							

Cloth, Cotton, Organdy  
MIL-C-81252 (WF) 1.2 1.6 Plain 76-80 70-74 29 20

Cloth, Cotton, Oxford  
MIL-C-4122A (UBAF)  
Amd. 1

Type I - White	4.25	4.30	Plain, 1-up 1-down (2 warp ends weaving as 1)	36 35	(8) std. sample avail- able	88	42	40	70	Freshrunk 1% 1%	
Type II - Shade Blue Number 501	4.25	4.50				88	42	40	70	1%	1%
Type III - Shade Blue Number 126	3.80	4.10				88	42	40	70	1%	1%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
MIL-C-9278	(15) Sized for a stiff finish. Treated for mildew resistance.	Color - to match shade No. 3412 of Spec. TT-C- 595. (6-15).	Cloth shall retain 85% of initial breaking strength after mildew resistance treating.	Intended Use - In the manufacture of aircraft wing and stabilizer protective covers.
MIL-C-81252		Color - white (natural).	(5) Tearing strength - 0.87 min. in the warp and 0.51 min in the filling.	Intended Use - As a restraining material for parts of rocket motors.
MIL-C-4122A Type I Type II Type III	(2) Singed, desized, boiled off, scoured, and mercerized, with a clear lustrous finish.	Color - Type I - white (bleached). Type II - Shade Blue, #501, vat dyed in the piece. Type III - Shade Blue #125. Warp of vat dyed blue yarns; fill of bleached white yarns. (4). Colorfastness - "Good" (5660-5610-5600-5651- 5680-5620-5622).	(5)	Intended Use - In the fabrication of UBAF shirts and WAF shirt- waists.



### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.		Air Perm./a- bilit.	Shrink- age Max	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max.	Point value Max.	
	Min	Max				W	F	W	F								W
<u>Cloth, Cotton, Oxford</u> Min   Max																	
<u>and Uniform Twill, For</u>																	
<u>Summer Uniforms</u>																	
MIL-C-26959A (USAF)																	
Type I - Oxford	4.25	4.75	2x2 Oxford	(1)	2	1	90	80	40	90	33						
Type II - Uniform Twill	6.0	6.5	2 <sub>right</sub> 1 <sub>twill</sub>	(1)	2	1	82	50	90	80	30						
<u>Cloth, Cotton, Sheetting</u>																	
<u>(For Bandoleers)</u>																	
MIL-C-13453A (ORO)																	
	4.6	5.0	Plain	(11) 42 min.	1	1	68	66	70	70							
<u>Cloth, Cotton, Water</u>																	
<u>Repellent</u>																	
MIL-C-43033 (ORO)																	
Class 1	-	2.6		(1)			87-93	76-82	22	18							
Class 2	-	3.9		(1)			-	-	24	22							

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
MIL-C-26959A Type I Type II	(2) Singed, boiled off & mercerized.	Color (1) - standard sample available. Colorfastness - "fair" (5600), "Good" (5660- 5610-5682-5651).	(5) Tearing strength - Type I - 9 lb. min. in the warp and 8 lb. min. in the fill. Type II - 7 lb. min. in the warp and filling. (5134)	
MIL-C-13453A	(2) pH: 6.9-7.3 (2611).	Color - Olive Drab No. 7 - standard sample available. (4-6). Color to be obtain- ed by vat dyeing. Chromium salts shall not be used for oxidation of the vat dye- stuffs. Colorfastness - standard samples available - (5610- 5600-5651-5660).		Intended Use - In making bando- leers for small arms ammunition.
MIL-C-43033	(2) Unbleached & free of sizing. Calendered. Finished with a urea formaldehyde resin (paste type), plus a durable water repellent (melamine resin base) as avi- denced by a purple color after test dyeing (4.3.1.1). pH: 5.5-8.5 (2611). Acidity or alkalinity - 0.10% max. (4.3.1.8). Breaking strength loss - 25% max. (4.3.1.9).	Color - natural or as specified.		Intended Use - As cartridge cloth in ammunition.

**COTTON CLOTHS-WOVEN**

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.		Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Paint Value Max.
	Min	Max				(5050)	(5100)			(5450)	(5550)					
<u>Cloth, Denim, Cotton</u> MIL-C-2750c	5.5	-	Sim. Denim 5-leaf twill (14)	(12) 5 1/2 or 7 1/2 2 1/2 in.	1 1	(3) 78	76 74	74		6%	6%					
<u>Cloth, Denim, Cotton</u> MIL-C-11854E	5.8	-	1 right 2 twill	(12) (1)	1 1	65	42 90	38		Freshrunk 2% 2%	85%					30.00
<u>Cloth, Denim, Cotton, Shrunk and Unshrunk</u> CCC-C-421b																
Type I				(11)												
Class 1 - Unshrunk	8.04	-	2 right 1 twill	(1) single		62	39 145	53								40.00
Class 2 - Shrunk	8.78	-	3-barress	(1) or ply		63	42 145	58		Freshrunk 2% 2%						40.00
Type II																
Class 1 - Unshrunk	8.95	-	"	(1) single		66	43 150	65		Freshrunk						40.00
Class 2 - Shrunk	9.75	-	"	(1) or ply		67	46 150	70		2% 2%						40.00
Type III																
Class 1 - Unshrunk	9.85	-	"	(1) single		68	42 167	70		Freshrunk						40.00
Class 2 - Shrunk	10.97	-	"	(1) or ply		69	45 167	75		2% 2%						40.00
Type IV																
Class 1 - Unshrunk	11.06	-	"	(1) single		70	42 177	85		Freshrunk						40.00
Class 2 - Shrunk	12.30	-	"	(1) or ply		71	45 177	90		2% 2%						40.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not-Specification Requirements)
MIL-C-2750c	(2) Bleached and mercerized, with a clear lustrous finish.	Color - White, Navy Shade 3017. - standard sample available.	(5) (14)	Intended Use - In making table cloths.
MIL-C-11854E	(2) The filling effect side of the cloth shall be the face. pH: 5.0-8.5 (2611)	Color (1) - standard sample available (4-6). Colorfastness - standard sample available (5660- 5610-5680-5651).		Intended Use - In the fabrica- tion of uniforms for female personnel.
CCC-C-421b Type I Class 1 Class 2 Type II Class 1 Class 2 Type III Class 1 Class 2 Type IV Class 1 Class 2	(2) pH: 7.0-10.0 (2611)	Color (1) - Standard sample available (4). Style A - white-back cloth with dyed warp yarns & white filling yarns. Style B - dyed warp & dyed or tinted filling yarns. Colorfastness - Standard sample available - (5660) after 40 hrs. exposure (5610-5651).	When Blue 3301 shade is specified the shade can be obtained by using vat dye stuffs.	Intended Use - In the manu- facture of clothing items.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply		Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.		Seam Effic- iency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max			W	F	W	F			W	F					
<u>Cloth, Drill, Cotton</u> CCC-C-426c, Int. Am. -1																	
Type I																	
Class 1 - Greige	7.0	-	3 harness	(12)	(1)	1	1	72	60	115	82						45.00
Class 2 - Desized, preshrunk	7.0	-	2 left 1 twill	(1)	1	1	74	58	105	75		Preshrunk 2% 2%	80%				45.00
Class 3 - White or dyed, preshrunk	6.5	-	"	(1)	1	1	74	56	105	70		2% 2%	80%				35.00*
Type II																	
Class 1 - Greige	7.7		"	(1)	1	1	72	48	130	85							45.00
Class 2 - Desized, preshrunk	7.5		"	(1)	1	1	74	46	120	72		Preshrunk 2% 2%	80%				45.00
Class 3 - White or dyed preshrunk	6.5		"	(1)	1	1	74	44	105	62		2% 2%	80%				35.00*
Type III																	
Class 1 - Greige	6.7		"	(1)	1	1	72	48	110	65							45.00
Class 2 - Desized, preshrunk	6.5		"	(1)	1	1	74	46	100	60		Preshrunk 2% 2%	80%				45.00
Class 3 - White or dyed preshrunk	6.0		"	(1)	1	1	74	44	90	55		2% 2%	80%				35.00*

\*+2.00 points for bleached

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-426c Type I Class 1 Class 2 Class 3 Type II Class 1 Class 2 Class 3 Type III Class 1 Class 2 Class 3	(2) pH: of class 3 dyed. Cloth shall be 5.5-8.5 (2611)	Color - Classes 1 & 2 natural color - Class 3 - bleached or dyed (1) standard sample available (4-6) Colorfastness Class 3 - standard sample avail- able (5660-5610-5622- 5651-5680).		Intended Use - In clothing and equipment items.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.	
	Min	Max				W	F									W
<u>Cloth, Duck, Cotton</u> <u>Bleached</u> CCC-C-442b																
Type I	5.0	-	Plain 1up/1down	(12) (1)	2	2	77	44	130	75						35.00
Type II	7.0	-	(7)	(1)	1	2	88	28	110	60						35.00
Type III	8.2	-	Plain 1up/1down	(1)	2	2	58	48	135	100						35.00
Type IV	8.5	-	(7)	(1)	1	4	112	32	120	120						35.00
Type V	7.0	-	Plain 1up/1down	(1)	2	2	52	74	80	48						35.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
CCC-C-442b Type I Type II Type III Type IV Type V	(2) Desized, singed, bleached, and mercerized.	Color - chemically white - standard sample available (4). May be supplemented with fluorescent optical brightener. Colorfastness - standard sample available - (%60).		Intended Use - Types I, II and III - for use in white uniforms. Type IV - in dress uniform trousers of U.S. Military Academy cadets. Type V - as the base cloth for Smock, Man's, Dental, Operating, and Smock, Man's, Medical Assis- tant.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width inch	Yarn Ply	Yarns Per inch Min. (5050)	Breaking Strength Lb. Min. (5100)	Air Permea- bility (5450)	Shrink- age Max. (5550)	Seam Effici- ency (5110)	Dynamic Absorp- tion Max. (5500)	Hydra- static Pressure low range Min. (5514)	Water Permea- bility Max. (5516)	Paint Value Max.
	Min	Max												

Cloth, Duck, Cotton;  
Fire, Water, Weather,  
and Mildew Resistant  
CCC-C-428d, Amd. 1

Type I - Cloth fin. in Olive Drab # 7.  
Class 1 - Reg. fin.  
Class 2 - Dry fin.

Type II - Cloth fin. in deck grey color.  
Class 1 - Reg. fin.  
Class 2 - Dry fin.

See CCC-C-419, CCC-C-443, or MIL-C-2384 for basic cloth requirements, except that non-fibrous material for CCC-C-443 & MIL-C-2384 shall be as specified in 3.4.1.1.

Weight of finished cloth shall be the actual weight of the grey cloth plus an allowance for treatment of 50% for a grey weight of 12 oz. or over and 65% for a grey weight of under 12 oz.

Construction - (3)  
Finished width inches (12)  
40 or less (3)  
over 40 to 51 inclusive (3)  
over 51 to 81 inclusive (3)  
over 81 (3)

CCC-C-419 cloth designations  Numbered	Flexibility (5202)		At 0 / 50° (bending moment in/lb, max.)	50 ml. 40.00 50 ml. 40.00
	Initial bending moment in/lb, max.	After heating at 200°-205° (bending moment in/lb, max.)		
2	0.16	0.400	0.400	50 ml. 40.00
4	0.12	0.300	0.300	50 ml. 40.00
6	0.06	0.180	0.180	
8	0.05	0.125	0.125	
10	0.03	0.075	0.075	
12	0.02	0.050	0.050	
Army Ducks				
8.25	0.013	0.032	0.032	
9.85	0.013	0.032	0.032	
12.29	0.013	0.032	0.032	

\*42.00 for any bleached.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-428d Type I Class 1 Class 2 Type II Class 1 Class 2	(2) Compound to provide fire, water, weather, and mildew resistance shall be well ground and blended. Compounds containing sulfur may be used when approved (9). Water resistance: water resistance requirements pertain only to those cloths of CCC-C-443 having weights of 14.90 and 17.55 oz/sq yd and to all ducks of CCC-C-419 and MIL-C-2384. Flame resistance - time of flaming shall not exceed 2 sec. (5903T). Average length of char shall not exceed 4.5 in. for cloth with an untreated weight of under 10 oz.; 3.5 in., for cloth of 10-20 oz.; and 2.0 in., for cloth of over 20 oz. Mildew resistance - Type I - an approved fungicide shall be used - see 3.5.10.1 Type II - an approved fungicide shall be used.	Color (1) - standard sample available (4). Color shall be obtained by materials not appreciably affected by weathering (5671). Colorfastness - standard sample available (5671). Crocking - Class 1 - max. Munsell neutral value of 5.0 (5651). Class 2 - max. Munsell neutral value of 7.0 (5651).	(10) Breaking Strength - of finished cloth (warp & filling) shall be not less than that of basic specification for grey cloth.	Intended Use - Class 1 - In the manufacture of canvas covers, tents, tarpaulins, and other duck items providing protection under conditions of prolonged outdoor use. Class 2 - As upholstery material in motorized vehicles and uses where a higher degree of resistance to crocking is required.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.							
	Min	Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)								
<p><u>Cloth, Duck, Cotton;</u> <u>Fire, Water, Weather,</u> <u>and Mildew Resistant,</u> <u>Light Dry Finish</u> MIL-C-41806B-<u>Am.</u>-1</p>																					
<p>Class 1 - 9.85 oz. (grey weight) Class 2 - 12.29 oz. (grey weight) (2 classes are Army Duck)</p>	<p>Classes 1 &amp; 2 shall conform to Type III of CCC-C-419. The maximum allowable weights after treatment shall be 14.5 oz/sq yd for Class 1, and 17.5 oz/sq yd for Class 2. Breaking Strength (5100) of finished cloth in W &amp; P shall be not less than that for grey cloth.</p>					<p>Flexibility (5206) (16) Initially and after exposure at 60° &amp; 50°F shall be or spe- cified in CCC-C-419.</p>			<p>Finished width Spec. width of finished cloth (inches)      Tolerance (inch)</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 20px;">40 or less</td> <td style="width: 20px;">1/4-1/2</td> </tr> <tr> <td>41 to 50 inclusive</td> <td>3/8-1/2</td> </tr> <tr> <td>51 to 80 inclusive</td> <td>3/8-5/8</td> </tr> <tr> <td>81 and over</td> <td>3/4-5/8</td> </tr> </table>					40 or less	1/4-1/2	41 to 50 inclusive	3/8-1/2	51 to 80 inclusive	3/8-5/8	81 and over	3/4-5/8
40 or less	1/4-1/2																				
41 to 50 inclusive	3/8-1/2																				
51 to 80 inclusive	3/8-5/8																				
81 and over	3/4-5/8																				

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
MIL-C-41806B- Am.-1 Class 1 Class 2	<p>(2) Compound to provide fire, water, weather, and mildew resistance shall be well ground and blended. Compounds containing sulfur may be used when approved.</p> <p>(9) Water resistance - (5516) max. leakage of 200c.c.at hydrostatic height of 25.4 c.c.time of expo- sure - 10 minutes same leakage requirement after ecc.weathering. Flame resistance - time of flama- ing shall not exceed 2 sec. (5903) ave. length of char for class 1 shall not exceed 4.5 in. Class 2 - 3.5 inches. Mildew resistance - an approved fungicide shall be used for both classes see 3.5.9.</p>	<p>Color (1) - standard (10) sample available (4) color shall be obtained by materials not appre- ciably effected by weath- ering (5671). Colorfastness - standard sample available (5671) - Crocking - finished cloth shall show no more crock- ing on dry white cloth than Munsell value of 6.5.</p>	<p>Intended Use - for use in manu- facture of tents and tent flies.</p>	

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply		Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Paint Value Max.
	Min	Max			W	F	W	F								
<u>Cloth, Duck, Cotton:</u> <u>Plied and Single Yarns</u> <u>(Rich Slay)</u> <u>MIL-C-2384c</u>																
Type I - Plied yarn				(12)												
Class 1	10.75	-	Oxford	(1)	2	1	70	40	195	135						40.00
Class 2	14.75	-	weave	(1)	2	1	72	28	245	180						40.00
			(plain													
Type II - Single yarn			weave,													
Class 1	8.50	-	2 ends	(1)	1	1	110	44	180	90						40.00
Class 2	9.75	-	weaving	(1)	1	1	86	50	150	130						40.00
Class 3	11.25	-	as 1)	(1)	1	1	100	30	200	135						40.00
<u>Cloth, Duck, Cotton:</u> <u>(Single and Plied</u> <u>Filling Yarns, Flat)</u> <u>CCC-C-443c, Int. Amd. 1</u>																
Type I - Single				(12)			(a)		(3)							
filling	10.0	-	Oxford,	(1)- $\frac{1}{4}$	1	1	7 $\frac{1}{4}$	27	130	85						40.00
			2 ends													
Type II - Double			weaving													
filling (plied)	7.3	-	as 1	(1)- $\frac{1}{4}$	1	2	86	30	100	60						40.00
			(plain													
			weave)													

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
MIL-C-2384c Type I Class 1 Class 2 Type II Class 1 Class 2 Class 3	(2)			Intended Use - In the fabri- cation of tentage and equipage items.
CCC-C-443c Type I Type II	(2) Unbleached		(a) Two yarns woven as one.	Intended Use - Type I - for in- sole reinforcement of various foot- wear items. Type II - in loose- leaf binders.

**COTTON CLOTHS-WOVEN**

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Secm Effic- iency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max.	Paint Value Max.
	Min	Max				W	F								
Cloth, Duck, Cotton, Unbleached, Plied-Yarns, Army And Numbered CCC-C-419b															
Type I - Numbered															
Duck, Hard Texture: (12)															
12/0	48.00	-	Plain	(1)	9	9	20	12	800	430					40.00
8/0	40.00	-	"	(1)	8	14	26.5	12.5	750	600					40.00
2/0	31.90	-	"	(1)	5	7	24	16	465	435					40.00
1/0	30.31	-	"	(1)	5	6	24	16	450	405					40.00
1	28.71	-	"	(1)	5	5	26	19	440	370	2				40.00
2	27.12	-	"	(1)	5	4	26	19	420	345					40.00
3	25.53	-	"	(1)	4	5	29	20	390	330					40.00
4	23.93	-	"	(1)	4	4	31	22	375	300	2				40.00
5	22.33	-	"	(1)	3	4	35	23	345	285					40.00
6	20.74	-	"	(1)	3	3	35	25	335	250	2				40.00
8	17.55	-	"	(1)	3	3	43	25	285	210	2				40.00
10	14.35	-	"	(1)	3	3	45	27	245	160	4				40.00
11	12.75	-	"	(1)	3	2	45	34	240	140					40.00
12	11.26	-	"	(1)	2	2	45	35	195	120	4				40.00
Medium Texture:															
1	28.71	-	"	(1)	5	5	26	15	425	345					40.00
2	27.12	-	"	(1)	5	4	26	15	410	320					40.00
3	25.53	-	"	(1)	4	5	29	15	370	315					40.00
4	23.93	-	"	(1)	4	4	29	17	350	290					40.00
5	22.33	-	"	(1)	3	4	34	18	315	285					40.00
6	20.74	-	"	(1)	3	3	34	18	305	250					40.00
Type III - Army Duck															
8.25	8.25	-	"	(1)	2	2	60	58	125	120					
9.85	9.85	-	"	(1)	2	2	52	40	160	110	4				40.00
12.29	12.29	-	"	(1)	3	2	44	34	210	130	4				40.00
14.77	14.77	-	"	(1)	3	3	44	28	255	175					
15.90	15.90	-	"	(1)	3	3	45	34	245	200					
18.48	18.48	-	"	(1)	4	4	42	28	315	200					

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
CCC-C-419b Type I Hard Texture Medium Texture Type III	(2) Unbleached.			Intended Use - In fabrication of tentage and equipage items.



**COTTON CLOTHS-WOVEN**

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Paint Value Max.
	Min	Max				W	F								
<b>Cloth, Flannel, Cotton</b>															
<b>CCC-C-458a</b>															
Type I - Plain weave (soft filled sheet- ing) unbleached, napped one side															
Class 1	4.7	-	Plain	(12) (1)	1	1	42	40	26	21	single napped	Preshrunk 2% 2%			32.00
Type II - Plain weave (soft filled sheet- ing) unbleached napped both sides															
Class 1	4.6	-	"	(1)	1	1	42	40	26	19	double napped				32.00
Type III - Plain weave (cutting flannel) bleached or dyed, napped both sides															
Class 1	3.5	-	"	(1)	1	1	42	40	20	17					Bleached 28.00
Class 2	4.0	-	"	(1)	1	1	42	40	23	19					dyed- 25.00
Class 3	4.6	-	"	(1)	1	1	50	40	28	23	Preshrunk (1) 2% 4				" "
Type IV - Twill weave (canton flannel) unbleached, napped on the filling side															
Class 1	5.0	-	3 or 4	(1)	1	1	62	38	45	20					32.00
Class 2	6.0	-	harness	(1)	1	1	62	38	60	25					32.00
Class 3	7.0	-	twill	(1)	1	1	62	38	60	30					32.00
Class 4	8.0	-	"	(1)	1	1	62	38	65	40					32.00
Class 5	10.0	-	"	(1)	1	1	60	34	100	50					32.00
Class 6	12.0	-	"	(1)	1	1	60	34	100	70					32.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
CCC-C-458a	Type I - napped on one side. Type II - napped on both sides. Type III - napped on both sides. Type IV - napped on the filling side.	Color - Types I, II and IV - unbleached. Type III (1) - standard sample available (4-6). Colorfastness - standard sample available for dyed cloth - (5610-5651-5680).		Intended Use - In the manufacture of pajamas, gloves, the back of gloves, glove lining, padding for front interlining in coats and interlining in caps.
Type I Class 1				
Type II Class 1				
Type III Class 1	Type IV, Class 3 shall be singed on the unmapped side when speci- fied. Standard samples available for finishes.			
Class 2				
Class 3				
Type IV Class 1				
Class 2				
Class 3				
Class 4				
Class 5				
Class 6				

**COTTON CLOTHS-WOVEN**

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.	
	Min	Max				W	F									W
Cloth, Flannel, Cotton (Heavy For Table Felts) CCC-C-460a	12.5	-	Filling reversible weave (7)	(1)	1	1	66	42	60	30						32.00

Cloth, Impregnated;  
Cotton, Colloid  
Treated

MIL-C-18543A	12.5 untreated 37.0 treated	Cotton flannel double line of filled thread	50 1/4 in. 1/2 in.	68	34	175	150
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NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
CCC-C-460a	Unbleached (natural). Full nap on both sides.		Standard sample available. (5)	Intended Use - for table felts.
MIL-C-18543A	Base cloth shall be uniformly napped on both sides, with nap laying in the direction of the nap. Base cloth shall be impreg- nated with pyroxylin and an in- organic fire-retardent. Cloth shall not burn down more than 6.0 in. in 120 sec. (4.4.1). Shall conform to flexibility tests (4.4.2).	Color - light gray - standard sample available.	(5)	Intended Use - In the manufacture of orthopedic appliances, such as artificial arms, body jackets, etc. Also, for repairing and building up foundry patterns.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch		Breaking Strength Lb. Min.		Air Permea- bility	Shrink- age Max.		Seam Effic- iency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				W	F	W	F		W	F					
Cloth, Muslin, Cotton CCC-C-446d, Amd. 2																	
Type I				(12)							Preshrunk						
Class 1 - Unbleached	2.7	-	Plain	(1)	1	1	64	58	37	26	9%	9%					45.00
Class 2 - Bleached or dyed	2.4	-	"	(1)	1	1	66	52	34	20	6%	6%					dyed- 30.00
Class 3 - Bleached or dyed preshrunk	2.5	-	"	(1)	1	1	68	56	36	22	2%	2%					white- 35.00
Type II				(1)													
Class 1 - Unbleached	3.1	-	"	(1)	1	1	68	70	42	34	9%	9%					45.00
Class 2 - Bleached or dyed	2.7	-	"	(1)	1	1	70	64	38	28	6%	6%					dyed- 30.00
Class 3 - Bleached or dyed preshrunk	2.8	-	"	(1)	1	1	72	68	40	30	2%	2%					white- 35.00
Type III				(1)													
Class 1 - Unbleached	3.4	-	"	(1)	1	1	78	76	46	32	9%	9%					45.00
Class 2 - Bleached or dyed	2.9	-	"	(1)	1	1	80	70	45	32	6%	6%					dyed- 30.00
Class 3 - Bleached or dyed preshrunk	3.0	-	"	(1)	1	1	83	74	44	34	2%	2%					white- 35.00
Type IV				(1)													
Class 1 - Unbleached	2.4	-	"	(1)	1	1	38	36	37	20	9%	9%					45.00
Type V				(1)													
Class 1 - Unbleached	3.9	-	"	(1)	1	1	56	60	44	50	9%	9%					45.00
Type VI				(1)													
Class 2 - Bleached or dyed	2.4	-	"	(1)	1	1	64	56	35	25	6%	6%					dyed- 30.00 white- 35.00
Type VII				(1)													
Class 2 - Bleached or dyed	3.1	-	"	(1)	1	1	85	72	45	30	6%	6%					dyed- 30.00 white- 35.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
CCC-C-446d	(2)			
Type I	(Classes 2 and 3 cloth shall be singed.	Color (1) - standard sample available (4-6). Colorfastness - standard sample available for dyed cloth - (5610-5600-5660- 5680-5651).		Intended Use - In clothing, flags and equipment items.
Class 1				
Class 2				
Class 3				
Type II				
Class 1				
Class 2				
Class 3				
Type III				
Class 1				
Class 2				
Class 3				
Type IV				
Class 1				
Type V				
Class 1				
Type VI				
Class 2				
Type VII				
Class 2				

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width inch	Yarn Ply	Yarns Per inch Min.		Breaking Strength Lb. Min.		Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				W	F	W	F							
Cloth, Muslin, Cotton (Parachute Canopy) MIL-C-4279B																
Type II	3.7	-	Plain	(1) (12)	1	1	54	56	48	42	170-	-230	90%	3.0	2.5	20.00
Type III (Mildew resistant treated)	3.8	-	"	(1)	1	1	56	58	50	50	130-	-190	90%	3.0	2.5	20.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-4279B Type II Type III	(2) Type III - treated with a dispersed polyethylene softener, and with salicylanilide for mildew resistance. Application of softener and mildew inhibitor in combination with dyeing.	Color - (2) - standard sample available (4-6). Dyed without prior preparation except optional light scouring. No bleaching permitted. Dyeing by padding with direct dyes at or near boil. Colorfastness - standard sample available (5651).	(5) Tension in processing greater than necessary for control purposes shall be avoided.	Intended Use - In cargo parachutes.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weaves	Width Inch	Yarn Ply	Yarns Per inch Min.		Breaking Strength Lb. Min.		Air Permea- bility	Shrink- age Max		Seam Effic- iency	Dynamic Absorp- tion Max.	Hydro- static Pressur- low range Min. (5514)	Water Permea- bility Max. (5516)	Point Value Max.
	Min	Max				W	F	W	F		W	F					
<u>Cloth, Osnaburg, Cotton</u>																	
CCC-C-429b																	
				(12)													
Class 2	6.8	-	Plain	(1)	1	1	38	24	60	60							60.00
Class 3	5.4	-	"	(1)	1	1	32	26	50	50							60.00
Class 5	3.9	-	"	(1)	1	1	28	24	40	40							60.00
<u>Cloth, Oxford; and Cotton</u>																	
<u>Poplin; Cotton, (For</u>																	
<u>Pyjamas)</u>																	
MIL-C-2107D																	
Type I - Oxford	5.0	-	Oxford	(1)	1	1	128	42	95	65							
			Plain $\frac{2}{2}$														
Type II - Oxford	4.5	-	"	(1)	1	1	128	60	95	45			2%	2%	80%		30.00
Type III - Poplin	5.5	-	Poplin	(1)	1	1	114	52	140	45			2%	2%	80%		30.00
			Plain $\frac{1}{1}$														

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
CCC-C-429b Class 2 Class 3 Class 5	(2)	Color - natural.		Intended Use - As packaging, packing, and target cloth.
MIL-C-2107D Type I Type II Type III	(2) Singed, scoured, mercerized, and dyed, with a clear lustrous finish.	Color - light blue, shade No. 24 - standard sample available (4-6). Colorfastness - standard sample available (5605- 5680-5651).		Intended Use - In the fabrication of pyjamas for hospital and orthopedic use.

**COTTON CLOTHS-WOVEN**

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.		Air Permea- bility	Shrink- age Max	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max. (55 in.)	Paint Value Max.	
	Min	Max				W	F	W	F								W
Cloth, Oxford, Cotton (Permeable) MIL-C-10859E, Amd. 2																	
Type I																	
Class 1 - Plain fin.	5.2	-	Oxford	(12)	(1)	1	1	124	42	75	60	20	1 1/2	1 1/2	90%		40.00
Class 2 - Flame resistant treated	-	6.8	(Plain, 2 ends weav- ing as 1)	(1)	1	1	122	40	75	60	20	-	-	80%			45.00
Type II																	
Class 1 - Plain fin.	6.0	-	"	(1)	1	1	11 1/2	44	100	65	20	1 1/2	1 1/2	90%			40.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-10859E	(2)	Color - Types I & II, Class 1 (1) - standard sample available except for white or natural (4-6).	(5) (9) Type I, class 2 shall have a tearing strength of 3.0 in the warp and 3.0 in the filling (5132).	tended Use - Types I & II Class 1 - In the manufacture of clothing and mittens. Type I class 2 - In the manufacture of tent liners.
Type I	Types I & II, class 1 - singed, desized & mercerized. Type I, class 2 - desized. Type I, class 2 - given an approved cellu- lose reactant durable flame resis- tant treatment. Average flaming time - 2.0 sec. max. Average length of char - 5.0 max., before and after 3 cycles of laundering (5903-5556).	Type I, class 2 - undyed unbleached, natural color. Colorfastness - Types I and II - standard sample available (5660-5605- 5682-5651).		
Class 1	Flex stiffness of finished cloth, shall be 0.0008 in. lb. max. initially, and 0.0035 after temp- eratures of -25°F & 20°F for 1 hr. (5206).			
Class 2	pH: 5.5 (of finished cloth min.) (2811).			
Type II				
Class 1				

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.		Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.	
	Min	Max				W	F	W	F								W
<u>Cloth, Pajama-Check, Cotton</u> CCC-C-00455a (GSZ- F88)	3.90	-	Fancy Bas- ket Weave (a)	(12) 36 1 1/2	1	1	94	88	52	35							55.00
<u>Cloth, Percale, Cotton</u> CCC-C-447c	3.0	-	Plain	(12) (1)	1	1	85	72	45	30							30.00 dyed- printed 35.00 white

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-00455a	(2) Soft, clear, pure finish with slight luster. Flame resistance (9) ave. time of flaming 2.0 sec- onds, and average length of char 5.0 inches - initially and after 15 launderings (5593-T) see para. 3.12.1 of specification for re- quirement exceptions after flame resistant treatment.	Color - Standard sample available - unless other- wise specified. Cloth shall be fully bleached, also may be given a bluish tint (4-6). Colorfastness - standard sample available (5000- 5610-5651-5660).	(s) Formed by weaving not less than 3 warp and 3 filling yarns as "1" with alter- nating groups of 3 ind. W & F yarn weaving in- dependently. The treated cloth shall be non-injurious to personnel under normal conditions of its end use.	Intended Use - In the fabrication of undershirts and pajamas.
CCC-C-447c	(2) Singed, bleached, printed, or dyed. May be calendered. pH: 5.5-8.5 (2811)	Color (1) - standard sample available (4-6). Colorfastness - standard sample available - (5622- 5651-5605-5680-5660).	When printed is required it shall be in color patterns and designs of floral, geometric, striped plaids or checks. (1)	Intended Use - In the manufacture of clothing.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max		Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)			(5450)	(5550)					
<u>Cloth, Poplin, Cotton</u> MIL-C-507E, Amd. 1				(12)		W	F	W	F	W	F					
	4.5	5.0	Plain	(1)	2	1	106	48	110			2%	2%	85%		
																dyed- 28.00 32.00 white
<u>Cloth, Sateen, Cotton</u> MIL-C-10296F				(12)												
Class 1 - Dyed	-	8.2	5 harness sateen (7)	(1)	1	1	85	48	140	118						30.00
Class 2 - White	-	8.2	Filling effect side shall be face side.	(1)	1	1	85	48	115	100						35.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
MIL-C-507E	(2) Singed, desized, and mercerized, with a clear lustrous finish. pH: 5.5-8.5 (2811)	Color (1) - standard sample available (4-6). When white is specified cloth shall be bleached and may be supplemented with fluorescent optical brightener. (5660) (16) Colorfastness - standard sample available (5660- 5680-5651-5680)		Intended Use - In the manufacture of clothing items.
MIL-C-10296F Class 1 Class 2	(2) Class 1 cloth shall be singed, desized, and mercerized. Class 2 cloth shall be bleached.	Color - Class 1 (1). Standard sample available (4-6). Class 2; White to match std. sample (4). Cloth shall be fully bleached & may be supplemented with fluore- scent optical bright- eners. Cloth may not discolor to a greater degree than std. sample. (5660)(16) Colorfastness - standard sample available for Class 1 (5660-5610-5600- 5680-5651).	Filling effect side shall be identified by stamping that side with the word "Face" at each end of the piece.	Intended Use - In clothing and equipment items.







### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- iency	Dynamic Abearp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility M x.	Paint Value Max.	
	Min	Max				(5050)	(5107)									(5450)
Cloth, Sheeting, Cotton (Laundry Cover Cloth) CCC-C-435c	6.9	-	Plain	(12) (1)	W   F	W   F	W   F	W   F								35.00
Cloth, Sheeting, Cotton and Polyester and Cotton (See also under Mixed Fiber Cloths) CCC-C-430d																
Style A - #140 (muslin)																
Type I - Unbleached																
Class 1 - Unshrunk	4.7	-	Plain	(1)	carded	68	72	70	70							45.00
Class 2 - Shrunk	4.8	-	"	(1)	"	74	69	70	70	2%	2%					45.00
Type II - Bleached or dyed																
Class 1 - Unshrunk	4.5	-	"	(1)	"	74	66	70	70							dyed 30.00
Class 2 - Shrunk	4.6	-	"	(1)	"	74	69	70	70	2%	2%					35.00 white
Style B - #128 (Muslin)																
Type I - Unbleached																
Class 1 - Unshrunk	4.1	-	"	(1)	"	64	64	55	55							45.00
Class 2 - Shrunk	4.2	-	"	(1)	"	70	63	55	55	2%	2%					45.00
Type II - Bleached or dyed																
Class 1 - Unshrunk	4.0	-	"	(1)	"	68	60	55	55							dyed 30.00
Class 2 - Shrunk	4.1	-	"	(1)	"	70	63	55	55	2%	2%					35.00 white
Style C - #180 (Percale)																
Type II - Bleached																
Class 1 - Unshrunk	3.5	-	"	(1)	combed	98	82	65	65							35.00
Style D - Polyester and Cotton blend 65/35 (percale) (See under mixed fiber cloths)																
Style E - Polyester and Cotton blend 50/50 (percale) (See under mixed fiber cloths).																

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
CCC-C-435c	(2)	Color - Unbleached.		Intended Use - for use as surface covering on flatwork irons.
CCC-C-430d Style A Type I Class 1 Class 2 Style B Type I Class 1 Class 2 Style C Type II Class 1 Style D Style E	(2) Type I - Unbleached. Type II - Bleached or dyed. pH: 5.5-8.5 (2811)	Color (1) - standard sample available (4-6). Colorfastness - standard sample available for dyed cloth (5460-5605- 5651).		Intended Use - In clothing and bedding material items - (See para. 6.1 of specification for other uses).

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.		Air Permea- bility	Shrink- age Max.	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max.	Paint Value Max.	
	Min	Max				W	F	W	F								W
Cloth, Sheeting, Cotton Treated MIL-C-8104B (A80)	3.5	0.5	Plain 1 up 1 down	(1)	(8)	62	60	60	60	175- 260							20.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-8104A	(2) (15) Flame resistance - flame time, 0 seconds for warp and fill. Time of glow, 0 seconds for warp and fill. Length of char, max. 2.3 in for warp and fill. (5902) pH: 5.0 - 9.0 (2611).	Color - (1-4) - Color shall be obtained by the use of vat dyes. Colorfastness - "good" (5660-5650-5610-5630).	(5) Finished cloth shall be noncorrosive (4.5.2). Elongation - 7.5% min. Tearing strength - 4.5 lb. min. (5134). After oven aging (4.5.3.2.2) finished cloth shall not lose more than 10% of initial breaking strength.	Intended Use - On aircraft insulation & soundproofing blankets. Cloth will be used only in areas in aircraft where temperatures will not be high enough to cause cloth to lose its strength properties.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
					(5050)	(5100)								
Cloth, Sheeting, Cotton (Unbleached, Bleached, and Dyed)														
CCC-C-432c														
Type I			(12)											
Class 1 - Unbleached	3.4 -	Plain	(1)	1	1	44	40	40	35					45.00
Class 2 - Bleached or dyed	3.2 -	"	(1)	1	1	46	38	37	32	7.5%	2.0%	80%		35.00
Class 3 - Bleached or dyed, preshrunk	3.5 -	"	(1)	1	1	48	42	38	33	2.0%	2.0%	80%		35.00
Type II														
Class 1 - Unbleached	3.3 -	"	(1)	1	1	56	48	44	29					45.00
Class 2 - Bleached or dyed	3.1 -	"	(1)	1	1	58	46	41	26	7.5%	2.0%	80%		35.00
Class 3 - Bleached or dyed, preshrunk	3.4 -	"	(1)	1	1	60	50	42	27	2.0%	2.0%	80%		35.00
Type III														
Class 1 - Unbleached	3.8 -	"	(1)	1	1	48	48	48	35					45.00
Class 2 - Bleached or dyed	3.6 -	"	(1)	1	1	50	46	44	32	7.5%	2.0%	80%		35.00
Type IV														
Class 1 - Unbleached	4.3 -	"	(1)	1	1	48	44	55	40					45.00
Class 2 - Bleached or dyed	4.1 -	"	(1)	1	1	50	42	52	37	7.5%	2.0%	80%		35.00
Class 3 - Bleached or dyed, preshrunk	4.4 -	"	(1)	1	1	52	46	54	38	2.0%	2.0%	80%		35.00
Type V														
Class 1 - Unbleached	4.0 -	"	(1)	1	1	56	60	45	40					45.00
Class 2 - Bleached or dyed	3.8 -	"	(1)	1	1	58	58	41	37	7.5%	2.0%	80%		35.00
Class 3 - Bleached or dyed, preshrunk	4.1 -	"	(1)	1	1	60	62	43	38	2.0%	2.0%	80%		35.00

(continued)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-432c	(2)			
Type I	When Class 1 or Class 2 cloth is specified for use as the base cloth for coating, the cloth shall be singed, secured, and calendered. It shall contain not more than 0.003% copper or 0.0015% manganese (L-377, ASTM manual).	Color - Classes 2 & 3 (1) - standard sample available (4-6). Colorfastness - standard sample available for dyed cloth - (5660-5605-5680-5651).		Intended Use - In the manufacture of clothing and equipment items.
Class 1				
Class 2				
Class 3				
Type II				
Class 1				
Class 2				
Class 3				
Type III				
Class 1				
Class 2				
Type IV				
Class 1				
Class 2				
Class 3				
Type V				
Class 1				
Class 2				
Class 3				
(continued)				

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarn Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.		Seam Effici- ency	Dynamic Absorp- tion Max.	Hydra- static Pressure Low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				W	F			W	F					
<b>CCC-C-432a (Cont'd)</b> Cloth, Sheet, Cotton, (Ubleached, Bleached, And Dyed)																
<b>Type VI</b>																
Class 1 - Ubleached	4.6	-	Finia	(12)	1	1	64	68	55	50						45.00
Class 2 - Bleached or dyed	4.4	-	"	(1)	1	1	66	66	50	47	7.5%	2.0%	80%			35.00
Class 3 - Bleached or dyed, preshrunk	4.7	-	"	(1)	1	1	68	68	51	48	2.0%	2.0%	80%			35.00
<b>Type VII</b>																
Class 1 - Ubleached	5.0	-	"	(1)	1	1	48	48	60	50						45.00
Class 2 - Bleached or dyed	4.8	-	"	(1)	1	1	50	46	56	47	7.5%	2.0%	80%			35.00
Class 3 - Bleached or dyed, preshrunk	5.2	-	"	(1)	1	1	52	48	57	48	2.0%	2.0%	80%			35.00
<b>Type VIII</b>																
Class 1 - Ubleached	5.6	-	"	(1)	1	1	48	48	65	55						45.00
Class 2 - Bleached or dyed	5.4	-	"	(1)	1	1	50	46	61	52	7.5%	2.0%	80%			35.00
Class 3 - Bleached or dyed, preshrunk	5.7	-	"	(1)	1	1	52	48	62	53	2.0%	2.0%	80%			35.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
<b>CCC-C-432c (cont'd)</b>				
<b>Type VI</b>				
Class 1				Intended Use - The cloth of Types VI, VII, VIII in Class 1 or 2 may be used as base material for coated fabrics.
Class 2				
Class 3				
<b>Type VII</b>				
Class 1				
Class 2				
Class 3				
<b>Type VIII</b>				
Class 1				
Class 2				
Class 3				

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.		Seam Effic- ency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max.	Paint Value Max.
	Min	Max				W	F			W	F					
<u>Cloth, Silesia, Cotton</u> <u>MIL-C-326F</u>																
Type I - 4.5 oz.	4.5	-	½ right or left band twill	(12) (1)	-	72	72	(a) 60		2%	2%	80%				28.00
Type II - 3.3 oz.	3.3	-		(1)	-	72	72	50		2%	2%	80%				32.00
Type III - 5.5 oz.	5.5	-		(1)	-	72	78	65		2%	2%	80%				for mat. or white

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
MIL-C-326F Type I Type II Type III	(2) Singed and d-sized.	Color (1) - standard sample available (4-6). Colorfastness - standard sample available (5622- 5680-5651).	Type I(a) 15% minus tolerance in breaking strength will be per- mitted for black if oniline dyes are used.	Intended Use - In clothing and equipment items for personnel.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- lency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)								
<u>Cloth, Squeeze, Dental</u> DDD-C-00475 (DGA-DM)						W	F	W	F	W	F				
				(fin. cloth, jaws at initial distance of 1 in.)											
Style 1 - Round	2.75	-		Dimensions inches 3 1/32 x 3/32				74	74	36	36				
Style 2 - Square	2.75	-		2 13/16 x 1/16				102	52	55	32				
<u>Cloth, Terry, Cotton</u> MIL-C-1164c	9.0	-	Terry (7)	(11) 35-37	1	1		68	32						
								ground pile							
<u>Cloth, Ticking, Twill, Cotton</u> CCC-C-436c															
Type I - 9 oz/sqyd				(12)											
Class 1 - Untreated	8.5	9.5	3 twill	(1-3)	1	1	78	62	135	90					35.00
Type II - 7 oz/sqyd															
Class 1 - Untreated	6.5	7.5	2 twill	(1-3)	1	1	70	44	110	60					35.00
Class 2 - Treated	6.5	130%	2 twill	(1-3)	1	1	70	39.5	93.5	51	2%	2%			35.00
								min	min	min					

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
DDD-C-00475 Style 1 Style 2				Intended Use - for expressing mercury from amalgam filling material.
MIL-C-1164c	(2) Bleached or unbleached.		(5)	Intended Use - For filtering feed water systems on ships driven by reciprocating engines.
CCC-C-436c Type I Class 1 Type II Class 1 Class 2	(2) Type II, Class 2 shall be given an approved flame-resistant treatment. Average flaming time 2.0 sec. max. (5903T). Average length of char 5.0 in. or less initially and after 15 launderings (5903T).	Color- Alternating natural white & blue "dyed" warp stripes, which may be either solid or broken by white warp ends. The white stripes shall be about 1/4-in. wide & the blue stripe shall be about 3/16-in. wide - standard sample avail- able (4). Colorfastness - standard sample available (5630).		Intended Use - In the manufacture of mattress and pillow covers. Type I - For pillows containing feathers or down, and mattresses containing hair. Type II - For all other mattresses.



### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.		
	Min	Max				(5050)	(5100)									(5450)	(5550)
Cloth, Twill, Cotton, Fire Retardant Treated MIL-C-18387E	4.2	0.2	3 steep twill	(12) (1)	W	F	W	F	W	F	W	F	2%	2%	80%		35.00

Incr. in wgt.  
after treat-  
ment at  
finishing  
Min. Max.  
18 28

Cloth, Uniform, Twill,  
Cotton

CCC-C-461b, Int. Amd. -1  
(Army GL)

Type	Weight	Weave	Width	Yarn	Yarns	Breaking	Air	Shrink-	Seam	Dynamic	Hydra- static	Water	Point
Type I	7.9 8.6	3 right twill	(12) (1)	2	2 116 56 180 120			1% 1%	80%				dyed (25.00) 30.00 white
Type II	7.9 8.6	"	(1)	2	1 116 56 180 110			1% 1%	80%				"
Type III	7.7 8.4	3 left twill	(1)	1	1 112 54 160 110			1% 1%	80%				"
Type IV	7.2 7.9	"	(1)	1	1 100 54 160 110			1% 1%	80%				"
Type V	7.2 7.9	"	(1)	1	1 100 54 150 100			1% 1%	80%				"
Type VI	8.2 8.6	"	(1)	1	1 112 56 170 80			1% 1%	80%				"

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
MIL-C-18387E	Fire retardant treated. Before and after 15 launderings, average flame time - 2.0 sec. max.; glow time - 2.0 sec. max.; average length of char - 5.5 in. max. (5903-T). Stiffness - 0.010 lb. max. (5202). pH: 5.5-9.0 (2811).	Color - Standard sample available - unless otherwise specified color shall be - smoke green, Indian Orange Khaki, OC - 107, (4-6). Colorfastness - (5610-5632-5651-5660-5682).	Tearing strength - initial - 3.5 lbs. min. warp & fill; after 15 launderings - 2.0 lbs. min. warp & fill (5132) (5) (9)	Intended Use - for use in aeronautical clothing and equipment items.
CCC-C-461b Type I Type II Type III Type IV Type V Type VI	(2) Singed, desized, and mercerized. White cloth shall be singed, desized, mercerized and bleached. pH: 5.5 - 8.5 (2811)	Color (1) - standard sample available (4-6). When white is specified cloth shall be bleached and may be supplemented with fluorescent optical brightener, to match std. sample. Colorfastness - standard sample available for dyed cloth (5605-5680-5660-5651). The white finished cloth shall not discolor greater than that of std. sample (5660) (16).	Types I thru IV shall be combed yarn. Types V & VI shall be carded yarn.	Intended Use - In clothing and equipment items.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width inch	Yarn Ply	Yarns Per inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.	
	Min	Max				(5050)	(5100)									(5450)
<u>Cloth, Waffle, Cotton</u> CCC-C-001375 (OSA-F88)	6.5	-	honeycomb	(12) 28 or 36" (Jobby)	2	2	37	24	55	45					60.00	
<u>Cloth, Wigan, Cotton</u> MIL-C-16375F																
Type I	2.5	-	Plain	(1)	1	1	40	34	35	25					40.00	
Type II	3.6	-	"	(1)	1	1	48	40	52	28					40.00	
<u>Cloth, Wind Resistant, Oxford, Cotton, Quarpel Treated</u> MIL-C-484E, 7 d.-1																
Type I	6.5	-	Oxford (2 ends weaving as 1.)	(12) (1)	1	1	130	54	135	50	4.0	Preshrunk 2% 2%	80%	Initial(13) 25	Initial(13) 35	28.00
Type V	9.0	-		(1)	2	1	128	48	200	95	3.5	2% 2%	80%	25	35	28.00
Type VI	5.5	-		(1)	2	1	196	86	180	80	3.5	2% 2%	80%	25	35	28.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
CCC-C-001375	Unless otherwise specified cloth shall be unshrunk and unbleached or bleached		Absorbency - see para. 4.4.1 of specification.	Intended Use - primarily for scrub cloths, dish cloths, and dusting cloths. It can be used for draperies.
MIL-C-16375F Type I Type II	Firm, plain calendar finish. Type I shall have a bending moment (stiffness) of 0.005-in. lb. max. in the direction of the warp (5202). pH: 5.5-8.5 (2611)	Color - either natural or Grey 342 as specified standard sample available for Grey. Colorfastness - for Grey (5610-5680-5622).		Intended Use - As interlining for clothing.
MIL-C-484E Type I Type V Type VI	(2) The cloth shall be given an approved Quarpel type, water-repellent treatment. Initial spray rating shall be 90, 90, 80. (5526). Cloth shall be singed, scoured, and mercerized. pH: 6.5-8.5 (2611)	Color (1) - standard sample available (4-6). Colorfastness - standard sample available (5605-5651-5680-5660).	Stiffness - Type VI - max. flex-stiffness shall be 0.00050 in/lb for the warp and 0.00035 in/lb for the filling (5206). Resistance to organic liquid - Cloth shall not show wetting by n-tetradecane initially or after 15 launderings.	Intended Use - In clothing where a high degree of wind resistance and water resistance is of prime importance.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydra- static Pressure low range Min.	Water Permea- bility Max.	Paint Value Max.	
	Min	Max				W	F									W
<u>Cloth, Wind Resistant</u> <u>Sateen, Cotton</u> <u>MIL-C-557F</u>																
Type I	9.0	-	5 harness sateen (7)	(12) (1)	2	2	112	68	150	125	5.5	Freshrunk 1% 1%	80%	Initial (13) 25	Initial (13) 35	25.00
Type II	7.0	-	"	(1)	2	1	120	88	130	105	6.5	2% 2%	80%	25	35	25.00
<u>Cloth, Wind-Resistant</u> <u>Sateen, Cotton; Fire</u> <u>and Water Resistant</u> <u>MIL-C-12095K</u>																
	8.5	9.5	5 harness W sateen (7)	(12) 35 min.	2	2	104	88	170	150	2.0		60%	25	40 (45 min. average)	30.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-557F Type I Type II	(2) Singed, desized, mercerized, dyed, & given an approved Quarrel type water-repellent treatment. Initial spray rating 90, 90, 80 (5526). Type I - finished with filling effect side as face. Type II - finished with warp effect side as face. pH: 6.5-8.5 (2811) Finished cloth shall show no wetting by n-tetradecane either initially or after 15 leanderings (4.4.1).	Color (1) - standard sample available (4-6). Type I - matched with filling effect side used as face. Type II - matched with warp effect side used as face. Colorfastness - standard sample available (5605- 5680-5651-5660).	Face marking. - Filling face side of Type I cloth & warp face side of Type II cloth shall be stamped with an ink marking to identify the face of the cloth. Each end shall be stamped. Type II shall have a tearing strength of 2500 grams in the warp and 300 grams in the fill- ing. (5132).	Intended Use - In clothing where a high degree of wind and water resistance is o- prime importance.
MIL-C-12095K	(2) Singed and mercerized. Water repellent treated. Spray rating (3 tests) 90, 90, 80 min. (5526). Approved durable flame-resistant treatment. Average time of flam- ing - 2.0 sec. max. Average length of char - 5.0 in. max. initially and after 3 leandering cycles (5903-5556). pH: 5.0 min. (2811).	Color (1) - standard sample available (4-6). Colorfastness - standard sample available (5651- 5671).	Tearing strength - 4.0 min. in the warp; 3.3 min. in the filling. (5132). (5)	Intended Use - In the fabrication of tentage.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.		Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Paint Value Max.
	Min	Max				W	F			W	F					
<b>Cloth, Wild Resistant, Twill and Poplin, Cotton</b> MIL-C-342E, Amd. 4																
Type I - Twill Class C - Fire, water, mildew res.																
	5.8	7.0	2 right Twill	(12) (1)	2	2	185	90	160	70	7.0	Preshrunk 2% 2%	60%	-	40	35.00
Type II - Poplin Class A - Plain fin. untreated Class B - Quarpel treated																
	5.5	6.5	Plain	(1)	2	1-2	106	52	125	70	16.0	2% 2%	80%	-		dyed 40.00
	6.0	7.0	"	(1)	2	1-2	106	52	116	60	5.0(a)	2% 2%	80%	20(13)	35(13)	white
Type III - Poplin, Rip Stop Class A - Plain Fin. (untreated)																
	5.7	6.7	(7)	(1)	2	1-2	106	52	125	82	15.0	2% 2%	80%	-	-	"

(a) After 3 launderings - max. average.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-342E Type I Class C Type II Class A Class B Type III Class A	(2) Singed, desized, mercerized, and dyed. Use of resin pigments in dyeing or finishing of Type II & III is prohibited. Type I, Class C shall be given an approved durable fire resistant treatment. Average time of after-flame-2.0 sec. max. Average length of char-5.5 in. max. Initially and after 3 cycles of laundering (5903-5556). The type I cloth shall be given an approved durable water repellent treatment. Type II, Class B shall be given an approved Quarpel-type water repellent treatment. Spray rating - 90, 90, 80 min. (5526). Use of materials other than approved water repellents and sodium acetate buffer (and acetic acid) is prohibited. Shall show no wetting by n-tetradecane initially or after 15 launderings (4.4.2). pH: Type I, Class C - 5.0 min. Type II, Class B - 6.5-8.5 (2611).	Color (1) - standard sample available (4-6). Colorfastness - standard II, Class B - (10). sample available. Type I All types and classes - Class C - (5651-5671). preproduction sample Type II, Classes A & B - approval required when (5605-5651-5622-5680-5660).	(5) Type I, Class C & Type II, Class B - (10). preproduction sample specified. Tearing strength shall be: Type I, Class C - 2.3 lb. min. in the warp and 1.5 lb. min. in the filling; Type II, Class A - 3.8 lb. min. in the warp and 3.3 lb. min. in the filling. Type III - Class A-4.0 lb. min. in the warp and 5.0 lb. min. in the filling. (5132). For marking requirements, see specification para. 3.14.1.	Intended Use - In the manufacture of clothing and equipment items. Type I, Class C is not intended for uses as furniture coverings or items of clothing which involve prolonged or frequent contact with the skin.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydra- static Pressure Low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				W	F								
<b>MIL-C-13194A (RL)</b>															
Cloth MC -74, 3x3 in. (Cotton ticking)	8.5	-	Herringbone Twill			80	70	90	70						
Cloth MC -75, 5x5 in. (Cotton ticking)	8.5	-	"			80	70	90	70						
Cloth MC -76, 6x6 in. (Cotton ticking)	8.5	-	"			80	70	90	70						
Cloth MC -79, 3x3 in. (Moleskin)	18.0	-	Moleskin Cloth			-	-	100	150						
Cloth MC -80, 5x5 in. (Moleskin)	18.0	-	"			-	-	100	150						
Cloth MC -81, 6x6 in. (Moleskin)	18.0	-	"			-	-	100	150						

**Method of Fabrication**

Each cloth shall be made of one piece of material cut on straight and even edges to provide the required size of wiping cloth when folded. The cloths shall be made by folding the material so that the resulting cloth of cotton ticking will have 12 thicknesses of material; the moleskin will have 6 thicknesses of material, exclusive of asbestos paper. The asbestos paper shall be app. .025" thick-inserted between the folds so as to be invisible. # of asbestos layers - Type MC-74-3 layers; types MC-75-76-79-2 layers; Types MC-80-81-1 Layer.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
MIL-C-13194A Cloth MC-74 Cloth MC-75 Cloth MC-76 Cloth MC-79 Cloth MC-80 Cloth MC-81	Wiping surface shall be given a permanent smooth finish by an application of tallow and soapstone dressings.		(5) Forming - 5 & 6" cloths shall be "lat, 3" cloths - steam pressed no paste, glue or starch, or stiffening shall be used in forming process.	Intended Use - Wiping cloths are to be used in wiping lead joints on cable splices.

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)								
<u>Cloths, Polishing</u> DDD-C-441b	3.5	-	- -	size 17 1/2 x 21	1	1	45	42	25	11					

<u>Cloths, Polishing</u> <u>(For Electrical</u> <u>Contact Surfaces)</u> DDD-C-450a	7.0	-		size 10 3/4 x 13 1/4 (3)	1	1	50 1/2	38 1/2	25	17					
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Damask, Table Cotton  
(in bolts)  
CCC-D-71

Type A	4.4	2 1/4	Conserva- tive Patterns (1) " "	58 1/4	- -	116	45	50						
Type B	5.2	2 1/4		64 1/4	135	50	55							
Type C	5.2	2 1/4		72 1/4	78	76	64	74						
Type D	5.9	2 1/4		54 1/4	78	76	64	74						
Type E	5.5	2 1/4		64 1/4	78	76	64	74						
Type F	5.5	2 1/4		72 1/4	78	76	64	74						

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
DDD-C-441b	Soft finish; lightly napped on both sides.	Any color or colors.		
DDD-C-450a	Soft finish; lightly napped on both sides. Cloth shall be finished by dipping in a silica-base compound until thoroughly impregnated.	Color - white (bleached) (5)		Intended Use - for cleaning and burnishing electrical contact surfaces of metallic component parts and hardware such as telephone switch board plugs & jacks, relays & relay housings, potentiometer housings, switches etc.
CCC-D-71	(2) Type A Bleached and mercerized. Type B Types D, E, and F finished to prevent linting after repeated washings, and to prevent loss of luster and body for mercerization.			

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Poin- t Value Max.
	Min	Max				W	F								
<b>Handkerchief, Man's and Woman's, Cotton</b>															
<b>DDH-H-71e</b>															
Type I - Man's 17 x 17 in.	2.0	(3)	Plain	--	1	1	93	78	30	25					
						(3)									
Type II - Woman's 11 x 11 in.	2.0	(3)	"		1	1	93	78	30	25					
Colors: white olive green 107															
<b>Handkerchiefs, Cotton Bandanna</b>															
<b>DDH-H-74</b>															
Type I - Blue	2.2	5%	Plain	--	--	57	57	34	20						
Type II - Red	2.2	5%	"	--	--	57	57	34	20						
<b>Pajama-Check, Cotton</b>															
<b>CCC-P-96</b>															
Type I - 80 x 80	3.25	-	(7) Pajama check	35½	1	1	85	72	40	26	1%	1%			
Type II - 80x 83	3.50	-		32-3/4	1	1	94	80	52	35	1%	1%			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
DDH-H-71 e Type I Type II	(2) Fully mercerized and closely singed.	Color - shall be olive green-107 or white, when white is specified, cloth shall be fully bleached. For OG-107 cloth shall be dyed to match approved standard (5-6). Colorfastness - standard sample available-(5610- 5600-5651-5680).	(5)	
DDH-H-74 Type I Type II		Type I - Blue, with the usual bandanna handker- chief designs in white. Type II - Red, with the usual bandanna handker- chief designs in white. Colorfastness - (5660- 5610-5651).		
CCC-P-96 Type I Type II	(2) Desized and calendered to produce a soft, smooth, nainsook finish.	Bleached and tinted bluish white.		

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.	
	Min	Max				W	F									W
<u>Prints, Cotton</u>																
CCC-P-551																
Type I	2.7	-	Plain	35 1/2		72	64	52	32							
Type II	2.4	-	"	35 1/2		66	54	38	17							
<u>Sateen, Cotton</u>																
CCC-S-91a																
Type I - Low Count	3.2	3.8	5-harness	(1)	--	66	38	30	30							
Type II - Medium Count	3.3	3.8	satin			84	130	35	40							
<u>Swiss Dotted, Cotton</u>																
CCC-S-891																
	1.4	-	Woven dots	36" - 1"		62	48	24	12							
			(clipped)													
			on plain													
			background													

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-P-551 Type I Type II	(2) Singed. May be lightly calendered or uncalendered.	Colors & patterns (1). Colorfastness - (5660- 5610).		Extended Use - Type I - In women's and children's dresses. Type II - for comforter covering.
CCC-S-91a Type I Type II	(2) Clear, smooth, high luster finish.	Color (1). Colorfastness - (5660- 5610).		
CCC-S-891		Color (1). Colorfastness - (5610).		



**COTTON CLOTHS-WOVEN**

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- lency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)								
Towel, Bath, Cotton Terry DDD-T-551g						W	F	W	F	W	F				
Type I - 8in. loop Class 1 - 20x40 in.	(1b/doz) 5.5	-	(7) Terry	(12) 20 B <sup>1</sup> "	Ground Pile	1	1	1	1	72	32	75	70		
Type II - Dou. loop Class 1 - 22x44 in.	8.5	-	"	22 B <sup>1</sup> "		1	1	1	1	84	42	45	40		
Class 2 - 16x27 in.	3.0	-	"	16 B <sup>1</sup> "		1	1	1	1	84	42	45	40		
Class 3 - 16x27 in.	3.65	-	"	16 B <sup>1</sup> "		1	1	1	1	84	42	45	40		
Class 4 - 20x40 in.	5.5	-	"	20 B <sup>1</sup> "		1	1	1	1	71	32	45	40		
Style A - Selvage edge both sides															
Style B - One Sel. edge, one hemmed															

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
DDD-T-551g Type I Class 1 Type II Class 1 Class 2 Class 3 Class 4 Style A Style B	(2)	Color - towels shall be bleached white or dyed as specified. Standard sample available (4-6). Colorfastness - standard sample available (5675)	When design (non-military) is required, it shall be as specified. Hems - shall be 1/4" to 3/4" wide on each end of towel. Side hem (for style B only) one side of towel shall have a hem 1/4" to 3/8" wide.	

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				W	F								
<b>Towel or Dishcloth</b> (Crash, Cotton, and Cotton and Linen-Mixed); <b>Cloth, Crash, Cotton</b> DDD-T-511c (See also under Mixed Cloths)															
Type I - Towel or dishcloth Class 1 - Cotton warp & linen filling (unbleached)															
Class 2 - All cotton (bleached)															
Size 1 - 17x30 in. 5.8 - Plain 38 30 50 40															
2 - 17x36 in. 5.8 - " 38 30 50 40															
3 - 17x44 in. 5.8 - " 38 30 50 40															
40.00															
Type II - Cloth, crash, cotton (bleached) 5.8 - " 38 30 50 40															

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
DDD-T-511c Type I Class 1 Class 2 Size 1 Size 2 Size 3 Type II	(2) Cloth shall be scoured and bleached.	Color - cloth shall be bleached. When speci- fied, towels shall have woven, colored stripes 3/16 to 5/16 in. wide, located 7/16 to 9/16 in. from each selvage edge. Colorfastness - Stripes: "good" (5610-5600).	Rate of absorbency: height of rise of colored water shall be a min. of 6 cm. in 5 min. in both W and F.	

**COTTON CLOTHS-WOVEN**

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.	
					(5050)	(5100)									(5450)
<u>Towel, Hand; and Cloth, Huck, Cotton</u>				Min	Max	W	F	W	F	W	F				
<b>DDT-T-531e</b>															
Type I - Towel, Hand	2.55	Plain	17-1/2"	1	1	52	26	70	60						35.00
Class 1 - with woven design and stripes.	lb/dos sizes	huck (7)	x36-1"	or	or	(a)	(as singles or 52 in pairs)						(dyed)		
Color - Green	other														40.00
Class 2 - without woven design and stripe	17x36														(white)
Color - White	shall														
Color - Green	have														
Class 3 - with stamped "U.S.", without stripe	propor-tionate														
Color - White	wt.														
Type II - Cloth, towel- huck, cotton	7.0 oz. per sq/yd	Plain huck (7)	17-1/2"	1	1	same as Type I	70	60						35.00 (dyed) 40.00 (white)	

(a) yarn for Type I - class 1 shall be 2 ply.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
DDT-T-531e Type I Class 1 Class 2 Class 3 Type II	(2)	Color - of towels and towelings shall be bleached or dyed as specified. (6) Std. sample available (4). Colorfastness - dyed towels and towelings and colored stripe towels (5605) standard sample available.	Finished towels shall have fast selvages in and a hem of at least 1/4" on each end. Mark- ing - shall be as spec- ified in para 3.10 of specification. Woven design of stripes of Type I - Class 1 (7)	

### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarn Per Inch Min.	Breaking Strength l.b. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Paint Value Max.
	Min	Max												

Towel, Machinery  
Wiping  
DDD-T-541c

Size 1 - 16 1/2 x 18 in.	5.5	-	Plain	1	1	28	18	40	75
Size 2 - 18 x 30 in.	5.5	-	"	1	1	28	18	40	75

Towel, Machinery  
Wiping (Laundered)  
DDD-T-00539a  
(OSA-FSS)

Size 1 - 16 1/2 x 18 in.	5.5	6.2		28	18
Size 2 - 18 x 30 in.	5.5	6.2		28	18

Basic Towel

Machinery wiping towels shall originate from new cotton towels consisting of single ply yarns. Hems - shall be 5/32" ± 1/32 inch; all unseamed edges shall be hemmed.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES  (Not Specification Requirements)
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DDD-T-541c Size 1 Size 2	(2) Towels may be bleached or unbleached as specified.		(5)	Intended Use - Primarily for use in cleaning machinery and mechanical components.
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DDD-T-00539a Size 1 Size 2	(2) Towels shall be laundered & dried by best commercial processes & shall be free of paint, oil, grease, metal, plastic or other foreign objects, & shall have no objectionable odor and conform to following requirements: <u>Area and weight</u> Size before laundering    Ave. wgt. min. laun-dered towel    Ind. wgt. min. laun-dered towel    Area min. laun-dered towel			Towel shall be free from Intended Use - This specification torn, frayed, or tattered is intended to define quality of edges, and not less than towels received from commercial laundry facilities. 97% of the area of each towel shall be free from holes. Absorbency - average time of saturation shall be 10 sec. max. (4.5.2). Capillarity - average time of water to rise 1 in. shall be 40 sec. max; to rise 2 in. shall be 90 sec. max. (4.5.3).												
	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td style="width: 10%; text-align: center;">ounces</td> <td style="width: 10%; text-align: center;">ounces</td> <td style="width: 10%; text-align: center;">inches</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">1.28</td> <td style="text-align: center;">1.14</td> <td style="text-align: center;">225</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">2.13</td> <td style="text-align: center;">2.00</td> <td style="text-align: center;">356</td> </tr> </table>		ounces	ounces	inches	1	1.28	1.14	225	2	2.13	2.00	356			
	ounces	ounces	inches													
1	1.28	1.14	225													
2	2.13	2.00	356													



### COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(2050)	(5100)								
Washcloth, Terry, Cotton DDD-W-80b, Amd. 1						W	F	W	F	W	F				
Type I	16 (a dozen)	-	Single-loop terry		2 or 1 (1)	68	35	40	35						
Type II	11 (a dozen)	-	(7)		2 or 1 (1)	59	29	25	25						

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
DDD-W-80b Type I Type II	(2) Resized and bleached white.	Color - Cloth shall be bleached white.		

REFERENCES

COTTON CLOTHS - WOVEN

Textile Test Methods - CCC-T-191b

<u>Method</u>	<u>Title</u>
<u>Chemical</u>	
2011	Dihydroxydichlorodiphenyl Methane Content, Colorimetric Method.
2020	Presence of Labile Sulfur in Textile Materials.
2610	Nonfibrous materials, acid method.
2611	Nonfibrous materials, enzyme method.
2610	Acidity (pH), colorimetric method.
2611	Acidity (pH), potentiometric method.
<u>Construction</u>	
5020	Width of cloth.
5030	Thickness of cloth.
5040	Weight of cloth; cut, roll, or bolt method.
5041	Weight of cloth; small specimen method.
5050	Yarns per inch in woven cloth.
<u>Mechanical</u>	
5100	Strength and elongation, breaking, of woven cloth, grab method.
5102	Strength and elongation, breaking, of woven cloth, cut strip method.
5104	Strength and elongation, breaking, of woven cloth, reel strip method.
5110	Sewability; strength-of-seam method.
5122	Luriting strength, diaphragm.
5132	Tearing strength, pendulum method (Klemendorf).
5134	Tearing strength, tongue method.
5136	Tearing strength, trapezoid method.
5202	Stiffness, directional; cantilever bending method (Timius Olsen).
5206	Stiffness, draps and flex; cantilever bending method (Pierce formula).
5304	Abrasion resistance; oscillatory cylinder (Wysenbeek) method.
5308	Abrasion resistance of cloth; Uniform Abrasion (Schisler) method.
5410	Slippage resistance of yarns in cloth.
<u>Air Permeability and Water Resistance</u>	
5450	Air Permeability, calibrated orifice method (Frasier).
5500	Water resistance, dynamic absorption.
5502	Water resistance, cloth, immersion absorption.
5514	Water resistance, hydrostatic pressure, low range.
5516	Water resistance, hydrostatic pressure, water permeability.
5526	Water resistance with hydrophobic finish; spray method.
5530	Penetration resistance of cloth; feathers and down, tumbling method.
<u>Shrinkage Resistance</u>	
5550	Shrinkage in laundering; cotton, linen, and mixed cotton and linen cloth.
5556	Shrinkage in laundering; mobile laundry method.
<u>Colorfastness</u>	
5600	Chlorine bleaching; cloth.
5605	Colorfastness to Combined Laundering and Bleaching of Textile Materials; Launder-Ometer Method.
5610	Laundering, cotton and/or linen; Launder-Ometer.
5612	Laundering, cotton and/or linen cloth; wash wheel.
5620	Dry cleaning (petroleum solvent).
5622	Wet cleaning (with dry cleaning).
5630	Water, cold.
5632	Salt water and soap.
5651	Crocking of cloth.
5660	Light; accelerated (Fade-Ometer).
5670	Weather; accelerated method (Twin Arc Weather-Ometer).
5671	Weather; accelerated method (National Weathering Unit).
5680	Perspiration; perspirometer method.
5682	Perspiration; tube method.
<u>Mildew Resistance</u>	
5750	Mildew resistance; direct inoculation, pure culture, sterile specimen method.
5760	Mildew resistance; mixed culture method.
5762	Mildew resistance; soil burial method.
<u>Deterioration</u>	
5804	Weathering; accelerated (National Weathering Unit).
<u>Fire-Resistance Thermal Tests</u>	
5902	Flame resistance; vertical.
5903-T	Flame resistance of cloth; modified vertical.

GENERAL NOTES

WOOL CLOTHS - WOVEN

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- |                                       |   |
|---------------------------------------|---|
| (1) As specified.                     | (6) Finishing and loading materials use prohibited.               |
| (2) Width exclusive of selvage.       | (7) Preproduction sample approval.                                |
| (3) Colormatching.                    | (8) See specification for woven design and insignia requirements. |
| (4) Bid sample and laboratory report. | (9) See specification for applicable tolerances.                  |
| (5) Weave diagrams or instructions.   | (10) See exception to test method.                                |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.



## WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz/Sq. Yd.	Weave	Thick-ness	Yarns Per Inch (5050)	Breaking Strength Lb. Min. (\$100)	Shrink-ages Max. (5556)	Point Value Max.					
	Fiber	Grade U.S.D.A.	System	P'y														
Blanket, Bed (Wool)											Max   Min		W   F					
MIL-B-644G, Amd. 1																		
Type I - Twill weave																		
Grade A - 100% Grade A blankets - Warp and filling yarn from fleece and/or pulled wool											Min.		5041 untreated blanket		5030 either 2 straight 0.130 in. 2twill at 0.1 28 30 50 50		(5558-5554) Freshrunk 6%-4%	
Size 3 - 66x90"											95%		21.5 oz/lin		or 2 broken 2twill at 1.1		0.085 in. lbs/sq.yd. (10)	
Color - Olive Green 118													50% (min.) 56's - 60's		50% (max.) 44's - 60's			
Grade B - New wool & repro-cessed blend											95%		65% (min.) 54's - 60's		35% (max.) 48's - 60's			
Size 1 - 60x84"																		
Color - Gray 3119																		
Size 2 - 66x84"											95%							
Color - Olive Green 118																		
Size 3 - 66x90"											95%							
Color - Olive Green 118																		
Type II - Double Woven																		
Grade A - 100% new wool											95%		untreated blanket 23.0 oz/lin		double woven twill 1/2 face 2/2 back 1/1 (5)		37 39 45 45 6%-4%	
Size 3 - 66x90"																		
Color - White with stripes																		
Type III - Plain Weave																		
Grade C - 100% new wool											95%		untreated blanket 11.25 oz/lin		Plain weave		33 34 28 26 6%-4%	
Size 4 - 50x78"																		
Color - Air Force tan																		
Grade C blankets - Warp and filling yarns shall be fleeca or pulled sheep's wool or both, not lower in grade than 56's nor finer than 62's. The wool yarn shall be carded and spun on the wolen system for Wand K.																		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
MIL-B-644G Type I Grade A Size 3 Color - 118 Grade B Size 1 Color - 3119 Size 2 Color - 118 Size 3 Color - 118 Type II Grade A Size 3 Color Type III Grade C Size 4 Color	Finished blanket shall be fully napped - standard sample available. Treated for resistance to felting shrinkage by an oxidation or resin process. Process shall not increase alkali solubility of treated blanket more than 6% over the untreated blanket (2800). Stiffness of treated blanket shall not be more than 0.011 load lb. (5202). pH: 4.0-8.0 (2811).	Color - Gray, to be obtained by stock dyeing with suitable chrome dyestuffs to match Navy Shade 3119 (3). Olive Green No. 118, to be obtained by blending olive green dyed wools with white wool. Chrome acid milling or neutral dyeing premetalized dyes shall be used (3). White - unbleached white (3). Maroon - Yarn used for weaving stripes for white blanket shall be chrome dyed Maroon No. 165 (3). Tan - A.F. tan obtained by stock or piece dyeing (3). Standard sample available for all colors. Colorfastness - Type I & III blankets & maroon stripes of Type II blankets - standard sample available (5660-5614-5651).	(a) Resin treatment for producing shrink resistance shall not increase the weight of the untreated blanket by more than 20% (8)	Intended Use - Type I, Grade A or B, size 3, olive green is a medical field blanket. Type I, Grade B, size 1, gray is a Navy crew blanket. Type I, Grade B, size 2, olive green is used by the Army, Navy, Air Force and Marine Corps. Type II, Grade A, size 3 is a hospital blanket. Type III, Grade A, size 4, Air Force tan - for use of passengers in transport planes of the Military Airlift Command.

### WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz/Sq. Yd.	Weave	Thick-ness	Yarns Per Inch Min. (5030)	Breaking Strength Lb. Min. (5100)	Shrink-ages Max. (5556)	Point Value Max.
	Fiber	Grade U.S.O.A.	System	Ply									
W P Max/Min W   F W   F													
<u>Bunting, Wool</u> CCC-B-801, Amd. 3 Wool			Worsted	2x2		(1) - 4.0	Plain			32 32	35 34		
<u>Cloth, Barathos, Wool</u> MIL-C-3727C, Amd. 1													
Type I - 14.0 oz.	Fleece	70's	Bradford	2x2	95%	60	- 14.0	8-bar-		80 86	70 85	(5558) 4 3/4	10.00
Type III - 15.0 oz.	and/or pulled wool (a)	70's	French or American		min.	min.	- 15.0	berathos		85 75	125 100	4 3/4	10.00
(5) (Based on 1 1/2 in. width)													
<u>Cloth, Billiard</u> MIL-C-17566A (8A)													
	Staple fleece and/or pulled wool (a)	56's	Woolen	1x1		(2) 60	5041 - 17.2	2 right 1 twill		50 40	50 45		
(Based on 1 1/2 in. width)													

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
CCC-B-801		Color (1) - standard sample available. Colorfastness - standard sample available (5651-5630-5632-5660).	Bunting shall be made with two non-reveling edges, woven single width.	
MIL-C-3727C Type I Type III	Scoured, fulled and sheared - standard sample available. pH: 5.5-8.0 (2611).	Color (1) - standard sample available (3). Produced by blending the proper shades of stock or top dyed wool, and obtained by the use of chrome, vat, or neutral premetallized dyes or combinations thereof. Colorfastness - standard sample available (5660-5651-5622-5690).	(a) The use of noils, laps, or any other wool manufacturing by products is prohibited.	Intended Use - In the manufacture of uniform items.
MIL-C-17566A	Finish and hand equal to standard sample. Scoured, fulled, free from vegetable matter (carbonized if necessary) and face evenly sheared.	Color - Green 3402, equal to std. shade (3). Colorfastness - standard sample available (5660-5651).	(7) Cloth shall have a selvage of 1/2 (± 1/16) in. on each side. (a) Use of reprocessed wool, noils, card fly, reused wool etc. will not be acceptable.	Intended Use - As table cloths.

### WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz/Sq. Yd.	Weave	Thick-ness	Yarns Per Inch Min. (\$050)	Breaking Strength Lb. Min. (\$100)	Shrink- age Max. (\$556)	Point Value 'Max.	
	Fiber	Grade U.S.D.A.	System	Ply										
Cloth, Broadcloth, Wool, and Wool Synthetic														
MIL-C-82252 (See also under Mixed Fiber Cloths)														
Type I - Wool														
Class 1 - 14.5 oz. Blue	Fleecs end/or	54's	Woolen	1x1	95% min.	56	15.0	14.0	2 right 1 twill	54	50	45	42	(5520) 5 1/2-4 1/2 15.00
Class 2 - 15.5 oz. Blue	pulled wool (s)	70's	"	1x1	"	54	16.0	15.0	"	56	55	50	45	2 1/2-1 1/2 15.00
Class 3 - 16.5 oz. Blue		70's	"	1x1	"	56	17.0	16.0	"	60	58	40	35	3 1/4-3 1/4 15.00
Class 4 - 16.5 oz. Scarlet or Black		60's	"	1x1	"	54	17.0	16.0	"	54	54	55	45	3 1/4-2 1/2 15.00
Class 5 - 23.0 oz. Blue		70's	"	1x1	"	56	24.0	22.0	"	90	64	65	40	4 1/2-3 1/2 15.00
Type II - Wool/Synthetic blend (See under Mixed Fiber Cloths)														

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
MIL-C-82252 Type I Class 1 Class 2 Class 3 Class 4 Class 5 Type II	Scoured, fulled, free from vegetable matter, with a uniformly developed broadcloth finish. Finished cloth shall be pressed & have a lustrous face finish like that of the standard sample. When specified, cloth shall be treated with moth repellent in accordance with the method specified by the contracting officer. pH: 4.0-8.0	Color - for Type I, Classes 1, 3, 4, & 5, color shall be produced by stock dyeing with chrome dyestuffs to match approved std. shades (3) Class 1 - Blue 3319 Class 3 - Blue 3320 Class 4 - Scarlet 2501 or Black (1). Class 5 - Blue 3321. Type I, class 2 shall be produced with indigo dye, to match standard sample of Blue 2307. Colorfastness - standard sample available (5660-5622-5680-5651).	(s) Wool shall be free from vegetable matter, reprocessed or reused wools, or any other adulterants. (7)	Intended Use - In service, semi-dress, and dress uniforms and functional clothing.

### WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz/Sq. Yd.	Weave	Thick-ness	Yarns Per Inch (5050)	Breaking Strength Lb. Min. (5:00)	Shrink- age Max. (5556)	Point Value Max.
	Fiber	Grade U.S.D.A.	System	Ply									
<u>Cloth, Elastic.</u> Wool													
MIL-C-3738E													
Type I - 19 oz.	Fleece and/or pulled wool (s)	70's	Bradford French or American	2x2	95% min.	(2) 60 min.	50 <sup>4</sup> / <sub>1</sub> 19.0 oz/lin yd	(5)		128 98	160 90	555 <sup>8</sup> / <sub>3</sub>	15.00
Type II - Class 1 - 18 oz.		64's	"	2x2	"	"	18.0 oz/lin yd	(5)		124 80	140 80	64-4 <sup>4</sup>	15.00
Type II - Class 2 - 18 oz.		70's	"	2x2	"	"	18.0 oz/lin yd	(5)		124 80	140 80	64-4 <sup>4</sup>	15.00
Type III - 16 oz.		70's	"	2x2	"	"	16.0 oz/lin yd (Based on lin yd of 56 in.)	(5)		138 96	130 70	54-3 <sup>4</sup>	15.00
<u>Cloth, Flannel, Wool</u>													
MIL-C-16291D(SA)	Fleece and/or pulled wool (s)	60's	Woolen	1x1	95% min.	(2) 56	50 <sup>4</sup> / <sub>1</sub> 12.6 li.c oz/lin yd (Based on lin yd of 56 in. width)	2 right 2 twill		56 48	35 35	5590 34-4 <sup>4</sup> (10)	10.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
MIL-C-3738E Type I Type II Class 1 Class 2 Type III	Face shall be clear and closely sheared - standard sample available. pH: 5.5 - 8.5 (2811).	Color (1) - standard sample available (3). Color shall be obtained by stock or top dyeing, piece dyeing will not be permitted. Colorfastness - standard sample available (5660-5651-5622-5680).	(a) The use of nolls, laps, or any other wool manufacturing by products is prohibited.	Intended Use - In the manufacture of clothing items.
MIL-C-16291D	Flannel finish, well pressed, with a lustrous face, nap and hand equal to that of standard sample. When specified, cloths shall be treated with moth repellent by a method specified by contracting officer.	Color (1) - standard sample available (3). When blue is specified, shade shall be Blue 3311; when Olive Drab, shade shall be OD 3705. Color shall be produced by stock dyeing with chrome dyestuffs. Colorfastness - standard sample available (5660-5622-5680-5614-5651).	(7) (a) Wool shall be free from vegetable matter, reprocessed or reused wool (a.c.).	Intended Use - In the manufacture of uniforms worn by Navy personnel.

### WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz/Sq. Yd.	Weave	Thick-ness	Yarns Per Inch (5050)		Breaking Strength Lb. Min. (5100)		Shrink-age Max. (5556)	Point Value Max.
	Fiber	Grade U.S.D.A.	System	Ply						W	F	W	F		
<u>Cloth, Flannel, Wool, Lining, 18 Ounce MIL-C-3191B</u>	Fleeces and/or pulled wool (a)	60's	Woolen	1x1	97% min.	56 (2) min.	50x1 12.0 os/lin yd (Based on lin yd of 56 in. width)	2 right 2 will h-harrows		33	33	35	30	5558 54-55	10.00
<u>Cloth, Flannel, Wool, 10 1/2 Ounce Shirting Resistant MIL-C-2184D</u>	Fleeces and/or pulled wool (a)	60's	Zredford French or American	1x1	97% min.	60 (2) min.	50x1 12.6 os/lin yd (Based on lin yd. of 56 in.)	2 right 2 will		60	60	55	55	W - F 54-54 relaxation (5558) 54-54 felting (5554)	10.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
MIL-C-3191B	Scoured, fulled (carbonized if necessary, napped & sheared on the face & on the back. Standard sample available. pH: 4.0-8.0 (2011).	Color (1) - Shall be piece dyed to match the standard sample (3). Colorfastness - standard sample available (5602-5600-5651).	(a) Reprocessed wools, reused wools, wool waste, etc. are prohibited.	Intended Use - In removable liners in men's and women's wool overcoats.
MIL-C-2184D	Scoured, sheared, and pressed. Standard sample available. Given an approved shrinkage control treatment by an oxidation resin or by interfacial polymerization process. Stiffness of treated cloth shall be 0.003 load lb. max. in the wavy direction (2002). When oxidation method is used, the alkali solubility of the treated cloth shall not have increased over 6% (absolute) (2000). pH: 4.0-8.0 (2011).	Color (1) - Standard sample available (3). Color shall be obtained by blending top dyed wool. Colorfastness - standard sample available (5660-5600-5651-5614).	(a) The use of nells, lays, or any other manufacturing by-product is prohibited.	Intended Use - As shirting material for both male and female pyjamas.

**WOOL CLOTHS-WOVEN**

NOMENCLATURE	YARN				Wool Conten.	Width Inch	Weight		Weave	Thick-ness	Yarns Per Inch		Breaking Strength		Shrink- age Max. (5556)	Point Value Max.
	Fiber	Grade J.S.D.A.	System	Ply			Oz/ Sq. Yd.	Max			Min	W	F	W		
<u>Cloth, Flannel, Wool, Undercollar Cloth</u> MIL-C-15062F	Fleece and/or pulled wool (a)	56's	Woolen	1x1	95% min.	(2) 60 min.	50 1/2 12.5-10.5	Flat			26	23	24	16		10.00
<u>Cloth, Fleece, Wool</u> <u>Fl. 5 Ounce</u> MIL-C-2049C	Fleece and/or pulled wool (a)	50's	Woolen	1x1	95% min.	(2) 59 min.	21.5 - 2 broken 2 twill (Based on 2-right 2-left 56 in.)				28	30	50	50		15.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
MIL-C-15062F	Secured, fullod (carbonized if necessary), with a face evenly sheared. Finished cloth shall be pressed and shall have finish equal to standard sample. pH: 4.0-8.0 (2011).	Color (1) - standard sample available (3). Pile dyeing is permitted. Colorfastness - standard sample available (5651-5622-5680).	(a) The use of reprocessed wool and noils of the same grade is permitted.	Intended Use - As a facing for the underside of the collar of the uniform coats and overcoats.
MIL-C-2049C	Secured, fullod, with both sides napped. Standard sample available. Nap fibers should offer considerable resistance to lifting with a needle (6.4). pH: 4.0-8.0 (2011).	Color - Olive Green No. 118, produced by blending stock dyed wools of olive green with white wool-standard sample available (3). Colorfastness - standard sample available (5680-5622).	(a) The use of reprocessed or reused wools or any wool waste is prohibited.	Intended Use - In the removable liner for firemen's Olive Drab Shade No. 7 coat.

**WOOL CLOTHS-WOVEN**

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz/Sq. Yd.	Weave	Thick-ness	Yarns Per Inch Min. (5050)	Breaking Strength Lb. Min. (5100)	Shrink-ops Max. (5556)	Point Value Max.
	Fiber	Grade U.S.D.A.	System	Ply									

Cloth, Cambric;  
Wool, Polyester  
and Wool  
MIL-C-10176F, Amd. 3  
(See also under Mixed Fiber Cloths)

		W F		Max Min		W F		W F					
Type I - Wool	Fleece and/or pulled	62's	Bradford	2x2	96%	(2) 60	- 5041 11.0	2 right	86	48	80	42	5558 (All shades)
Class 3 - 11 oz.			French or			min.		1 twill					12.00
Class 5 - 14.5 oz. wool (a)		64's	American	2x2	96%	"	- 14.5	2 right	112	56	115	65	15.00
Class 7 - 16 oz.		62's		2x2	96%	"	- 16.0	2 twill	120	60	120	55	(W-1)

Type II - Polyester wool blend (See also Mixed Fiber Cloths)  
(Based on a 1 1/2 yd of 56 in)

Cloth, Melton, Wool  
MIL-C-16290F (M), Amd. 1

Type I - 16 oz. Blue 3313	Fleece and/or pulled	61's	Woolen	1x1	97%	(2) 56	5041 17.0	2 right	60	55	58	46	5590 (1)
Type II - 22 oz. Class 1 - Blue 3314	wool (a)	60's	Woolen	1x1	"	(min) 56	24.0	1 twill					10.00
Class 2 - Blue 3315						(min) 56	22.0	3 crew	55	45	80	60	44-56
Class 3 - Blue 3327							(oz per 56 linear yd.)	1 Foot					10.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
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MIL-C-10176F  
Type I  
Class 3  
Class 5  
Class 7  
Type II

Secured, brushed, sheared and singed, pressed and deated. Standard sample available. pH: 5.5-8.5 (M11).

Color (1) - standard sample available (3). To be obtained by blending top or stock dyed wools. Colorfastness - standard sample available (5622-5651-5660-5680).

(a) The use of top, made from laps, noils, or other by-products is prohibited.

Intended Use - In the manufacture of clothing.

MIL-C-16290F  
Type I  
Type II  
Class 1  
Class 2  
Class 3

Type and character of finish shall match standard sample. Cloth shall be secured, fulled (carbonated if necessary), face evenly sheared and well pressed. When specified, cloth shall be treated with moth repellent in accordance with method specified by contracting officer.

Color (1) - Type I shall match Blue 3313. Type II shall match Blue 3314; Class 2 shall match Blue 3315; Class 3 shall match Blue 3327 (3). Color shall be produced by stock dyeing with suitable chrome dyestuffs. Colorfastness - standard sample available (5614-5622-5651-5660-5680).

(a) The wool shall be free of vegetable matter, repro-coats, processed or reused wools.

Intended Use - In the manufacture of clothing items. Type I - men's uniforms and caps. Type II - men's and women's overcoats.

### WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz/Sq. Yd.		Weave	Thick-ness	Yarne Per Inch Min. (5030)		Breaking Strength Lb. Min. (5100)		Shrink-age Max. (5556)		Point Value Max.
	Fiber	Grade U.S.D.A.	System	Ply			Max	Min			W	F	W	F	W	F	
<p><u>Cloth, Serge, Wool</u>                      (1 1/2 ounce)                      MIL-C-15506D (8A)</p>																	
Type I - Unshrunk, untreated	Fleece and/or pulled wool (a)	62's	Worsted	2x1	95% min.	(2) 60 min.	13.5	12.5	4 harness 2 right 2 twill		69	63	80	60	5590	4-2 1/2%	
Type II - London shrunk, untreated	"	62's	"	2x1	"	"	13.5	12.5	"		70	64	80	60	24-14		
Type III - London shrunk, water repellent, treated	"	62's	"	"	"	"	13.5	12.5	"		70	64	80	60	24-14		(or./linear yd of 56 in.)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
MIL-C-15506D Type I Type II Type III	Types I & II - fullled, cleaned, closely sheared to provide stability to color & finish. Type and character of finish shall conform to that shown by standard sample when evaluated in finished and sponged state. Type III, same as Type II, but with a durable water repellent treatment. Spray rating; 90 (min) initially; 70 (min) after one dry cleaning (5526). Hydrostatic Pressure: 8 in. (initial, 6 in. after one dry cleaning (5514)). pH: 4.0-8.0 (2611). When specified, cloth shall be treated with moth repellent in accordance with method specified by contracting officer.	Color (1) - stock or top dyed with chrome dyestuffs to match standard sample. Type I shall match Blue 3342 or 3344, Type II shall match Blue 3331 or 3332, Type III shall match Blue 3316 or 3326 (3). Colorfastness - standard sample available (5660-5680-5622-5651).	(7) (a) The use of moils, laps or any other wool manufacturing by-product is prohibited.	Intended Use - In the manufacture of uniforms for female Naval personnel. Type II - caps, hat covers, and insignia emblems. Type III - raincoats, havelocks, and hoods.







REFERENCES

WOOL CLOTHS - WOVEN

Textile Test Methods - CCC-T-191b

<u>Method</u>	<u>Title</u>
<u>Chemical</u>	
2800	Wool fiber damage, alkali solubility method.
2810	Acidity (pH), calorimetric method.
2811	Acidity (pH), potentiometric method.
<u>Construction</u>	
5030	Determination of Thickness of Textile Materials.
5041	Determination of Weight of Textile Materials: Small Specimen Method
5090	Yarns per inch in woven cloth.
<u>Mechanics</u>	
5100	Strength and elongation, breaking, of woven cloth, grab method.
5202	Stiffness, directional; cantilever bending method (Finus Olsen).
<u>Air Permeability and Water Resistance</u>	
5514	Water resistance hydrostatic pressure, low range.
5526	Water resistance with hydrophobic finish; spray method.
<u>Shrinkage Resistance</u>	
5450	Permeability to Air; Cloth - Calibrated Orifice Method.
5554	Shrinkage in laundering; Wool Cloth; Accelerated.
5556	Shrinkage in laundering; mobile laundry method.
5558	Shrinkage, relaxation; wool cloth.
5590	Shrinkage in sponging; cloth.
<u>Colorfastness</u>	
5614	Laundering of wool, silk, rayon cloth; Launder-Ometer.
5620	Dry cleaning (petroleum solvent).
5622	Wet cleaning (with dry cleaning).
5630	Water, cold.
5632	Salt water and soap.
5651	Crocking of cloth.
5660	Light; accelerated (Fade-Ometer).
5670	Weather; accelerated method (Twin Arc Weather-Ometer).
5671	Weather; accelerated method (National Weathering Unit).
5680	Perpiration; perspirometer method.
5682	Perpiration; tube method.

GENERAL NOTES

SYNTHETIC OR MIXED SYNTHETIC CLOTHS - WOVEN

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- |   |   |
|---|---|
| (1) As specified.   | (7) See specification for applicable tolerances.        |
| (2) See specification for requirements after aging, weathering, water immersion, etc. | (8) Nonfibrous, etc., restrictions.                     |
| (3) Colormatching.  | (9) Width exclusive of selvage.                         |
| (4) See specification for weave diagrams or instructions.                             | (10) Use of finishing and loading materials prohibited. |
| (5) Width inclusive of selvage.   | (11) Preproduction sample.                              |
| (6) Restrictions on use of sulfur dyes.   | (12) Bid sample and laboratory report.                  |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Qty	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Acrylic (For Cartridge bags) MIL-C-12800 (ORD) Amd. 1		W F	W F	W F	Slippage (4.7) minimum W F 60 60	Min Max (1) 2.3 2.7	Plain, single	50 50	40 40				Stretch 0/0 (4.8) maximum W F 10.0 10.0	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-12800	(8-10) Cloth shall pass the objectionable sizing test (4.15). Cloth shall be boiled off or scoured to remove sizing materials. pH: 5.0-9.0 (4.10) Acidity: 0.1% max. Alkalinity: 0.1% max. Cloth shall contain no halogens- Ether soluble materials: 1.0%.		(e) Yarns shall be spun from	Intended Use - In the manufac- ture of cartridge bags for ammunition for 75mm. & 105 mm. Howitzers. Not for use with such as chlorides, bromides, propellants containing nitro- fluorides, or iodides.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Acrylic-Rayon (For Cartridge Bags) MIL-C-40070 (OR)			W F	W F	W F		Min Max		W F	W F	W F			
Class 1 - Breaking Strength: 60 lb.		(a) Acrylic- viscose rayon				(1)	4.75 5.25	Plain- single (1 end/cent)	35 35	60 60				
Class 2 - Breaking Strength: 80 lb.						(1)	5.75 6.25	2/1 twill	34 34	80 80				
Class 3 - Breaking Strength: 125 lb.						(1)	8.75 9.25	2/1 twill	45 45	125 125				
Class 4 - Breaking Strength: 170 lb.						(1)	11.0 11.5	2/2 basket	48 48	170 170				

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-40070 Class 1 Class 2 Class 3 Class 4	(8) Cloth shall be finished with a starch size. Finished cloth shall not contain more than 10% starch (4.3.2.1.2). Acidity: 0.1% max. Alkalinity: 0.1% max. (4.3.2.4). Cloth shall contain no halogens (4.3.2.5). pH: 5.0-9.0 (4.3.2.2). Ether soluble material: 10% max. (4.3.2.1.1).		(11) (a) Acrylic fiber content shall be 50%-60% (4.3.2.1.3). Slippage value: all classes- 60 min. (5100). Stretch: all classes- 10% max. (5100).	Intended Use - In the manu- facture of cartridge bags for artillery ammunition. Cloth is not for use with propellants containing nitroguanidine.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per in. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<u>Cloth, Ballistic, Nylon, Amd. 1</u> MIL-C-12369D (OL)	250°C ± 60°C	(a) Bright high tenacity nylon	W F	W F	W F	Min Max			W F	W F	W F	W F	(4,4,2)	Undyed Natural 22.0 Dyed 18.0
				1050 1050	Multi- fila- ment 3 - 4 turns per inch "Z" twist	48- 49 14.0 /1.0 -0.5	2/2 basket (2 ends weaving as 1, 2 picks weaving as 1)	46 42 900 825						
<u>Cloth, Rammer, Rayon</u> MIL-C-606D		cupram- 2 2 monium rayon			Multi- fila- ment	(1) (5) tol: 1/4"	5.0 - 2 right 2 twill	282 94 125 50						

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-12369D	Cloth shall be scoured & heat-treated and shall be processed to meet the ballistic resistance requirements of this specification. pH: 5.0-8.5 (2811) (10).	Color (1) - Unless otherwise specified, cloth shall be undyed (natural). Standard sample available and adpic ac'd or its for colors (3), which shall be obtained by piece dyeing using neutral pre-metallized dyes applied at a pH value consistent with the highest temperature possible for the apparatus used. Colorfastness - standard sample available (5660).	(12) (a) Nylon shall be prepared from hexamethylene diamine and adipic ac'd or its derivatives. Ultimate elongation: 25% in the warp; 20% in the filling (5100). The ballistic limit V <sub>50</sub> for 12 layers of unbonded cloth shall be not less than 1225 ft/sec (4.4.1).	Intended Use - In the manufacture of body armor, helmets, and armored clothing.
MIL-C-606D	Cloth shall have a hand and drape equal to the standard sample. Use of resin finishes to impart stiffness to the cloth is prohibited, unless otherwise specifically approved and authorized by the contracting officer.	Color (1) - standard sample available (3). Yarns shall be dyed prior to weaving, using vats, mophols, or cellulose reactive dyes as appropriate. Use of solution dyed cupramonium yarns in lieu of the above is permitted if the hue and brilliancy of the shade can be achieved. There must be a degree of penetration of the yarns such that the finished cloth shall show no more barre than the std. sample. Colorfastness - standard sample available (5660-5651-5622).		Intended Use - In the manufacture of various types of flags.

**SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN**

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
			W F	W F	W F	Min Max		W F	W F	W F		W F		
Cloth, Bunting, Acrylic MIL-C-22775A		(a) semi- dull acrylic	2 2	3 3		(1) (5)	4.9 -	Plain	30 30	95 100		290	4% 3%	35.00

Cloth, Bunting, Nylon:  
and Nylon and Wool  
CCC-C-476  
(See also under  
Mixed Fiber Cloths)

Type I - 100%  
nylon filament

Class A - Lt. wgt.

Bright 1|2 70<sup>3</sup>/<sub>5</sub>% (a) Contin-(1-5)2.7 - Plain 106 76 125 155

35.00

Class B - Hvy. wgt.

high tenacity 1|1 810 3.6 - " 62 50 225 192

35.00

Type II - 75% nylon  
(staple) and 25%  
wool (See under  
Mixed Fiber Cloths)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
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MIL-C-22775A

(8-10)  
Natural finish, equal to  
standard sample.

Color (1) - to match std.  
shades (3).  
Colorfastness - standard  
sample available (5651-  
5650-5670-AMCC/106-1962).

(11)  
(a) 2 in. min. staple  
length. Selvage shall be  
1/2 (1/16) in. Fiber shall  
be capable of being dyed  
with basic dyes.

Intended Use - Primarily in  
the manufacture of signal flags.

CCC-C-476

Type I  
Class A  
Class B  
Type II

Cloth shall be given an antistatic  
finish, to reduce the resistivity  
to a value of 1.0x10<sup>9</sup> ohms per  
square.

Color (1) - standard  
sample available. Colors  
for the Flag of the  
United States shall be in  
accordance with Spec.  
DD-F-416 (3). Colors  
other than for the Flag of  
the United States shall  
match the applicable  
color card of sample (3).  
Colorfastness - standard  
sample available (5630-  
5651-5660).

There shall be a plain  
weave selvage on each  
side, 1/2-1/8-in.  
wide with 2 ends  
weaving as 1.  
(a) Denier shall be  
70<sup>3</sup>/<sub>5</sub>%-ply; or 140  
denier 1/5% singles.

Intended Use - In the manufac-  
ture of various types of flags.



### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
			W F	W F	W F	Min Max		W F	W F	W F				
<u>Floth, Cartridge,</u> <u>High Tenacity Direct</u> <u>Spun Viscose Rayon</u> <u>MIL-C-13540 (ORD)</u>		(a) High tenacity viscose rayon				(1) 2.8 3.2	Plain, single	60-60- 65 65	50 50					

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-13540	(8) The cloth shall pass the object- ionable sizing test (4.14). Alkalinity-There shall be no alkalinity type-terminated ac sodium carbonate (4.11). Acidity - max. 0.1% (4.11). Fiber soluble material- max. of 0.5% (4.13). pH: 5.5 - 7.7 (2611).		(a) The warp yarns only shall be sized with gelatin applied from an aqueous bath not to exceed 155°F, containing 3% (by weight of bath) of 4.4 undegraded gel- atin and 0.25% (by weight of bath) of paranitrophenol. Slippage: warp- 135 min.; filling- 125 min. (5100). Stretch: 8.5% max. in both warp and filling (4.8).	Intended Use - In manufac- turing cartridge bags for artillery propelling charges.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Con- struction									
<u>Cloth, Cartridge, Polyester-Viscose Rayon (For Cartridge Bags)</u> MIL-C-43153 (M)		W F	W F	W F		Min Max		W F	W F	W F				
Class 1 - Breaking Strength: 90 lb.	Polyester- viscose rayon				(1)	4.75 5.25	Plain- single	35 35	90 90					
Class 2 - Breaking Strength: 125 lb.	Polyethylene- terephthalate & viscose rayon blend				(1)	5.75 6.25	twill 2/1	35 35	125 125					
Class 3 - Breaking Strength: 175 lb.	Polyester Fiber Content 50% min. 60.0% max.				(1)	8.75 9.25	twill 2/1	45 45	175 175					
Class 4 - Breaking Strength: 200 lb.	Viscose Rayon (no acetyl groups)					12.5	Plain or other		300 300			Maximum Stretch 12.5% 12.5%		
<u>Cloth, Cartridge, Rayon</u> MIL-C-20500			275 275	120 120(1)		- 12.5	Plain or other							

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-43153 Class 1 Class 2 Class 3 Class 4	(8) Acidity: 0.1% max. Alkalinity: 0.1% max. (4.3.5). pH: 5.0-9.0 (4.3.3). Ether soluble material: 10.0 max. (4.3.6).	Color (1).	Slippage value: All classes - 60 min. (4.3.10). Stretch: All classes - 10% max. (4.3.11).	Intended Use - In the manufac- ture of cartridge bags for artillery ammunition.
MIL-C-20500	(8-10) Acidity or Alkalinity Mineral - None Organic - max. 10% Ether extract - max. 1.0%		When loads equal to 3% of the breaking strength in one direction & 5% in the other direction are applied to the seams as directed (7-4d), the slippage of the yarn shall not exceed 0.25 in.	Intended Use - In the assembly of charges of propellant pow- der for cannon.

## SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per in. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max (5556)	Point Value Max
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<div style="display: flex; justify-content: space-between; font-size: small;"> <span>W   F</span> <span>W   F</span> <span>W   F</span> <span>Min   Max</span> <span>W   F</span> <span>W   F</span> <span>W   F</span> </div>														
<u>Cloth, Curtain, Moda- crylic Warp and Filling</u> CCC-C-525b	Warp yarn 16/2, cut staple, copolymer of acrylonitrile and vinyl chloride. Yarn dyed. Filling yarn 1.2 run cut staple, poly- vinylidene chloride. Pigmented.					(5) 56 24	11.5 14.5	(4)	50 24 21 21	175 45 (2)				30.00
<u>Cloth, Deck, Nylon</u> MIL-C-3953C														
Class 1 - Untreated	250°C	High tenacity	5 5	210 210 25% 25%	34 34	(5) 36 min.	20.5 21	3/4 basket (3 ends weaving as 1, 4 picks/ shed)	62 60	1100 1100	135 135			35.00
Class 2 - Melamine resin treated	290°C	bright nylon polyamide (a)	5 5	" "	34 34	"	"		62 60	1100 1100	135 135			35.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
CCC-C-525b	Fire resistance: length of flame 3.0 sec. max.; length of char 4.5 in. max. (5903). There shall be no change in fire resistance after laundering or dry cleaning. Flexibility - Hand, drape and stiffness of sample shall show no appreciable change from original material (4.4.3).	Color (1). Colorfastness - (5660-5908- Heat aging, 4.4.1- Launderings 4.4.2-5651).	(11) Cloth shall not have any objectionable odor.	Intended Use - For the fabrication of fire-resistant curtains.
MIL-C-3953C Class 1 Class 2	(8) Class 2 - Cloth shall be impregnated with a suitable type of melamine resin, and the finished cloth shall have a stiffness of 0.45-0.65 in. lb. in the warp and 0.65-0.85 in. lb. in the filling. pH: 5.5-8.5 (2611).	Color (1) - standard sample available (3). Colorfastness - standard sample available (5614-5660).	(a) Nylon shall be prepared from hexamethylene diamine & adipic acid or its derivatives. Ultimate elongation: 30% min. in the warp and 20% min. in the filling. (5100).	Intended Use - In the manufacture of parachute equipment.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Duck, Nylon, Parachute Packs MIL-C-7219C, Not. 1			W F	W F	W F		Min Max		W F	W F	W F		W F	
Type I - 9.5 os.	250° 160C	(a) Bright high tenacity nylon	(b) 2 3		(b) Multi- fila- ment	(1)	- 9.50	Plain 1 up 1 down	80 38	(5104) 400 300	35 45	5.0	2 1/2 2 1/2	
Type II - 8.75 os.	"	(c)	2 2		"	(1)	- 8.75	"	78 38	400 150	35 80	5.0	2 1/2 2 1/2	
Type III - 7.25 os.	"	(a) Bright high tenacity nylon	(b) 2 2		Warp: filament Filling: staple	(1)	- 7.25	"	60 45	385 275	20 20	8.0	2 1/2 2 1/2	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-7219C Type I Type II Type III	Cloth shall not be bleached in any manner or process. Cloth shall be given a durable water resistant treatment. Spray rating: Initial- Type I- 80, 80, 80; Type II- 80, 80, 70; Type III- 90, 90, 80. After 3 dry cleanings; Type I- 70; Type II- 70, 70, 70; Type III- 70, 70, 70 (5526). Hydrostatic pressure: Type I- 25; Type II- 30; Type III- 25 (5514). Blocking: unless otherwise specified, there shall be no sticking of cloth to cloth. (5872).	Color - Types I & II shall match TCA Cable No. 66022, (a) Shade 8-1 (U.S. Army Olive Drab) or Olive Drab No. 106 or TCA Cable No. 70072, Indian orange (crepe side) or Orange 70072, as specified. Type III - shall match Sage Green No. 2535 or Olive Green No. 106, as specified (3). Colorfastness - standard sample available (5614-5620-5651-5660).	(1) Nylon yarn shall be a light and heat resistant polyamide prepared from hexamethylene diamine & adipic acid or its derivatives. (b) Plied yarns or a single multifilament yarn of equivalent denier may be used. (c) Warp yarn shall be bright high tenacity filament; filling shall be bright or semi-dull nylon staple of such staple length and denier to conform to the requirements listed.	Intended Use - In the manufacture of parachute packs & equipment other than parachute packs.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN				Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permea- bility	Shrink- age Max.	Point Value Max.	
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier										Fila- ment
			W F	W F	W F	Min Max	W F	W F	W F		W F			
<u>Cloth, Duck,</u> <u>Nylon, 12.5 Oz.</u> MIL-C-43375A (OL)  Class 1 - Dyed  Class 2 - Dyed, water repellent			W F	W F	W F	Min Max	W F	W F	W F		W F			
			3-ply or single equivalent	840 420	Multi- fila- ment	(5) (1)	12.5	Plain 1 up 1 down	56 28	800 700	3.0	35.00		
<u>Cloth, Flannel,</u> <u>Acrylic, Nylon</u> <u>and Acetate</u> MIL-C-43462 (OL) Blend of semi- Single 3 full acrylic, full rayon and full acetate staples.						min. 4.5 - 44 (9)	2 up 2 down right twill	66 54	70 50		min. 3.5 2.5	25.00		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-43375A	(8) Class 1 - scoured, dyed, heat treated. Class 2 - scoured, dyed, heat treated, water repellent treated. pH: 5.0-8.5 (2611).	Color (1) - Standard sample available (3). Colorfastness - standard sample available (5614- 5660).	Class 2 - shall be given a water repellent treatment consisting of aluminum salts of carboxylic acid, zirconium salts of such carboxylic acids, or combi- nation of both. The W.R. to be applied either in the form of an aqueous emulsion or water free solvent solu- tion not to deposit more than 6.0% on the weight of cloth. Spray rating: 90, 90, 80 (5526).	Intended Use - In collapsible canteen covers.
MIL-C-43462	(8) Cloth shall be scoured.	Color (1) - Standard sample (3). Colorfastness - Standard samples available. If no standard sample, follow (5660-5614-5680).	Resultant blend min. 50% acrylic fiber. Fabric character must match standard sample. Beam efficiency 90% min.	Intended Use - Manufacture of covers for female personnel.

**SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN**

NOMENCLATURE	YARN						Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max	Point Value Max.	
	Fiber		Ply	Yarns												
	Melting Point	Type		Denier	Fila- ment											
			W	F	W	F	W	F	Min	Max	W	F	W	F	W	F
Cloth, Gabardine, Polyester and Rayon MIL-C-41820B, And. 1																
Type I - 6.0 oz. (bleached white)	(s)						(5) (1)	6.0 -	$\frac{2}{1}$		110 92	210 90			$\frac{5552}{3\frac{1}{2}\% \ 2\%$	40.00
Type II - 6.4 oz. (Dyed)	Polyeth- ylene glycol tereph- thalate & rayon staple	2	2				(1)	6.4 -	right twill		110 62	210 105			$2\frac{1}{2}\%$	$1\frac{1}{2}\%$ 35.00
Type III- 8.0 oz. (Bleached white or dyed)		2	2				(1)	8.0 -			92 42	220 120			$\frac{5552}{3\frac{1}{2}\% \ 2\%$	white- 40.00 dyed- 35.00
Class 1 - Bleached white																
Class 2 - Dyed																

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-41820B Type I Type II Type III Class 1 Class 2	(8) Types I & III, cloth shall be scoured, heat set & bleached or dyed, to provide a finish equal to that of the standard sample. Type II, Class 2 shall be scoured, heat set, dyed & resin treated at a time & temperature that will insure adequate curing of the resin. pH: 6.0-8.0 (2811).	Color - Types I & III, Class 1 cloth shall be bleached white - std. sample available. Color shall be obtained with a chemical bleach, preferably hydrogen peroxide or peroxygen chemicals. Chemical bleach may be supplemented with a blue-violet fluorescing brightener. Types II & III, Class 2 cloth shall be dyed - std. sample available (3). Rayon component may be pigmented prior to spinning or may be dyed using fast organic dyes (6). Colorfastness - standard sample available. Type I & Type III, Class 1, no discoloration in light (4.4). Type II and Type III, Class 2 (5660-5614-5680-5651).	(s) Use of optically brightened polyester fiber is permitted for Type I & Type III, Class 1. Unless otherwise specified, the use of optically brightened fiber for Type II & Type III, Class 2 is prohibited. Polyester fiber content: 65-75%. Seam efficiency: 85% min. (5110).	Intended Use - In the manufacture of clothing items.

## SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz./ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min	Tearing Strength Lb	Air Permea- bility	Shrink- age Max	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<u>Cloth, Glass, Woven Roving, For Plastic Laminates</u> MIL-C-19663B (NAVY)		W   F	W   F	W   F		Min   Mc		W   F	W   F	W   F		W   F		
Style 605-308 (MCC 0-135-60-5-30-8) Style 605-406 (MCC 0-135-60-5-40-6) Style 605-604 (MCC 0-135-60-5-60-4) Style 345-178 (MCC K-75-34-5-17-8)	Glass			Contin- uous	(1) 24 nominal (7)		Plain (4)	300 240 300 240 300 240 170 136	(7) 50,000 psi 60,000 60,000 60,000	50,000 psi 50,000 50,000 50,000		Flexural Strength of Laminates length, face cross, face 38,000 30,000 38,000 30,000 38,000 30,000 38,000 30,000	Tensile Strength of Laminates length cross 38,000 30,000 38,000 30,000 38,000 30,000 38,000 30,000	
<u>Cloth, Herringbone Twill, Polyamide, High Temperature Resistant</u> MIL-C-81280A (WP)					(5)		Broken herring- bone twill (4)	107 75 94 76	(5104) 90 60 6 5 130 100 16 10			(5552) 2% 1 1/2% 2% 2%		
Type I - 3.3 os.	High temperature aromatic polyamide malt-resistant				45 3.3 3.8									
Type II - 5.0 os.					45 5.0 5.5									

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-19663B Style 605-308 Style 605-406 Style 605-604 Style 345-178	Finished cloth shall be free of oil spots, grease spots, and other contamination, creases, wrinkles, and other forms of permanent distortion, and shall not be brittle or faded. Cloth shall have drapability characteristics suitable for the use intended and sufficient flexibility to withstand normal handling. Period of time for the resin wet-out shall be 15 min. max. (4.4.2).	Color - characteristic of clean natural finished glass cloth.	Nominal average thickness for all styles: 0.045 in. (9030). Wet flexural strength after conditioning (4.4.3.1.2.2 or 4.4.3.1.2.3) shall not be less than 80% of the dry flexural strength test value.	Intended Use - In laminated plastics for structural or semi-structural parts.
MIL-C-81280A (WP) (8) Type I Type II	Cloth shall be desized and scoured, without permanently setting the cloth, and an anti-static finish added. Cloth shall be heat-set at 500°F. for 15 sec. (min.) and shall be well singed on both sides. Flame resistance: Flaming time- both types: 2 sec. max. Glow time- both types: 25 sec. max. Average length of char- Type I: 3.5 in. max.; Type II: 2.5 in. max. (5903T). Melting: None flame resistance shall be tested in the warp direction only.	Color - Cloth shall be Green to match Navy Shade No. 3433. Color shall be obtained by the use of solution-dyed fibers.	Scam efficiency: 80% min. (5110). Toe staple denier and staple length shall be 1.5 to 2.0 in. for both types.	Intended Use - In the fabrication of lightweight flight clothing.

## SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<u>Cloth, - ting, Nylon</u> <u>MIL-C-00339F (GL)</u> (See also under Knitted Cloths)			W   F	W   F	W   F	Min   Max			W   F	W   F	W   F			
Type I - Woven  Type II - Warp knitted (See under Knitted Cloths)	bright or semi- dull nylon		70	70	Multi- fila- ment	(1) (5)	- 1.6	3 picks plain 1 pick leno (4)	54- 54- 56 56	50 50			(5552) 2% 2%	30.00
<u>Cloth, Nylon</u> <u>MIL-C-81268 (WP)</u>	Poly- vinyl Chloride		210	210			(ASTM-D- 1910-59T) 1.55 2.00	Plain	22- 24		(ASTM-D- 1682-59T) 65 65			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
<u>MIL-C-00339F</u> Type I Type II	Permanent resin finish. Character of the finished cloth shall be equal to that of the standard sample. Cloth shall be heat set and framed to appropriate dimen- sions, to assure the proper number of meshes/inch & the size of the meshes.	Color - Cloth shall be dyed Olive Green, Shade No. 106 (3). The use of pigmented resin emulsion finishes to provide color and finish in one opera- tion will be permitted. Colorfastness - standard sample available (5614- 5671).	Mesh size, initial: 0.035 in. max. in warp & filling. Mesh size, after 3 launder- ings & slippage test: 0.100 in. max. in warp & filling. Meshes/in. 2: 729-784.	Intended Use - In tentage and equipment.
<u>MIL-C-81268 (WP)</u>			(11) Elongation: 35% max. (ASTM- D-1682-59T) Thickness: 0.006-0.009 (ASTM-D-1777-60T).	Intended Use - As a wrapper for the external surface of propellant grain in rocket motors.



### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max (5556)	Point Value Max
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Nylon and Rayon, Spun MIL-C-4072A (USAP)			W F	W F	W F		Max		W F	W F	W F		W F	
Type I - 4.5 oz.	Type I and II:					(9) 4.5	4.3 -	Oxford	200 72	150 70	55 7		(5552) Freshrun	2% 2%
Type II- 6.0 oz.	Warp Yarn: Nylon, continuous, bright, 70 denier, 34 filament (Type 100 nylon). Filling yarn: Rayon, high tenacity, long staple viscose, direct spinning from tow.					5.6	-	(2 warp ends weaving as 1)	220 57	160 125	65 16	8	2% 2%	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-4072A Type I Type II	Scoured, singed, dyed & given a water repellent treatment (10). Durable water repellent treatment. Use of non-durable-type water repel- lents such as wax or aluminum or zirconium soap is prohibited. Spray ratings: Initial- 90, after 3 laund- erings- 70, after 3 dry cleanings- 70 (5526). Hydrostatic pressure: After 3 laundings- 30, after 3 drycleanings- 35 (5514).	Color (1) - to be ob- tained by acid milling & selected direct or vat dyes (3). Colorfastness - standard sample available (5614- 5620-5650-5660-5682).		Intended Use - In the manufac- ture of rainwear.

**SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN**

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Nylon, Ballistic MIL-C-7812C (AKR)			W F	W F	W F	Min Max		W F	W F	W F		V F		
Type I - 7.5-8.5 oz.	Nylon	7 1	210 40	34 13	(1)	7.5 8.5	Plain	38 30	800 -			3% 2%		
Type II - 17-18 oz.	"	1 1	840 840	140 140	(1)	17 18	3 I broken twill (3 ends weaving as 1, 3 picks in the shed)	73 68 2 2	900 800			2% 2%		
Type III - 12.4-12.8 oz.	"	5 5	210 210	34 34	(1)	12.4 12.8	2x2 basket	40 40	(5102) 580 625 min.			7 1/2% 7%		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-7812C Type I Type II Type III	Type II- cloth shall be heat set at 100 / 100 by passing through boiling water & allowing free relaxation to occur. After heat setting, an acrylic resin, Rohm and Haas Rhoplex E-21 or equivalent, shall be applied to one side of the cloth. Resin applied shall not be less than 3% nor more than 5% of the weight of the heat set cloth. Types I & III: No starch, resin or other stiffening ingredient shall be present in the finished cloth. Carbon-Tet (CCl4) extractable matter (Types I & III) max. 1% (4.6.2).	Color - color of the finished cloth shall be natural.	Thickness: Type I - 0.020-0.032 in.; Type II- 0.035-0.039 in.; Type III- none specified. Elongation: Type I- 20-30% in both W & F; Type II - 20-40% in both W & F; Type III- 25% min. in the warp and 20% min. in the filling.	Intended Use - In the manufacture of flak protective vests and curtains used in aircraft, and fragmentation protective body armor worn by Marine Corps personnel.

**SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN**

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Types		Denier	Fila- ment									
Cloth, Nylon, Dobby MIL-C-8321 (UNAV)		Bright nylon	W F	W F	W F Contin- uous	Min Max (1) 3.25 .25	(4)	W F 175 85	W F (5104) 160 125	W F 1. 7		V P (4.6.2) 25 13%		

Cloth, Nylon, Mar-  
quisette, Parachute  
MIL-C-26643 (UNAV)

(a)  
250°C Bright high  
60°C tenacity  
nylon

(a)  
70 70 34 34 (1) - 0.9  
4 end  
1 zero (4)  
repeating  
on 2 picks

(5104)  
35 25 3 3 1600-  
1750

13% 13%

NOMENCLATURE	FINISH	SHAPE AND COLOR FASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-8321	(B) Use of dyestuffs, detergents, or other chemicals or finishing agents which would cause deterioration in storage or cause dermatitis on prolonged intimate skin contact is prohibited. pH: 5.0-9.0 (2611).	Color (1) (3) Colorfastness - "good" (5614-5620-5660-5682).	Ultimate elongation: 25% min. in both directions (5104).	Intended Use - In the construction of flying clothing.
MIL-C-26643	Finished with a resin treatment to impart firmness. Permanent finish; air permeability shall not change more than 10%; thickness shall not change more than 10%. pH: 5.0-9.0 (2611).	Color - shall be natural.	(A) Yarn shall be prepared from hexamethylene diamine and adipic acid or its derivatives. Thickness: 0.0062 in. max. (5030).	Intended Use - In the construction of pilot parachutes. Also intended for future application in canopy inversion barrier.

## SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max	Point Value Max
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<p>Cloth: Nylon Parachute Cargo MIL-C-7390C (A&amp;G) Amd. 1</p>														
Type I	250°C	(a) High tenacity nylon	W F	W F	W F	Min Max			W F	W F	W F		V F	
Type II	260°C													
<p>Cloth: Nylon Raft Bottom MIL-C-21106A (WEP)</p>														
Type I - Nylon, 2.5 oz. rip-stop swill, uncoated		Nylon 66 (polyhexa- methyleno adipamide)				(1) 2.4 2.7	Plain (4 rip stops/in. 2 ends weaving as 1)		80 80	115 115	8 8			
Type II - Nylon 5.5 oz., plain weave, uncoated						(1) 5.0 6.0	Plain		22 22	225 225	45 38			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-7390C Type I Type II	(8) Permanent finish; thickness: not to increase more than 10%. Stability of finish: Air Permeability shall be no greater than 10% for Type I, and no greater than 15% for Type II. (4.3.2.5). pH: 5.0-9.0 (2.11).	Color - natural, unless otherwise specified. When color is specified, std. sample is available (3). Colored cloth shall be dyed with acetate- or acid-type dyes. Metalized or chrome-type dyes shall not be used. Colorfastness - (1), except Olive Green, shade 106, which shall be "fair" (5660) & "good" (5651).	Ultimate elongation: 25% min. for both types, W & F (5104). Thickness: Type I - 0.0060 in. max.; Type II - 0.014 in. max. (5030). Load required to separate the seam 1/2 in. shall be not less than 10 psi in either the warp or filling direction (4.3.2.1).	(a) Nylon yarn used shall be a polyamide prepared from hexamethyleno diamine and adipic acid or its derivatives. Intended Use - In the manufacture of cargo parachute canopies.
MIL-C-21106A Type I Type II			Thickness: Type II - 0.015 in. max. (5030).	Intended Use - For coating with a natural rubber compound for use in the manufacture of raft bottoms & associated items. Type I is used to make raft bottom cloth for one-man life rafts. Type II is used to make raft bottom cloth for multi-place life rafts.

**SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN**

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Nylon, Ribbed, Aircraft Upholstery MIL-C-21318A (APR)			W F	W F	W F	Min Max			W F	W F	W F		W F	
						(1)	9.0 11.0	Rib weave (h)	88 36	350 225	20 30		(5556) 3% 2%	
	Nylon polyamide (polyhexa- methyleno adipamide)													

Cloth, Nylon, Twill  
MIL-C-4294 (USAF)  
Am. 4

Type I - 3.3 oz.  
(nominal weight)

Class A - Finished  
natural - Bright  
Class B - Water  
resistant treatment - nylon

40-	-	3.30	(a)	170	85	120	120	7	7	15	max.	2%	1 1/2%
41	-	3.35	right twill	170	95	115	115	8	8	15	max.	2%	1 1/2%

Type II - 5.4 oz.  
(Nominal weight)

Class A - Finished  
natural -  
Class B - Water  
resistant treatment -  
Class C - Finished  
natural - heavily  
calendered -  
Class D - Water  
resistant treatment  
heavily calendered -

"	-	5.40		250	72	170	160	10	10	18	max.	2%	1 1/2%
"	-	5.50		250	72	160	155	10	10	18	max.	2%	1 1/2%
"	-	5.40		250	78	150	160	7	7	10	max.	2%	1 1/2%
"	-	5.50		250	78	140	150	9	9	10	max.	2%	1 1/2%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
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MIL-C-21318A

Cloth shall be finished without the addition of materials that will increase the flammability of the cloth.

Color - to match TCA Cable No. 70072 (crepe side), Indian Orange, or TCA Cable No. 70153 (crepe side), Steel Grey (1). Cloth shall be dyed with acetate or acid dyes. Metallized or chrome dyes shall not be used. Yarn or piece dyeing is acceptable. Colorfastness - "good" (5614-5660).

Thickness: 0.036 in. min. (5030) Flame resistant: Ave. length of char- 5.5 in. max. in the warp (9902).

Intended Use - In the fabrication of aircraft upholstery.

MIL-C-4294

(8) All types and classes - smooth & free from wrinkles. Type I, Class B and Type II, Classes B and D: shall be given a durable water resistant treatment. Spray rating: Initial- 100; After 3 launderings or dry cleanings- 70 (5526). Type I, Class C and D: shall be heavily calendered. All types and classes - finish shall be a "permanent finish". pH: 6.0-8.0 (2810-2811).

Color - Unless otherwise specified, cloth shall match standard shade Sage Green, No. 511 (3). Colorfastness - "good" (5620-5682-5670-5614).

(a) At the contractor's option, the weave of Type II cloth may be a 3-up, 1-down right hand twill. Ultimate elongation: all types and classes, both warp and filling - 20% min. (5104).

Intended Use - In the manufacture of flying clothing, as liner and exterior materials, and for cover of casualty bags.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In Mir.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permea- bility	Shrink- age Max	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
		W F	W F	W F	Min Max		W F	W F	W F	W F				
<u>Cloth, Nylon, Twill,</u> <u>Inflatable</u> <u>Preserver</u> MIL-C-19377A (NAVY) Amd. 1	Bright high tenacity nylon	70	100	3 $\frac{1}{2}$	3 $\frac{1}{2}$	(1)	3.0 3.3	? 2 right twill	165 96	(5100) 180 170 (5104) 160 140 method (1)	10 10 (min.)		(4.5.1) 2 $\frac{1}{2}$ 2 $\frac{1}{2}$	
<u>Cloth, Nylon, Twill,</u> <u>5-Ounces</u> MIL-C-797B	Bright Nylon	1	2	210	210	3 $\frac{1}{2}$	3 $\frac{1}{2}$	- 6.2 2 right T-twill	60 45	350 400	25 35			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-19377A	(8) Natural finish; may be calendered. Copper content: 0.005% max. Man- ganese Content: 0.001% max. Cloth shall contain no skin irritants. Heat set when specified. (4.5.3) pH: 6.0 - 8.0 (2610 or 2611).	Color (1) - standard samples available. Colorfastness - "good" (5614-5620-5650-5660-5680).	(11) During preparation of the warp, care should be taken not to abrade the yarn. Smooth eyelets & burnished beddles should be used. Breaking strength after 96 hours accelerated aging at 70 ± 1°C. 145 in the warp; 130 in the fill (5104). 160 in the warp; 155 in the fill (5100).	Intended Use - Cloth to be used in the manufacture of inflatable life preservers.
MIL-C-797B	Natural finish (greige state).			Intended Use - In the manufac- ture of sea anchors for patrol type aircraft.

**SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN**

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
			W F	W F	W F	Min Max		W F	W F	W F		V F		
<u>Cloth, Oxford, Nylon</u> 1-ounce MIL-C-900E, Amd. 1														
Type I - For cloth- ing, equi-age & personnel armor Class 1 - For outerwear use	bright, high tenacity filament nylon		70	100	32- 32- 34 34	(1)	2.9	-	Oxford	180	76	220	135	30.00
Class 2 - For use as inner lining			70	100	" "	(1)	2.9	-	2 warp ends weaving as 1)	180	76	220	135	30.00
Type II - For coating	"		70	100	" "	(1)	2.9	-		180	76	220	135	30.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-900E Type I Class 1 Class 2 Type II	(8) Type I - cloth shall be scoured, heat treated with dry heat and/ or boiling water, and lightly calendered. Type II - cloth shall be heat treated but not calendered. Shall contain no more than 0.0030% copper nor more than 0.0015% manganese (4.4.2). Finished cloth shall show no distortions, puckering or change in color, and not more than 2% dimensional change (4.4.1). pH: 5.0-8.5 (2811).	Color (1) - standard sample available (3). For Navy procurements only, Type I cloth shall be dyed to match Olive Drab, Army Shade 7 and shall be obtained by the use of nonmetallized acid, or disperse dyes; chrome and premetallized dyes are prohibited. Color-fastness - standard sample available. Type I - Class 1 - (5622- 5614-5680-5651-5660). Class 2 - (5622-5614-5680- 5651).		Intended Use - Type I, for equi-age and personnel armor. Type II, for coating.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN				Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max (5556)	Point Value Max.																																																								
	Fiber		Ply	Yarns																																																																	
	Melting Point	Type		Denier										Fila- ment																																																							
<p><b>Cloth, Parachute</b> (For Ring-Rib Type Parachutes Used in Underwater Egress) MIL-C-19262 (Rev'd) Am. 1</p>																																																																					
<p>W   F      W   F      W   F      Min   Max      W   F      W   F      W   F      W   F</p>																																																																					
<p><b>Type I - Nylon</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 20%;">Class A - 5.0 os.</td> <td style="width: 15%;">High tenacity nylon</td> <td style="width: 10%;">Multi-filament</td> <td style="width: 10%;">40-48</td> <td style="width: 10%;">- 5.0 8.0 10.0</td> <td style="width: 10%;">(4)</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td colspan="14" style="text-align: center;">(5104)</td> </tr> <tr> <td>Class B - 8.0 os.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Class C - 10.0 os.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>														Class A - 5.0 os.	High tenacity nylon	Multi-filament	40-48	- 5.0 8.0 10.0	(4)									(5104)														Class B - 8.0 os.														Class C - 10.0 os.													
Class A - 5.0 os.	High tenacity nylon	Multi-filament	40-48	- 5.0 8.0 10.0	(4)																																																																
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<p><b>Type II - Saponified Acetate</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 20%;">Class A - 5.0 os.</td> <td style="width: 15%;">Saponified oriented cellulose acetate</td> <td style="width: 10%;">Contin-uous multi-filament</td> <td style="width: 10%;">40-48</td> <td style="width: 10%;">5.0 8.0 10.0</td> <td style="width: 10%;">(4)</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td>Class B - 8.0 os.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Class C - 10.0 os.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>														Class A - 5.0 os.	Saponified oriented cellulose acetate	Contin-uous multi-filament	40-48	5.0 8.0 10.0	(4)									Class B - 8.0 os.														Class C - 10.0 os.																											
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NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
<p>MIL-C-19262 Type I Class A Class B Class C Type II Class A Class B Class C</p>	<p>Smooth and even, containing no sizing, lubricating, or weighting materials. pH: 4.5-8.5 (2610). Increase in thickness - 10% max. (A.h.1).</p>	<p>Color - when no color is specified in procurement document, no coloring matter of any sort shall be added to cloth or yarn. Camouflaging (1) - samples or instructions (1). Colorfastness - "good" (5632).</p>	<p>(11) All dupe-selvage edges of the cloth shall be constrained by 1 pair (min) of loose locked ends (4), each loose end to be of the same denier as the body of the cloth. Selvage width: Classes A &amp; B: 1 1/8 in; Class C: 1-1/8 in. Total ribbon width (body / 2 selvages: Classes A &amp; B: 1 1/2 in; Class C: 1 1/4 in. Width, separation. All classes - 1/2 in / 1/8 in. Fringation: Type I, Class A: 2% min. in both directions; Classes B &amp; C: 30% min. in both directions, Type II, All classes: 10% min. in both directions.</p>	



### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
			W F	W F	W F	Min Max		W F	W F	W F		W F		
Cloth, Parachute, Nylon MIL-C-7020E Amd. 1						(5)				(5104)				
Type I - 1.1 os. rip-stop weave	250° / 6°C	Poly- amide				36.5 / 60.5	- 1.1	(4)	120 120	42 42	5 5	100/80	2% 2%	
Type II - 1.6 os. twill weave	"	"				"	- 1.6	2 I twill	120 76	50 50	5 5	130/30	2% 2%	
Type III- 1.6 os. rip-stop weave	"	"				"	- 1.6	(4)	120 76	50 50 (max.)	4 4	130/30	2% 2%	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
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MIL-C-7020E Type I Type II Type III	(8) Type I - cloth shall be given a preliminary scour sufficient to remove sizing & other contamination at a temperature that will not cause fixation of some into cloth or result in permanent setting of the cloth. Cloth shall be dried & calendered at sufficient temperature & pressure to control air permeability. Pre-scour may be omitted & clean grade goods be subjected directly to calendering. Further wet processing of the cloth may be accomplished at a temperature in excess of 200°F in order to stabilize air permeability. Length of time required for complete setting of the cloth at this temperature shall be sufficient to shrink & set the cloth. Types II & III- above process optional. None of the types shall be bleached in any manner or process. Finish shall be permanent and stable. Finished cloth shall contain a silicone oil, evenly distributed. pH: 5.0-9.0 (2611).	Color - shall be natural, International Orange No. 12197, Olive Green No. 105 Sand No. 1005, conforming to a submitted standard shade (3). Colorfastness - standard sample available (5614-5620-5630-5660-4,4,4).	(a) Nylon shall be a bright, high tenacity, light & heat resistant polyamide prepared from hexamethylene & adipic acid or its derivatives. Yarn shall not be bleached in any manner. Thickness - Type I- 0.003 in. max.; Types II & III- 0.004 in. max. (5030). Elongation, both directions; All types- 20% min. (5104). Light & heat resistance: finished cloth shall not lose more than 40% of its original strength when tested (4,4,6).	Intended Use - Primarily in the manufacture of parachutes. Also, as a base cloth for coated fabrics.
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### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per in. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Poin- t Value Max.			
	Fiber		Ply	Yarns													
	Melting Point	Type		Denier	Fila- ment												
Cloth, Parachute, Nylon, Aromatic, Nonmelting NIL-C-38351 (USAF)			W F	W F	W F	Min Max			W F	W F	W F						
Type I	(a)					(5)		2 right									
Class 1 - 4.7 oz.	Nonmelting	1 1	200	200		(1)	4.7	2 twill	74	74	190	190	14	14	40-70	0.011	20.00
Class 2 - 6.5 oz.	aromatic	2 2	215	215		(1)	6.5	(4)	53	48	265	265	20	20	50-80	0.022	20.00
Class 3 -12.0 oz.	poly- amide	5 5	"	"		(1)	12.0	(4)	38	38	425	425	75	75	40-80	0.032	20.00
Type II																	
Class 1 - 7.0 oz.		2 2	"	"		(1)	7.0	Plain (1/1)	60	45	265	245	20	20	8 max.	0.015	20.00
Class 2 -18.0 oz. resin treated		5 5	"	"		(1)	18.0	3/4 basket	59	60	950	950	-	-	-	0.036	20.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
NIL-C-38351 Type I Class 1 Class 2 Class 3 Type II Class 1 Class 2	Type II, Class 2: Cloth shall be impregnated with resin, so that the finished cloth shall have a stiffness of 0.45-0.65 in. lb. in the warp & of 0.65-0.85 in. lb. in the filling (5202). pH: 5.0-9.0 (2611).	Color - shall be natural.	(a) Yarn shall not carbonize at a temperature below 800°F (4.4.3). Ultimate elongation: Type I, Class 1- 30% min.; Class 2 - 25% min.; Class 3 - 15% min.; Type II, Class 1- 40% min. in the warp & 30% min. in the filling (5104).	Intend. Use - In the manufacture of parachute canopies, packs, and pack stiffeners.

## SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
			W F	W F	W F	Min Max		W F	W F	W F		W F		

Cloth, Parachute,  
Nylon, Cargo and  
Deceleration  
MIL-C-3621C

Type I - 4.75 oz. max.		250°C min.	(a) Nylon	1	1	(5030) Thickness 0.020	36 1/2	1 - 4.75	2 twill	70	70	(5104) 200	(5136) 200	15	15	50-90	450-590	2%	2%
Type II - 7 oz. max.		"	"	2	2	0.024	44	- 7.00	(b)	53	48	300	300	20	20	90-90	450-650	2%	2%
Type IIA - 10.5 oz. max.		"	"	4	4	0.025	"	- 10.50	(b)	40	38	500	500	75	75	50-90	650-750	2%	2%
Type III - 14 oz. max.		"	"	1	1	0.035	"	- 14.00	(b)	38	38	600	600	75	75	15-55	250-490	2%	2%

Class 1- Air Permeability at 1/2 in. water pressure.  
Class 2- Air Permeability at 20 in. water pressure.

Cloth, Parachute,  
Synthetic Fiber (For  
Ammunition Parachutes)  
MIL-C-496B

Type D - Nylon (0.88 oz.)	472°F	Nylon	30	30	Multi-fila-ment	(5) (1)	- 0.88	Plain	93	93	40	40	3	3	(5136)	300-500
Type E - Nylon (2.20 oz.)	472°F min.	polyamide (a)	70	70	"	"	- 2.20	"	104	91	65	65	4	3		60-100

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
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MIL-C-3621C  
Type I  
Type II  
Type IIA  
Type III  
Class 1  
Class 2

(8)  
Permanence of finish to be tested (4.2.4.1). Cloth thickness after testing shall not be more than 2% more than the thickness before testing. The average of the air permeability readings taken after testing shall be within 15% of the average of the readings taken before testing. Cloth shall not be bleached in any manner or process.  
pH: 5.0-9.0 (2611)

Color - unless otherwise specified, color shall be natural. Standard sample available (3) for dyed cloths.  
Colorfastness - standard sample available for dyed cloths (5614-5620-5660).

(a) Nylon shall be a bright high tenacity, light & heat resistant, polyamide prepared from hexamethylene diamine & adipic acid or its derivatives. Yarn shall not be bleached in any manner or process.  
Elongation: Types I, II, & III- 25% min. in both W & F. Type IIA- 35% max. in both W & F (5104).  
Cloth for fabricating new parachutes shall not be more than 2 yrs. old from the date of manufacture to the date of delivery. Cloth shall be heat and light resistant, and shall not lose more than 25% of its original strength (4.2.4.3).

Intended Use - In the manufacture of cargo & deceleration parachutes.

MIL-C-496B  
Type D  
Type E

(8)  
Scoured to remove sizing and other contaminants. Cloth shall be heat treated and may be calendared at such temperature and pressure as required to control the air permeability.  
pH: 5.0-8.5 (2611).

(a) Polyamide shall be prepared from hexamethylene diamine and adipic acid or its derivatives.  
Elongation: 20% min. in warp and filling (5100).  
(Type D only).

Intended Use - In the manufacture of ammunition and flare parachutes.

## SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5134)	Air Permea- bility (5430)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<p><u>Cloth, Parachute,</u> <u>840-Permeability,</u> <u>For Use with Under-</u> <u>Water Ordnance</u> MIL-C-17208A (Su Ord) Amc. 2</p>														
<p>(5104)</p>														
<p>Type I- Nylon                      Class A- 4.0 oz. High tenacity nylon Multi- 40- - 4.0 64 64 200 200 35 25 240 2% 1%                      Class B- 8.0 oz. tenacity nylon fila- 41 8.0 64 64 400 400 50 50 230 2% 1%                      Class C-10.0 oz. nylon ment 10.0 80 80 480 480 60 60 2% 1%</p>														
<p>Type II- Saponified Acetate                      Class A- 4.0 oz. Saponified oriented cellulose acetate Contin- 40- - 4.0 - - 175 175 25 25 240 2% 1%                      Class B- 8.0 oz. oriented cellulose acetate uous 41 8.0 44 44 330 330 50 50 230 2% 1%                      Class C-10.0 oz. cellulose acetate multi-filament 10.0 54 54 400 400 60 60 2% 1%</p>														
<p><u>Cloth, Pile, Acrylic,</u> <u>Fiber Pile</u> MIL-C-43251</p>														
<p>Pile acrylic staple. Backing blend of cellulose acetate &amp; triacetate staples (s) 3 (1) 11.5 13.5 Circular 10 wales Knit (k) 20 courses</p>														

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-17208A Type I Class A Class B Class C Type II Class A Class B Class C	Smooth and even, containing no sizing, lubricating, or weighting materials. Thickness shall not increase more than 10% after testing (4.4.1). pH: 4.5-8.5 (281C).	Color - when color is not specified in procurement document, no coloring matter of any sort shall be added to cloth or yarn. Camouflaging (1) - std. samples or instructions. Colorfastness (5632).	Elongation: Class A, Type I- 25% min. in both directions. Type I, Classes B & C- 30% min. in both directions. Type II, Classes A, B, & C- 10% min. in both directions.	
MIL-C-43251	Open and lincered. Pile height 13/32 in. / 1/32 in. pH: 5.5-8.5 (2811). Acrylic type resin used for bonding or anti-curl agent permitted.	Color - Green 252 (3). Colorfastness - Standard sample. If some amil- sible follow 5619.	(11) (s) Triacetate 45% min.	Intended Use - lining components in canteen cover.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<u>Cloth, Plain Weave, Acrylic</u> MIL-C-43234 (AL)		W F	W F	W F	(5) (1)	Min Max 4.8 -	Plain	W F 40 34	W F 75 55	W F	W F (5552) 42 34	35.00		
	Acrylic, 1	1	3	denier per filament										
<u>Cloth, Plain Weave, Nylon-Cloth, Plain Weave, Polyester</u> MIL-C-43286														
Type I - Polyester 4.0 oz.	Bright, high tenacity polyester	2	2	220 220	Multi-fila- ment	(1) 4.0 -	Plain 1 up 1 down	32 32	200 200			25.00		
Type II - Nylon 5.0 oz.	Bright, high tenacity nylon			840 840	Multi-fila- ment	(1) 5.0 -	"	22 22	275 275			25.00		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-43234	Lightly napped on one side. Degree of character and finish of the cloth shall be equal to the standard sample.	Color - Shall be Olive Green 106 (3). Colorfastness - standard sample available (5610-5651-5680).		Intended Use - As a component of an insulating cap.
MIL-C-43286 Type I Type II	(8) Scoured and heat treated. Finished cloth shall show no appreciable distortions or puckering, and no dimensional change greater than 3% in the warp, 3% in the diagonal direction, and 2% in the filling. PR: 5.0-8.5 (2811).			Intended Use - As base materials for coated cloths to be utilized in the manufacture of air-supported shelters.

**SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN**

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)		Paint Value Max.				
	Fiber		Ply	Yarns															
	Melting Point	Type		Denier	Fila- ment														
		W	F	W	F	W	F	M	n	Max	W	F	W	F					
Cloth, Plain Weave, Nylon; Water Repel- lent OG-106 MIL-C-43126A																			
	Bright high tenacity nylon			210 15%	210 15%	Multi- fila- ment	(5) (1)	3.8	4.8	Plain	80	56	275	225		2.0	3%	2%	4.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-43126A	(8) Scoured, heat treated & calendered. Water repellent treatment of aluminum salts of saturated carboxylic acid (such as formate, acetate, palmitate, or stearate), zirconium salts of such saturated carboxilic acids, or a combination of both, mixed with refined vegetable and mineral waxes, titanate esters, or a combination of both. The product shall be applied either in the form of an aqueous emulsion or in the form of a water free solvent solution to affect the deposit of not more than 6% on the weight of the finished cloth. Spray rating: 90, 90, 80 (5526). pH: 5.5-8.5 (2811).	Color - of the dyed & finished cloth shall be OG-106 and shall match the standard sample (3). Colorfastness - standard sample available (5671-5614).	(11) Stiffness: 0.005 lb. max. in the warp; 0.004 lb. max. in the filling (5202). Seam efficiency: 85% min. (5110).	Intended Use - In the ruck-sack (Lightweight), the jungle hammock and the carrying case for the collapsible canteen.

**SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN**

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
						Min Max								
<u>Cloth, Plain Weave, Polyester and Rayon</u> MIL-C-21844A (8&A) And. 1			W F	W F	W F	(9) 60	4.2 4.9	Plain	70 56	90 70			135 cu.ft. 2 1/2% of air per minute (min.)	2 1/2% 30.00
	55 (2)% polyester	1		1										
	45 (3)% rayon													
	or blend of													
	65% polyester													
	35% rayon													
	± 3% on fiber content													
<u>Cloth, Plain Weave, Polyester, Low Air Permeability</u> MIL-C-43347C						(5) 41	8.5	Plain	(b)64 43	475 40	25 30	(max.) 2.0	30.00	
Type I - 8.5 oz.	(a)	2 1	220 (3)%	Multi-					(c)					
Type II - 10.5 oz.	(a)	1 1	440 1100 (3% (3)%	fila- ment		41	10.5	Plain	70 35	550 150	30 35	2.0	30.00	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-21844A	(8)	Color - shall be Blue 3330 - std. sample available (3). Polyester component may be dyed using disperse, disperse-developed or azo dyes. Rayon component may be pigmented prior to spinning or may be dyed. (6). Colorfastness - standard sample available (5614-5680-5651).	(11)	Intended Use - In submarine coveralls worn by male Navy personnel.
MIL-C-43347C Type I Type II	(8) Cloth shall be scoured, high temperature heat set, calendered, and water repellent treated with a silicone emulsion, to result in a finish equal in character to the standard sample. Spray rating: 90, 90, 90. (5526).	Color - Color shall be natural.	(11) (a) Polyethylene glycol, teraphthalate bright. (b) Alternate weave may be woven with 2 warp ends weaving as one using a single 220 denier. (c) Or 128 for the warp in the alternate weave.	Intended Use - Types I & II - In the construction of components for air supported tents.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In Min. (5050)	Breaking Strength lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<u>Cloth, Plastic, Mesh</u> MIL-C-4141A (USAF)			W F	W F	W F	Min Max			W F	W F	W F		v   F	
Type I - 12x12 mesh		Vinyl- idene			Contin- (1)	- 13.0	Plain	12 12	(5104) 95 90					
Type II - 20x20 mesh		Chloride			uous extruded(1)	- 7.0	1 up 1 down	20 20	65 65					
					monofila- ment									
<u>Cloth, Poplin, Modacrylic</u> MIL-C-21841A (S&A)		(s) Copolymer 2 2 of acrylo- nitrile & vinyl chloride			(5) 38 min.	6.0/0.5	Plain	85 48	185 85			20	24 24	

NOMENCLATURE	FIBER	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-4141A Type I Type II		Color - Olive Drab conform with Shade No. 3412 of Spec. TT-C-525.	Thickness: Type I- 0.040 in. 0.005 in. Type II- 0.025 in. 0.005 in. (5030). Elongation: Type I- 20% min. in W & F; Type II- 20% min. in W & F (5104). Well made splices showing no tails shall be permitted at any point of any individual filament, provided the number of splices does not exceed 30 in any length of 100 lin.ft. Selvage: Type I- 7/8 in. 1/32 in., with 24 ends needed 2 ends per dent; Type II- 4 ends per dent.	Intended Use: Type I in the manufacture of Radar tow targets. Type II, spring covering in Anti-"G" Suits.
MIL-C-21841A	Boiled off & finished to produce a cloth of maximum tightness. Heat stabilized to provide mini- mum shrinkage in laundings & tumbler drying. Treated with an organic resinous durable water repellent compound. Spray rating: Initial- 100; After 4 accelerated laundings - 70 (5526).	Color - natural.	Selvages shall be 1/2 in. (1/16) on each side. (s) The filling shall be spun from high shrink staple. Flex stiffness: 8.0 in. lb. x 10 <sup>-4</sup> max. in both warp & filling. (14)	Intended Use - In the fabri- cation of permeable peroxide fuel handlers clothing.



### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In Min. (5050)	Breaking Strength Lb. Min (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max (5556)	Pa. of Value Max
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<u>Cloth, Pressing, Nylon</u> CCC-C-482a			W F	W F	W F	Min Max			W F	W F	W F		W F	
Type I - Spun yarn W & F	250° 6°C	(a) staple	2 2	- -	- -	54 min.	7.0	Plain	38 36	210 220			3% 2%	35.00
Type II - Fila- ment W and Spun yarn F	"	or multi- fila- ment Nylon (1)	- 2	210	bright or multi- fila- ment -	"	5.6	2 right Twill	66 54	280 240			3% 2%	35.00
Type III - Spun yarn W & fila- ment yarn F	"		2 -	- 210	bright or multi- fila- ment	"	5.6	"	54 60	240 280			3% 2%	35.00
Type IV - Fila- ment yarn W & F	"		-	210 or	bright multi- filament	"	3.6	Plain	60 42	250 180			3% 2%	30.00
<u>Cloth, Rayon (For liners for Recoilless Cartridge Cases)</u> MIL-C-11460 (ORD) Amd. 1		(a) Viscose rayon				(1) 36 min.	5.0-5.75		70-70- 200 140				50 / 15	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
CCC-C-482a Type I Type II Type III Type IV	Cloth shall be heat treated at not less than 300°F; heat-treated cloth shall be given an additional resin or other type of finish to increase the heat resistant properties. Warp and filling yarns of the finished cloth shall not slip or distort (5410). Finished cloth shall not lose more than 50% initial breaking strength after aging (5850-5100). Finished cloth shall not adhere to heated hand iron which has not been treated with any antistick agent such as wax (4.4.2). pH: 4.5-8.0 (2811).	Color - Shall be the shade imparted by the finish, provided the individual pieces are uniform in shade. Colorfastness - standard sample available (4.4.1).	(a) Nylon shall be a polyamide prepared from hexamethylene diamine and adipic acid or its derivatives.	Intended Use - As covers for flat bed laundry presses.
MIL-C-11460	Cloth shall be uniform and have no visible imperfections. (8). Acidity or alkalinity: Mineral- none; Organic - 0.10% max.	Color - natural unbleached or bleached white.	(a) The rayon shall contain no acetyl groups & not more than 0.2% sulfur.	Intended Use - For liners for recoilless cartridge cases.

## SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In Min (5050)	Breaking Strength Lb Min (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max (5556)	Point Value Max
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<u>Cloth, Saran, Utility</u> <u>Bag</u> MIL-C-18449A (NAVY)			W F	W F	W F		Min Max	(a)	W F	W F	W F		W F	
		10 mil pigmented polyvinyl- idene chloride			Mono- fila- ment	5 1/2	11.5 13.0	4/4 double end skip twill (4)	67 48	155 140				
<u>Cloth, Satin, Rayon</u> <u>and Cloth, Twill</u> <u>Rayon</u> MIL-C-368F, Amd. 1														
Class 1 - Twill 2/1 right, 3.7 oz.	Rayon				Multi- fila- ment	(5) 41 min.	3.7 -	2 I right twill	121 67	(dry) 100 50 (wet) 40 20			6% 3%	25.00
Class 2 - Twill 2/1 right, 4.2 oz.	"				"	"	4.2 -	"	142 71	115 55	46 22		6% 3%	25.00
Class 3 - Satin 5-harness, 5 oz.	"				"	"	4.5 -	5-harness satin(4)	180 67	150 55	60 22		6% 3%	25.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-18449A	Flame resistant treated - Ave. length of flame - 3 sec. max. Ave. length of char - 4.5 in. max. (5903T).	Color - Green 3428 - std. sample available (3). Colorfastness - standard sample available (5651-5660). (a)Warp: 4 ends of green & 4 ends of white with double ends of each color weaving as one. Filling: all natural color.	(11) (b)Breaking strength after heat aging- 145 lb. min. in the warp; 130 lb. min. in the filling.	Intended Use - In the manufacture of fire-resistant utility bags primarily intended for personal bunk storage in surface ships and submarines.
MIL-C-368F Class 1 Class 2 Class 3	Natural finish. Use of resins, oils, starches, or gums in the finishing of the cloth is prohibited.	Color (1) - standard sample available (3-6). When an additive is required to fix the dyestuffs to the fibers, formaldehyde shall not be the principle fixing agent, and the additive material used shall not create an odor or cause degradation of the cloth during storage. Colorfastness - standard sample available (5690-5622-5651).		Intended Use - In the manufacture of clothing items, as lining cloth.

## SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In Min (5050)	Breaking Strength Lb. Min (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max (5556)	Point Value Max.				
	Fiber		Ply	Yarns														
	Melting Point	Type		Denier	Fila- ment													
Cloth, Satin, Rayon Face, Acrylic Back MIL-C-43525 (GL)	W	F	W	F	W	F	Min	Max	W	F	W	F	W	F				
Yarn for face shall be bright, multifilament rayon. Yarn to form napped back shall be of acrylic fiber.							(5) (1)	7.5	Satin (4)	290	72	140	60	6.0	6.0	4.0	2.0	25.00

Cloth, Silica,  
Phenolic, Impregnated

MIL-C-81251 (WP) Silica cloth conforming to OS 9349, Type II, except that it shall contain a min. of 96% silica, and a phenolic resin conforming to MIL-R-9299, Type II, Class 2.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-43525 (GL)	(8) Finished to provide a lustrous finished face and napped back equal to standard sample. pH: 5.0-8.5 (2811).	Color - Army Green 335 and match face side of standard sample. (3). Colorfastness - standard sample available - (5622-5651-5680).	(a) Fiber content - finished cloth shall contain not less than 10% acrylic and not less than 88% rayon.	Intended Use - for use as a lining in the women's overcoat.
MIL-C-81251 (WP)	Uncured resin-impregnated cloth shall contain 28 ± 3% resin solids by weight. Uncured resin-impregnated cloth shall contain 4-7% volatile matter by weight. Uncured resin-impregnated cloth shall have a resin flow of 15-21%.		(11) Cured cloth shall have a min. ave. flexural strength-19000 psi at 75 ± 5°F. No individual value shall be below 19000 psi (method 1031 of Std. 406). Cured cloth shall have a min. ave. tensile strength of 12000 psi at 75 ± 5°F. No individual value shall fall below 11000 psi (method 1011 of Std. 406). Cured cloth shall have a min. specific gravity of 1.67 (method 5011 of Std. 406).	Intended Use - In rocket motors.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In Min (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max (5555)	Point Value Max
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									

Cloth, Spacer  
(Treated)  
MIL-C-43204

	W	F	W	F	W	F	(5)	Min	Max	W	F	W	F	W	F
(W)	Polyethylene		0.010	∠	0.001	60	9.5	11.5	(4)	20	(W 1)	110	200		
(W & F) Polypropylene 0.010 ∠ 0.001															
										27	(W 3)				
										70	(F)				

Cloth, Spun Viscose  
Rayon, Resin Impregnated  
MIL-C-43157 (MU)

Class 1 - Lighter wgt.	Viscose rayon, spun	(1)	2.80	3.20	Plain	48	48	35	35
Class 2 - Heavier wgt.		(1)	6.75	7.25	Single	35	35	85	85
Class 3 - Scarlet colored		(1)	6.75	7.25	(1 end in dent)	35	35	85	85

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
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MIL-C-43204

(8) Color - (1).

(11-12). Thickness:  
Initial 0.2 min.,  
Compressed, 0.075 min.,  
After Comp, 0.18 min.  
Dimensional stability.  
Change Max. W - 1%,  
F - 2%.

Intend<sup>d</sup> Use - Spacer fabric in cartridge items.

MIL-C-43157  
Class 1  
Class 2  
Class 3

Cloth shall be finished with a urea formaldehyde resin (past type) plus a durable water repellent (melamine resin base). Loss of breaking strength of the impregnated cloth conditioned in dinitrogen tetroxide shall be 10% max. Spray rating: 70 (5526). pH: 5.5-7.5 (2811).

Color - Class 1 or 2: color shall be natural unless otherwise specified. When color is specified, dye or tint shall be fugitive. Class 3: color shall be scarlet.

Slippage: (W & F) min value of 60 (4.3.4).  
Stretch: (W & F) 10% max. (4.3.5).  
Ash content: 1.0% max.

Intended Use - In the manufacture of cartridge bags for artillery propelling charges.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weaves	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permea- bility	Shrink- age Max	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Synthetic Fiber, Duck MIL-C-4224B (USAF)		W F	W F	W F		Min Max		W F	W F (5104)	W F		W F		
	Copolymer 7 5 of vinyl chloride & acry- lonitrile				(1)	20.0 -	Plain 1 up 1 down	28 16	240 100					
Cloth, Synthetic, Wool, Melt Resistant MIL-C-2388C (WEPS) Acid 1									(5104)			(5552)		
Type I - 3.0 oz.	High strength		100 100	50 50	(1)	3.0 -	2 right 2 twill	108 106	130 110	12 12	20-40	2% 2%		
Type II - 4.0 oz.	aromatic poly- amide melt resistant		200 200	100 100	(1)	4.0 -		74 72	170 150	24 24	40-60	2% 2%		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-4224B	(8) pH: 5.0-9.0 (2611).	Color - shall be natural undyed unless otherwise specified.	Thickness: 0.039 in. min. (5030). Stiffness: 0.300- 0.750 lb. in the warp; 0.300-0.900 lb. in the filling (5202).	Intended Use - As a visor stiffening material and for use in the protector pads of Anti- "G" Suits and high altitude pressure garments.
MIL-C-2388C Type I Type II	(8) Cloth shall be given a scour suf- ficient to remove sizing & other contaminates without permanently setting the cloth. Cloth shall then be dried.	Color - Shall be orange or olive green (1). Color shall be obtained by the utilization of solution- dyed yarns. Colorfastness - "good" (5614).	Beam efficiency: 75% min. (5110). Stiffness: 0.010 lbs. max. in W & F (5202). Flame resistance: Flame time - 0 sec. max. Flow time - 10 sec. max. Ave. length of char - 4 in. max. (5903). Melt drop - no melting. Resistance to abrasion: 11,000 cycles to failure, min. (5308).	Intended Use - In the fabri- cation of lightweight flight clothing.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- ing Max	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
		W F	W F	W F	Min Max	W F	W F	W F	W F					
Cloth, Taffeta, Nylon (2.0 Ounces) MIL-C-21852A (S&A)	244°C min.	semi- dull Nylon	70	70	Contin- uous	(5) (1)	2.0 2.3	Taffeta (plain)	106 92	110 95	1650 1350 grams	(5132)	2% 2%	16.00
Cloth, Taffeta, Polyester MIL-C-43487		semi-dull polyethylene glycol terephthalate			multi- fila- ment	(5) (1)	2.8	Plain	74 62	155 135		20 (max)	2% 2%	25.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-21852A	(8) Scoured and heat treated; not calendered. Copper content: 0.001% max. Manganese content: 0.005% max. Heat set at 400°F min. No appre- ciable change in color, distortion, or puckering; 2% max. dimensional change in either warp or filling (4.4.3). pH: 6.0 - 10.0 (2811).	Color - Green 3406- stan- dard sample available (3). Colorfastness - standard sample available (5614- 5651-5680-5620-5660).	(11) Flex stiffness: 1.5 in. lb. x 10 <sup>-4</sup> in the warp; 0.5 in. lb. x 10 <sup>-4</sup> in the filling.	Intended Use - In the fabri- cation of special purpose clothing worn by Navy personnel.
MIL-C-43487	Dyed cloth shall be given durable anti-static treatment so max. res- istivity initially shall be 1.0 x 10 <sup>10</sup> ohms per square; and max. resistivity after 5 launderings, shall be 5.0 x 10 <sup>10</sup> ohms per square. pH: 6.0 - 8.0 (2811).	Color - shall be Tan 448 standard sample available (3). Colorfastness - standard sample available (5660- 5614-5680-5651).		Intended Use - In the manu- facture of coveralls for wear under controlled laboratory conditions in a dust-proof atmosphere.

**SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN**

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.					
	Fiber		Ply	Yarns															
	Melting Point	Type		Denier	Fila- ment														
	W	F	W	F	W	F	Min	Max	W	F	W	F							
Cloth, Tow Target, Acetate and Rayon MIL-C-333D							(5) (1)	-	5.5	2	twill	140	58	(5104) 65	50	5	5	1.5-5.0 at 1/2 in. water pressure	
	Bright acetate yarns & medium high tenacity viscose rayon yarns.									(2 W ends weaving as 1) (4)									

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-333D	(8) Scoured. Cloth shall contain no sizing, lubrication, or weighting materials. Face of cloth shall present smooth, glazed, surface after finishing. pH: 6.0 - 8.0 (2611).	Color (1). Colorfastness - "good" (5630-5632-5651-5660).	Elongation: warp and filling - 25% max. (5104).	Intended Use - In the manufacture of serial tow targets.

**SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN**

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<u>Cloth, Twill, Nylon</u> <u>(Low Count, 3.5-</u> <u>Ounce)</u> MIL-C-19256C	244°C min.	Bright luster nylon	W   F 210   210	W   F 30   30	W   F 30   30	(5) (1)	3.4   3.6	3-harness 2 right 1 twill	56   56	225   210	W   F 2%   2%	(4.4.1)	20.00	
<u>Cloth, Twill, Nylon,</u> <u>1.6 and 3.0 Ounce</u> MIL-C-5777, Amd. 1														
Type I - 1.6 oz.		Bright high tenacity nylon	70   70 2/4   2/4	Multi- fila- ment	(5) (1)	1.6   1.8	2 right 1 twill	80   80	90   90	4   4			30.00	
Type II - 3.0 oz.			70   100 2/4   2/5			3.0   3.3	2 right 2 twill	165   96	180   170	6   6			35.00	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-19256C	(8) Scoured and heat treated; not calendered. 0.003% copper max.; 0.0015% manganese max. Cloth shall be fully heat set at 400°F. Cloth shall show no appreciable distor- tion or puckering, and not more than 2% dimensional change. pH: 6.0-10.0 (2811).	Color - cloth shall be Green 3410 - std. sample available (3). Colorfastness - standard sample available (5614- 5622-5651-5660).	(11) Selvage: each selvage shall not exceed 1/2 in. Flex- stiffness: 2.5 in. lb. x 10 <sup>-4</sup> max. in the warp; 1.0 in. lb. in the filling.	Intended Use - As a base material for synthetic rubber coating.
MIL-C-5777 Type I Type II	Scoured, but not calendered. (8). Cloth shall be heat treated. After treatment, cloth shall show no appreciable distortion, puck- ering, or fading; dimensional change shall not exceed 2% in either warp or filling (4.4.1). pH: 5.0-8.5 (2811).	Color (1) - standard sample available (3). Colorfastness - standard sample available (5620- 5614-5660-5651-5680).	Cloth shall contain not more than 0.003% copper; and not more than 0.0015% manganese.	Intended Use - Type I, as base fabric for coated fabrics. Type II, in cold weather items.



### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In Min. (5050)	Breaking Strength Lb. Min (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<u>Fabric, Glass, Woven</u> MIL-F-12298A (NW)			W F	W F	W F		Min Max		W F	W F	W F			
Type I- Lightweight	(a) Fibrous	2 2			Contin- uous	(1) 1/2	37 1/2	10% Plain	34 32	110 90		Thickness (5030) 1.003 1/2 0.0015		
Type II- Medium wgt.	"E" glass	3 3			"	"	8.90 1/2	10% 8-har- ness	57 54	145 130		0.0010 1/2 0.002		
Type III- Heavy wgt.	"	2 2			"	"	16.75 1/2	10% satin	54 48	270 250		0.020 1/2 0.002		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-F-12296A Type I Type II Type III	The amount of finish on the cloth, as measured by the chrome level, shall be not less than 0.03% nor more than 0.06%.		(a) Glass yarns shall be woven to conform to the weave requirements, heat- cleaned, and then finished with a methacrylate chromic chloride finish.	Intended Use - For use with phenolic resins in preparing Belleville springs for non- metallic mines.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5134)	Air Permea- bility (5450)	Shrink- age Max (5556)	Point Value Max
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Labels, Garment (Woven, Rayon) MIL-L-15040E			W F	W F	W F		Min Max		W F	W F	W F			

Size A - 1-5/16 x 3"  
Size B - 3/4 x 2"  
Size C - 2-1/4 x 4"  
Size D - 2-1/4 x 5"

Regener- Ground warp: 100 denier  
ated singles or 50 denier, 2  
cellu- ply; 144 ends per in. min.  
lose Ground fill: 75 denier  
(Viscose singles, 92 picks per  
or Cup- in. min. sure filling:  
ramonium) 150 denier singles, 92  
Rayon picks per in. min.

Taffeta  
end  
figured

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-L-15040E Size A Size B Size C Size D		Color - background & sel- vages shall be Shade Black 211 & the design & legends shall be white to match the standard sample (3-6). Design & legend (1) Colorfastness - standard sample available (5622-5680).	Selvages: Sizes A & B 100 denier singles or 50 denier 2 ply; 8 double ends each selvage. Sizes C & D - 100 denier singles or 50 denier, 2 ply; 12 double ends each selvage.	Intended Use - In dress clothing items where they will be permanently visible and the use of another type label would adversely effect the appearance of the item.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per in Min.  (5050)	Breaking Strength Lb. Min.  (5100)	Tearing Strength Lb  (5134)	Air Permea- bility  (5450)	Shrink- age Max  (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Net, Laundry (Nylon) <del>JJ-N-180a Int. Amd-1</del> (See also under Knitted Cloths)		W F	W F	W F		Min Max			W F	W F	W F			

Type I - with grommets  
Type II - without grommets

Style A - Leno weave

Size 1 - 10x15 in. bright 260 17 filament 3.0 3.6 1 45- 26-

Size 2 - 12x22 in. high 260 17 " 3.0 3.6 1 48 28

Size 3 - 18x30 in. tenacity 260 17 " 3.0 3.6 Leno

Size 4 - 24x36 in. 260 17 " 3.0 3.6 weave

Style B - Warp Knit

Size 1 (see under

Size 2 knitted

Size 3 cloths)

Size 4

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
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JJ-N-180a

Type I

Type II

Style A

Size 1

Size 2

Size 3

Size 4

Style B

Nylon fabric shall be secured and  
heat set.

Color - Shall be white  
(natural).

Selvage to be used at the  
bottom of the net for sizes  
3 & 4 bags shall be reeded  
alternately 4 ends & 2 ends  
per dent to a minimum width  
of 3/4-in. Selvage for the  
top pin edge of all sizes  
shall be reeded 2 ends per  
dent, skip 1 dent, 2 ends  
per dent, for 2-2 1/2 in., then  
alternate 4 ends & 2 ends  
per dent to a minimum width  
of 3/4-in. Meshes per inch:  
598-675. Bursting strength:  
175 lb. min. (5120). Grommets  
shall conform to Type I,  
Class 1, Size 4 of MIL-G-16491.  
Leno-weave fabric shall have  
the filling running length-  
wise of the net.

Intended Use - In laundries  
for washing items of clothing.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN				Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Staink- age Max. (5556)	Point Value Max.	
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier										Fila- ment
Scarf, Neckwear, Rayon, Women's NIL-8-10679C (NAVY)	W F	W F	W F	Min Max	W F	W F	W F							
Warp: continuous filament, 100 denier 9/1 3.0 - Plain 150 70 45 25 dull acetate, 25-40 filaments. inches Filling: continuous filament, 100 wide denier dull viscose rayon, 25-60 43/1 filaments. -0 inches Long														

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
NIL-8-10679C		Color - White, shade 3030, and shall not discolor to a degree greater than st4. sample (3). Colorfastness - standard sample available (5651- 5614-5680-5682).	(11) The scarf shall be made in the form of a flat- pressed tube with both ends left open and revealed to form fringes.	Extended Use - Scarf for use by women of U.S. Marine Corps and U.S. Navy.

## SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Bracking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Screening, Insect, Commercial			W F	W F	W F	Min Max			W F	W F	W F		W	F
L-5-125a Int. Amd. 1 (GL) (See also under coated cloths)														
Type I - Polyvinyl- idene chloride														
Class 1 - 0.0120" diameter														
Size 16x16	(soft- ening point) min.	Poly- vinyl- idene Chlor- ide	160	136	128 (1)	104	128	128	128	128	132	128	min. ave. tonnage strength of fila- ments 20,000 psi	(After heat aging) 5%
Size 18x18			160	136	128 (1)	104	128	128	128	132	132		5%	
Size 18x18			165	140	132 (1)	107	132	132	132	132	132		5%	
Size 20x20			130	111	91 (1)	111	-	-	-	-	-		5%	
Size 22x22			130	111	91 (1)	111	-	-	-	-	-		5%	
Class 2 - 0.0150" diameter														
Size 16x16			160	136	128 (1)	104	128	128	128	128	132		5%	
Size 18x18			160	136	128 (1)	104	128	128	128	132	132		5%	
Size 18x18			165	140	132 (1)	107	132	132	132	132	132		5%	
Size 20x20			130	111	91 (1)	111	-	-	-	-	-		5%	
Size 22x22			130	111	91 (1)	111	-	-	-	-	-		5%	
Type II - Plastic Coated or Impreg- nated Fibrous Glass (See under Coated Cloths)														

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
L-5-125a Type I Class 1 Size 16x16 Size 18x18 Size 18x18 Size 20x20 Size 22x22 Class 2 Size 16x16 Size 18x18 Size 18x18 Size 20x20 Size 22x22 Type II		Color - Types I and III shall be natural (light straw color), aluminum, bronze, or green No. 14036 of Fed. Std. No. 595 as specified. Colorfastness - "fair" (4.4.11).	Types I and III - Classes 1 and 2 - minimum elongation of the filaments - 15%. Resistance to water immersion for Types I and III - average change in length shall be 2% max. (4.4.6). Types I and III finished screening shall have a woven or mock selvage of at least 6 ends in each edge. Mesh shall not vary more than 0.5 mesh per inch. Type III screening must be heat set. Screening shall show no blocking in excess of Scale No. 1 (5872-4.4.9). Screening shall not burn for more than 10 sec. after removal of a match flame (4.4.15).	Intended Use - For installation in or on any dwelling, patio, screen enclosure, building of structure, for the purpose of preventing the ingress of flies, mosquitoes, or other insects, particularly where corrosive conditions are encountered.

### SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN				Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Point Value Max.	
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier										Fila- ment
Screening, Insect, Nonmetallic			W F	W F	W F	Min Max		W F	W F	W F				

L-8-12<sup>1/2</sup>, Int. And. 1  
(OL)  
(See also under  
Coated Cloths) (cont'd)

Type III - Polyprop- ylene Class 1 - 0.0120 in. diameter	Fiber	Initial Dusting Strength lbs/in <sup>2</sup> (2)	After Aging	After Accelerated Weathering	After Water Immersion	48 hrs. Air Drying	min. ave. tensile strength of fila- ments 20,000 psi	(After heat:aging)
Size 16x16	Polypropylene conforming to Type II of L-P-39 <sup>1/4</sup>	160	136	128 (1)	104	128		5%
Size 18x14		160	136	128 (1)	104	128		5%
Size 18x18		165	140	132 (1)	107	132		5%
Size 20x20		130	111	91 (1)	111	-		5%
Size 22x22		130	111	91 (1)	111	-		5%
<b>Class 2 - 0.0190 in. diameter</b>								
Size 16x16		160	136	128 (1)	104	128	"	5%
Size 18x14		160	136	128 (1)	104	128		5%
Size 18x18		165	140	132 (1)	107	132		5%
Size 20x20		130	111	91 (1)	111	-		5%
Size 22x22		130	111	91 (1)	111	-		5%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
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I-8-12<sup>1/2</sup>a  
Type III  
Class 1  
Size 16x16  
Size 18x14  
Size 18x18  
Size 20x20  
Size 22x22  
Class 2  
Size 16x16  
Size 18x14  
Size 18x18  
Size 20x20  
Size 22x22

REFERENCES

SYNTHETIC OR MIXED SYNTHETIC CLOTHS - WOVEN

Textile Test Methods - C.C.C.-T-191b

<u>Method</u>	<u>Title</u>
<u>Chemical</u>	
2611	Nonfibrous materials, enzyme method.
2610	Acidity (pH), colorimetric method.
2611	Acidity (pH), potentiometric method.
<u>Construction</u>	
5020	Width of cloth.
5050	Yarns per inch in woven cloth.
5030	Thickness of cloth.
<u>Mechanical</u>	
5100	Strength and elongation, breaking, of woven cloth, grab method.
5104	Strength and elongation, breaking, of woven cloth, ravel strip method.
5110	Sewability; strength-of-seam method.
5120	Bursting strength, ball method.
5122	Bursting strength, diaphragm.
5134	Tearing strength, tongue method.
5130	Tearing strength, trapezoid method.
5308	Stiffness, directional, cantilever bending method (Timius Olsen).
5308	Abrasion Resistance of Cloth; Uniform Abrasion (Schleifer) method.
5410	Slippage resistance of yarns in cloth.
<u>Air Permeability and Water Resistance</u>	
5450	Air permeability, calibrated orifice method (Frazier).
5508	Dry Cleaning Solvent Resistance of Cloth With Water-Resistant Finish; Tumble Jar Method.
5514	Water resistance, hydrostatic pressure, low range.
5526	Water resistance, with hydrophobic finish, spray method.
<u>Shrinkage Resistance</u>	
5550	Shrinkage in laundering; cotton, linen, and mixed cotton and linen cloth.
5552	Shrinkage in laundering; cloth other than cotton and linen.
5556	Shrinkage in laundering; mobile laundry method.
<u>Colorfastness</u>	
5614	Laundering of wool, silk, rayon cloth; Launder-Ometer.
5620	Dry cleaning (petroleum solvent).
5622	Wet cleaning (with dry cleaning).
5630	Water, cold.
5632	Salt water and soap.
5651	Crocking of cloth.
5660	Light; accelerated (Fade-Ometer).
5670	Weather; accelerated method (Twin Arc Weather-Ometer).
5671	Weather; accelerated method (National Weathering Unit).
5680	Perspiration; perspirometer method.
5682	Perspiration; tube method.
<u>Deterioration Tests</u>	
5850	Aging; accelerated oven method.
5852	Aging; accelerated oxygen method.
5872	Temperature, high; blocking.
<u>Fire-Resistance Thermal Tests</u>	
5902	Flame resistance; vertical.
5903	Flame resistance of cloth; modified vertical.
5910	Burning rate of cloth; 30° angle.

GENERAL NOTES

MIXED FIBER CLOTHES - WOVEN

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- |   |  |
|---|--|
| (1) As specified.   | (6) Markings, insignia, etc.           |
| (2) Reprocessed, reused, noils, roving, etc. is prohibited. | (7) Preproduction sample.              |
| (3) Colormatching.  | (8) Sulfur dyes.                       |
| (4) Nonfibrous, etc., restrictions.                         | (9) Width exclusive of selvage.        |
| (5) Weave instructions or pattern.                          | (10) Bid sample and laboratory report. |
|   | (11) Width inclusive of selvage.       |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.



### MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Fila-ment									
Bedspread, Cotton or Cotton/Rayon Blend		W   F			W   F	W   F	Min/Max			W   F	W   F	W   F		W   F	

**DDD-B-151a**  
 (See also under Cotton Cloths)  
  
 Type I - Crinkle Cotton or blend of 1 1 See under Cotton Cloths for all other requirements.  
 Type II - Dainty 50(5)% cotton & 1 1  
 Type III-Herring-bone stripe 50(5)% high wet-strength modulus 1 1  
 Type IV - Corded type rayon (Type IV cords-all cotton) 1 1  
 Style A  
 Style B

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
DDD-B-151a Type I Type II Type III Type IV Style A Style B	see under Cotton Cloths for all requirements, notes, etc.			

### MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament									
<u>Blanket, Bed (Other Than All Wool)</u> IDD-B-421F (See also under Cotton Cloths)		W   F			W   F	W   F		Min/Max		W   F	W   F	W   F		W   F	
Type I - All Cotton (See Cotton Cloths)															
Type III - Blended wool nylon, rayon cotton and other fibers Class 1 - Twill (Double filling) Size 4 - 66x84 in.	80% min. wool &/or reprocessed wool, 10% min. nylon, 10% max. rayon, cotton & other fibers (50% of wool, max., reprocessed)							(lb.) 3.8 4.0	(5)	22	20	35	30		(5552) 10% 10%

<u>Cloth, Broadcloth, Polyester and Cotton</u> MIL-C-22148A (MC)	(a) 35(2)% cotton 65(2)% semi-dull polyester	1 1	3 3	(1) (9)	3.0	Plain	132	80	100	40			(5552) Freshrunk 2% 1% 30.00
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NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellancy, etc.)	NOTES (Not Specification Requirements)
IDD-B-421F Type I Type III Class 1 Size 4	(b) Type III - finished equal to the standard sample with respect to nap and hand. The napped fibers shall offer considerable resistance to linting with a needle.	Color - shall be heather (3).		Intended Use - As bed coverings.
MIL-C-22148A	(b) Cloth shall be heat set so as to show no distortion and to remain dimensionally stable. (Shrinkage less than 1.5% in both W & F) when pressed with a flat iron at 300° F ± 15° F.	Color - Shall be Green Shade 2230 and shall match approved shade sample (3-8). Colorfastness - (5650-5622-5614-5660-5662).	(7) (a) Polyester fiber shall be polyethylene glycol terephthalate, with a staple length of 1 1/2-in. min.	Intended Use - In the manufacture of shirtsuits worn by female personnel of the Marine Corps.

### MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament									
<u>Cloth, Broadcloth, Polyester and Cotton</u> MIL-C-43479															
		W F			W F	W F	Min/Max			W F	W F	W F		W F	
Type I - 2.8 to 3.4 oz.															
Class 1 - white - (Bleached)	32% min. cotton;	1	1				(11) (1) 2.8 3.4	Plain	132	70	95	45		(5552) 2% 2% 30.00	
Class 2 - Dyed	65% polyester (a)	1	1				(1) 2.8 3.4	Plain	132	70	95	45		2% 2% 30.00	
Type II - 3.2 to 3.7 oz. end and end construction															
Class 3 - Dyed		1	1				(1) 3.2 3.7	Plain	100	64	70	52		2% 2% 25.00	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-43479 Type I Class 1 Class 2 Type II Class 3	(h) Cloth shall be secured, singed, stabilized, mercerized & bleached when required, to result in 2 smooth and lustrous finish equal to standard sample. The use of additive resinous finishes, cellulose reactants, polyethylene or silicone softeners is prohibited.	Color - Class 1 - bleached white-standard sample available-Cloth shall show no discoloration greater than standard sample. Class 2 - (1) standard sample available (8) (3). Class 3 - alternating warp ends in Air Force Blue 1550 and white. (Standard sample available) (8) (3). Colorfastness - Classes 2 & 3 standard sample available - (5605-5651-5680-5660).	(a)Fiber shall be polyethylene glycol terephthalate (7). Seam efficiency - 90% min. (5110).	Intended Use - In the manufacture of shirts, blouses and shirts.

### MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament									
Cloth, Broadcloth, Polyester and Cotton; Cloth, Poplin, Polyester and Cotton MIL-C-21881B (SA)															
		W F			W F	W F				W F	W F	W F		W F	

**Type I - Broadcloth**

- Class 1 - Khaki 3714 - Superseded by Type I Class 2 of MIL-C-43479 (Cloth, Broadcloth, Polyester & Cotton)
- Class 2 - White 3024 - Superseded by Type I Class 1 of MIL-C-43479 (Polyester & Cotton)

**Type II - Poplin 65(2%)**

Class 1 - Khaki polyester 3715 and 3013	1	1		1.5 and/or 3.0	(9) 42 min. average $\frac{1}{4}$ in. max.	4.2-4.7	Plain	100-40	100-40				1% 1%	30.00
Class 2 - White 35(2%) cotton	1	1				4.2-4.7	Plain	100-40	100-40				1% 1%	30.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellancy, etc.)	NOTES (Not Specification Requirements)
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MIL-C-21881B Type I Class 1 Class 2 Type II Class 1 Class 2	(4) Stiffness - Initial: Type II - 1.0 x 10 <sup>-4</sup> in-lb max. After laundering: Type II - 0.40 x 10 <sup>-4</sup> in-lb min (5206). pH: 5.0-8.0 (2811).	Color (1-8-3). When Khaki 3715 is specified, cotton fibers shall be vat dyed and polyester fibers shall be dyed with suitable fast dye. When White 3013 is specified, cloth shall be bleached and tinted with Vit Blue 6, C.I. No. 3825/6 to match std. sample. Colorfastness - standard sample available for dyed cloth (5660-5610-5680-5600-5651).	(7) Seam efficiency: 80% min. (5110).	Intended Use - For use in shirts and boxer style drawers worn by Navy personnel.
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MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarn		Synthetic Yarns		Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Fila-ment									
<p><u>Cloth, Broadcloth Wool, and Wool Synthetic</u>                      MIL-C-82252                      (See also under Wool Cloths)</p> <p>Type I - Wool                      (See Wool Cloths)</p> <p>Type II - Synthetic Wool</p> <p>Class 1 - 15.5 oz. Blue                      Class 2 - 16.5 oz. Scarlet</p> <p>8 3/4 min. fleccc(2) and/or pulled wool &amp; 17 1/2 max. synthetic fiber (1).</p> <p>W   F      W   F    W   F      Min/Max      W   F    W   F    W   F      W   F</p>															
<p>(9)                      5 1/2 15.0 16.0 2 right 56 55 50 45 (5590) 2 1/2 15.00</p> <p>min. " 16.0 17.0 " 1 twill " 54 54 55 45 3 3/4 2 3/4 15.00</p>															
<p><u>Cloth, Bunting, Nylon and Nylon and Wool</u>                      CCC-C-476e                      (See also under Synthetic Cloths)</p> <p>Type I - 100% Nylon filament (See Synthetic Cloths)</p> <p>Type II - 75% Nylon staple (Staple) 25% Wool kylon &amp; fleece &amp;/or pulled wool</p> <p>2 2 44's Bradford French or American</p> <p>(11)                      (1) 4.8 - Plain 32 30 115 100 30.00</p> <p>1 1/2</p>															

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-82252 Type I Type II Class 1 Class 2	Cloth shall be scoured, fulled, free from vegetable matter, with a uniformly developed broadcloth finish. Cloth shall be pressed and have a lustrous face finish equal to that of the standard sample. When specified, cloth shall be moth repellent treated in accordance with the method specified by the contracting officer. pH: 4.0-8.0 (2611).	Color - Class 1 shall be dyed with indigo dye to match standard sample of Blue 2307 (3). Class 2 - cloth shall be stock dyed with suitable chrome dyestuffs to match standard sample of Scarlet 2501 (3). Colorfastness - standard sample available (5660-5622-5680-5651).	(7)	Intended Use - In service, semi-dress, and dress uniforms and functional clothing.
CCC-C-476e Type I Type II	Crabbed, sheared on both sides, and given a commercial anti-static finish, to reduce the resistivity to a value of 1.0 x 10 <sup>10</sup> ohms per square.	Color (1) - Colors specified for the American Flag shall be in accordance with requirements specified in DOD-F-416. Standard sample available for other colors specified (3). Colorfastness - standard sample available (5632-5630-5651-5660).	(2) There shall be a plain woven selvage on each side, 1/8 in (1/8 in.) wide, with 2 ends weaving as 1.	Intended Use - Primarily in the manufacture of various types of flags.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per in. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament									
<p>Cloth, Jorded Polyester-Cotton Warp and Polyester Filling</p> <p>NTL-C-40052C (a) Cotton &amp; polyester 1 1 1 1 75% 150 Multi-45 3 den. or fila- min. 25% 70 ment 1.5(24) den. 4.3 - Plain (warp stripe: 2 ends cotton; 1 end spun polyester)</p> <p>NTL-C-27353A</p> <p>Type I - Plain weave (a) 50-55% polyester &amp; 45-50% cotton 1 1 3 3 (9) 4.5-5.0 Plain (1/1) 64 49 60 50 7 5 90 (5552) 2 1/2 24 25.00 preshrunk</p> <p>Type II - Twill weave 1 1 3 3 (1) 6.0-6.6 2 right 1 twill 100 55 105 65 7 6 25 1 1/2 1 30.00</p>															

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellancy, etc.)	NOTES (Not Specification Requirements)
NTL-C-40052C	(a)	Color (1) - standard sample available (3). Color of ground warp shall be obtained by yarn or piece dyeing. Polyester shall be natural color (8). Colorfastness - standard sample available (5614-5651-5660-5680).	(a) Polyester shall be polyethylene glycol terephthalate. Warp yarn shall have a min. staple length of 1 1/2-in.	Intended Use - In women's summer uniforms.
NTL-C-27353A Type I Type II	(4)	Color - Shall be USAF 1505 tan shade or other colors as specified. Standard samples available (3). Cloth shall be piece dyed. Vat dyes shall be used for cotton fibers and suitable, compatible dyestuffs for the polyester (8). Fiber shade differences shall not be evident in the blend. Colorfastness - "good" (5660-5680-56*1-AAITCC IV A61-1965).	(7) (a) Polyester shall be of terephthalic acid and ethylene glycol, 1 1/2 in. staple length, with a min. fiber tenacity of 3.5 grams per denier (at 60% elongation/min.) and a min. melting point of 249°C. Sewability: "good". Seam efficiency: 90% (5110).	Intended Use - In the fabrication of summer uniforms.

### MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Fila-ment									
<u>Cloth, Cotton Back Rayon Twill</u> MIL-C-5645, Amd. 1		W F			W F	W F	Min/Max			W F	W F	W F		W F	
(a)	Type I - High tenacity rayon warp & bright viscoee process cotton	2 or 3			Contin-uoue		40½-42	8.5 9.25	3 I warp faced twill	240 62	(5104) 185 90	6 5	17	Shrinkage 3-laun/der 3-clean 5% 2% 3% 2%	
	Type II - Semi-high tenacity rayon warp	"			"	"	"	8.5 9.25	"	240 62	150 90	5 5	17	5%	2% 3% 2%
	Type III- Regular rayon warp	"			"	"	"	8.5 9.25	"	240 62	130 90	4½ 5	17	5%	2% 3% 2%
<u>Cloth, Duck; Cotton and Nylon</u> MIL-C-41836A Amd. 4		45-50% 3 3					(1) 14.5	-	Plain	46 26	500 300		3.0		35.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-5645 Type I Type II Type III	(4) Cloth shall be given a suitable, durable water repellent treatment. Spray rating: Initial- 80; After 3 launderings - 65; After 3 dry cleanings - 65 (5526). Hydrostatic water repellency: Initial- 2½ cm.; After 3 dry cleanings-1.2cm.	Color (1) - To be obtained with vat dyes. Colorfastness - "good" (5660-5630-5632-5610-5621-5651-5680).	(a)Unless otherwise specified, Type II shall be furnished. Tensile strength-lbs/inch. Type I-185 warp 90-fill. Types II & III-150 warp 85 fill. Tear Resistance. Type I-6warp, 5 fill. Type II-5 warp, 5 fill. Type III - 4½ warp, 5 fill.	Intended Use - In the fabrication of flight garments.
MIL-C-41836A	Cloth shall be mildew resistant treated with copper 8-quinolinate, so that treated cloth contains 0.04-0.15% copper as metal from 8-quinolinate (2050 or 2051).	Color (1) - standard sample available (3). Use of disperse dyes on the nylon is prohibited (8). Colorfastness - standard sample available (5677).	(7) (a)Nylon shall be first quality-high-tenacity a cut staple length of 1½-inches. (2).	Intended Use - In the manufacture of tropical combat boots.

### MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Wool Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Fila-ment									
<u>Cloth, Flannel, Wool and Cotton</u> <u>MIL-C-3760C</u>															
Type I - 12 oz.	60% min. Fleeces &/or	1 1	60's	Woolen			(9) 56	12.0	Plain	38	32	42	32	(5590) 6%	4% 10.00
Type II - 20 oz.	pulled wool 10% max. reprocessed, reused, re-worked wool & 20% max. cotton	1 1	60's				56	20.0	2/2 twill	46	44	60	50	6%	4% 10.00

Cloth, Flannel, Wool and Nylon, 16-oz. Shrink Resistant

<u>MIL-C-11065D (OL)</u>															
45% min. fleece &/or pulled wool 10% min. staple nylon 40% max. wool noils (2).	1 1	new: Woolen 62's noils 60's				(9) 56	16.0	2	broken twill (2ends right, 2 ends left)	38	33	50	40	(5558) 5% 5% 10.00 (5554) 5% 3% (Felting Shrinkage)	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-3760C Type I Type II	Scoured, fulled, napped and sheared on the face and back. Type and character of finish to match standard sample. pH: 4.0-8.0 (2611).	Color - (1-8). Standard sample available (3). Color to be obtained by stock or piece-dyeing. Colorfastness - standard sample available (5622-5651-5680-5660).	(7)	Intended Use - As a lining fabric in uniform items.
MIL-C-11065D	Cloth shall be fulled (wool stock carbonized if necessary), napped and cropped. Finished cloth shall have uniformly developed closely cropped finish, with the same degree of sort hand, drape, and character of finish on the face and back as the standard sample. Approved shrinkage control treatment for felting shrinkage, by an oxidation, resin, or by interfacial polymerization process. When resin or interfacial polymerization are used, stiffness shall be 0.041 load lb. max. in the warp. When oxidation is used, alkali solubility shall not increase more than 6%. pH: 4.0-8.0 (2611).	Color - Shall be Olive Green 168 and shall be obtained by blending chrome or neutral premetallized dyed wool and nylon. Speck and piece dyeing are prohibited.(3) Colorfastness - standard sample available (5660-5622-5680-5614-5651).		Intended Use - As shirting material for male military personnel, as a component of the cold-wet and cold-dry uniform for temperate and cold areas.



### MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Fila-ment									
<p><u>Cloth, Fleece, Cotton Warp and Wool-Nylon Filling; Lining, 15-oz. Shrink Resistant</u></p> <p>MIL-C-2069D (GL) Filling: 2 1 (e) Woolen Fleece &amp;/or pulled wool (80% min) &amp; staple nylon (10-20%)(2) Warp: cotton</p> <p style="text-align: right;">(9) 56 15.0 16.5 2 right 36 36 40 30 min. (54" lin 2 twill yd) (5558) 5% 4% 15.00 (5554) 4% 3% felting</p>															
<p><u>Cloth, Gabardine:Wool, Polyester and Wool, Amd. 3</u></p> <p>MIL-C-10176F (See also under Wool Cloths)</p> <p>Type I - Wool (See also wool cloths)</p> <p>Type II - Polyester-wool blend</p> <p>Class 1 - 10.5 oz. Fleece or 2 2 62's Bradford Class 8 - 9.5 oz. pulled 2 2 64's French or wool American 40% min. polyester, fiber in in top or cut tow form 55-60% (e) (2)</p> <p style="text-align: right;">(9) 60" 10.5 - 2 right 84 48 190 110 60" 9.5 - 2 right 114 56 160 70 min. based on 2 twill 56 in lin yd</p> <p style="text-align: right;">for all shades except M-1=12.0 3.0% 2 1/2% 15.0 for M-1 3.0% 2.0%</p>															

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-2069D	Pulled and napped on face and back to equal standard sample. Napped fibers shall offer considerable resistance to lifting with a needle. Treated for resistance to felting shrinkage by an approved oxidation or resin process. When oxidation process for shrinkage resistance is used, alkali solubility of treated cloth shall not increase more than 5% (2800). pH: 4.0-8.0 (2811).	Color - Shall be Olive Green 104 - standard sample available (3-8). Colorfastness - standard sample available (5614-5680-5651).	(7) Wool blend. (e) 40% min. - 56's 40% max. - 50's 20% max. - 48's (reprocessed)	Intended Use - For the lining for the fur ruffed hood.
MIL-C-10176F Type I Type II Class 1 Class 8	Cloth shall be scoured, brushed, sheared and singed, pressed and decated to provide finish equal to standard sample. Shall show no more pilling than standard sample (4.4.2). pH: 5.5-8.5 (2811).	Color (1) - standard sample available (3). Colorfastness - standard sample available - (5622-ethylene glycol terephthalate either homopolymer or modified polymer.	(e) Polyester fiber shall be a semi-dull polyester fiber made from poly-	Intended Use - for manufacture of clothing items.

**MIXED FIBER CLOTHS-WOVEN**

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per in. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability (in. 30)	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Fila-ment									
<u>Cloth, Interlining, Cotton Warp, and Spun Hair-Wool Filling</u>			W F		W F	W F		Min/Max		W F	W F	W F			
<u>MIL-C-297D</u>														(5558)	
Type I - Med. Wgt. Cotton warp, or 2		1 1		Worsted			(11)	7.0 8.0	Plain	44 38	50 45			Preshrunk	34 14 40.00
Type II - Hvy. wgt. goat-hair & staple fleece or pulled wool (2) filling		"		"			(1)	8.0 9.0	"	44 38	50 45				34 14 40.00
Type III - Lt. wgt. staple fleece or pulled wool (2) filling		"		"			(1)	5.0 6.0	"	44 40	50 38				34 14 40.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellancy, etc.)	NOTES (Not Specification Requirements)
MIL-C-297D Type I Type II Type III	(4)	Color - Warp shall be unbleached natural. Filling shall be the natural color of the hair and wool.	Stiffness (measured parallel with the filling): Type I - 0.011 load lb. min. Type II - 0.016 " Type III - 0.005 "(5202). Animal fiber content: 50% min. (2100).	Intended Use - As an interlining in clothing items.

### MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weaves	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USA	System	Denier	Filament									
Cloth, Nylon and Cotton, Intervoven MIL-C-4487 (USA?)	Cotton & bright high tenacity nylon	W F			W F	W F	Min/Max		(5)	W F 18x 82 (-100% 2, cotton: 92)	W F (5104) 110 110	W F 8 -	40-110	W F Prebreak 4% 2% (5552)	

NOMENCLATURE	F INISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-4487 (USA?)	Use of finishing or loading materials to increase weight or breaking strength is prohibited. Use of dyestuffs, detergents, or other chemicals or finishing agents which would cause deterioration in storage or dermatitis on skin contact is prohibited. pH: 4.0-8.0 (2811).	Color - Sage Green 518 unless otherwise specified (8) (3). Colorfastness - "good" (5614-5651-5660-5682).		Intended Use - In the manufacture of special flying clothing.

### MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarn		Synthetic Yarn		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per in. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Danier	Filament									
Cloth, Oxford, Cotton Warp and Nylon Filling, Quarpel Treated MIL-C-3924 Amd. 1		W F			W F	W F	Min/Max			W F	W F	W F			
Class 1 - Bleached white	Cotton warp (100%)	2			Semi-dull	(1)	4.8 5.8	Oxford	(2)	160 74	175-138				
Class 2 - Dyed	Nylon filling (100%)	2			Continuous multi-filament	(1)	4.8 5.8	W ends weaving ss 1)		160-74	175-155				
															(5550) Freshrun
															1% 1% 30.00
															1% 1% 25.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-3924D Class 1 Class 2	Prior to water repellent treatment, cloth shall be singed, fully desized, caustic scoured (through boiloff) and mercerized (4). Cloth shall be given an approved Quarpel-type water repellent treatment. Use of finishing materials other than approved water repellents and sodium acetate buffer (and acetic acid) is prohibited. Spray rating: 90, 90, 80 (5526). Acrometric height: Initial - 40 cm.; After 5 launderings - 35 cm. (5514). Max. ave. Dynamic absorption: Initial - 20% max.; After 15 launderings - 20% max. (5500). Finished cloth shall show no wadding by n-tetradecane initially or after 15 launderings (4.4.3). pH: 5.5-8.5 (2811).	Color - Class 1 bleached white - std. sample available (3). To be obtained by chemical bleaching using a per-oxygen-type agent and a fluorescent optical brightener with a resulting peak emission in the blue violet. Hue of the fluorescence shall match the std. sample & the intensity shall be equal to the standard sample (3). Cloth shall not discolor to a degree greater than that of the standard sample (5660). Class 2 (1) - standard sample available (3-8). Colorfastness - Class 2 - std. sample available (5660-5610-5651-5680-5660)	(7) Seam efficiency: 80% min. (5110). (8) Either hexamethylene diamine adipate type or amino caproactam type shall be permitted.	Intended Use - For raincoats, parkas, trousers, and the casualty evacuation bag casing.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per in. Min.		Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.	
			Grade USDA	System	Denier	Filament				(5050)	(5100)						
Cloth, Satin, Rayon Warp and Cotton Filling MIL-C-21883A (8a)	Cotton & bright viscose rayon	- 1			300	- Com-tinuous	(9) 41 min.	7.9 8.5	5-harness satin (5)	144 56	275 70				8%	3%	30.00

Cloth, Serge, Wool; Wool and Nylon  
MIL-C-823E, Amd. 4  
(See also under Wool Cloths)

Type I - Wool  
(See Wool Cloths)

Type II - Wool and nylon	8 3/4 min. fleece &/or					(9)											(5558)	
Class 1 - 18 oz. pulled	2 1 60's Bradford					60	18.0 -	4-harness	66 52	135 120							4% 2 1/2%	10.00
Class 2 - 16 oz. wool & 15% min. nylon top or cut tow (2)	2 1 60's French or American					min. 16.0	- 2 (54" lin yd)	right 2 twill	70 54	120 110							4% 2 1/2%	10.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-21883A	(4) Cloth shall have a natural finish. It shall be desized and finished with minimal warpwise tension. Use of finishing or loading materials to increase weight or breaking strength is prohibited.	Color (1) - To match specified Navy Shades (3). Cotton yarn shall be unbleached and undyed. Rayon warp yarn shall be "solution dyed" with coloring pigments introduced into the viscose solution before yarn is spun. White yarn shall be bright, unpigmented. Colorfastness - standard sample available (5610-5660).	(7) Selvage shall be 3/8 (1/16) in. wide and may be made from white or colored rayon yarn.	Intended Use - In the manufacture of identification garments worn by aircraft carrier flight deck personnel.
MIL-C-823E Type I Type II Class 1 Class 2	Fulled and sheared and otherwise finished to give stability of color and finish. Type and character of finish shall conform to that of standard sample. Supplier shall obtain approval for finish prior to production. pH: 5.5 - 8.5 (2811).	Color - Color, types of colorants, and methods of coloring (1). Standard samples available (3). Speck dyeing prohibited.. Army Green 44 to be produced by blending dyed wool top. Unless otherwise authorized, piece dyeing is prohibited. Colorfastness - standard sample available (5660-5622-5680-5651).	(7) (10)	Intended Use - In service, semi-dress, and dress uniforms and functional clothing used by the DOD.

### MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament									
Cloth, Sheeting, Cotton and Polyester and Cotton-Int. And. 1 (Army-0L) CCC-C-430d (See also under Cotton Cloths)  Type I & II Class 1 & 2 Styles A, B, & C (See Cotton Cloths)  Type II - Bleached 65/3% polyester and cotton blend, 65/35% # 180 percale and remaining % cotton Class 2 - Shrunken Style E - Polyester and Cotton blend, 50/50% # 180 percale and remaining % cotton (11) (1) 3.5 Plain 98 82 65 65 (5550) 2% 2% 30.00 (1) 3.5 Plain 98 82 65 65 (5550) 2% 2% 30.00															
		W F			W F	W F	Min/Max			W F	W F	W F		W F	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellancy, etc.)	NOTES (Not Specification Requirements)
CCC-C-430d Type I Type II Class 1 Class 2 Style A Style B Style C Type II Style D Class 2 Style E Class 2	(4) pH: 5.5 - 8.5 (2811).			Intended Use - for pillowcases and bed sheets for Navy use.

### MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per in. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.	
			Grade USDA	System	Denier	Filament										
Cloth, Pile, Alpaca; and Cloth, Pile, Wool MIL-C-483B		W   F			W   F	W   F	Min/Max			Backing	W   F	W   F	W   F	W   F		
Type I - Cloth, wool, pile, double face, 5/16 in.	Ground or backing yarns (warp or filling): cotton. Pile Yarns: wool; 50's-56's; 2 ply; Bradford, French, or American System.					(9) 54 min.	15.0	Modified "W" weave (5)	38	19	32	65	50	Pile Length (in) 5/16 (5/32 ea. face)	60	
Type II - Cloth, wool, pile, double face, 1/2 in.						"	20.5	"	38	19	36	60	70	1/2 (1/8 ea. face)	60	
Type VII - Cloth, alpaca, pile, single face, 1/2 in.	Ground or backing yarns: Same as for I and II. Pile yarns: alpaca; 56's min.; 2-ply; Bradford, French, or American System.					"	19.0	Fast pile (5)	54	18	46	60	90	1/2	55	
Type IX - Cloth, wool, pile, double face, 1/4 in.	Ground and filling yarns: Same as for I and II. Pile yarns: same as for I and II.					"	14.0	Modified "W" weave (5)	38	19	32	65	50	1/4 (1/8 each face)	60	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-483B Type I Type II Type VII Type IX	(4) Pile shall be tigered, so that pile tufts are open to within 1/8 in. of the ground cloth and in an upright position. Pile shall be vacuumed to remove loose fibers. Cloth shall show no more than a trace of loose fibers or compound when shaken vigorously over a smooth black surface. Cloth shall have a properly applied silico-fluoride moth repellent treatment. Animal fiber shall have 0.4 - 0.7% fluorine (4.4.1). pH: 3.3 - 4.5 (2811).	Color - Type VII: natural. (7) Types I, II & IX: natural or dyed(1). Standard sample available for dyed (3). Color to be obtained by chrome or neutral premetallized dyestuffs by piece, stock, or yarn methods. Colorfastness - standard sample available - (5651-5614-5622-5680).		Intended Use - As a protective lining for cold climate clothing, and to be used in the manufacture of winter flying clothing.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament									
Cloth, Poplin, Cotton and Polyester (Quarrel Treated) MIL-C-43482 (OL)	47% cotton min.; 50% polyester (a)	2 1					(11) (1)	5.6	Plain	122 66	170 75	5132 4.0 2.0	3.5	3.0% 1.0%	25.00
Cloth, Sateen, Cotton Warp and Nylon Filling MIL-C-21848A (SA)	Warp: cotton Fill: full nylon. Min. n.p.: 2440C	1 3					(11) (1)	9.2	5-harness satin (5)	85 54	140 300			2% 2% (preshrunk)	30.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-43482 (OL)	(4) Cloth shall be scoured and heat treated. Cloth shall be given an approved Quarrel-type water repellent treatment. Use of materials other than approved water repellents and sodium acetate buffer (and acetic acid) is prohibited. Spray rating: 90, 90, 80. (5526). Hydrostatic height: Initial & after 3 launderings: 15 cm. Min. (5514) Dynamic Absorption: Initial and after 15 launderings 15 cm Max (5500). Finished cloth shall not show wetting by h-tetradecane either initially or after 15 launderings. (3.4.3). PU: 6.5-8.5 (2811).	Color - shall be AG-274 standard sample available (3-8). Colorfastness - standard sample available (5605-5651-5660).	(7) (a) polyester, fiber shall be polyethylene glycol terephthalate. Seam efficiency: 8% min. (5110).	Intended Use - specifically for raincoats.
MIL-C-21848A	(4)	Color - Shall match Green 3423 (3) - standard sample available (8). Colorfastness - standard sample available (5651-5660-5610-5680).	(7)	Intended Use - In clothing items for use by Navy personnel.



### MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per in. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament									
Cloth, Twill, Cotton and Polyester - Amd. 1 MIL-C-21851A (BA)	65 (1/2)% polyethylene glycol terephthalate, 35 (1/2)% cotton.	1 1					(11) 45 min. selvage 1" min.	5.0 -	2 right 1 twill	127 56	185 65		40	2%	2% 30.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-21851A	(4)	Color - Cloth shall be dyed to match Blue 3329 (3-2). Standard sample available. Colorfastness - standard sample available (5610-5680-5651).	(7) Original stiffness shall not be more than $3.0 \times 10^{-4}$ in-lb. (geometric means) and shall not be less than $0.9 \times 10^{-4}$ in-lb. after 1 laundering.	Intended Use - In the manufacture of submarine coveralls worn by male Navy personnel.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Fila-ment									

Clotb, Taffeta, Nylon  
Face Wool Back and  
Clotb, Satin, Rayon  
Face Wool Back  
MIL-C-8797A (ASG)

		W F	W F	W F	Min/Max	W F	W F	W F	W F					
Type I - Nylon face	30% min. fleeces of pulled wool (2) & bright polyamide of hexa-methylene diamine & adipic acid or its derivatives. Melting point: 482°/10° F.	64's		Contin-uous	(9) (1) 6.5/5.5	Nylon face: special taffeta weave with 2 fillings (5). Face: 100% nylon. Fill: wool, inserted so that face is not affected & back surface is all wool.	(a)	220	220	5	8			10.00
Type II - Rayon face	30% min. fleece or pulled wool (2) & bright viscose rayon of commercial quality.	64's		Contin-uous	(1) 9.1/1	(5) Face: rayon. Fill: wool, inserted so that face is not affected & back surface is all wool.	(a)	18	70	3	3			10.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellancy, etc.)	NOTES (Not Specification Requirements)
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MIL-C-8797A (ASG) Type I Type II	(4) Cloth shall be uniformly napped on wool-backed side to provide a finish equal to the standard sample. Type I shall be given a water resistant treatment. Spray rating: 70, 70 70 (5526). Rain penetration: 0.5 gms. (max.) (5522). pH: 4.5 - 9.0 (2811).	Color (1) - Standard samples available (3-8). Colorfastness - standard sample available (5630-5632-5622-5651-5670-5680).	(7) (a) Yarns/Inch: Type I - nylon warp: 168; Nylon fill: 64; Wool fill: 64. Type II - Rayon warp: 320; Rayon fill: 76; wool fill: 76. Sewability: 70% min. (5110).	Intended Use - In the fabrication of flight clothing and uniform clothing. They are used in the clothing as outer surface, lining, and pocketing.
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**MIXED FIBER CLOTHS-WOVEN**

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per in. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Fila-ment									
<p>Cloth, Tropical: Wool; Polyester/Wool MIL-C-21115E Amd. 4 (See also under Wool Cloths)</p> <p>Type I - Wool (See Wool Cloths)</p> <p>Type III - Polyester-wool blend</p>															
	(a)	2 2	64's	Bradford	3 3	French or American	(9) 60	9.0/0.5 min. (oz/54" lin yd)	Plain	54 42	100 80				
	55-60% polyester 40% min. fleece &/or pulled wool														except (5558) M-1 - 2.5% 2.0% 12.00 15.00 M-1

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellancy, etc.)	NOTES (Not Specification Requirements)
MIL-C-21115E Type I Type I.I	Cloth shall be scoured, brushed, sheared, and singed, pressed and decated to equal standard sample. Cloth shall show no more creping after shrinkage test than standard sample. Cloth shall show no more pilling than standard sample. pH: 5.5 - 8.5 (2611).	Color (1) - standard sample available. Color shall be obtained by blending top dyed wool with stock, top of towed dyed polyester, with wool and polyester fibers dyed separately, then blended. Pigmented fibers may be used instead of dyed as long as color is equal to that of standard sample. Monotone shade shall present a solid appearance with no more heatheriness than standard sample. (3) Colorfastness - standard sample available (5622-5651-5660-5680).	(e) Polyester shall be semi-dull, made from polyethylene glycol terephthalate, either homopolymer or modified polymer as appropriate. Min. avg. fiber length: 3 in.	Intended Use - In the manufacture of shirts, coats, and trousers for officers and enlisted personnel.

### MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament									

Cloth, Wind Resistant Sateen, Cotton and Nylon-And. 2 MIL-C-43191A	(a) 50% (5%) Cotton & 50% (5%) nylon	1	1			2.25	2.25	(11) (1)	8.5	9.0	5-harness sateen (5)	126	72	225	225	(5132) 9.0	9.0	6.0	(5550) 2% 2% 30.00 preshrunk
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**Scarfs, Chaplains' And. 1**  
MIL-8-422B

Type I - Scarf, Chaplain's, Christian Faith (Army)	(a) Bengal-ize rayon warp; cotton filling	-	2					Multi-filament	7.0	Plain	140	25	100	100
Type II - Scarf, Chaplain's, Jewish Faith (Army)		-	2						7.0	"	140	25	100	100
Type III - Scarf, Chaplain's, Christian Faith (Air Force)		-	2						7.0	"	140	25	100	100
Type IV - Scarf, Chaplain's, Jewish Faith (Air Force)		-	2						7.0	"	140	25	100	100

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
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MIL-C-43191A	(4) Cloth shall be finished with filling effect side as face. Cloth shall be singed, desized, mercerized, dyed, & given an approved Quarpel-type water repellent treatment. Spray rating: 90, 90, 80 (5526). Hydrostatic Pressure, min. avg: Initial- 35; After 3 launderings: 30 min. (5514). Dynamic absorption: Initial - 20 max.; After 15 launderings - 20 max. (5500). pH: 6.5 - 8.5 (2811).	Color - Shall be Olive Green 107 - standard sample available (3-8). Colorfastness - standard sample available (5660-5651-5680-5605).	(7) (a)Nylon shall be semi-dull, high tenacity, staple. Use of nylon waste is prohibited. Filling effect side shall be identified by stamping "face" on that side at the end of the roll. Seam efficiency: 80% (5110). Resistance to organic liquids finished cloth shall show no wetting by n-tetradsome either initially or after 15 launderings. Seam efficiency: 80% (5110).	Intended Use - In clothing where a high degree of wind resistance, water resistance and thermal resistance is of prime importance.
MIL-C-422B Type I Type II Type III Type IV		Color - Type I: Black (Cable No. 65018); Type II: Bleached white; Types III & IV: Silver Gray (Cable No. 65008). Standard samples available for all shades (3-8). Colorfastness - standard sample available (5622-5680-5651-5660). (6)	(7) (a)Rayon shall be high luster, regenerated cellulose type, of the viscose or cuprammonium process.	Guide sample available.

### MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament									
<u>Scarf, Neckwear;</u> <u>Women's</u> MIL-8-17868A (MC) (a)		W F			W F	W F		Min/Max		W F	W F	W F			
	wool: 64's Worsted Cotton & fleeces &/or cotton: pulled wool 3						10 3/4 in. wide 4 1/2 in. long.	5.0 - 2	right twill (3 cotton ends on each edge)	28 25	30 15			5%	5%

Towel or Dishcloth  
(Crash, Cotton, and cotton and linen-Mixed); Cloth, Crash, Cotton

DDD-T-511c  
(See also under Cotton Cloths)

Type I - Towel or dishcloth

Class 1 - Cotton Cotton & warp and linen Linen filling (unbleached)

(11)

17 3/4 in.

6.0-

Plain

28 22 45 35

40.00

Class 2 - All cotton (bleached)  
(See under Cotton Cloths)

Type II - Cloth, crash, cotton (bleached)  
(See under Cotton Cloths)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellancy, etc.)	NOTES (Not Specification Requirements)
MIL-8-17868A	Type and character of finish shall conform to the standard sample. pH: 4.0 - 8.0 (2610).	Color - Shall be red to match standard sample (3). Yarn shall be dyed. Colorfastness - "fair" (5614-5682-5622-5651-5660).	(a) Cotton yarn for 4cup edges shall have sufficient strength to maintain selvages in their proper alignment without fraying or slipping.	Intended Use - Scarf for use by female personnel of the U. S. Marine Corps. Guide sample available.
DDD-T-511c Type I Class 1 Class 2 Type II	(b) Type I, Class 1 towels shall be scoured and unbleached.	When specified, towel shall have woven, colored stripes, 3/16 - 5/16-in. wide, located 7/16 - 9/16 in. from each selvege edge. Colorfastness - stripes shall show "good" fastness (5600-5610).	The height of the rise of the colored water shall be a min. of 6 cm. in 5 min. in both warp and fill.	

REFERENCES

MIXED FIBER CLOTHS - WOVEN

Textile Test Methods - CCC-T-191b

<u>Method</u>	<u>Title</u>
<u>Chemical</u>	
2050	Copper content of textiles, Electrolytic method.
2051	Copper content of textiles, Polarographic method.
2100	Wool content, acid method.
2800	Wool fiber damage, alkali solubility method.
2810	Acidity (pH), colorimetric method.
2811	Acidity (pH), potentiometric method.
<u>Construction</u>	
5040	Weight of cloth; cut, roll or bolt method.
5050	Yarns per inch in woven cloth.
<u>Mechanical</u>	
5100	Strength and elongation, breaking, of woven cloth, grab method.
5104	Strength and elongation, breaking, of woven cloth, ravel strip method.
5110	Sevability; strength-of-seam method.
5132	Tearing strength, pendulum method (Elmendorf).
5134	Tearing strength, tongue method.
5202	Stiffness, directional; cantilever bending method (Tinius Olsen).
5206	Stiffness, drape and flex; cantilever bending method (Pierce formula).
<u>Air Permeability and Water Resistance</u>	
5450	Air permeability, calibrated orifice method (Frazier).
5500	Water resistance, dynamic absorption.
5514	Water resistance, hydrostatic pressure, low range.
5526	Water resistance with hydrophobic finish; spray method.
<u>Colorfastness</u>	
5600	Chlorine bleaching; cloth.
5605	Colorfastness to Combined Laundering and Bleaching of Textile Materials; Launder Ometer Method.
5610	Laundering, cotton and/or line; Launder-Ometer.
5614	Laundering of wool, silk, rayon cloth; Launder-Ometer.
5621	Colorfastness to Dry Cleaning of Textile Materials (perchloroethylene Solvent).
5622	Wat cleaning (with dry cleaning).
5630	Water, cold.
5632	Salt water and soap.
5651	Crocking of cloth.
5660	Light, accelerated (Fade-Ometer).
5670	Weather; accelerated method (Twin Arc Weather-Ometer).
5680	Perspiration; perspirometer method.
5682	Perspiration; tube method.

GENERAL NOTES

COATED CLOTHS

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- |                                 |  |
|---------------------------------|--|
| (1) As specified.               | (5) Bid sample and laboratory report.  |
| (2) Width exclusive of selvage. | (6) Nonflammable, etc., restrictions.  |
| (3) Colormatching.              | (7) Width inclusive of selvage.        |
| (4) Preproduction.              | (8) Weave diagram and/or instructions. |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Min	Max		W	F	W	F		After Flame sec. Min	Char length Max				
<u>Artificial Leather, Cloth, Coated, Vinyl Resin, (Upholstery)</u> CCC-A-700e Mod. 1								(5136)			W F	W F	70°F	40°F		
Class 1- 15.0 oz/sq yd.	Option "a" sateen- 1.32 yd/lb. Option "b" sateen- 1.21 yd/lb.	When treatment (b) is not specified: virgin vinyl chloride polymer or virgin vinyl chloride acetate co-polymer. Materials containing mercurial compounds or water soluble ingredients shall not be used. When treatment (b) is specified: coating compound shall conform to CCC-D-950, 3.2.3.1, when inhibitor (e) is used. When other inhibitors listed in CCC-D-950 are used coating compound shall conform to 3.2.3.1, and, in addition, only phosphate or phthalate ester plasticizers shall be used.	15.0	-	50	125	100	7	8	70					8	No. 3
Class 2- 18.0 oz/sq yd.	Option "a" sateen- 1.12 yd/lb. Option "b" sateen- 1.02 yd/lb.		18.0	-	50	140	130	8	9	100					8	No. 3
Class 3- 20.0 oz/sq yd.	Option "a" broken twill- 1.14 yd/lb. Option "b" broken twill- 1.06 yd/lb.		20.0	-	50	120	120	8	9	100					8	No. 3
Class 4- 25.0 oz/sq yd.	Knitted- 6.70 oz.		25.0	-	54	110	100	20	20	100					8	No. 3
Class 5- 29.0 oz/sq yd.	Chafer duck- 11.65		29.0	-	54	140	140	16	16	100					8	No. 3
Class 6- 40.5 oz/sq yd.	Chafer duck- 11.65		40.5	-	54	140	140	18	18	100					8	No. 3
Class 7- 18.0 oz/sq yd.	Knitted- 5.20 oz.		18.0	-	54	80	70	13	12	100					8	No. 3
Class 8- 10.5 oz/sq yd.	Grade B airplane cloth- 2.05 yd/lb.		10.5	-	56	80	70	3.5	3.5	70					8	No. 3

(Continued)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-A-700e Class 1 Class 2 Class 3 Class 4 Class 5 Class 6 Class 7 Class 8 (Continued)	Coated cloth shall be a base cloth coated on the face side. Grain shall match approved grain std.	Color - Shall match applicable color number of Fed. Std. 595 or other color standard or standard sample for color specified (1-3). Colorfastness - "good" (5651).	(4) Abrasion resistance: no visual loose fibers of base cloth shall be exposed in the center 1 in. of the abraded portion. Accelerated weathering (200 hours): no appreciable fading, discoloration, exudation, development of tackiness, or stiffness. Elongation: Class 4 & 7: 5% min. in the wales; 25% min. in the courses. Cold resistance at -20° + 2°F: coating shall not crack through the base cloth (5874). Plasticizer loss (max.), activated carbon extraction: Classes 1-7 - 8%; Class 8 - 12%.	Intended Use - Classes 1 & 8: for applications where there is no great stress on the coated cloth; such as for flat upholstery (slip seats and other padded applications), headlinings, slipcovers, door panels, weather stripping, velting, and miscellaneous applications where properties of coating & decorative values are principal considerations. Class 2: for medium spring upholstery applications. Classes 3, 4, 5 and 7: for deep spring construction. Class 6: for exceptionally heavy-duty rugged service such as used in buses. (Deep spring construction is spring construction of a depth greater than 3 in.



### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/ Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			(5041)	(5041)					After Flame 90°C Min	Char Length Max				

Artificial Leather, Cloth, Coated, Vinyl Resin, (Upholstery), CCC-A-700e (Cont'd)

Min | Max      W | F      W | F      W | F      W | F      70°F - 40°F

Am. 1  
Treatments:  
a. Fire resistant  
(1) Regular

after accelerated aging shall be not less than 75% initial (coated) after leaching resistance & accelerated aging shall not be less than 75% initial (coated).

2 2 3 3  
(after leaching)  
2 2 3 3

(2) Special

b. Mildew resistant      Base cloth or coating compound shall be treated with 1 of the inhibitors listed in CCC-D-950. When coating is treated, treatment shall be limited to inhibitor (a) (solubilized copper 8-quinolinate). Amount of fungicide shall be based on total ave. weight of treated base cloth for base cloth treatment and on nonvolatile content of coating for coating treatment.

c. Oil resistant

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-A-700e (Cont'd) Treatments: a. (1) (2) b. c.	Reverse side of fire resistant treated coated cloth may be flash coated with the same coating compound used on the face.			Intended Use - For use in special installations (a). For use in unusually damp climates (b). For use where exposed to solvents and oil (c).

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pk. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Min	Max		W	F	W	F		W	F				
<u>Bag, Waterproof, Clothing</u> MIL-C-31028 (AL)	Shall be Type V, VI, VII, or VIII; Class 2; water repellent & mildew resistant treated coating quality cotton sheeting, conforming to Spec. CCC-C-432, except that soil burial test for mildew resistance is not required.	Synthetic rubber, pigmented to produce Olive Green 207, except that natural rubber is permissible in the anchor coat. Use of reclaimed rubber is prohibited.	10.0	12.0	40	37	800	640	30	(initial) (after low temp. resistance) 30 (after weather resistance) 30 (after strength of coating) 30 (after solvent resistance) 30	8 8.5 (after heat treatment)	(initial) 8 No. 2 (after water resistance) 6.5				

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-31028	Coated on one side. Coated side dusted with whiting, talc, or other finely divided mineral material that does not support mildew growth to produce a uniform dull finish. To match standard sample in finish. After curing, coated cloth shall be free from pinholes & shall contain no more than 5 windows/lin yd.	Color - Shall be Olive Green No. 107 (base cloth) and Olive Green No. 207 (coating).	(4) Low temperature resistance: "pass" (4.4.2). Water resistance, spray method: "pass" (4.4.5). Water resistance: "pass" (4.4.3). Strength of coating: "pass" (4.4.4). Water resistance (spray absorption method): 20% max. (4.4.4).	Intended Use - For carrying rations, extra clothing, & personal effects that must be protected from moisture. Also as a carrying bag in conjunction with bag, sleeping, arctic & bag, sleeping, mountain. Bag is not constructed to withstand rough use of handling.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cn. Max. Warp (5204)	Bursting Strength Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Min	Max					After Flame sec	Char length inch				
Cloth, Asbestos, Glass, Cotton, Aluminized MIL-C-8240B (USAF)									W F	W F	70°F-40°F			
Type I- 9.2 oz.	Type I: 55% min. asbestos; 18% max. cotton; 27% min. glass. Fill- 2 ply, 1 end asbestos-cotton yarn (Underwriter's grade) & 1 end continuous-filament glass yarn.	Aluminum	11	2	(1)	90	70	(5134)	-	6				No blocking
Type II- 10.0 oz.	Type II: 52% min. asbestos; 16% max. cotton; 31% min. glass. Fill: 3-ply, 1 end asbestos-cotton yarn (Underwriter's grade) & 2 ends continuous-filament glass yarn. Both Types: Warp-100% continuous-filament glass yarns. Weave: 2/1 right twill.	Aluminum	12	2	(1)	90	95	-	6					No blocking

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-8240B Type I Type II	Coating shall be directly adhered to warp face of base cloth by an adhesive. After application, coat shall have a smooth and highly reflective finish.		Cloth shall not crack at low temperatures (4.5.3.1). Flexibility: cloth shall show no signs of cracking (4.5.3.2). Coating shall show no signs of separation from base cloth (4.5.3.3). Metalized coating shall not crack, flake, blister, or peel during or after reflex, exposure to the globe, or the postflex (4.5.3.4). Yarns/ inch: Type I- 60 in the warp; 40 in the fill; Type II- 60 in the warp; 32 in the fill.	Intended Use - In the manufacture of protective clothing used in fire fighting garments.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			(5041)	(5041)		(5100)	(5132)	After Flame sec. Min.	Char length Max. "		W/F	W/F				
Cloth, Coated and Laminated, Chloroprene on Nylon MIL-C-5302B			Min	Max		W	F	W	F		W/F	W/F	70°F	-40°F		
Type I- Single ply, one side coated	Rip-stop nylon, conforming to Spec. MIL-C-7020, Type I, except that specified air permeability, permanence of finish, and oven aging shall not be required.	Suitably compound- ed chloroprene rubber. Coating compound shall not contain ingredients known to promote skin irritations or have a detrimental effect on nylon.	3.00 +0.35		36 + $\frac{1}{2}$	45	45	2.5	2.5	50	(5134)					(5950) 3
Type IA- Single ply, both sides coated			4.00 +0.25		36 + $\frac{1}{2}$	55	55	2.0	1.5	60						3
Type II- Double ply, laminated, one side coated			5.25 +0.4		36 + $\frac{1}{2}$	90	90	4.0	4.0	80						3

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-5302B Type I Type IA Type II	Type I- coated on one side. Type IA- coated on both sides. Type II- 2 layers of base cloth, laminated, and coated on one side.	Color - Types I & II- unless otherwise specified, color shall match Orange Yellow color No. 13538 of Fed. Std. No. 595. Type IA shall be Black and shall match color No. 37038 of Fed. Std. No. 595.	Finished cloth shall not crack or flake when tested at -67 <sup>o</sup> + 2 <sup>o</sup> F. Finished cloth shall not block, become tacky, or show signs of exudation when tested at 170 <sup>o</sup> + 2 <sup>o</sup> F. (4.2.3.1 & 4.2.3.2). Flexibility- "pass" (4.2.3.3).	Intended Use - In the manufacture of anti-exposure coveralls for flying personnel.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength (5122)	Adhesion lb/2" wide (5970)	Block rating (5872)
			Oz / Sq Yd (5041)						After Flame sec. Min.	Char Length Max"				
<u>Cloth, Coated and Laminated, Polychloroprene on Nylon, and Tape, Polychloroprene, Unsupported</u> MIL-C-23926 (NEP) Amd. 1			Min	Max		W	F	W	F	W	F	W	F	70°F - 40°F
Type I- Cloth, coated, rubber, knitted stretch nylon.	Plain jersey circular knit made of stretch nylon yarns. Yarns shall be nylon.	Not less than 60% by volume of polychloroprene. Balance shall be softeners, curing agents, anti-oxidants, and reinforcing materials. Coated shall be natural color or pigmented. Coating compound shall be compatible with base cloth & contain no waxes or other ingredients that may bloom to the surface to adversely affect coating adhesion or cementability. Ingredients of compound shall be water soluble after curing.	-	19.0	(1)	90	45						8	
Type II- Cloth, laminated, rubber, neck and wrist seal.	polyamide of polyhexamethylene adipamide. Tape shall be made of polychloroprene.		-	24.0	(1)	90	45						8	
Type III- Tape, rubber, unsupported. Class 1- Pressure sensitive tape.  Class 2- Non-pressure sensitive tape.					(1)									
Type IV- Cloth, coated, rubber, knitted stretch nylon, uncured, semi-cured.			-	23.0	(1)	90	45						8	

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-23926 Type I Type II Type III Class 1 Class 2 Type IV	After application of a foundation coat which must be compatible with base cloth & remainder of compound, coating compound shall be applied by spreader or calendar coating operation. Coating shall be applied to one surface, side with smooth surface to provide best coating adhesion on Types I & IV, and applied between 2 cloths of Type II. Cloth shall be cured. Cured coating may be lightly dusted with talc or zinc stearate. Type IV cloth shall be uncured or partially cured (1).	Color - Base cloth: dyed (1). Coating: coating shall be natural color or pigmented during compounding so that cured compound and base cloth shall have matching color. Tape (1).	Elongation at break, 2 in. wide strip, Types I, II and IV: 100% min. in the waist; 250% min. in the courses. Coating thickness: Types I & II- 0.012 in. min.; Type IV- 0.016 in. min. Modulus at 75% elongation: Types I & II- load required to maintain 75% elongation on 2 in. wide specimen, in course direction, after specimen has been stretched 150%, shall not exceed 3.0 lb. (4.4.8). Resistance to flexing: Types I and II shall show no tears in coating, no separation of coating from cloth, and no leakage of water (4.4.9). Types I, II & IV shall not crack or leak water after exposure to low temps. (4.4.10). After being stretched to 100% for 16 hours, tension set of Types I, II, and IV shall not exceed 13% when examined 3 hours later (4.4.11). Class 1 tape shall have surface coating of polychloroprene, uncured or partially cured, covered with protective liner; cured side lightly dusted with talc. Class 2 tape: same cure as coated cloth; one side with protective liner; other side dusted with talc.	Intended Use - In the fabrication of insulation garment and continuous-wear anti-exposure coveralls designated as Mark 5.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Min	Max					After Flaming sec. min.	Char length Max. "				
Cloth, Coated; and Tape, Coated Cloth-Chloroprene on Nylon, Pneumatic Life Preserver MIL-C-19002B, Am. 2			Min	Max		W	F		W	F	W	F	70°F	-40°F
Type I- Coated cloth (one side)	Nylon twill conforming to MIL-C-19377 (Aer). For flagging of defects a single thread shall be used that will not increase thickness of cloth in order to maintain uniformity of coating on spreading machine. Marking shall be such that it is visible after coating. Tape shall be cut in bias direction.	At least 60% polychloroprene. Remainder of compound shall be softeners, curin, agents, antioxidants, and reinforcing materials. Pigmented. Compound shall be compatible with base cloth and contain no waxes or other ingredients that may bloom to the surface to adversely affect adhesion and cement-ability of finished cloth. Compound shall be water insoluble after curing. See spec. for table of physical properties of cured compound.	7.0	7.7	(1)	180	170						10 (lb/in)	No. 2
Type II- Coated cloth tape (both sides)			13.3	15.3	(1)	180	170						10 (lb/in)	No. 2
Type III- Coated cloth tape (one side - uncured)			9.3	11.5	1	180	170						10 (lb/in)	No. 2
Type IV- Coated cloth tape (both sides - uncured)			15.6	19.6	1	180	170						10 (lb/in)	No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-19002B Type I Type II Type III	After application of foundation coat compatible with base cloth and compound to produce adhesion, cloth shall be coated by a spread coat operation. No strike through to uncoated side shall be permitted. Tapes: Types II & IV shall be coated on both sides & Type III shall be coated on one side. One side of Type II, the coated side of Type III, and both sides of Type IV shall have a surface coating of high polychloroprene content stock which may be uncured or partially cured (1). Shall be compatible with cured coated cloth and shall be protected by a suitable liner which may be separated without affecting adhesion and cement-ability of tape. Coated cloth shall be cured. Cured coating may be lightly dusted with talc or zinc stearate.	or - Base cloth: base cloth for life preserver shall be dyed. Base cloth for Types II & IV tapes shall be dyed or undyed as specified. Coated cloth: coating shall be suitably pigmented during compounding process so that cured coating and base cloth shall have a uniform color.	(4) Material for acceptance shall have been manufactured no more than 4 weeks before release for shipment. Coating shall not become stiff or brittle or soft and tacky after accelerated aging. Breaking strength shall be no less than 160 lb. in the warp and 125 lb. in the fill. Elongation shall be a min. of 22% (5850 and 5122). After accelerated weathering, breaking strength shall not be less than 155 in the fill and 150 in the warp, and min. elongation shall be 22% (5104). Permeability of coated cloth to hydrogen shall not exceed 5 L/M <sup>2</sup> in 24 hours or its equivalent using helium. Cloth shall show no signs of air leakage at a pressure of 10 lb/in <sup>2</sup> for 5 min. (4,4,5,13). Cloth shall not crack when folded on itself after low temp. (5874).	Intended Use - In the manufacture of components of pneumatic life preservers.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Score (5872)	
			(5041)	(5100)					(5132)	(5512)					After Flame sec min
			Min	Max		W	F	W	F	W	F	70°F	-40°F		
<p><u>Cloth, Coated; and Tape, Rubber Coating on Nylon, For Pneumatic Life Rafts</u> MIL-C-27268 (USAF)</p>															
Type I- Tube fabric, 13.0 oz. max.	3.0 oz. Nylon, MIL-C-19377 (straight). 1.6 oz. Nylon, MIL-C-7020, Type II, (bias); except that silicone oil shall not be used and requirements for permanence and stability of finish shall not apply.	80% min. by volume new plantation rubber. Suitably compounded & properly vulcanized so that max. life under service conditions be obtained. No materials injurious to cloth or water soluble after vulcanization shall be used. No fillers, processes, or any material which would tend to decrease life of the cloth shall be used. Cured in sheet form. See spec. for table of physical properties of compound.	13.0	40 ±1/2	2	300 (initial) 85% 85% (after acc. weathering) 90% 90% (after oxygen aging)							14 (initial) 8 (after air aging)		
Type II- Tape fabric, 7.0 oz. max. (to be cut in bias tape 2" wide)	1.6 oz. Nylon, MIL-C-7020, Type II (see restrictions above).		0.85	2 ±1/8	2	100 (initial) 90% (after oxygen aging)							10 (initial) 7 (after oxygen aging)		
Type III- Floor fabric, 13.0 oz. max.	5.5 oz. Nylon, MIL-C-20696, Type II.		13.0	40 ±1/2	2	335 (initial) 80% 80% (after acc. weathering)		100					18		

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-27268 Type I Type II Type III	Cloth shall be spreader coated, using no fewer than 5 coats/oz. of rubber/sq yd of surface covered. Rubber film shall be divided equally between plies that are doubled together. Cloth shall be cured in a liner of closely woven cloth of high thread count. Soapstone liners shall not be used.	Color - Unless otherwise specified, color of finished cloth and tape shall be Orange-Yellow conforming to color No. 33538 of Fed. Std. 595. Color pigment shall be incorporated in coating compound and shall be permanent for life of cloth. Pigment shall be of fineness to pass through standard 325 mesh screen.	Types I & III: Cloth shall not be tacky after air aging (4.3.2.3). Cloth shall show no blocking (5872). Cloth shall not crack or flake at low temps. (4.3.2.2). Type I: Helium permeability: Initial- 5.0 L/M <sup>2</sup> /24 hrs. max.; After aging: 7.0 L/M <sup>2</sup> /24 hrs. max. Elongation: Initial- 25%; After acc. weathering- 22%; After oxygen aging- 25%.	Intended Use - In the fabrication of pneumatic life rafts. Specifically intended for use in fabrication of Type F-2B, twenty-man, pneumatic life raft. Rubberized floor cloth should be used for all patches or pockets attached to raft.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength lb/2" Dia. (5123)	Adhesion 1/2" wide (5970)	Blocking Scale rating (5872)	
					(5100)	(5132)		After Flame sec min	Char length Max"					
Cloth, Coated, and Webbing, Inflatable Boat and Miscellaneous Use			Min	Max	W	F	W	F	W	F	70°F	-40°F		
MIL-C-17415E (SHIPS) Amd. 1														
Type I- 5.0 oz.	High tenacity, improved heat & light resistant nylon. Heat set and cured. Breaking strength: warp-40; fill-40. Weight: 1.00 oz. (max). pH: 5 - 8.	Synthetic rubber: 60-75% polymerized chloroprene. Tensile strength: 1800 psi (min.) Elongation: 500% min. No materials which would result in a waxy finish or be water soluble shall be used.	4.7	5.6	(1)	50	50	(5134)						Permeability (L. max.) (min.) 5 No. 2
Type II		After being cured and exposed to acc. light shall retain min. 75% tensile strength.												
Class A- 8.5 oz.	Nylon (see above). Weight: 2.5 oz max.		8.0	9.0	(1)				100					5 No. 2
Class B- 6.8 oz.	Breaking strength: W-150; F-140.		6.3	7.8	(1)	180	165	8 8	100					5 No. 2
Class C- 20.5 oz.			19	22	(1)				100					5 No. 2
Type III- 7.6 oz.	Cotton. Singed. Weight: 2.10 oz. max. Breaking strength: warp & fill: 40. pH: 6.5 - 7.6.		7.2	8.0	(1)				100					5 No. 2
Type IV		Natural rubber. 78% (by volume) min. new plantation rubber. See physical & material requirements of synthetic.												
Class A- 15.0 oz.	Cotton. Singed. Weight: 4.5 oz max. Breaking strength: W & F: 80. pH: 6.5 - 7.6.		14.0	15.0	(1)					11.8				5 No. 2
Class B- 10.0 oz	"	Synthetic.	9.5	10.5	(1)					11.8				5 No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-17415E Type I Type II Class A Class B Class C Type III Type IV Class A Class B (Continued)	Base cloth may be treated before coating with an adhesive compound or a dip treatment to insure adhesion of coating compound if desired. Coatings shall be applied by spreader or calender processes.	Color - Base cloth shall be unbleached. Coated cloth unless otherwise specified, color shall be that which naturally evolves as a result of compounding ingredients. Type II, Class B color shall be Sea Rescue Orange or a close match.	Coating shall show no signs of becoming stiff & brittle or soft and tacky after accelerated aging. Loss in tensile strength shall not exceed 15% for cloths coated with natural rubber of 10% for cloths coated with synthetic rubber (5852). Synthetic rubber coating shall not crack when bent after accelerated weathering (see spec. for table of loss of tensile strength) (5804). Cloth shall not crack at low temperatures (5874).	Intended Use - In finished inflatable boats and accessories.



### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale (5872)		
								After Flame sec min	Char length Max "						
Cloth, Coated, Asbestos MIL-C-7637B (ASG)															
			Min	Max	W	F	W	F	W	F	70°F	-40°F			
Type I- Plain	Yarn, with min. asbestos content of 75%. Asbestos made from commercial grade chrysotile asbestos.	Suitably compounded chloroprene polymer.	4.5 lb.	- 36 ±0.5	215	120	17	12	0	0	0	0	260	9	No blocking
Type II- Reinforced with wire	No filling material except organic fiber. Weight: Type I- 29 ± 2 oz/sq yd; Type II- 30 ± 2 oz/sq yd. Yarns/inch: Type I- 20 in the warp & 10 in the fill; Type II: 14 in the warp & fill. Type II: each yarn shall have a single brass wire insert. Wire shall be drawn from alloy conforming to composition B (70% copper, 30% zinc) of Spec. QQ-W-321. Diameter shall be 0.008 ± 0.001 in.	"	4.7 lb.	- 36 ±0.5	165	150	16	12	0	0	0	0	210	9	No blocking

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-7637E Type I Type II	Coating shall be applied & vulcanized on both sides, approximately equal thickness on each side & sufficiently thick to insure nonfraying of asbestos cloth. Surface of coated cloth may have a slightly pebbled grain.	Color - Shall be Black & shall be an approximate match to Shade No. 514 of ANA bulletin No. 157. An inorganic powder which is applied to the surface & which can be removed by rubbing with a damp cloth shall not be cause for rejection.	Thickness: 0.060 - 0.080 in. Coating shall not crack or flake off in low temperatures (5874). Finished coating shall not crack in heat (4.6.3.2).	Intended Use - As fire seals, gaskets, and other applications where a flexible material, highly resistant to elevated temperatures and flame, is required.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			(5041)	(5041)					After Flame sec min	Char length Max"				
			Min	Max		W	F	W	F	W	F	70°F	-40°F	

<u>Cloth, Coated,</u> <u>Asbestos and Cotton,</u> <u>Herringbone Twill,</u> <u>Aluminized</u> MIL-C-82249A	Woven from yarns of blend of asbestos & cotton (Underwriter's Grade). Weight: 18.0-20.5 oz. Yarns/Inch: 33-37 in the Warp; 24-29 in the fill. Weave: 3/1 herringbone twill reversing on 15 ends. Asbestos content: 80% min.	Vacuum deposited aluminum.	-	24.0	(1)	105	78	9	6	1	-	-	-	-	No. 1
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NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-82249A	Coating shall be applied to face of cloth (warp finish side) by means of a suitable adhesive. Resulting film shall have a highly reflective surface and shall be abrasion resistant.		(4) Stiffness, Bending moment: 0.055 in.-lb. max. in warp and fill (5202). There shall be no separation of coating from base cloth (4.4.3). Coating shall not crack at low temps. (4.4.2). Reflectivity after abrasion: No visual discoloration of blotting paper; no evidence of flaking of coating (4.4.1).	Intended Use - In the manufacture of protective clothing for fire-fighters and other heat protective, proximity garments.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
								After Flame length sec min	Char Max"				
<p>Cloth, Coated: Butyl Coated, Toxicological Agents Protective MIL-C-12189D Amd. 1</p>													
<p>Min   Max      W   F      W   F      W   F      W   F      70°F - 40°F</p>													
Type I- Cotton airplane cloth Class 1- Coated both sides	Type I: mercerized cotton airplane cloth conforming to MIL-C-5646 except that length of roll, length of cut, & compatibility with dope shall not apply and cloth shall be ringed. Copper content: 0.003% max. Manganese content: 0.0015% max. Class 2 shall be mildew proofed by application of 2,2' Methylene-bis (4 chlorophenol) to effect a deposition of the inhibitor on the cloth of 1.35 + 0.25% based on weight of treated cloth.	Composition of butyl rubber. No natural rubber, reclaimed rubber, or synthetic rubber other than butyl shall be used.	11.0 13.5	(1)	80 80 (initial) 60 60 (after weatherometer)	20 20  20 20 (after strength of coat.)  20 20 (after cold crack)	140 (initial) 120  120 (after cold crack)			9		5.5	No. 2
Class 2- Coated one side		"	8.0 10.0	(1)	80 80 (initial) 60 60 (after weatherometer)	20 20  20 20 (after strength of coat.)  110 (after cold crack)	140 (initial) 120  110 (after cold crack)			8		5.0	No. 2

(Continued)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-12189 D Type I Class 1 Class 2 (Continued)	Class 1- Compound shall be applied to both sides of cloth, after which cloth shall be fully vulcanized. One side shall have 65-75% of coating; the other side shall have the balance. Coated cloth shall be dusted on both sides with whiting, talc, or other finely divided mineral material which does not support mildew growth. Class 2- Compound shall be applied to one side only. Coated cloth shall then be fully vulcanized. There shall be no striking through of the coating to the uncoated side. Coated cloth shall be dusted on coated side only with whiting, talc, or other finely divided mineral material which does not support mildew growth.	Color - Base cloth: Class 2 shall match OG-107 (3). Coated cloth: Both classes shall match OD-177 (3). Colorfastness - After weatherometer and decontamination (from toxicological agents), color of coated cloth shall not be changed appreciably when compared with an unexposed specimen of the same sample. Standard sample available for shade.	(4-5) Abrasion resistance: no loose fibers shall be exposed in the abraded portion (5302). Solvent resistance: cloth shall not become stiff and brittle or soft and tacky or show other signs of improper vulcanization. Resistance to toxicological agents - minutes min.: Initial- Mustard H: Class 1-100; Class 2-30. GB: Class 1-200; Class 2-30. After weatherometer- Mustard H: Class 1-75; Class 2-30. GB: 150; 30. After decontamination- Mustard H: Class 1-75; Class 2-30. GB: Class 1-150; Class 2-30. Breaking strength after decontamination: Class 1-60 lb. min. in warp and fill. Class 2-60 lb. min. in warp and fill. Coated cloth shall be essentially odorless.	Intended Use - In the fabrication of impermeable clothing affording protection against toxicological agents. Class 2, which affords less protection against penetration of toxicological agents, is for the fabrication of items assembled with unstrapped sewed seams.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (504:)		Width inch	Breaking Strength Lb. Min. (5100)		Tearing Strength Lb. (5132)		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cr. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Min	Max		W	F	W	F		W	F				
<p>Cloth, Coated, Butyl, Polyamide, Nonmelt, Fuel and Oxidizer Resistant</p> <p>MIL-C-38149 (USAF) Nonmelting, high strength polyamide. Melting point: over 800°F. Weave: 2/2 basket. Weight: 0.009 in. max. Yarns/Inch: 64 in. warp and fill. Breaking strength: 185 in warp and fill.</p> <p>Butyl rubber composition. Pigmented.</p> <p>(7) (5134)</p> <p>min. (initial) 75% 75% (after weathering)</p> <p>15 15 3 3 8.25 No. 3</p>																

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-38149	Coating shall be applied evenly to both sides of base cloth, after which cloth shall be fully cured.	Color - Coating shall be pigmented a tan color. Both sides of coated cloth shall match standard shade.	(4) Thickness: 0.017 in max. Abrasion resistance: 300 cycles min. (5306). No visible cracking or flaking after exposure to low temps. (5874). After glow: 20 sec. max. Toxic gas permeability: Fuel - 0.01 mg/in <sup>2</sup> (max. leakage) (4.6.5). Oxidizer - 0.01 mg/in <sup>2</sup> (max. leakage) (4.6.5). Coated cloth shall be essentially odorless (4.5.2).	Intended Use - In the fabrication of missile fueler's protective clothing.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (59C3)		Flexibility Cm. Max. Warp (5204)	Bursting Strength	Adhesion lb/2" wide	Blocking Scale rating
					Lb. Min. (5100)	Lb. (5132)		After Flame sec min	Char length Max" (5122)		Pts. Min. (5122)	5970	5872
Cloth, Coated, Butyl Rubber MIL-C-13621 (Calc)	Single ply, uniform evenly woven silk or nylon.	Butyl rubber (GR-I). No natural, or synthetic rubber other than GR-I shall be used. Talc shall be used to prevent adhesion in rolls of uncured cloth and to produce dull gloss surface during cure. Talc shall be used to prevent adhesion in rolls of cured cloth when packaged.	- 3.2 (exclusive of weight of talc)		W   F	W   F	No leakage up to 20 psi (after decontamination)	W   F	W   F	70°F	-40°F		

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-13621	Some amount of compound shall be applied to both sides of base cloth. Surfaces of coated cloth shall be smooth, uniform, and free of breaks, blisters, wrinkles, holes, torn selvage or damage.	Color (1).	Thickness: 0.003 - 0.005 in. Liquid mustard resistance: Initial - 10 min.; after sec. aging - 10 min. (min.); after decontamination - 10 min. (min.) Coated cloth shall be essentially odorless. Coated cloth shall not be tacky before or after aging and decontamination. Resistance to other vesicant agents (1).	Intended Use - As a diaphragm material in optical gas mask diaphragm engletubes.

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength 1/4" Dia. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)					
			Min	Max					After Flame sec	Char length Max"					W/F	W/F	70°F	-40°F	
Cloth, Coated (Chloroprene Base Coated, Chlorosulphated Polyethylene Top Coated) MIL-C-43285A (GL)																			
Type I- Cloth, Polyester	Polyester conforming to Type I of MIL-C-43286.	Black base coating & green & white undercoating shall be chloroprene rubber plasticized only with phthalate or phosphate ester plasticizers. Pigmented. An organic isocyanate may be added to black base coating to achieve required adhesion.	13.0	15.0	(1)	160	160	3500	3000	200	3	3	4.5	4.5	13	20	16	No. 2	
Class 1- Olive Green face, Black back.									(a)	(a)							(dry)		
Class 2- White face, Black back.									(grams)								(wet)	No. 2	
Class 3- Olive Green face, White back.			15.0	18.5	(1)	160	160	3500	3000	200	3	3	4.5	4.5	13	20	"	No. 2	
Type II- Cloth, Nylon	Nylon conforming to Type II of MIL-C-43286.	Green and white top coating shall be chlorosulphated polyethylene plasticized only with phthalate & phosphate ester plasticizers. Pigmented.	13.0	16.0	(1)	275	275	10000	10000	200								16	No. 2
Class 1- Olive Green face, Black back.									(a)	(a)							(dry)		
Class 2- White face, Black back.			13.0	16.0	(1)	275	275	10000	10000	200							(wet)	No. 2	
Class 3- Olive Green face, White back.			16.0	20.0	(1)	275	275	10000	10000	200							"	No. 2	

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-43285A Type I Class 1 Class 2 Class 3 Type II Class 1 Class 2 Class 3	Class 1 cloth shall be coated in the sequence: (a)Each side coated with 2+.25 oz/sq yd of black base coating. (b)Face side coated with 2.7+.5 oz/sq yd of green undercoating. (c)Face side top coated with 2.25+.5 oz/sq yd of green top coating. Class 2 cloth shall be coated in the sequence: (a)Each side coated with 2+.25 oz/sq yd of black base coating. (b)Face side coated with 2.7+.5 oz/sq yd of white undercoating. (c)Face side top coated with 2.25+.5, -.25 oz/sq yd white top coat. Class 3 shall be coated in the sequence: (a)Each side coated with 2+.25 oz/sq yd of black base. (b)Face coated with 2.7+.5 oz/sq yd of green undercoating. (Continued)	Color - Black base coat shall be pigmented to suitable shade of black. Green undercoating shall be pigmented to match Olive Green 207. White undercoating shall be pigmented to match color number 37875 of Fed. Std. 595. Green top coating shall be pigmented to match Olive Green 207. White top coating shall be pigmented to match color number 37875 of Fed. Std. 595. Standard samples available for all shades (3).	(4-5) (a)See spec. for requirements after testing. Coated cloth shall not become stiff, brittle, soft, or tacky, and there shall be no cracking or crazing when flat or folded sharply on itself by hand, face out, after acc. weathering. In addition, there shall be no appreciable change of color or exudation of plasticizer. (4.4.1.2).	Intended Use - In the manufacture of air supported shelter tents. Air supported shelter is constructed with 2 layers as follows: Class 1 cloth is used for the outer layer, and the Olive Green coated side of the cloth is exposed on the outside of the shelter. Class 2 cloth is used for the inner layer and the white coated side of the cloth is exposed on the inside of the shelter. Class 3 cloth is used for end closure areas.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			(5041)	(5041)					After Flame sec min	Char length Max" (5122)				
Cloth, Coated, Cotton (Creped, Phenolic Resin Treated) MIL-C-3154	Cotton sheeting (40"-3.75-48 x 40 grey goods)	Thermosetting phenolic resin	Min	Max		W	F	W	F	W	F	W	F	70°F-40°F

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-3154	Creped after resin treatment to increase number of picks & ends per inch not less than 15% of original construction of untreated cloth.	Color (1).	Resin content: Rolls-43 ± 2%; individual test specimens: 43 ± 5% (4.4.2). Volatile content: 6-7% ave. (4.5).	Intended Use - In the fabrication of ogives for certain types of fuses.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5972)	
			Min	Max		W	F	W	F		W	F					W
Cloth, Coated, Cotton, Resin Modified Butyl Coated, Acid and Fuel Resistant MIL-C-43062A	Mercerized cotton airplane cloth conforming to MIL-C-5646. Cloth shall not contain more than 0.003% copper and 0.0015% manganese.	Resin modified butyl rubber. Pigmented.	10.0	11.0	80	80	960	960	80	(grams) (initial) 60 (after strength of coat) 60 (after cold crack)	80	After Flame length sec min	Char length Max"	7.5	8.0	7	No. 1

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-43062A	Base cloth shall be coated on both sides. Approximately 25% of coating shall be applied to one side & the balance to the other side. After coating, cloth shall be dusted on both sides with whiting, talc, or other finely divided mineral material which does not support mildew growth to produce a dull, uniform finish.	Color - Coating compound shall be pigmented Black.	(4-5) Nitric acid surface tack, rating: No. II (4.4.5.5). Abrasion resistance: no visible loose fibers of base cloth shall be exposed in center 1 in. of abraded portion (4.4.3). Fuel resistance: no cracking, stiffening, flaking, or separation of coating from base cloth (4.3.2). Cloth shall not become soft and tacky or stiff and brittle after acc. weathering (4.4.4). Acid resistance: no evidence of cracking, stiffening, flaking, separation of coating from base cloth or change in color of indicator paper (4.4.5.3). Vulcanized coated cloth shall be free of objectionable odor. Odors normally attributed to modified butyl rubber shall not be regarded as objectionable. (4.4.6).	Intended Use - For the manufacture of protective clothing which is resistant to rocket fuels and oxidizers and suitable for use at low temperatures. Protective clothing shall be assembled using vulcanized coated cloth and vulcanized after assembly of clothing.



### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Acheson lb/2" wide (5970)	Blocking Scale rating (5872)
			Min	Max					After Flame sec	Char length Max"				
Cloth, Coated, Cotton, Twill Weave, 1 Side Vinyl Resin Coated MIL-C-7642 (USAF) Amd. 2									W	F	W	F	70°F	-40°F
Type I- Aluminum color coating	Greige undyed cotton twill, mapped on one side. Weave: 3/1	Vinyl resin compounded with pigments.	14.0	16.0	(1)	130	90	(5134) 6 6						No blocking
Type II- Olive drab color coating	right hand twill with 2 warp ends weaving as 1.		14.0	16.0	(1)	130	90	6 6						No blocking

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-7642 Type I Type II	Coating shall be applied to unmapped side. Use of dyestuffs, detergents, or other chemicals or finishing agents which would cause deterioration in storage or dermatitis on prolonged intimate skin contact is prohibited. pH: 6.0 - 8.0 (8.1).	Color - Type I: Aluminum (to produce bright reflectance, equal to standard sample). Type II: Olive Drab (to match shade 34087 of Fed. Std. 595).	Coating shall not crack or become soft or tacky in the presence of aromatic hydrocarbon (4.5.3). Min. 2000 wear cycles shall be required to wear 1/16 in. hole in coating (5306). Coating shall not crack or break (4.5.2). Cloth shall contain no materials or impurities that would cause crazing or discoloration of transparent molded plastic sheet. Cloth shall show no signs of cracking or blooming and shall lose not more than 10% of breaking strength after accelerated weathering (4.5.5). Tolerance + 3/4" on 36" or less width. Tolerance + 1 1/2" greater than 36".	Intended Use - In the fabrication of covers for molded plastic parts such as aircraft turrets, canopies, and equipage items.

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength		Tearing Strength		Hydrostatic Pressure High (3312)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (3204)	Bursting Strength lb/2" Dia. Min. (5122)	Adhesion wide (5970)	Blocking Scale rating (5872)		
			Min	Max		W	F	W	F		W	F					W	F
Cloth, Coated, Cotton, Vinyl Chloride or Chloroprene Coated MIL-C-43410	Cotton silesia conforming to Type I of MIL-C-325. Requirement for seam efficiency shall not apply. Cloth to be coated with chloroprene rubber shall have a copper content of not more than 0.003% and a manganese content of not more than 0.0015%. pH: not less than 5.5.	Polymerized or copolymerized virgin vinyl chloride resin or chloroprene rubber. Vinyl compounds shall be plasticized with phosphate or phthalate ester plasticizers exclusively. All compounds shall be pigmented. Chlorinated paraffins and polychlorinated polyphenyls may be used as flame inhibitors. Use of water soluble ingredients and reclaimed rubber is prohibited.	12.0	14.0	(1)	50	50	480	480	40	2 2	3.5	3.5	12	15	8	No. 2	
											(G <sup>2</sup> )							
											(initial)							
											2 2		5.0		5.0			
											(after acc. weathering)							

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-43410	Cloth shall be coated on both sides. One side shall be coated with no more of coating compound than is necessary to meet water absorption requirement. Remainder shall be used on the other side. Coated cloth shall be fused or vulcanized as applicable. When chloroprene rubber is used, coated cloth shall be dusted on both sides with whiting, talc, or other finely divided mineral matter that does not support mildew growth.	Color - Base cloth: color shall be natural. Coated cloth: color shall be GG-207. Standard sample available (3).	(4) Coating shall show no indications of cracking, flaking, or separation from base cloth after acc. weathering. Chloroprene coated cloth shall not become soft and tacky or stiff and brittle after acc. aging (5852). Water absorption of both types: 1% max (5504).	Intended Use - In the manufacture of clothing to be used by fire fighting personnel.

## COATED CLOTHS

NO. & ENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width inch	Breaking Strength		Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility	Bursting Strength	Adhesion	Blocking				
			Oz/Sq Yd	(5041)		Lb. Min.	(5100)			Lb.	(5132)					High	After	Char	Warp
Cloth, Coated, Cotton, Vinyl Coated, Fire and Mildew Resistant MIL-C-10799 F And. 1			Min	Max		W	F	W	F	W	F	70°F	40°F						
Type I- Coated cloth																			
Class 1- Plain weave 7.0-8.5 oz			Plain weave cotton, 4 1/2 oz., MIL-C-9231 Type I.		7.0	8.5	(1)	80	80	2	2			6	No. 2				
Class 3 - Twill weave 14.0-16.0 oz (one side coated)			Twill weave cotton 9,000		14.0	16.0	(1)	130	90	6	6			6	No. 3				
Type II- Coated duck (both sides coated)																			
Class 1- Army duck, cotton, 15.5-16.5 oz			Cotton army duck, 9.85 oz., CCC-C-419, Type III.		15.5	18.5	(1)	160	110	75	60	2	2	3.5	3.5	13	16	6	No. 3
Class 3- Army duck, cotton, 12.0-15.0 oz			Cotton army duck, 8.25 oz., CCC-C-419, Type III.	Other shades: Same requirements as for Olive drab shades, but only phosphate & phthalate ester plasticizers shall be used when base cloth is treated with inhibitor (a) specified in CCC-D-950. (6)	12.0	15.0	(1)	125	120	3	3	2	2	3.5	3.5			6	No. 3
Class 4- Army duck, cotton, 18.0-21.0 oz			Cotton army duck, 12.29 oz., CCC-C-419, Type III.		18.0	21.0	(1)	210	130	5	5	2	2	3.5	3.5			8	No. 3
Class 5- Army duck, cotton, 22.0-25.0 oz			Cotton army duck, 14.77 oz., CCC-C-419, Type III		22.0	25.0	(1)	235	175	5	5	2	2	3.5	3.5			8	No. 3
			Type I, Class 3, vinyl resin coated; pigmented																

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-10799 F Type I Class 1 Class 3 Type II Class 1 Class 3 Class 4 Class 5	Either base cloth or coating compound shall be treated with solubilized copper-8-quinolinolate evenly dispersed, to deposit min. 0.18% copper as metal from copper-8-quinolinolate to max. 0.23% copper as metal from copper-8-quinolinolate. Amount of fungicide shall be based on total ave. weight of treated base cloth or on non-volatile content of coating (whichever is treated). This treatment can only be used for shades other than Olive drab when supplier can, in so doing, meet requirements for color and colorfastness. If copper-8-quinolinolate is not used as inhibitor, cloth prior to coating shall be treated with inhibitor (a) of CCC-D-950. Back shall be coated only enough to meet requirements for water absorption. Calender coating with preformed film not permitted.	Color (1) - Shall match applicable color number of Fed. Std. No. 595 or shall match the approved color standard for color specified (3). Aluminized coating where required shall contain sufficient aluminized pigment to produce a bright reflecting surface equal to the standard sample. Type I, Class 3; shall not contain any materials or impurities which will cause crazing or discoloration of transparent molded plastic sheet.	(4-5) Hydrostatic resistance after abrasion: seepage of water shall not exceed 5 ml. through abraded portion. Unabraded portion shall show no signs of leakage. Cloth shall show no cracking, flaking, or separation of coating from cloth at low temperatures. After immersion in aromatic fuel, cloth shall show no cracking, flaking, or separation of coating from cloth, and when subjected to static head of 20 in. of water for 10 min., seepage shall not exceed 5 ml. Type II cloth shall show no seepage of oil through cloth. After weatherometer exposure, cloth shall show no cracking or crazing when folded sharply on itself. Color shall not be appreciably changed. Type II: resistance to water absorption: 5% max. Type II, Class 1: "good" resistance to wet and dry cracking.	Intended Use - Type I: in the manufacture of airplane wing covers, engine covers, shelters, and items having similar applications. Type II: in the insulated frame-type tent, recognition panels and for covers where water, oil, and gasoline-proof material is required; also for carrying cases for life rafts, life-aft equipment and similar items.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)	
			(5041)	(5041)		(5100)	(5100)			(532)	(532)					After Flame sec. min.
			Min	Max		W	F	W	F	W	F	W	F	70°F	-40°F	
Cloth, Coated, Fire Resistant, Berth and Bedding Cover MIL-C-15104C (SHIPS) Amd. 1																
Type I-Submarine berths	Flame and mildew resistant cotton.	Noninflammable. Shall render finished cloth soft & pliable, shall be non-irritating to the skin, and shall not produce toxic products of combustion.	24	26	54	140	100	54	100	No leakage up to 100 psi	2 2 3 3	2 2 3 3	2 2 3 3	2 2 3 3	4	No. 2
Type II- Bedding covers	"	"	14	18	50	135	100	54	100	No leakage up to 100 psi	2 2 3 3	2 2 3 3	2 2 3 3	2 2 3 3	-	No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-15104C Type I Type II	Texture of Type I to equal that of standard sample. Texture shall be like that of smooth finished, top grain upholstery leather.	Color - Type I: Light Green equal to standard sample. Type II: Coating shall be like that of smooth Green 14062 of Fed. Std. No. 595.	Coating shall not crack at low temperatures (4.4.4). Coating shall not be visibly affected by salt water (4.4.5). Cloth shall show no discoloration or embrittlement in light aging (5660). Mildew resistance: after water extraction and scrubbing, there shall be no mildew growth. Breaking strength shall not decrease more than 15%. There shall be no evidence of blooming, mottling, or discoloration after heat aging. Volatility: loss of weight of coated cloth not to exceed 8%. Plasticizer extraction not to exceed 10% of weight of coated cloth. Flexibility: Type I - soft and pliable for handling and sewing. Shall not crack after heat & light. Type II: Coating shall not crack down to base cloth (4.4.1). Type I: Abrasion resistance - pattern of coating shall not be obliterated after 5000 double rubs. Abraded specimen shall show no leakage. Resistance to gasoline and oil.	Intended Use - For submarine bunk covers and bedding covers.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength	Adhesion lb/2" wide	Blocking Scale	
					Lb. Min. (5100)	Lb. (5132)		After Flame sec min	Char length Max" (5122)		Pts. Min. (5970)	Scale (5872)		
Cloth, Coated; Fire, Water, Mildew and Weather Resistant MIL-C-22524A (SHIPS) Amd. 1			Min	Max	W	F	W	F	W	F	70°F	-40°F		
Class 1- 12±10% oz.	Nylon	Of a character that finished cloth will be suitably resistant to fire, water, mildew & will not deteriorate when used outdoors. It shall not be hygroscopic or cause dermatitis when cloth to which it has been applied is handled. Finished cloth shall not exert any corrosive action on metallic grommets.	12±10%	(1)	180	166	7	6	250	5	5	5	12	No. 2
Class 2- 15±10% oz.	"		15±10%	(1)	300	260	12	10	250	5	5	5	12	No. 2
Class 3- 18±10% oz.	"		18±10%	(1)	300	300	30	25	250	5	5	5	12	No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-22524A Class 1 Class 2 Class 3		Color (1). Colorfastness- "Fair" to light (5660).	Mildew resistance: cloth shall show no more than traces of surface growth and lose no more than 15% of strength due to mildew attack. Cloth shall show the same water resistance after weathering, and the same flame and mildew resistance after weathering and water leaching. No cracking or flaking at low temps. initially and after weathering (5874). Flexibility: bending moment of 0.0300 in-lb. max. initially; of 0.350 in-lb. after heat aging; and of 0.1000 in-lb. max. after exposure to low temp. (5202-5870). Shrinkage: 3% in each direction after heat aging (5870). Cloth shall not lose more than 25% of breaking and tearing strength after weathering. No cracking or flaking of coating after exposure to ozone (4.4.1).	Intended Use - In the manufacture of various covers and awning providing protection under varying climactic conditions during prolonged outdoor use.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength (lb/2" wide) (5122)	Adhesion (5970)	Blocking Scale rating (5872)
			Min	Max					After Flame length sec min	Char Consume Max"				
Cloth, Coated (For Aircraft Protectors) MIL-C-19524 (AER) Amd. 2	Base cloth shall have fiber, weave and construction appropriate to coated cloth requirements.	Suitably compound- ed polymer or co- polymer ethylene resins.	4.0	9.0	36 ±1	(5102) 65 65	(5132) 15 15	(5514) 16 hours	(5910) 1 min. (min) to consume		70°F -40°F	200		

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-19524	Coating shall be applied to both surfaces.	Color (1).	Cloth shall be nonirritating to skin. Odor shall not be obnoxious. Strength across seam shall be not less than 75 lb. Coating shall not separate from base cloth, flake, delaminate, or form bubbles or craters (4.5.4). Ice-repellent properties (4.5.5). Mildew resistance: cloth shall not lose more than 10% of breaking strength (4.5.6). After exposure to lubricating oil and hydraulic fluids, cloth shall show no loss of water resistance, nor more than 10% loss of breaking strength (4.5.7). After exposure to ultra-violet radiation, cloth shall not lose more than 25% of breaking strength, shall show no embrittlement, delamination or other defects, and shall not cause deleterious effects to painted surfaces. Cloth shall not crack, delaminate, or develop pinholes at low temps. (4.5.9) or rupture or tear (4.5.10). Cloth shall separate readily and not rupture or delaminate at high temp. (4.5.11). No embrittlement, delamination, lessening of ice-repellent properties or other effects after acc. aging (4.5.12).	Intended Use - In the manufacture of protectors (covers) to be used to cover aircraft parts (wings, tail groups, helicopter rotor parts, etc.) in a standby condition, which are exposed to adverse weather conditions of ice, snow, frost, etc.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Score rating (5872)
					(5100)	(5132)		After Flame sec min	Char length Max"				
Cloth, Coated, Glass, Aluminum Face, Silicone Rubber Back MIL-C-27347 (USAF)													Min Max W F W F W F W F 70°F -40°F

100% continuous filament glass yarns. Weight: 3.5/0.5 oz. Thickness: 0.009 in. max. Weave: Crowfoot satin. Yarns/Inch: 64 in the warp; 60 in the fill. Breaking strength: 130 lb. in the warp; 90 lb. in the fill.

(5234)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (No Specification Requirements)
MIL-C-27347	Base cloth shall be evenly and uniformly coated on one surface with silicone rubber. On opposite surface shall be a highly reflective layer of aluminum, directly adhered to warp face by means of a curable, highly flexible, solvent resistant adhesive bonding composition.		Neither coating shall show evidence of cracking, stiffening, flaking, or separation in cold crack (4.6.1.1). Thickness: 0.015 / 0.0015 in. There shall be no evidence of blocking (5872). Stiffness: 0.0130 in-lb max. (5202). Thermal radiation resistance: no direct thermal transmission; no visible damage; no visible light transmission (4.6.1.2). Flame resistance: Flame time - 10 sec. max.; Glow time - 2 sec. max. (5202).	Intended Use - As a thermal curtain to protect personnel and equipment while exposed to high intensity thermal radiation for a brief period of time.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Lb/2" Min. (5122)	Adhesion wide (5970)	Blocking Scale rating (5872)	
			Min	Max		W	F	W	F		W	F					W
Cloth, Coated, Glass, Chloro- prene Coated MIL-C-8225	Glass cloth con- forming to Class C, form 4, Fiber D, Cloth No. 116 of MIL-Y-1140.	Chloroprene rub- ber, plasticized. Pigmented.	24.0 28.0	38 min.	120 120	2700 1100	250 (initial) 200 (after weather- ometer)	250 (initial) 200 (after weather- ometer)	250 (initial) 200 (after weather- ometer)	250 (initial) 200 (after weather- ometer)	250 (initial) 200 (after weather- ometer)	250 (initial) 200 (after weather- ometer)	250 (initial) 200 (after weather- ometer)	250 (initial) 200 (after weather- ometer)	250 (initial) 200 (after weather- ometer)	250 (initial) 200 (after weather- ometer)	5 No. 3

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-82254	Compound shall be applied equally & uni- formly to both sides of cloth. Coated cloth shall be cured. After vulcanizing, cloth shall be dusted with whiting, talc, other finely divided mineral material which does not support mildew growth.	Color - Coated cloth shall match Black Number 27038 of Fed. Std. 595 or shall match approved color, standard (3).	(4) Thickness: 0.022-0.026 in. Selvage edges may be trimmed, provided cloth meets speci- fied width.	Intended Use - In the manufacture of protective coverings and items having similar uses. Cloth is not intended for use in wearing app- arel or other items which may come in frequent or prolonged intimate contact with skin.



### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz./Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max Warp (5204)	Bursting Strength Pt. Min (5122)	Adhesion 1/2" wide (5970)	Blocking Scale rating (5872)	
			Min	Max					A*ter Flame sec min	Char length Max"					W
Cloth, Coated, Glass, Silicone Rubber-Coated MIL-C-10797B (GL) Amd. 1	Glass cloth conforming to Class C, Form 4, Cloth No. 128 of MIL-Y-1140.	Composition of a silicone rubber suitable compound. Pigmented.	18.0	21.0	36	140	120	6000	6000	180	13	13	11.5	12.5	No. 3
						min. (5102)		(grams)	(initial)				(75°F)	(-60°F)	
										170	13				(after acc. weather.)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-10797B Amd. 1 (GL)	Cloth shall be coated on both sides with equal amounts of compound. Coated cloth shall be vulcanized.	Color - Color of coated cloth shall be Olive Drab 209. Standard sample available (3).	(4) Stiffness after heat stability: 15.0 cm. Abrasion resistance: coating shall not be worn through to base cloth (4.4.2).	Intended Use - In the manufacture of stovepipe shields for tentage.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cr. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Min	Max					After: Flame length sec min	Char length Max"				
Cloth, Coated, Glass, Vinyl Coated, Fuel and Flame Resistant MIL-C-22787 (SA) Amd. 1	Cloth, glass conforming to Class C, for 4, Fiber D, cloth B. 126 of MIL-Y-1140.	Flexible high-polymer vinyl resin. Flame resistant. Pigmented.	11	14	30	205	185	200 (initial) 200 (after cold crack) 200 (after heat aging)	2	2	3	3	12	No. 3

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-22787	Base cloth shall be impregnated with coating, applied equally and uniformly to both sides.	Color-Coating shall be pigmented to match Green No. 34079 of Fed. Std. 595.	(4) Thickness: 0.02 in. max. Shall not become soft, tacky, stiff or brittle after ecc. Weathering (5804). Cloth shall not curl, become stiff, or crack on bending after exposure to hydrocarbon test fluid or hydraulic oil (4.5.1-4.5.2).	Intended Use - As a covering for datechable compartments.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			(5041)	(5100)					(5132)	After Flame length sec. min.				

Cloth, Coated (Neoprene, Asbestos, Glass, Cotton; Aluminized)	MIL-C-21890 (NAVY)	Warp: 100% continuous filament glass fiber. Filling: 2-ply; one end of asbestos-cotton blend (Underwriter's Grade); one end of continuous filament glass fiber. Weight: 11.8 oz max. Weave: 2/1 right twill. Yarns/inch: 60 in the warp; 38 in the fill. Breaking strength: 90 lb. in the warp; 70 lb. in the fill. Tearing strength: 6 lb. in the fill. Fiber content: 55% asbestos; 27% glass 18% cotton.	Black neoprene rubber with flameproofing additives. Pure aluminum.	- 19.0 (1) 90 70	30 2 2 1.5 1.5 (initial) 25 (after stretching)	W F W F W F W F	70°F -40°F
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NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-21890	Neoprene coating applied to back of cloth. Coated cloth shall be fully vulcanized. No strike through of coating to uncoated side. Cloth may be dusted on coated side to prevent blocking. Weight of coating: 16.0 oz/sq yd max. Aluminum coating shall be applied to cloth face to produce smooth, highly reflective surface. Aluminum film shall not crack, flake, blister, or peel during or after preflex, exposure to the globar, or postflex (4.4.2). Cloth may be untreated for not more than 1/2 in. from each selvage edge.	Color - Neoprene coating shall be Black. Aluminum surface shall match Navy shade aluminum 3900.	(4) There shall be no evidence of cracking on either side after exposure to low temps. (5874). No blocking on either side; no visible loss of reflectance on aluminum side at high temps. (5872). Neoprene coating shall not tear or delaminate (5872). Aluminum coating shall not separate from base cloth (4.4.3). Flexibility: no cracks or separations on either side (4.4.1).	Intended Use - In the manufacture or protective clothing for fire fighters' outfits and other heat protective, proximity garments.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz Sq Yd		Width inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cr. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Score (5872)	
			(5041)	(5041)		(5100)	(5100)	(532)	(532)		After Flame length sec. Min.	Char length Max. (5204)					
Cloth, Coated; Non-Slip Table Covering MIL-C-19635 (CG) Amd. 1			Min	Max		W	F	W	F		W	F	W	F	70°F	-40°F	
			1.06	1.09		25	25										
Osenaburg, plain weave. Yarns/inch: 32 in the warp; 24 in the fill.			Chemically-blown sponge rubber of natural or synthetic rubber or a compound thereof. Neoprene coating .005 - .010 in thickness. 3-coat application is normally needed to achieve thickness. Rubber shall be of a soft, flame resistant quality, with an adhesive bond or surface, homogeneous in character and free from any defect which may affect its appearance or impair its serviceability.														

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-19635	Undersurface shall consist of a layer of sponge rubber. One fold of cloth shall be firmly imbedded & keyed to rubber layer, but shall not show through at any point. Exposed side of cloth backing shall be finished with neoprene coating to form the upper surface of the cloth. Neoprene coating shall permit the imprint of the backing cloth to show and produce a somewhat rough, slip-resistant effect. Neoprene surface shall be non-porous and shall have a continuous skin free from blow holes. It shall be sufficiently non-slip to hold table-wear in place at an angle of 35°. Rubber under side shall be capable of adhering to the surface of a table without the use of clips, etc., at a 35° angle. Neoprene surface shall be capable of being cleaned with soap, water & bristle brush of stains of coffee, ketchup, egg, butter, and other commonly used foods.	Color - Upper surface: unless otherwise specified, neoprene coated upper surface shall be Green to match Color No. 14260 of Fed. Std. No. 595. Under surface: unless otherwise specified, color of sponge rubber under surface may be at the option of the manufacturer.	Rubber shall be free from objectionable odor under ordinary service conditions. Cloth shall not become sticky or crack when bent back on itself after aging. Cloth shall be flame resistant. Cloth shall be capable of being rolled or folded for storage without cracking or delamination. Table covering shall show no evidence of separation into distinct layers or laminations when subjected to ordinary usage.	Intended Use - To be placed directly on standard mess tables during rough weather, to retain dishes and miscellaneous table-wear in place without the use of fiddle boards. It is not intended to be used as a matting underlay for other types of table covers used in normal weather.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm Max Warp (5204)	Bursting Strength	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
					Lb. Min. (5100)	Lb. (5132)		After Flame	Char length Max		Pts Min. (5122)		
			Min	Max	W	F	W	F	W	F	70°F	-40°F	
Cloth, Coated, Nylon, Burn # Coated, 1 Side MIL-C-8135A (UBAF)													
Nylon: polyamide from hexamethylene diamine & adipic acid or its derivatives. Melting pt: 482° / 10°F. Weave: plain (1/1). Weight: 7.25 oz/yd <sup>2</sup> max. Yarn ply: 2x2. Turns/Inch: 60 in the warp; 45 in the fill. Breaking strength: 325 in the warp; 275 in the fill. Tearing strength: 20 in the warp and fill. Shrinkage: 2% max. in warp & fill.			Buna N synthetic rubber.		-	12.7	38	450	350	20	20		12 No blocking

NOMENCLATURE	COATING	SHADE AND COLOR FASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-8135A	(6) Cloth shall be evenly & entirely coated on 1 side. pH: 5.0 - 9.0 (2811).	Color - Base cloth shall be natural in color, unless otherwise specified. Color of coating shall be Black.	Thickness: 0.0155/0.0015 in. Elongation: 35% min. in the warp; 30% min. in the fill. Cloth shall not crack or flake at low temperatures (4.3.2.4). Cloth shall show no tackiness, blistering, or softening at high temperatures (4.3.2.5). Cloth shall retain 95% min. of breaking strength after accelerated aging & coating shall show no signs of blooming, blistering or cracking (5804). Cloth shall show no signs of leakage through unabrased portion and not more than 5 ml. of water shall pass through abraded portion (4.3.2.6).	Intended Use - In the manufacture of survival containers.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Crn. Max. Warp (5204)	Bursting Strength Pts. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)	
			Min	Max					After Flame length sec. min	Char length Max"					W F
Cloth, Coated, Nylon. Chloroprene-Coated MIL-C-26712A (ASG) Am. 1	210 den., 4-ply or 240 den., singles, continuous filament, high tenacity nylon polyamide of poly-hexamethylene adipamide. It shall have a melting point of 432°±10°F. Weight: 8.50 oz. max. Yarns/inch: 3 <sup>h</sup> in the warp; 30 in the fill. Breaking strength: 425 in the warp; 375 in the fill. Weave: plain.	Not less than 60% chloroprene by volume. Balance shall be softeners, curing agents, anti-oxidants, & reinforcing materials. Pigmented in compounding process. Pigment shall contain no waxes or other ingredients that may bloom to the surface and adversely affect coating adhesion and cementability. Coating shall not contain any ingredients known to promote skin irritation or to have detrimental effect on nylon.	41.0	±1.5	(1)	575	525	(initial)	90%	90%		10	(initial)	3	(after aging)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-26712A	Coating shall be applied equally to both sides of cloth.	Color - Unless otherwise specified, color of finished cloth shall be Black.	Thickness: 0.045±0.003 in. No blocking (5872). Cloth shall not crack at low temps. (4.3.2.3).	Intended Use - In aircraft pneumatic lifting bags.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (504)	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flammability Cm. Max. Warp (5224)	Bursting Strength Ph. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
					Lb. Min. (5100)	Lb. (5132)		After Flame length sec. Min.	Char Max.				
Min   Max      W   F      W   F      W   F      W   F      70°F - 40°F													
Cloth, Coated, Nylon, Copolymer of Butadiene and Acry- lonitrile (Rubber) MIL-C-22916 (MC)	Nylon 66 (polyhex- amethylene adip- amide). W: semi- dull, 40 den., 13 filament. F: bright 70 den., 34 fila- ment. Relaxed fill- ing yarn mandatory in order to mini- mize pin taper barre. Weight: 1.4-1.6 oz. Yarns/ Inch: 116 W; 76F. Breaking Strength: 50. Weave: 2/1 right twill. Sel- vages composed of 34 L ends, weav- ing 2 as 1. Heat shrunk & dyed. Shrinkage: 2% max. W, 1% max. F.	Rubber copolymer of butadiene and acrylonitrile, plasticized with phosphate of ph- thalate ester plasticizers. Pigmented.	- 4.8 (1)    50    50    17    17    65 (see spec. for requirements after testing)										No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-22916	Cloth shall be coated on reverse side only and then cured. Uni- form finish. Coated side shall be dusted with a micaceous talc of 90/100 mesh to prevent blocking. Reverse side shall be side with the twill line running up from right to left. No strike through of coating to ur- coated side of cloth.	Color - Base cloth: cloth shall be dyed with special nylon dyes or other dyes that will show no more stri- ction in finished coated cloth than standard sample. Cloth shall match standard sample Green 2200 (3). Coated cloth: cloth shall match standard shade sample Green 2200 in luster and color (3). Colorfastness - Uncoated side shall be equal to standard coated sample.	(4) All selvages shall be trimmed from coated cloth.	Intended Use - In the manufacture of rainwear.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)		Width Inch (1)	Breaking Strength Lb. Min. (5100)		Tearing Strength Lb. (5132)		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cr. Max. Werp (5204)	Bursting Strength P <sub>min</sub> (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5172)
			Min	Max		W	F	W	F		After Flame sec min	Char length Max"				
Cloth, Coated, Nylon, Polyurethane Coated MIL-C-43473A	1.06 oz/sq yd; rip-stop nylon	Composition of polyurethane suitably compounded and pigmented to meet the requirements herein. If the polyurethane is plasticized only phthalate or phosphate ester plasticizers shall be used.	2.50	3.25	(1)	50	50	700	900	80					7.0	2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-43473A	Coating cloth shall be coated on one side only with coating specified in specification and shall conform to all the requirements of specification. A suitable water repellent finish shall be applied to the coated cloth to insure conformance to the abrasion and water wicking requirements of the finished coated fabric. At the option of the supplier, the coated side may be dusted with the dusting powder specified in specification.	The color of the coated side of the coated cloth shall be olive green 207. Standard sample available.	The coated fabric shall show no lifting of the coating, no tackiness, no solution, pick off of the coating, adherence of the coating to itself greater than scale rating No. 3 (slight blocking) when tested according to specification. The coated cloth shall be free from any objectionable odor. Characteristic odor of coating is not considered objectionable.	Intended Use - The coated cloth covered by this specification is intended for use in the fabrication of ponchos, ground cloths, and components of jungle hammocks.



### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)		
			(5041)	(5041)					After Flame sec (min)	Char length Max" (5122)						
			Min	Max		W	F	W	F	W	F	W	F	70°F	-40°F	
Cloth, Coated, Nylon, Polyvinyl Butyral MIL-C-14366B	Warp yarn: semidull 40+2 denier, 13 filament nylon. 6-8 turns "Z". Filling yarn: bright, 70+3 denier, 32-34 filament nylon. 2-3 turns "Z". Use of relaxed filling yarn is mandatory to minimize pirn taper barre. Weave: 2/1 right twill. Each selvage shall have 34+4 ends, weaving 2 as 1. Weight: 1.5+0.1 oz/sq yd. Yarns/in.: 115 in the warp; 76 in the fill. Breaking strength: 50 lb. min. in the warp and fill. Shrinkage: 2% max. in the warp; 1% max. in the fill. Heat set prior to dyeing. Dyed with special nylon dyes or other dyes that will show no more striation in finished coated cloth than standard sample. (6) pH: 5.0 - 8.5	Thermosetting virgin polyvinyl butyral, plasticized with phosphate or phthalate ester plasticizers exclusively. Pigmented.	-	3.5	(1)	50	50	30	30	40		6	7	(+30°F)	6	No. 2
					All selvages shall be trimmed from coated cloth.					(initial) 20 (after strength of coating) 30 (after water immersion) 30 (after low temp resistance) Pass (after abrasion resistance)						(initial) 4 (after water immersion)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-14366B	Coated on reverse side of cloth only, then thermoset. There shall be no strike through of coating to face of cloth. Coated side shall have uniform finish and be dusted with powdered mica not coarser than 160 mesh. Reverse side of cloth shall be the side with twill line running from right to left.	Color - Base cloth: Color shall be such that after coating, finished coated cloth shall match standard shade sample on the uncoated side (shade Taupe 179 or Blue 1157, as specified)(3). Coated cloth: face side shall match standard sample in luster and color (Taupe shade 179 or Blue shade 1157, as specified)(3). Colorfastness - standard sample available (5660-5614).	(4-5) Water wicking: $\frac{1}{2}$ -in. max. (4.4.10).	Intended Use - In the manufacture of the Raincoat, Men's Lightweight, Taupe 179 and Blue 1157.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm Max. Worp (5204)	Bursting Strength Pts. Min (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			(5041)	(5041)					After Flame length sec Min	Char length Max"				
Cloth, Coated, Nylon, Rubber Coated, Fuel-Resistant MIL-C-8068; (ASG)			Min	Max		W	F	W	F	W	F	70°F	-40°F	
Type I- Cured Base cloth- Type II of MIL-C-7020 Gages: 0.010" 0.013" 0.017" 0.020"	Types I & III: Type II of MIL-C-7020 except that air permeability and permanence of finish requirements shall not apply.	Cured rubber shall not blister or crack: Original-hardness- Type I: 35 + 5 pts.; Type II: 60 + 5 pts; Type III: 45 + 5 pts. Tensile strength- 1000 psi; 1500 psi; 1200 psi. Elongation- 700% min; 400% min; 500% min. After air aging (change)- hardness- -10% + 15% + 10% max. Tensile strength: -35% -15% -30% max. Elongation: -50% -60% -60% max. After Type I fluid aging- Tensile strength: +20%; +25%; +10% change. Elongation: +10%; +15%; +10% max. change. Volume swell: -15%; -10%; -10% max. See spec. for changes after Type III fluid aging.	36	min.								125 4 (initial) lb/in 12 (after air aging) 125 (after fluid aging) 500 4 (initial) lb/in 500 (after air aging) 500 (after fluid aging)		
Type II- Cured Base cloth- Table I Gages: 0.025" 0.050"	Type II: Thickness- 0.013 + 0.002 in. weight- 5.5 + 0.5 oz./yd. Breaking strength: 300 lb. in warp & fill. Tear strength: 20 lb. in warp & fill. Thread count: 90 yarns/ inch in warp & fill.		36	min.										
Type III- Uncured Base cloth- Type II of MIL-C-7020 Gages: 0.012" 0.018"			36	min.										

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-8068B Type I Type II Type III	Cloth shall be coated on both sides. Cloth shall not be injurious to any surface with which it should come into contact. It shall be free from pinholes and other defects which might adversely affect the serviceability of the finished product.	Color - Unless otherwise specified, color shall be Black.	Coated cloth shall not break, crack, or separate from its backing when flexed after low temperature exposure. See spec. for table of low-temperature flexibility conditioning. Rate of diffusion of Type III fuel of spec. MIL-S-3136 through cloth shall not exceed 2 fluid oz/sq ft per 24 hours.	Intended Use - As fuel metering diaphragms on aeronautical equipment, or any other application where a fuel resistant, rubber-coated cloth is necessary.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydro- static Press- ure High (5512)	Flame Resistance (5903)		Flexi- bility Cm. Max. Warp (5204)	Burst- ing Stren- gth Pt. Min. (5122)	Adhe- sion lb/2" wide (5970)	Block- ing Soak rating (5072)
			Min	Max					After Flame sec	Char length Max" Min				

Cloth, Coated  
(Nylon Taffeta)  
MIL-C-19699A (SA)  
Amd. 1

Cloth, nylon, taf-  
feta (2.0 oz.) con-  
forming to MIL-C-  
21852.

Properly plasti-  
cized chloroprene  
rubber, free from  
objectionable odor.

4.7 ± 0.5 (1) 110 95 850 650 80  
(grams) (initial)  
See spec.  
for require-  
ments after  
testing.

2.5 8.0 10

Cloth, Coated  
(Nylon Twill,  
Low Count)  
MIL-C-19759A (SA)

Type I- 7.5 oz.  
coated one side

Cloth, nylon twill  
low count 3,5 oz.,  
conforming to MIL-  
C-19256. Face shall  
be identified by  
twill line running  
from lower left to  
upper right.

Properly plasti-  
cized chloroprene  
rubber. Pigmented.  
Non-toxic, non-  
irritant and free  
from objectionable  
odor.

7.5 ± 0.5 (1) 225 210 500 3800 100  
(grams) (initial)  
See spec.  
for require-  
ments after  
testing.

9.0 25.0 10

Type II- 9.0 oz.  
coated both sides

upper right.

9.0 ± 0.5 (1) 225 210 3400 3000 100  
(grams) (initial)  
See spec.  
for require-  
ments after  
testing.

14.0 35.0 10

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-19699A		Color - Coating shall be pig- mented Black. Standard sample available.	(4) Coated cloth shall show no tack- iness, exudation, or loss of flexibility at high temps. (5850). Cloth shall be free from objec- tionable odor.	Intended Use - In the manufac- ture of special purpose clothing worn by Navy personnel.

MIL-C-19759A  
Type I  
Type II

Coated cloth shall be  
flexible, free from  
tackiness, and resis-  
tant to abrasion and  
scratching. Type I  
shall be coated on  
back only with app.  
4.0 oz. of compound.  
Type II shall be  
coated on back with  
app. 4.0 oz. of  
compound, and on the  
face with app. 1.5  
oz. of coating.

Color - Type I: coating shall (4)  
be pigmented Black. There shall  
be no change in shade on the  
face of the cloth. Type II:  
Coating of back shall be pig-  
mented Green to approximate  
shade of basic cloth. Standard  
samples available for both  
types.

Intended Use - Type I: in the  
fabrication on special cold  
weather clothing items. Type II:  
in the fabrication of the sub-  
marine deck exposure suit and  
wet weather clothing items.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Score rating (5872)
			(5041)	(5100)					(5132)	After Flame After Char				
			Min	Max		W	F	W	F	W	F	70°F	-40°F	

Cloth, Coated,  
Nylon Twill, Vinyl  
Coated Both Sides  
MIL-C-8077

Nylon; 2/1 twill.  
Weight: 1.6 oz. max.  
Thickness: 0.0042  
in. max. Breaking  
strength: 50 lb/in  
in warp and fill.  
Tearing Strength:  
4 lb. min. in warp  
and fill. Ultimate  
elongation: 14% in  
warp and fill.  
pH: 5.0 - 9.0

Suitably compound-  
ed polymer or copo-  
lymer vinyl resin.

3.25 36 60 60 (5134)  
2.25 23

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-8077	Cloth shall be evenly and entirely coated on both sides. Use of detergents, dyestuffs, or other chemicals or finishing agents which would cause deterioration in storage or dermatitis on prolonged skin contact is prohibited.	Color - Unless otherwise specified, color shall be Blue on one side and Yellow on the other to match approved standard shades.	Flexibility: acute angle formed by coated cloth and the horizontal shall be not less than 80°. Cloth shall not flake or crack at temperatures of -65°F. Cloth shall not show tackiness, blistering, or softening after 24 hours at 160°F. Cloth shall be impervious to water under static head of 20 1/2 in. for at least an hour.	Intended Use - In the construction of spray shields for life rafts.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)		Width Inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Min	Max					After Flame sec min	Char length Max"				
Cloth, Coated, Nylon, Vinyl Coated MIL-C-40039 C	Nylon twill, 1.6 oz., heat set, conforming to Type I of MIL-C-577.	Polymerized or copolymerized virgin vinyl chloride resin, plasticized with phosphate or phthalate ester plasticizers exclusively. Pigmented.	6.0	7.3	(1)	90	80	24	18	40 (initial) 20 (after strength of coat.) 20 (after water immersion)	8		5 (initial) 5 (after water immersion)	No. 3

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (No Specification Requirements)
MIL-C-40039 C	Base cloth shall be coated on both sides. One side shall be more lightly coated than the other. Lighter coating shall be on face side of cloth. Face side shall be side with twill line running from lower left to upper right. At least one coat of coating compound shall be applied directly to each side of cloth.	Color - Color of coated cloth shall be 00-207 and shall match standard sample for shade and luster(3).	(4-5) Cloth shall exhibit no softness, tackiness, stiffness, or brittleness after weathering (4.4.9). Cloth shall not leak (4.4.5). Abrasion resistance: no loose fibers of base cloth shall be exposed in center 1 in. of abraded portion (4.4.8). There shall be no cracking, flaking, or separation of coating from base cloth after exposure to low temps. (4.4.6).	Intended Use - In the manufacture of the Poncho, Lightweight, With Hood.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			(5041)	(5041)		(5100)	(5132)	(5512)	After Flame sec min		Char length Max"	W/F				
Cloth, Coated, Nylon, Vinyl Coated (For Air Supported Shelters) MIL-C-43086A	Cloth shall be either: Type I: continuous multifilament bright high tenacity nylon. 2/2 basket weave. Yarns for warp and fill shall be 840±20 denier. Weight: 5.5-6.0 oz. Yarns/Inch: 24 in the warp; 26 in the fill. Breaking strength: 275 in warp and fill. Type II: continuous multifilament bright high tenacity nylon. Modified oxford weave in which 2 ends, weaving as 1, alternate across warp with 2 ends weaving plain. Warp yarns shall be 840±20 den., and fill yarns shall be 1680 ±80 den. Weight: 5.5 - 6.0 oz. Yarns/Inch: 24 x 13. Breaking strength: 275. pH: 5.0 - 8.5.	Virgin vinyl chloride or vinyl chloride-acetate copolymer plasticized with phthalate or phosphate ester plasticizers exclusively. Pigmented.	19	21	(1)	300	300	100	100	300	5	5			10	No. 3
						(initial)	80%	80%							(dry)	
															8	
															(wet)	

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-43086A	Cloth shall be coated on both sides. Face of cloth shall be coated with 8.0-9.0 oz/sq yd. of coating, and back shall be coated with 5.0-6.0 oz/sq yd of coating.	Color - Finished cloth shall be white in color to match color 17855 of Fed. Std. 595. Colorfastness - There shall be no appreciable change in color after acc. weathering (4.4.7).	(4.4.5) There shall be no cracking at -10°F (4.4.3). Oil resistance: no leakage (4.4.4). Aromatic carbon resistance: no cracking (4.4.5). Cloth shall not crack when folded sharply on itself or show any signs of blooming or bleeding after acc. weathering (4.4.6.1).	Intended Use - In the fabrication of Tent, Air Supported, for Track and Acquisition Radar (Conus) and for other air supported shelters where intended use does not involve erecting and striking at temperatures below minus 10°F.

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			(5041)	(5041)		(5100)	(5100)	(5132)	(5132)		After Flame length sec min	Char length Max" (5204)				
Cloth, Coated, Nylon, Waterproof MIL-C-20696B,  Type I- Nylon, 2.3 oz (nominal) uncoated. Class 1- Base cloth coated with chloroprene. Class 2- Base cloth coated with vinyl chloride polymer or copolymer. Class 3- Base cloth coated with chloroprene containing fire retardant. (Continued)			Min   Max			W   F	W   F		W   F	W   F	W   F	W   F	W   F	W   F	W   F	W   F
			7.0	9.0	39	120	100	12	10				7-10	12	10	No. 3
						(5102) min. (initial) or 80% 80%		(5134) min. (initial) or 80% 80%								
			8.0	10.0	39	120	100	12	10				7-10	13	10	No. 3
						(5102) min. (initial) or 80% 80%		(5134) min. (initial) or 80% 80%					(+10°F)			
			5.5	11.5	39	120	100	12	10	10	10	3.5	7-10	12	10	No. 3
						(5102) min. (initial) or 80% 80%		(5134) min. (initial) or 80% 80%				(each)	(-40°F)			

NOMENCLATURE	COATING	SHADE AND COLOR FASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-20696B Type I Class 1 Class 2 Class 3 (Continued)	Coating shall be applied to both sides of base cloth. Face side shall receive a heavier coating than back, except for Type II, Class 2, which may have a balanced or unbalanced coating as specified. Classes 1 and 3 coated cloths shall be fully vulcanized and dusted with whiting, talc, or other finely divided mineral material which does not support mildew growth. Plasticizers for Class 2 shall be limited to phosphates and phthalate esters exclusively.	Color - Coated cloth shall match applicable cable color number of Fed. Std. No. 595 or approved color standard for color specified (3). Colorfastness - no change after acc. weathering (3.4.5).	(4-5). Types I & II, Class 1 & 3: shall not become stiff or brittle or soft or tacky after acc. aging (5852). Hydrostatic resistance: no leakage before or after abrasion (5516 & 4.4.2.1). Oil resistance: no seepage (4.4.3). Resistance to aromatic hydrocarbons: no cracking (4.4.4). Cloth shall show no cracking or crazing when folded sharply on itself after acc. weathering. Folded cloth shall show no signs of blooming or chalking (3.4.5). Selvages may be trimmed after coating.	Intended Use - Type I & II in the fabrication of wing covers, engine covers, shelters, gun and vehicle covers, and equipment items.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			(5041)	(5041)		(5100)	(5132)	(5512)	After Flame length sec min		Char length Max" (5204)	70°F				
Cloth, Coated, Nylon, Waterproof MIL-C-20696B (Cont'd)			Min	Max		W	F	W	F		W	F	W	F		
Type II - Nylon 5.1 oz (nominal) uncoated																
Class 1 - Base cloth coated with chloroprene.			Bright high tenacity filament nylon. Plain weave. Weight: 5.1±0.3 oz. Yarns/Inch: 22 in. the warp; 21 in the fill. Breaking strength: 225 in warp and fill.	Class 1 p. 17	15	17	39	325 260	45 38				11.5- 20.0	15	No. 3	
Class 2 - Base cloth coated with vinyl chloride polymer or copolymer.				Class 2 p. 179	17	19	39	325 260	45 38				13.5- 22.0	15	No. 3	
Class 3 - Base cloth coated with chloroprene containing fire retardant.				Class 3 p. 179	17	19	39	325 260	45 38		10 10	3.5W 3.5F	11.5- 20.0	15	No. 3	
Type III - Nylon 7.25 oz. uncoated			Bright high tenacity filament nylon. Plain weave. Weight: 7.25 max. Yarns/Inch: 60 in warp; 45 in filling. Breaking strength: 450 in warp; 350 in fill. Tearing strength 9th 20 lbs. min. in warp and fill.	Buna N synthetic rubber.	11	13	39	450 350	20 20		10	3.5		12	No. 2	
Class 5 - Base cloth coated with Buna N.																

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-20696B Type II Class 1 Class 2 Class 3 Type III Class 5	See page 179  Coating shall be applied to one side only.	See page 179	See p. 166. Type II, Class 2: in warp direction, flame shall not traverse entire length of specimen within 42 sec. of start of burner flame (5903-T). The coated cloth shall not crack or flake. The coated cloth shall show no evidence of tackiness, blistering or softening.	See p. 166. Intended Use - Type III coated cloth is for use in the manufacture of survival containers.



### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width inch	Breaking Strength	Tearing Strength	Hydro- static Pressure High (5412)	Flame Resistance (5903)		Flexi- bility Con. Max. Wrnp (5204)	Burst- ing Stren- gth Pth. (5122)	Adhe- sion ib/2" wide (5970)	Block- ing Scale rating (5872)
					Lb. Min. (5100)	LS. (5132)		After Flame sec. min.	Char Length Max. in.		70°F	-40°F	E
Cloth, Coated. Polychloroprene: (For Pneumatic Floating Equipment) MIL-C-14505B													
			Min   Max		W   F	W   F		W   F	W   F	70°F	-40°F		
Class 3- Single ply cloth 11.5 oz	High tenacity, improved heat & light resistant, heat set and scoured nylon cloth. Cloth shall be impregnated with a primer prior to coating to insure the ad- hesive bond to coating compound. See spec. for tailed base cloth requirements.	Compound shall contain not less than 60% by volume of chloroprene. Compound shall con- tain no materials injurious to nylon, which will result in a waxy finish, or which are water- soluble. See spec. for detailed coat- ing compound requirements.	- 11.5	15	135	8	8	3.3	3.3				
					(initial) 85% 85%							(initial) 60% 60%	
					(after oven aging) 85% 85%							(after water resistance)	
					(after acc. weathering)								
Class 4- Single ply cloth 31.0 oz			- 31.0	350	335	30	30	6.0	6.0	3.0	20	20	
				(initial) 85% 85%							(initial) 60% 60%		
				(after oven aging) 85% 85%							(after water resistance)		
				(after acc. weathering)									
Class 6- Single ply cloth 44.0 oz (Continued)			- 44.0	400	400	50	50	10.0	10.0	2.0	40	40	
				(initial) 85% 85%							(initial) 60% 60%		
				(after oven aging) 85% 85%							(after water resistance)		
				(after acc. weathering)									

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-14505B Class 3 Class 4 Class 6 (Continued)	Primed nylon cloth shall be coated. Thickness of coating is exclusive of thick- ness of primer. Coat- ing shall be applied by either the spreader or the calender pro- cess. Cloth shall be vulcanized during fabrication of pneu- matic floating equip- ment.	Color - Base cloth shall be unbleached. Coated cloth: compatible coloring agent shall be added to coating compound to make finished color Black.	No cracking or flaking at low temperatures (5874). Porosity: Classes 4 and 6- no leaks (ASTM D751, method B).	Intended Use - In the fabrication of pneumatic flotation equipment.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength lb/2" wide (5122)	Adhesion wide (5970)	Blocking Scale rating (5872)
					(5100)	(5132)		After Flame length sec min	Char length Max"				
Cloth, Coated; Polylin Coated CCC-C-501b			Min Max		W F	W F		W F	W F	70°F-40°F			

Type I- (coated on one side)

Class 1- 6.3 oz. Cloth, cotton, 100% virgin cellulose nitrate, plasticized & pigmented. (5516) no leakage

Class 2- 7.7 oz. Cloth, cotton, sheeting, conforming to Type VII, Class 1 of CCC-C-432, except that cloth shall be de-sized and scoured, (6), and requirements for shrinkage & breaking strength shall not apply.

Class 3- 12.0 oz. Cotton sateen, de-sized & scoured (6). Warp flush side shall be the face. Yarns/inch: 96 in the warp; 64 in the fill.

Type II- (coated on both sides)

Class 1- 15.5 oz. " " 15.5 " 110 100 "

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-C-501b Type I Class 1 Class 2 Class 3 Type II Class 1	Type I- Coating shall be applied to face side of base cloth only. There shall be no striking through of coating to the back of the cloth. Grain shall match grain std. Type II- Coating shall be applied equally to both sides of base cloth. Grain shall match grain standard.	Color - Type I, Classes 1 & 2, unless otherwise specified, color shall be natural. When color is specified, cloth shall be dyed in accordance with CCC-C-432. Color shall match approved standard shade (3). Type I, Class 3, color shall be dyed as specified in CCC-C-432. (3). Standard samples available. Type II, Base cloth shall be undyed (grain).	(4) Flexing resistance: no evidence of ink penetration through the coating of all Types and Classes (4.4.1). "Good" fastness to crocking in all Types & Classes (5651).	Intended Use - In the manufacture of footwear components and other similar items.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz./Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength l.b.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)	
			(5041)	(5041)					After Flame sec	Char Length Max" (5122)					
Cloth, Coated, Raft Bottom MIL-C-21109A (WEP)			Min	Max		W	F	W	F	W	F	W	F	70°F	40°F
Type I- 7.0 oz.	Nylon conforming to MIL-C-21108, Type I.	Natural rubber- not less than 80% by volume new plantation rubber. Containing softeners, curing agents, anti-oxidants, and reinforcing materials. Outer coating shall be pigmented. Pigment that 100% of pigment shall pass through 325 mesh screen. Coatings shall not be injurious to base cloth and contain no ingredients which might bloom to the surface of adversely affect coated cloth. Shall cure properly & be water insububle (water extractable matter: 1% of wgt. max.). Compound shall be cured in sheet form. See spec. for table of physical properties of coating compound.	6.3	7.0	(1)	150	140 (initial) 10% 90% (after heat aging)		50 (initial) 50 (after heat aging)					7.0	No. 2
Type II- 14.0 oz.	Nylon conforming to MIL-C-21108, Type II.	Natural rubber- not less than 80% by volume new plantation rubber. Containing softeners, curing agents, anti-oxidants, and reinforcing materials. Outer coating shall be pigmented. Pigment that 100% of pigment shall pass through 325 mesh screen. Coatings shall not be injurious to base cloth and contain no ingredients which might bloom to the surface of adversely affect coated cloth. Shall cure properly & be water insububle (water extractable matter: 1% of wgt. max.). Compound shall be cured in sheet form. See spec. for table of physical properties of coating compound.	13.5	14.5	(1)	300	300 (initial) 90% 90% (after heat aging)		100 (initial) 10 (after heat aging)					7.0	No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-21109A Type I Type II	Foundation coating compatible with base cloth & remainder of coating compound shall be applied to achieve required adhesion. Coating compound shall then be applied by spread coating operation. Compound shall be applied in sequence of operations so that both sides shall be coated and built up in accordance with spec. Pigment shall be incorporated in outermost coating. Coating shall be cured. Cured coated cloth may be lightly dusted with talc or zinc stearate.	Color - Unless otherwise specified, uniform permanent color of finished coated cloth shall be an app. match to color number 33538 lusterless Yellow of Fed. Std. 595.	Cloth shall be from current production and not more than 90 days old prior to release for shipment. Cloth shall not become stiff and brittle or soft and tacky after heat aging (4.6.9). Cloth shall show no signs of cracking when folded after exposure to low temps. (4.6.10).	Intended Use - In the manufacture of life raft bottoms. Type I is for one-man rafts, cylinder carriers, oral inflation valve pockets, sea anchor moorings, and accessory patches used in the manufacture of pararafts and packet rafts. Type II is for the multi-place life raft bottoms.

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Co. Max. Warp (5204)	Bursting Strength (5122)	Adhesion lb/2" wide (5970)	Storage in Scois rating (5872)
			(5041)	(5042)		(5100)	(5132)	(5511)	(5512)		After Flame (5903)	Char length (5903)				
			Min	Max		W	F	W	F		W	F	W	F	70°F	40°F

Cloth, Coated (Rubber and Plastic) and Plastic Sheeting for Hospital Use  
 ZZ-C-450b

Type I- Cotton or synthetic cloth (rubber coated both sides)	or Woven cotton or synthetic fiber.	Natural or synthetic rubber or a mixture of the two; pigmented	(1)	50	50					25 lb. 5 min.						7.0 min.
Type II- Cotton or synthetic cloth (vinyl coated both sides)	"	Vinyl chloride polymer or copolymer; plasticized; pigmented	(1)	50	50					25 lb. 5 min.						7.0 min.
Type III- Plastic unsupported film (sheeting) Class 1- 0.004" thick Class 2- 0.006" thick		Film shall conform to Type I, class 2 of L-I-375, except that plasticizers other than phosphate and phthalate may be used.	(1)					200	200	(lb./in. of thickness)						
Color 1- Clear (Types II & III only) Color 2- Black (All Types) Color 3- White (All Types) Color 4- Maroon (All Types)																

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
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ZZ-C-450b Type I Type II Type III Class 1 Class 2 Color 1 Color 2 Color 3 Color 4	Type I- Uniformly coated on both sides and dusted with talc. Coated cloth shall be vulcanized. Type II- Uniformly coated on both sides. Type III- Sheeting shall be constructed from unsupported film.	Color (1) - to match cable number of Fed. Std. 595 or approved color standard (3).	(4) Thickness: Types I & II: 0.013-0.018 in. (5030). Cloth shall show no softening, tackiness, hardening, peeling, or blistering when exposed to phenol. Type III shall not decrease in weight more than 4%. "Good" fastness to crocking. Same after exposure to alcohol. Type I shall show the same results when exposed to accelerated aging. Volatility: Type II- 5% max. Type III, Class 1- 7 1/2%; Class 2- 9% max. Types I & II shall show no softening, tackiness, hardening, peeling, or blistering during steam sterilization. "Good" fastness to crocking.	Intended Use - For the protection of mattresses on hospital beds.
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### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cr. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Min	Max					After Flame, sec	Char length, Max"				
<p>Cloth, Coated, Rubber, Nylon Base MIL-C-7966</p>														
Variety S- spray shield cloth 3 oz/sq yd.	Variety S: rip-stop woven nylon conforming to Type I of Spec. MIL-C-7020, except that colorfastness, air permeability, & permanence of finish requirements need not apply. Silicone oil shall not be used on the cloth.	New plantation natural or synthetic rubber, or synthetic natural rubber.	-	3.0	(1) 50	50	450	350	15	(initial) 12 (after cold effect test)		3	No. 2	
Variety P- Paulin, Bright, high tenacity cloth, 6.75 oz/sq yd.	Bright, high tenacity multifilament polyamide (from hexamethylene diamine and adipic acid or its derivatives). Weave: warp face 4/1 5-harness sateen with a counter of 3. Weight: 3.5 oz/sq yd. max. Suggested thread count: 174 x 86 or 177 x 89.	"	-	6.75	(1) 200	150	2000	1000	15	(initial) 12 (after cold effect test) 12 (after abrasion)		3	No. 2	

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-7966B Variety S Variety P	Uniform coating of 2 or more layers of rubber shall cover back of base cloth. An adhesive may be used to obtain required coating adhesion. Anti-oxidant may be incorporated in rubber to retard aging effects. No materials injurious to cloth or which might be water soluble after vulcanization shall be used. Fillers and vulcanizers shall be sufficiently fine so that a uniform product will be produced. Compound should cure properly and provide proofing films suitable for retaining water. Potability of water coming in contact with coating shall not be affected. pH: 6.5 - 8.0	Color - Base cloth: Variety S- Cloth shall be yarn or piece dyed. Face shall be a daylight fluorescent red conforming to spectrophotometric requirements in the Spec. Variety P- same. Finished cloth: surface of rubber shall be pigmented to match lusterless (blue) color No. 35042 of Fed. Std. 595.	Time elapsed from date of application of coating (stamped at end of roll) and date of delivery shall not be more than 10 weeks. Cloth shall not crack or flake when subjected to cold effect (4.7.6.1). Cloth shall not crack when folded sharply on itself, and coating shall show good colorfastness after accelerated weathering (4.7.8). Sewing qualities shall be such that there shall be no excessive needle gumming, needle breakage, or thread breakage during sewing (4.7.9).	Intended Use - Variety S: in the manufacture of spray shields for F4U-2 pararafts covered by MIL-K-8664 (Aer). Variety P: in the manufacture of life raft paulins covered by MIL-P-7967 (Aer).

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesive lb/2" wide (5970)	Blocking Score rating (5872)
			Min	Max					After Flame length sec	Char length Max"				
Cloth, Coated, Synthetic and Fibrous Glass MIL-C-7514C (USAF)														
Type I- Cloth, glass vinyl coated (non-porous)	Types I & III: continuous multi-filament glass. Type II: copolymer of vinyl chloride and acrylonitrile.	Suitable compound- ed vinyl resin, properly plasticized & pigmented.	7.0	+0.5	(1) 130	110	(5134) 3 3			2 2 2.3 2.3				
Type II- Cloth, vinyl resin, vinyl coated (non-porous)	Plain (1/1) weave.	"	7.0	+0.5	(1) 130	110	3 3			2 2 2.3 2.3				
Type III- Cloth, glass, vinyl coated (porous)	"	"	5.5	+0.5	(1) 180	175	5 5			2 2 2.3 2.3				

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as 'Nickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-7514C Type I Type II Type III	Coating shall be applied to both sides of cloth, so that no bare threads show & it thoroughly impregnates the base cloth. Unless otherwise specified, coating applied to Types I & II shall be heavier on the face than on the back. Waterproofness: Types I & II shall show no signs of leakage through the unabraded portion, & no more than 5 ml. of water shall pass through the abraded portion (5516).	Color (1) - Shall be incorporated in the coating material. Colorfastness - Type III: "good" (5660-5651); "fair" (5651-wet).	Type III: Thread count: 35 yarns/in. in the warp; 30 yarns/in. in the fill. Air permeability: 150-225 ft <sup>3</sup> /min/ft <sup>2</sup> . All types: Coating shall not crack, break, or become tacky. (4.5.2). Cloth shall not crack upon creasing in the presence of aromatic hydrocarbon-fluid (4.5.3). Cloth shall be non-corrosive to aluminum (4.5.4). Abrasion resistance: 500 cycles (min) shall be required to rupture 1 thread of base cloth (5306). Color of cloth shall not change in cleaning & cleaned area shall exhibit no tackiness (4.5.9). Cloth shall not lose more than 15% of its original breaking strength & shall not crack when folded sharply upon itself or show signs of blooming or material color change after exposure to heat & light after accelerated weathering (4.5.6).	Intended Use - In the manufacture of aircraft insulation & acoustical & sound proofing blankets.

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Score rating (5872)
								After Flame length sec min	Char length Max"				
			h.in   Max		W   F	W   F		W   F	W   F	70°F - 40°F			
<b>Cloth, Coated, Synthetic Rubber (Nitrile and Polychloroprene MIL-C-82255 (NAVY))</b>											(5120)		
Type I- Cloth, Nylon, Flat Knit, Polychloroprene Coated.	Nylon, flat knit. Weight: 6.5±1.0 oz/sq yd.	Polychloroprene rubber. No natural rubber, reclaimed rubber, or synthetic rubber other than polychloroprene shall be used. Plasticized. Pigmented.	- 19.0 (1)				70 (initial) 65 (after weatherometer)				100	5	No. 3
Type II- Cloth, Cotton, Duck, Polychloroprene Coated.	Cotton duck conforming to Type I, No. 10, hard texture of CCC-C-419.	Polychloroprene rubber. No natural, reclaimed, or synthetic rubber other than nitrile shall be used. Plasticized. Pigmented.	49.0 59.0 (1)		245 160	4200 2500	250 (initial) 250 (after weatherometer)					5	No. 3
Type III- Cloth, Cotton, Duck, Nitrile Coated.	Cotton duck conforming to Type I, No. 10, hard texture of CCC-C-419.	Nitrile rubber. No natural, reclaimed, or synthetic rubber other than nitrile shall be used. Plasticized. Pigmented.	- 43.0 (1)		245 160	4200 3000	250 (initial) 200 (after weatherometer)					5	No. 3
Type IV- Cloth, Cotton, Airplane, Polychloroprene Coated.	Cotton airplane cloth conforming to MIL-C-5646, except requirements for length of roll, cut, and dope shall not apply.	Polychloroprene rubber. See above.	24.5 29.5 (1)		90 90	900 800	150 (initial) 150 (after weatherometer)					5	No. 3

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-82255 Type I Type II Type III Type IV	Coating shall be applied equally and uniformly to both sides. Coated cloth shall be cured. After vulcanizing, cloth shall be dusted with whiting, talc, or other finely divided mineral material which does not support mildew growth.	Color - Coated cloth shall match Black number 27038 of Fed. Std. 595 or the approved color standard (3).	(4) Thickness- Type I- 0.021 in max. Type II: 0.047-0.053 in. Type III: 0.038-0.062 in. Type IV: 0.023-0.027 in. The selvage edges may be trimmed, provided cloth meets specified width	Intended Use - As a protective covering and repairing fuel cells.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width, Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
					Lb. Min. (5100)	Lb. (5132)		After Flame sec. Min.	Char length Max. (5122)				
Cloth, Coated (Table and Shelf) CCC-C-417c, Amd. 2 Cotton Synthetic resin; pigmented													No. 1
				Min   Max	W   F	W   F	W   F	W   F	77°F	-40°F			
				6.25 - 5 1/4	30	22							

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (No: Specification Requirements)
CCC-C-417c	Cloth shall be coated on one side. Coated cloth shall have glazed or satin finish, without pattern.	Color (1) - to match White No. 70001, Green 70167, Red 70042, or Yellow 70205 (3). Colorfastness - "good" (5651-5660). Red shall show "fair" in 5660.	Cloth shall show no cracking or flaking (4.3.1). Cloth shall be nontoxic to personnel.	Intended Use - For table and shelf covers.



### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
								After Flame sec. Min.	Char Length Max."				
			Min   Max		W   F (5102)	W   F		W   F	W   F	70°F   40°F			
Cloth, Coated, Window Shade COC-C-5214	Commercial window shade griegge goods, Yarns/inch: for widths up to 54 in. 68 in warp & fill; for widths over 54 in. 56 yarns in the warp; 52 in the fill.	Impregnating compound shall be polymerized or copolymerized vinyl chloride resin, plasticized with phosphate or phthalate ester plasticizers; exclusively pigmented. No starches, dextrans or other water soluble sizing or filling compounds, or water soluble flame retardants shall be used.	4.8 -	(1)	50   40	12   10		2   2	5 1/2   5 1/2	12-23			No. 21

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
COC-C-5214	Both sides of base cloth shall be impregnated. When window shade is specified for blackout purposes, the diffuse luminous transmission of a single layer of cloth shall average no more than 0.001 of 1%. No area of the cloth shall transmit more than 0.003 of 1%. The cloth shall have no pinholes or streaks.	Color - Shade shall be furnished in the following solid colors or 2 color combinations (dark on one side & light on the reverse side)(1): Black white, green, light ecru, dark ecru; green/white, green/light ecru; green/dark ecru. Standard samples available. Colorfastness - "good" (5660), "pass" (light and soap and water scrubbing).	(4) Resistance to cracking: "pass", (4.4.1).	Intended Use - Used in the manufacture of Window Shades in accordance with Fed. Spec. 100-8-251.

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overc:ll Weight		Width inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength P <sub>th</sub> (5122)	Adhesion lb/2" wide (5970)	Block-ing Scale rating (5872)
			(5041)	(5100)					(5132)	After Flame length sec min				
			Min	Max		W	F	W	F	W	F	70°	40°	F

Cloth, (Cotton Duck),  
Laminated, Synthetic  
Rubber Impregnated,  
Oil Resistant  
MIL-C-882B

Cotton, 8.0 oz/ sq yd. min. Warp count (unvulcanized): 30 / 1 thread / inch; fill count: 40 / 2 threads / inch (unvulcanized).

Synthetic rubber of either of 2 classes: Class 1 - compounds utilizing chloroprene as the basic material. Class 2 - compounds utilizing a copolymer product of butadiene & acrylonitrile as the basic material.

(1)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-882B			Form Sheets, strips, or cut or molded items (1). See specification for applicable tolerances. Density: 67 lb/cu ft. min. See specification for load deflection limits and permanent set. Oil resistance: there shall be no delamination (4.4.5.2). The volume shall not swell more than 25% (4.4.5.2). There shall be no fungus growth (4.4.6).	Intended Use - For vibration attenuation.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Oz/Sq Yd (5041)	Min					Max	After Flame length sec				
<p>Cloth, Cotton, Laminated, Waterproof and Gasoline-and-Grease-Resistant</p> <p>MIL-C-13695 (ORD) One layer 48 in, No. 8 cotton duck conforming to Type I of CCC-D-771. One layer cotton sheeting conforming to Class A of CCC-8-291.</p> <p>Synthetic rubber adhesive compound having no adverse effect on cotton.</p> <p>(5102) (5136) (a)</p> <p>300 220 40 40 1.0</p> <p>no leakage up to 100 psi</p> <p>see table in spec.</p> <p>W F 4 3</p>														

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, St.-leakage, etc.)	NOTES (Not Specification Requirements)
MIL-C-13695	Adhesive shall be applied at min. rate of 6 oz/sq yd of laminated cloth. Amount of adhesive in excess of min. shall not cause max. permissible weight of finished laminated cloth to be exceeded. Cloths shall be treated for mildew resistance by Type II process of Spec. AXS-1247.	Color - Color of finished laminated cloth shall be Olive Drab No. 7. Color shall be imparted by dyeing grey cloth with vat dyes in accordance with Type I process (solid color) of MIL-D-504.	(a) Water permeability: After high temperature exposure - no leakage up to 80 psi (4.4.8.2). After soaking in gasoline: no leakage up to 80 psi (4.4.8.3). Resistance to grease: adhesive strength shall be 1 lb. min. (4.4.9). Mildew resistance (4.4.10).	Intended Use - In fabricating envelopes and covers for protection of ordnance material in under-water fording and landing operations.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cr. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Ache-sion lb/2" wide (5870)	Block-ing Scale rating (5872)
								After Flame sec. min.	Char length Max. "				
			Min   Max		W   F	W   F	W   F	W   F	W   F	70°F	-40°F		

Cloth, Glass, Coated, (For Mem-brane Waterproofing and Built-Up Roofing)  
HH-C-466a

Glass fiber. Thread count: 10-24 yarns per inch in both warp and fill. Uniform resin coating compatible with asphalt or coal-tar base compounds.

Cloth shall also be available in widths from 2-45 in. in increments of 1 inch.

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
HH-C-466b	Glass fiber shall be acid resisting, shall not rot or decay and shall show min. capillary and wicking action.		Mock or woven selvage on each side (or one of each on either) or no selvage at all. Selvages shall be 1/8 - 1/2 in. wide. Cloth shall not crack (4.4.1). Weight of dry base cloth: 1.2-2.4 oz. Weight of organic coating: ratio of coating to cloth = 0.593-1.00. Volatile matter content: 3.8% max.	Intended Use - In membrane waterproofing and built-up roofing.

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Oz/Sq Yd (5041)						After Flame sec (5102)	Char length Min. Max. (5102)				
Cloth, Laminated and Coated for Waterproof Containers MIL-C-10351B (GL)			Min	Max		W	F	W	F	W	F	W	F	70°F -40°F
Type I - Throat Cloth, 2-ply	Type I: nylon twill, conforming to Type I of MIL-C-577.	Natural or synthetic rubber or mixture of both. Pigmented. Reclaimed rubber shall not be used.	8.0	12.5 (1)		90	90	576	384	100		15	20	6 No. 1 (surface coat) 6 (ply)
						(initial) 70	(initial) 70	(grams) (after weather-ometer)	(initial) 50	(initial) 50				(-65°F)
Type II - Body Cloth, 2-ply	Type II: nylon twill, conforming to Type II of MIL-C-577.	"	10.5	14.5 (1)		180	170	1024	640	175		17	21	6 No. 1 (surface coat) 6 (ply)
						(initial) 160	(initial) 150	(grams) (after weather-ometer)	(initial) 90	(initial) 150				(after low temps.)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-10351B Type I Type II	Laminated coated cloth shall be 2-ply with rubber coating applied to both outside surfaces in equal amounts. Cloth shall then be vulcanized.	Color - Base cloth: any color. Coated cloth: unless otherwise specified color shall be Black.	(4) Cloth shall not become stiff & brittle or soft & tacky after weather-ometer (5804). Coating shall not crack or flake at low temperatures (5874). Abrasion resistance: no visible loose fibers in center 1 in. of sbraded portion (5304). Both selvages shall be trimmed to give straight, uniform, fully laminated edges.	Intended Use - In the manufacture of Bag, Waterproof, General Purpose No. 160A.

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cr. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Min	Max					After Flame Length Sec. Min	Char Length Max"				
<p><u>Cloth, Laminated and Tape, Coated Cloth, Natural Rubber on Cotton, Pneumatic Flotation Equipment</u> MIL-C-6819C</p>														
Variety N- Two ply laminated cloth, 11.2 oz/sq yd.	Flain wove cotton cloth conforming to Spec. MIL-C-6820 Class 1 or 2 (1). Defect shall be market with single strand thread, which shall be visible after coating. Any defects shall permit uniformity of coating on the spreading machine.	Min. of 80% new plantation natural rubber by volume. Balance shall be softeners, curing agents, anti-oxidants and reinforcing materials. Pigmented. 100% of the pigment shall pass through a standard 325 mesh screen. Compounds shall not be injurious to base cloth, or contain ingredients which would block to the surface or adversely affect finished cloth. Compound shall cure properly & provide proofing films insoluble in water. Tensile strength- Initial: 2400 psi min. After heat aging: 45 max. Elongation: 500 min. (initial); 25 max. after heat aging.	10.3	12.1	(1)	(5102) 80 80 (initial) 76 76 (after heat aging) 76 76 (after Weatherometer-100 hours)	W F	W F	W F	W F	70°F	40°F	5 (initial) 5 (after heat aging) 5 (after Weatherometer-100 hours)	No. 2
Variety O- Two ply laminated cloth, 18.8 oz/sq yd.			17.4	20.2	(1)	290 290 (initial) 280 280 (after heat aging) 260 260 (after Weatherometer-500 hours)	W F	W F	W F	70°F	40°F	5 (initial) 5 (after heat aging) 5 (after Weatherometer-500 hours)	No. 2	
Variety R- Coated cloth tape, 7.7 oz/sq yd.			10.0	8.3	(1)		W F	W F	W F	70°F	40°F	5		

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-6819C Variety N Variety O Variety R	Foundation compound, compatible with base cloth & coating compound shall be applied to base cloth to achieve required adhesion. Coating compound shall then be applied by a spread coating operation. Rubber coating shall be applied in sequence of operations, so that both sides of each cloth ply shall be coated & laminated. Pigment shall be incorporated in outermost coatings. Cloths shall be cured. Cured laminated cloths may be lightly dusted with talc or zinc stearate. Coated tape shall not have coating of high natural content rubber stock (pure gum rubber) calendered on one side. Coating shall not be fully cured. Protected by suitable liner. Edges of tape shall be smooth.	Color (1)- Usual colors chosen: Color No. 33538 Yellow (usually on straight ply side) Color No. 36231 Gray (usually on bias ply side); Color No. 35109 Blue (usually on bias ply side). Pure gum rubber coating of tape, which is not fully cured, shall not be pigmented. Opposite side shall match one of above colors.	See specification for construction and weight distribution table. Material offered for acceptance shall not be more than 90 days old. Laminated cloths- Cloths shall not become stiff & brittle or soft & tacky after heat aging (5850). Cloths shall not become discolored or brittle after weatherometer exposure (5804). Slight blooming shall be permissible in exposed Variety N. Cloths shall show no signs of cracking after low temperature exposure (4.6.11). Cloths shall not become tacky or adhere to themselves after high temperature exposure (4.6.12). Permeability to hydrogen: Initial: 8 l/m max.; after weathering: 10 l/m max.; after low temps: 10 l/m max.; after high temps: 10 l/m max. Permeability to helium (same conditions): 5.0; 6.3; 6.3; 6.3. No air leakage under pressure (4.6.13).	Intended Use - In the manufacture of pneumatic life rafts, airplane flotation equipment and similar equipment.

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength (5122)	Adhesion lb/2" wide (5970)	Blocking rating (5872)
					Lb. Min. (5100)	Lb. (5132)		After Flame length sec. Min.	Char length Max"				
Cloth, Laminated, and Taps, Coated Cloth, Natural Rubber on Nylon MIL-C-2307A (WEP)				Min   Max	W   F	W   F	W   F	W   F	70°F	40°F			
Variety C-Laminated cloth	Cloth shall conform to: MIL-C-19377 & MIL-C-7020, Type II, except that it need not conform to air permeability and permanence of finish requirements. Any defect shall be marked with a single strand thread which shall not increase cloth thickness, and, when coated, shall allow uniformity of coating on spreading machine. Thread shall be visible after coating.	Not less than 80% by volume of new plantation natural rubber. Balance shall be softeners, curing agents, anti-oxidants, & reinforcing materials. Compound for outer coatings shall be pigmented. Pigment shall pass through 325 mesh screen. Compounds shall not be injurious to base cloth & shall contain no ingredients which would bloom to the surface or affect properties of cloth. Compounds shall be such that they will cure properly and provide proofing films insoluble to water. See spec. for table of physical properties of cured coating compound.	-	12.5 (1)	300 250 (initial) 90% 90% (after heat aging) 75% 75% (after weatherometer)						7	No. 2	
Variety T-Coated cloth tape			-	7.0 (1)							5		

NOMENCLATURE	COATING	SHADE AND COLOR/FASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-2307A Variety C Variety T	Foundation coating compatible with base cloth and remainder of coating shall be applied to achieve adhesion. Coating shall be applied to base cloth by spread coating operation. Compound shall be applied in sequence of operations so that both sides of each cloth ply shall be coated and laminated. Pigment shall be incorporated in outermost coatings. Laminated cloth shall be cured. Cured laminated cloth may be lightly dusted with talc or zinc stearate.	Color - Base cloth shall be undyed. Coated cloth: finished cloth and tape (1). Usual color selected is Color No. 33538 Yellow (usually on straight ply side) of Fed. Std. 595. Normally, pure gum rubber coating of cloth tape, which is not fully cured, shall not be pigmented. Opposite side shall match selected color.	Cloth & tape shall not be more than 90 days old prior to date of release for shipment. Laminated cloth: Cloth shall not become soft and tacky or stiff and brittle after heat aging (4.6.9). Cloth shall not become discolored, brittle, or show signs of blooming after weatherometer (4.6.10). Cloth shall show no signs of cracking after exposure to low temps. (4.6.11). Cloth shall not become tacky or adhere to itself after exposure to high temps. (4.6.12). Permeability to Hydrogen: Initial- 4 L/M/24 hours. See spec. for requirements after testing (5460). No air leakage under pressure (4.6.13). Coated cloth tape: Edges of tape shall be smooth, not pinked. Tape shall not be dusted. Calendered uncured gum coating side of tape shall be protected by a suitable liner which shall be capable of separation without affecting adhesion or cementability of cloth. Permeability to helium: 2.5 L/M/24 hrs. See spec. for requirements after testing (5460).	Intended Use - In inflatable life rafts.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (204)	Bursting Strength Ft. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
								After Flame sec min	Char length Max"				
<p>Cloth, Laminated: Cotton, Balloon, 3-ply, Air Retaining Chloroprene</p> <p>MIL-C-11390C (OL) Balloon cotton cloth conforming to Type HR of MIL-C-12318, except copper content: 0.003% max; and manganese content: 0.0015 max.</p> <p>Compound shall contain chloroprene rubber. No natural rubber shall be used. Up to 20% of other elastomers (such as SBR) may be added to facilitate processing. Use of reclaimed rubber prohibited.</p>													
				Min	Max	W	F	W	F	W	F	73°F	-40°F
				18.5	1.39	90	75	(initial)	90%	90%	(after sec. aging)	4.5	(2b/ln)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-11390C	Cloth shall be coated on both sides & shall be laminated. Sections of biased cloth shall overlap 3/4 in. Coated and laminated cloth shall be fully vulcanized. It shall be dusted on both sides with whiting, talc, or other finely divided mineral material which does not support mildew growth.		(4) Permeability: 6.0 L./sq. M. (max) in 24 hours (96%0). Cloth shall not become stiff or brittle or soft and tacky or show other signs of improper vulcanization after accelerated weathering (4.4.3).	Intended Use - In the fabrication of decoy targets and as an air retaining repair material for pneumatic targets. It is a component of SC 1080-93-CL-804, Repair Equipment, Pneumatic Target.



## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength P/in. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Oz. Sq Yd (5041)	Min. Max.		W	F			W	F				
<p><u>Cloth, Laminated, Cotton; Rubber or Synthetic Rubber Coated, Double Texture MIL-C-678A</u></p>															
Type I- Print to Print	Outer cloth shall conform to Type IV, Class 2, & inner cloth shall conform to Type III, Class 2 of MIL-C-299 (6). Copper content: 0.003% max. Manganese content: 0.0015% max.	Natural or synthetic rubber. Reclaimed rubber shall not be used. Base cloths shall be combined back to back with coating between the plies, then vulcanized. Face of the cloth shall be free from coating.	-	11.0	(7)	35	100	60	40	5	80		13.0	14.0	10
						min.					(initial)		14.0	(Initial)	8
											(after strength of coating)		(after heat treatment)	(After water spray)	7.5
											(after low temp. resistance)			(After acc. aging)	
Type II- Twill to sateen	Outer & inner cloth shall conform to:		11.5	(1)	85	80	55	50	40		(initial)				14
Weave	Outer 2/1 rt. twill	Inner 5-harness fill. sateen									20				
Weight max.	3.2	3.3									(after low temp. resistance)				
Breaking- W	50	28													
F	38	50													
Yarns/in- W	70	65													
F	66	98													
Tearing- W	30	55													
F	25	48													

(6) Manganese & copper: same as for Type I.

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (No. Specification Requirements)
MIL-C-678A Type I Type II	When specified, cloth shall be made mildew resistant by impregnation with 1.35±.25% 2,2 methylene (bis-4-chlorophenol), (dihydroxydichlorodiphenylmethane) using 2 bath aqueous or solvent application. Treated cloth shall not lose more than 10% of breaking strength in the warp. Type I: base cloth shall be given a suitable water repellent finish.	Color - Cloth shall be vat dyed Green OG 107 - standard sample shade available (3). Colorfastness - "good" (5651-5660-5610-5600-5680-5682).	(4) Water absorption: Type I- 0.30 grams max.	Intended use - In the manufacture of wet weather clothing.

### COATED CLOTHS

NOMENCLATURE	Zone Cloth Specifications	Type of Coating Compound	Overall Weight Oz./Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5312)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
								After Flame Length sec. min.	Char Length Max.				
			Min   Max		W   F	W   F	W   F	W   F	70°F	-40°F			
Cloth, Laminated, Fabric, Air-Retaining Mattress MIL-C-40056 (CE)	Cloth shall be free of all sizing & foreign matter. Air-mattress cover cloth 30 den., type 300, high tenacity nylon yarn. Weave: plain 1/4 rip-stop. Yarns/Inch: 105 in warp and fill. Breaking strength: 45 lb. in warp and fill. Tearing strength: 3 lb. in warp and fill. No splices permitted. Air-mattress cloth: 2 backings of plain weave cloth of 75 ends/inch of 70 den. 2-ply, type 300 high tenacity nylon yarn in the warp and 40 picks of 210 den. type 300 yarn in the fill, joined by 30-32 pile threads/sq in, included as warp yarns in plain weave of both backings. Pile threads of equal length throughout. One length without splices/unit package.	Polychloroprene. Not less than 60% by volume of chloroprene. Balance shall be only softeners, curing agents, antioxidants, and reinforcing materials and shall pass through a 100-mesh sieve conforming to RR-8-366. Water absorption shall be held to a min. Tensile strength: 1800 psi. Elongation: 500% min. Loss of tensile strength and elongation shall not exceed 10% after acc. aging of 96 hrs. or acc. weathering of 100 hrs.	23.40 (air mattress cloth) (8) 53 (cover cloth)	57	125 150	6 10 (5134)					4.5 (lb/1")		

NOMENCLATURE	COATING	SHADE AND COLOR FASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-40056	Cloth shall consist of air mattress cloth sandwiched between 2 plies of cover cloth. See spec. for details of construction. Compound shall be applied at the rate of not less than 7 spreader coats for each oz. of compound/sq yd of cloth. Tolerances: +5% for each weight of coating compound & for each weight of finished cloth. Cloth shall be cured to have a smooth, even finish. Curing in soapstone will not be permitted. Proofed cloth shall not be over-cured or show excessive watermarks. Ingredients such as soapstone, talc, paraffin, etc., which will affect strength of cemented seams or joints shall not be embedded in surface of cloth. Compound, outside proofing, or cloth shall be treated to avoid formation of or neutralize any acid which might deteriorate strength or service life of cloth.	Color - When specified, compound for outside or exposed coatings shall have a compatible coloring agent added. Color shall match Olive Drab Color 7 in conformance to MIL-D-504, and shall have an infrared reflectance of 12.0-5.0% in both spectral regions.	Air mattress cloth shall have a 2 in. selvaige on each side. Cloth shall not crack when folded on itself at low temps. (4.4.3.3). Permeability of each side of cloth to hydrogen shall not be more than 6 L/H <sup>2</sup> /24 hrs.	Intended Use - In the manufacture of pneumatic structures.

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Worp (5204)	Bursting Strength	Adhesion lb/2" wide	Blocking Scale rating
					(5100)	(5132)		After Flame length sec min	Char length Max"		(5122)		
			Min   Max		W   F	W   F		W   F	W   F	70°F - 40°F			
Cloth, Laminated, Rubber on Nylon, Inflatable Floor MIL-C-22427 (WEP)	Yarn: bright commercial nylon polyamide of polyhexamethylene adipamids. Pile cloth shall consist of 2 nylon cloths joined by a min. of 30 pile yarn/sq in so that cloths are spaced a min. of 1 in. apart after heat setting. Wgt: 7.0±0.5 oz. Yarns/in: 50±2 in. warp and fill; 30 in pile. Height of pile: 1 in. Yarn size: warp-2-ply 70 den.; fill-singles 210 den.; pile-2-ply 70 den. or singles, 210 den. Weave: face & back-plain; Pile thread: fast pile or W. Cover cloth shall be nylon, 1.0±0.1 oz. plain weave. 90±2 yarns/in. warp & fill. Breaking strength: 40 warp and fill. Calendered, scoured, heat set. (ε). pH: 6 - 8.	Coating & laminating compound shall be 90% by volume min. new plantation rubber. Balance of softeners, curing agents, antioxidants, & reinforcing materials. Pigmented. Pigment of fineness to pass through 325 mesh screen. Foundation coat & rubber shall not injure base cloth or contain ingredients which would bloom to the surface or affect coating adhesion or bondability of finished cloth. No rubber substitutes shall be used & anti-oxidant used must retard aging in service. Compound shall be cured in sheets.	30   32		(1) 2500 (initial) 85% (after heat aging)	2500 (initial) 85% (after heat aging)		W   F	W   F	70°F - 40°F	7 (initial) 6 (after heat aging)	No. 2	

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-22427	Coating shall be applied with a spreader, using multi-layer application technique. Foundation coating shall be applied to base cloth to insure required adhesion. Rubber coating shall be applied to each side of pile cloth. On top of coating on each surface shall be applied the nylon cloth, to which, in turn, shall be applied the natural rubber. Pigment shall be incorporated in outer-most coatings. Laminated cloth shall be cured, and cured cloth may then be dusted with talc or zinc stearate.	Color - Color of finished laminated cloth shall be uniform and an app. match to color number 33538 lusterless Yellow of Fed. Std. 595.	(a) Method No. 4111 of Fed. Std. 601. Cloth shall be a max. of 4 weeks of age at time of release for shipping. Permeability to hydrogen: 4 L/M <sup>2</sup> . Permeability to helium: 2.5 L/M (see spec. for requirements after exposure to high and low temps.) Cloth shall show no signs of cracking after exposures to low temps (4.5.10). Folded cloth shall not be tacky or adhere to itself after exposure to high temps. (4.5.11). Coating shall not become stiff and brittle or soft and tacky after heat aging. Adhesion between plies and coating shall be not less than 6. Breaking strength shall be at least 85% of original (4.5.12). Cloth shall show no signs of air leakage at a pressure of 5 lb/in <sup>2</sup> for 5 min. (4.5.13). Elongation: Initial- 500%. After heat aging- 75% of original. Free sulfur: 0.2% max. Hardness, Shore durometer: 50 ± 5.	Intended Use - In the manufacture of the MK 12A-1 inflatable floor for life rafts.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			(5041)	(5041)					After Flame sec min	Char length Max"				
			Min	Max		W	F	W	F	W	F	70°F	-40°F	
Cloth, Laminated, Sateen, Rubberized MIL-C-9074B (UL)	Cotton, 5-harness sateen conforming to MIL-C-10296. Filling effect side shall be the face.	Natural or synthetic rubber or mixture of both. Pigmented. Reclaimed rubber shall not be used.	23.5	1.5 (1)		190	140	7.5	5.0	40				(5950)
						(initial)				(initial)				7
						15%	15%			30				5
						(loss after acc. aging max.)				(after acc. aging)				(after acc. aging)
										30				(min. warp only)
										(after low temp. resis.)				

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-9074B	2 layers of sateen shall be joined back to back with rubber compound between the plies. Cloth shall then be vulcanized. No strike-through of compound to either outside surface of cloth.	Color - Base cloth: color suitable for complying with color requirement for laminated cloth. Laminated cloth: OC-107, unless otherwise specified. Standard sample available (3).	(4) Both selvages shall be trimmed to give straight, uniform, fully laminated edges.	Intended Use - In the manufacture of waterproof covers for electronic equipment. Also intended for use with drafting and duplicating equipment set for packing and storing of duplicator film.

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)	
			(5041)	(5100)		(5132)	(5134)	After Flame (500)	Char Length (500)		W/F	W/F					70°F
Cloth, Laminated, Vinyl-Nylon, High Strength, Flexible MIL-C-43006B, Amd. 3			Min	Max		W	F	W	F		W	F	W	F			
Type I- Heavy duty Class 1- Regular Class 2- Special	Open mesh woven nylon cloth.	Vinyl film shall conform to requirements of Type II of L-P-375. Plasticizers other than those specified may be used subject to the approval of the contracting officer.	17.1	19.8	50	295	295	93	93	425	5	5	4.5	4.5	14	20	25 No. 3
						±	(initial)	177	177								20
							(after abrasion)	162	162								
							(after acc. weathering)										
Type II- Medium duty Class 1- Regular Class 2- Special			9.0	11.0	54	90	90	32	32	180	5	5	7	7	9	15	20 No. 3
						±	(initial)	45	45								15
							(after abrasion)	49	49								
							(after acc. weathering)										
Type III- Light duty Class 1- Regular Class 2- Special			5.4	6.6	54	75	75	28	28	135	5	5	7	7	8.5	11	15 No. 3
						±	(initial)	23	23								12
							(after abrasion)	41	41								
							(after acc. weathering)										

NOMENCLATURE	COATING	SHADE AND COLOR/FATNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-43006B Type I Class 1 Class 2 Type II Class 1 Class 2 Type III Class 1 Class 2	Laminated cloth shall consist of the open mesh nylon cloth laminated between 2 layers of vinyl film. Finished cloth shall have one comparatively smooth side. The other side shall be rough, in that the areas located over the points at which the yarns cross will be raised, while areas between yarns will be depressed. Smooth side shall be face side.	Color - Finished cloth shall be natural color of vinyl film or shall match applicable color number of Fed. Std. No. 995, or shall match an approved color standard for color specified (3).	(4-5)	Intended Use - For general use in the fabrication of protective covers. It may be reinforced for such items as truck covers or tarpaulins made of this material, but does not cover the articles themselves. Cloth provides high tear strength. Design concepts should include, however, means of securing end items to minimize excessive wind whip.

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width inch	Breaking Strength Lb. Min.		Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Fixability Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			(5041)	(5100)		(5132)	After Flame sec min			Char length Max"	W F				
Cloth, Laminated, ZFO and ZFO W Type Airship Envelope MIL-C-21189 (AER)			Min	Max		W	F	W	F	W	F	W	F	70°F	40°F
Amd. 1	Dacron (polyester fiber). Cloth shall be heat set so that shrinkage shall be no greater than 1.5% in both warp and fill. Max. chloroform extractable matter shall be 1.5%. pH: 6.5 - 8.0 (2811).	Not less than 75% by volume chloroprene. Outer coat shall contain not less than 75% by volume chlorosulfonated polyethylene. Balance shall be softeners, curing agents, anti-oxidants, and reinforcing materials. Chlorosulfonated polyethylene shall contain aluminum pigment conforming to TT-A-468, Types I or II, Class A. Compounds shall contain no waxes or ingredients that may bloom to the surface to affect coating adhesion or cementability. Water insoluble after curing and shall not irritate skin or detrimentally affect dacron. Cured in sheet form. See spec. for table of physical properties of coating compd.	- 16.5	40	40	320	280	130	130	600				10	No. 1

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-21189 (AER)	Laminated cloth shall consist of 2 plies of dacron (polyester fiber) cloth bonded & coated uniformly with chloroprene base compound on outer sides of cloth. Laminated cloth shall have additional coating of aluminized-chlorosulfonated polyethylene on one (outer) side of laminated cloth.	Color - Unless otherwise specified, color shall be aluminized.	(4) No more than 4 weeks shall elapse from time of curing to date of delivery of coated cloth. Ultimate elongation- Initial: 30% max. in warp and fill for straight ply; 35% max. for warp and fill for bias ply (5102). See spec. for requirements after testing. Permeability to hydrogen- Without tension- Initial: 2.5 L/sq M/24 hours max. At bias seam- Initial: 2.5 L/sq M/24 hours max.; Under tension- Initial: 2.5 L/sq M/24 hours max. (5460). See spec. for requirements after testing. Adhesion between plies - Initial: 7.5 lb/in min.; After creasing: 7.5 lb/in min. (5950). Cylinder elongation: 1% max. in the warp (10.2.6). Aluminized laminated cloth, after treatment with aluminum base wash coat, shall show total reflectance of not less than 50%. Bias seam: 3/4 in. min. Free from ragged and uneven edges and from loose threads imbedded in coating compound. Coating shall be applied uniformly throughout.	Intended Use - In the manufacture of airship envelopes.

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz./ Sq Yd	Width inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydro- static Pressure High (5512)	Flame Resistance (5903)		Flexi- bility Cm. Max. Warp (5204)	Burst- ing Strength Pth. Min. (5122)	Adhe- sion lb/2" wide (5970)	Block- ing Scale rating (5972)
					(5041)	(5100)	(5132)	After Flame sec. Min.		Char length Max. "	W/F				
Cloth, Nylon, Coated; Waterproof and Flame Resistant CCC-C-00480 (D8A-F88)			Min	Max	W	F	W	F	W	F	W	F	70°F	40°F	

Type I- Light weight															
Class 1- Coated with chloroprene	Bright, continuous filament nylon. Use of regenerated nylon is prohibited.	Suitable compound- ed chloroprene rubber.	6±.25	(1)	120	120	15	15	20					no crack break or flake	4
Class 2- Coated with vinyl chloride polymer or copolymer resin	Plain weave. Yarns/ inch: 38 in warp & fill. Weight: 2 ± .10 oz. Breaking strength: 90 lb. in warp and fill.	Suitable polymer or copolymer of vinyl chloride resin properly plasticized.	6±.25	(1)	120	120	15	15	20					no crack break or flake	4
Type II- Heavy weight															
Class 1- Coated with chloroprene	Bright, continuous filament nylon. Use of regenerated nylon is prohibited.	Suitable compound- ed chloroprene rubber.	15±.5	(1)	225	220	45	45	40					no crack break or flake	4
Class 2- Coated with vinyl chloride polymer or copolymer resin	Plain weave. Yarns/ inch: 22 in warp & fill. Weight: 5.5± .1½ oz. Breaking strength: 180 lb. in warp and fill.	Suitable polymer or copolymer of vinyl chloride resin properly plasticized.	15±.5	(1)	225	220	45	45	40					no crack break or flake	4

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
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CCC-C-00480				
Type I Class 1 Class 2 Type III Class 1 Class 2	Finished cloth shall be smooth & flexible & shall not become sticky or tacky. When flame resistant cloth is specified, coating shall be treated with or contain an evenly disposed inhibition or flame retardant, which shall be nontoxic, nonirritant, & free from objectionable odor. When flame resistant treated, cloth may weigh an additional 2½-oz/ sq yd. pH: 5.0 - 9.0 (2811).	Color - Unless otherwise specified, color shall be natural, sea blue, orange-yellow, tan, and olive green (1). Colorfastness - "good" (5660-5651-5630-5804).	Shrinkage: 1% max. (5552). Accelerated aging: Class 1 shall not become stiff or brittle, soft or tacky, and shall not crack. Class 2- coating shall retain 75% min. of its breaking strength (5804), and shall not crack. Coated surfaces shall not adhere, become tacky, or show signs of exudation or loss of flexibility (5870). Cloth shall show no leakage when grade 10 lubricating oil (Fed. VV-0-526) is held in a pocket of the cloth. Coated surface shall not crack upon bending after being immersed for 5 min. in hexane.	Intended Use - Class 1: for the making of waterproof tarpaulins & covers, & for use where extra low or high temperatures prevail. Class 2: for the making of waterproof or flame resistant tarpaulins & covers, & for use where extra low or high temperatures prevail.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz / Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrastic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			(5041)	(5100)					After Flame sec min	Char length Max"				
Cloth, Nylon, Marquisette; Metalized MIL-C-22156 (AER)	Bright nylon; Leno, Reverse Doupe weave. Warp: singles, 260 den., 17 filament. Fill: 2-ply, 260 den., 17 filament.	Metalizing: silver. Protective coating: polymer or copolymer of vinyl chloride or vinyl chloride-acetate resin. Plasticized & pigmented.	Min	Max		W	W	F	W	F	70°F	-40°F	W	F
			8.0	+0.5	46	140	150	11	20				3.5	5.0

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-22156	Base cloth shall be metalized to produce a max. resistance of 10 ohms/sq ft. Outside protective coating shall be applied to form an envelope around yarns in both warp and fill directions, thereby leaving the interstices substantially open. Radar reflecting surface shall be produced (4.4.2).	Color - Color of finished cloth shall be white.	Selvage shall be double density 1 1/2 in. wide woven on each edge. Three 1 in. double density reinforcing strips shall be woven in, equally spaced in width of the cloth. Yarns/in: 40 in the warp; 22 in the fill. Flame resistance: no less than 2 min. to consume (5910). Air permeability: 950 CFM/sq ft min., .5 in. water pressure drop (5450). Open area: 99.9%. No cracking at low temps. (4.4.5). No cracking or flaking at exposure to hydrocarbon fluid (4.4.6). No adhesion of surfaces at high temps.	Intended Use - In the manufacture of radar reflective tow targets and equipage.



### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
					Lb. Min. (5100)	Lb. (5132)		After Flame sec. Min.	Char length Max. "		Pts. Min. (5122)		
Cloth, Nylon, Metalized MIL-C-25694A (USAF) Amd. 1	Marquise: te woven from 260 den., 17 filament high tenacity nylon. Yarn shall be a polyamide from hexamethylene diamine & adipic acid or its derivatives. It shall have a melting point of 250°+6°C. Weight: 3.25 oz max. Yarns/inch: 40 in the warp; 22 in the fill. Fly: 1x2. Thickness: 0.0170 in. max. Breaking strength: 100 in the warp; 125 in the fill. Tearing strength: 8 in warp and fill. Air permeability: 3890-4000 ft <sup>3</sup> /min/ft <sup>2</sup> at 5 in. Weave: 4-end leno, repeating on 2 picks (8), (6). Double density selvage, 1 in. min. woven each side. Permanent finish: air permeability shall not change more than 15%; thickness more than 10%; and cloth shrinkage shall be 2% min. in the warp and 1% min. in the fill. pH: 5.0 - 9.0.	Metallic silver -	Min.   Max 4.0   (1)	(1)	W   F 100   125	W   F 8   8	W   F	W   F	W   F	70°F   -40°F			

NOMENCLATURE	COATING	SHADE AND COLOR FASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Noi Specification Requirements)
MIL-C-25694A	Base cloth shall be equally and uniformly metalized on each side to provide radar reflectivity. Metalizing shall be such to withstand normal folding and handling of cloth without excessive transfer to the hands.	Color - Base cloth: shall be natural in color.	Air permeability: 3750-3900 ft <sup>3</sup> /min/ft <sup>2</sup> at 5 in. (5450). Metalized cloth shall not crack or flake after exposure to low temps. (4.3.2.3). Cloth shall show no greater resistance to electricity than 10 ohms (4.3.2.4).	Intended Use - In the manufacture of aerial banner type tow targets.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (504)	Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
					W	F	W	F		After Flame sec	Char length Max"				
Cloth, Silica, Phenolic Impregnated MIL-C-81251 (206)	Silica cloth conforming to OS 9349, Type II, except that it shall contain a min. of 96% silica.	Phenolic resin conforming to MIL-R-9299, Type II, Class 2.	Min	Max	W	F	W	F	W	F	W	F	70°F	-40°F	

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-81251			(4) Uncured resin-impregnated cloth shall contain 28±3% resin solids by weight. Uncured resin-impregnated cloth shall contain 4-7% volatile matter by weight. Uncured resin-impregnated cloth shall have a resin flow of 15-21%. Cured cloth shall have a min. ave. flexural strength of 19000 psi at 75±5°F. No individual value shall be below 13000 psi (method 1031 of Fed. Std. 406). Cured cloth shall have min. ave. tensile strength of 12000 psi at 75±5°F. No individual value shall be below 11000 psi (method 1011 of Fed. Std. 406). Cured cloth shall have a min. specific gravity of 1.67 (method 5011 of Fed. Std. 406).	Intended Use - In rocket motors.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Min	Max					After Flame length sec. Min	Char Max"				
<u>Cloth, Tracing</u> CCC-C-531e						W/F	W/F	W/F	W/F	70°F-40°F				
						(5102)		Opacity, %, max.						
						65 45		Initial After Acc. Aging						
Type I- For ink work	Plain weave cloth. Woven of cleaned yarns. Free from knots, floats, unsightly slubs and misweaves. Yarns/inch: 90 min. in the warp; 85 min. in the filling.	Applied to give a clean, complete, even, and unbroken surface, free from tears, holes, pinholes, wrinkles, or creases.				65 45	40	30	36					
Type II- For pencil work						65 45	40		48					
Type III- For both ink & pencil work (& moisture-resistant)						65 45	40		48	no cutting by pencil; no flaking after rubbing.				

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-C-531e Type I Type II Type III	Type I: highly glazed on one side & matte on the other. Ink shall adhere uniformly to matte side, & lines drawn shall show no spreading or feathering. Matte side shall also show satisfactory erasing. Type II: high glazed on one side & matte on the other. Matte side shall have suitable "tooth" for pencil work & erasing without smudging. Type III: matte surface on one or both sides (1). Ink: lines shall lose no density where tape is applied & tape shall come off clean without removing coating. Lines shall not smear, & erase easily without damaging coating. Pencil: no smudging. Shall leave no ghost or trace of lines when erased. Typing: typed characters shall be clear & distinct, & erase easily.	Color - Cloth shall be white or blue (uniform bluish tint) (1), each of a shade which will give satisfactory performance and conform to standard commercial practice.	Cloth shall be furnished in sheets & rolls (1). No appreciable yellowing, discoloration or change in appearance of the cloth that would cause the printing time to have to be increased on the diazo or blue-printing machine after exposure to accelerated aging & ultraviolet radiation. Heat resistance: there shall be no tackiness or sticking of the cloth. Type III: Water resistance- no stretching, wrinkling, deterioration, water spots, or opaque marks.	Intended Use - Type I: for preparation of ink drawings of the finest character, and from which photolithographs and blueprints of the maximum degree of legibility may be made. Type II: for the preparation of fine architectural and similar type drawings in pencil, using the matte side only, and from which good blueprints may be made. Type III: for the preparation of fine ink or pencil drawings from which photolithographs and blueprints of a high degree of legibility may be made. This type of cloth shall be used when a water-resistant quality is desired.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/ Sq Yd	Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydro- static Press- ure High	Flame Resistance (5903)		Flexi- bility Cm. Max. Warp	Burst- ing Stren- gth Pt. Min.	Adhe- sion lb/2" wide	Block- ing Scale rating
								After Flame sec min	Char Len- gth Max"				
Cloth; Tracing, Printed CCC-C-536			Min   Max		W   F	W   F	W   F	W   F	W   F	70°F	-40°F		

Type I- Profile cloth  Type II- Cross section cloth  Type III- Logarithmic cloth  Type IV- Plan profile cloth	Plain weave cotton, free from excessive number of imperfections of manufacture.	Applied to produce even, unbroken surfaces free from pinholes and other defects. Coating should permit use of drawing ink thereon, after 1 application of Fuller's earth or similar medium, without allowing ink to penetrate cloth.
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NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-C-536 Type I Type II Type III Type IV	Highly glazed surface on one side, and dull finish on the other. Cloth shall have a bluish tinge, be highly transparent, and the dull side shall be capable of one complete erasure of black water-proof drawing ink lines and the redrawing of another set of lines on the same surface area without detrimental change in the character and quality of the lines or surface of the cloth.	Color (1).	Printing: to be done by the use of rollers or plates as the case may require. Printing shall be done on glazed side of cloth. Rulings: shall be commercially standard according to type.	

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz./Sq Yd (5041)	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts./In. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
					Lb. Min. (5100)	Lb. (5132)		After Flame sec min	Char length Max" Max"				
Cloth, Tracing, Sensitized DDD-C-471c			Min   Max		W   F	W   F	W   F	W   F	W   F	70°F   40°F			

Types:  
 I- Photographic  
 II- Diazotype  
 III- Brownprint  
 IV- Blueprint  
 Subtypes:  
 A- Sensitized matte surface, smooth back  
 B- Sensitized matte surface, matte back  
 C- Sensitized smooth surface, matte back  
 Classes:  
 1- Projection, Photographic  
 2- Contact, Photographic  
 3- Wash-off, Photographic  
 4- Diazotype, Ammonia process  
 5- Diazotype, Moist process  
 Colors:  
 A- White cloth  
 B- Blue cloth  
 Styles:  
 1-A- Black line  
 1-B- Sepia line

(1) (5102)  
 65 45  
 (1b/2")

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
DDD-C-471c Types: I II III IV Subtypes: A B C Classes: 1 2 3 4 5 Colors: A P Styles: 1-A 2-B	Coatings shall adhere to base cloth & shall not strip from cloth during processing. Sensitized cloth shall be free from pinholes, scratches, abrasion marks, coating streaks, spots & areas of higher or lower sensitivity than surrounding areas. Sensitized cloth shall have a matte surface on one or both sides (1) that will be suitable for accepting pencil and ink lines, yielding solid lines without skipping, feathering, or smudging. Surface shall have suitable erasing qualities. Curl of full processed prints of all types of cloth shall not curl more than 25 mm.	Color - A cloth shall be white. B cloth shall have uniform bluish tint.	Cloth shall be furnished in a thickness of 0.0042 ± 0.0002 in. including coating. Thickness shall not vary ± 20% from thickness specified. Fully exposed & processed cloth shall resist chipping, flaking, and crazing (4.4.9). See specification for special instructions & requirements. All types of sensitized cloth shall be capable of producing a final reproduced copy that is clear and legible. Cloth shall have clear, even backgrounds, free from mottle, spots, or other defects which would make prints unsuitable for purpose intended.	Intended Use - In the making of photographic enlargements or reductions of original drawings and tracings, and for making reproductions of original drawings and tracings.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Min (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5812)
			Min	Max					After Flame, sec min	Char length Max"				
Duck; Cotton, Enameled CCC-D-741, Amd. 1	Cotton duck, double-filling (2-ply); Yarns/inch; 84(1) in the warp; 28(1) in the fill. Warp: singles, Fill: 2-ply.	Enamel, impervious to moisture. (5C") lin yd	22	50	50	120	70							

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage etc.)	NOTES (Not Specification Requirements)
CCC-D-741	Coated on one side. Flexible without breaking enamel.	Color (1).	Permeability: hydrostatic range- 0 - 20 1/2 in. in 10 min. Cloth shall be thoroughly oxidized to prevent spontaneous combustion.	

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width inch		Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Cm. Max. Warp	Bursting Strength Pts. Min.	Adhesion lb/2" wide	Blocking Scale rating	
			(5041)	(5041)	(5100)	(5132)	(5512)	After Flame length sec. Min.	Char length Max.	(5204)	(5122)					(5970)
Dunnage Mattress, Pneumatic, Cargo Shoring			Min	Max	W	F	W	F	W	F	W	F	70°F	-50°F		
MIL-D-21857A	Casing base cloth shall be nylon duck. Yarn: 210 den. 32-35 filament, bright high tenacity polyamide of hexamethylene diamine & adipic acid or its derivatives; 5-ply (6). Weave: 2/2 basket (2 ends weaving as 1 and 2 picks/shed). Weight: 13.0±0.3 oz. Yarns/inch: 40 min. in warp and fill. Breaking strength: 675 lb. min. in the warp; 650 lb. min. in the fill. Elongation: 20% min. in warp and fill. Non-fibrous material: 2% of dry weight of cloth. pH: 5 - 9.	Chloroprene, synthetic rubber. Pigmented.	40	50	675	650	90	50					16	20	35	No. 1 min.

NOMENCLATURE	COATING	SHADE AND COLOR/FASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-D-21857A	Uncoated cloth shall be thoroughly scoured and heat treated to impart stability, so that the cloth shall not shrink more than 3% in the warp or 2% in the fill. Coating compound shall be uniformly applied so that one side shall have a min. coating of 9.0 oz/sq yd. and the other side shall have a min. coating of 9.0 oz/sq yd. Coated cloth shall be heat-vulcanized.	Color - Uncoated cloth shall have a natural color evolving from processing. Color of all rubber components shall be Black.	(4) See spec. for requirements for strapping, thread, webbing, bladder, valve chain, and closure rod. Abrasion: cloth shall be tested for 20,000 cycles without tearing through (5032). Permeability: the dunnage unit shall show no more than a 0.2 lb. pressure loss after 24 hours of testing (4.4.2.1).	Intended Use - The dunnage unit is a special design, highly resilient, light weight inflatable air mattress used for tightening and cushioning loads, absorbing impact shocks, and reducing vibration during common carrier transit. The dunnage unit is intended to replace timber shoring and is capable of being placed in position and inflated by one man. Dunnage units are capable of multiple usage to restrain palletized loads, large boxes, and irregularly shaped commodity containers. Dunnage units may be used singly or in series to fill voids as determined by load spacing in the carrier.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength lb/2" dia (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)	
								After Flame sec min	Char Length Max"					
Fabrics, Upholstery CCC-F-66a, Amd. 3			Min	Max	W	F	W	F	W	F	70°F	-40°F		
					Yarns/Inch Min.									
Type I- Flat Cloths					W		F							
1. Brocatelle	Warp & filling: cotton, linen, rayon, nylon, polyester or any mixture thereof. Nylon &/or polyester: 50% max.		16.0 per	(1)	170	85								
2. Damask			12.0 lin.	"	170	50								
3. Matelasse			22.0 yd.	"	170	75								
4. Tapestry			20.0 (5/4"	"	132	60								
5. Novelty cloth			20.0 wide)	"	94	48								
Type II- Loop pile cloths					File		Stuffer		Ground		Fill		File loops/ Inch	Breaking Strength
6. Plain rib frieze	Face warp: 50% min. wool &/or mohair, with the balance rayon. Stuffer, ground & fill: cotton &/or rayon.	Stuffer ends on backs or coating of min. 1.8 oz. synthetic resin, natural or synthetic-rubber latex/lin. yd. (5/4")	29.0 (un-	(1)	36	72	18	29					522	65 50
7. Plain frieze			33.0 ed)	"	9	72	18	23					103	65 50
8. Pattern frieze			24.0	"	26	-	-	24					312	65 50
Type III- Cut pile cloths					Tufts/in <sup>2</sup>								Thickness	
9. Mohair velvet	Weave: 4-pick W mohair pile	--	25.0	(1)	28	-	28	48					385	.130
10. Mohair velvet	Weave: 2-pick V mohair pile	2.5 oz. min. synthetic latex/lin. yd. (5/4")	19.0	"	27	-	54	30					405	.140
11. Velour	Weave: 2-pick V cotton pile	--	22.0	"	40	-	40	36					560	.085

(Continued)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-F-66a				
Type I				
1.		Color (1).		
2.		Colorfastness - "fair"		
3.		(5660, for 40 hours).		
4.				
5.				
Type II				
6.	Loop pile cloths shall be guaranteed resis-	Color (1).		
7.	tant to moths & other insects for 5 yrs. min.	Colorfastness - "fair"		
8.	Moth-resistant compound shall be nontoxic and nonirritant.	(5660, for 40 hours).		
Type III				
9.	Mohair velvets shall be guaranteed moth-resis-	Color (1).		
10.	tant for 5 yrs. min.	Colorfastness - "fair"		
11.	Compound used shall be nontoxic & nonirritant.	(5660, for 40 hours).		

(Continued)



### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/3q Yd (5041)	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cr. Max. Warp (5204)	Bursting Strength P <sub>1</sub> Min (5122)	Adhes. lb/2" (5970)	Block-ing Scale rating (5872)
					Lb. Min. (5100)	Lb. (5132)		After Flame length: sec Min	Char Flame length: Max"				
Fabrics, Upholstery CCC-F-66a, Amd. 3 (Cont'd)			Min	Max	W	F	W	F	W	F	70°F	-40°F	
Type IV- Misc. Cloths													
12. Bobby	Face warp: wool &/or mohair. Back warp & fill: cotton &/or rayon.	Back coated with min. 1.8 oz. of synthetic resin, natural, or synthetic-rubber latex/lin yd (54")	19 (un-coated) per lin. yd. (54")	(1)									
13. Dobby (novelty)	Face: 30% min. wool &/or mohair; balance rayon. Backing: cotton &/or rayon.	"	23.5 "	(1)									
14. Rough texture (plain or print)	100% cotton; twisted 2-ply; vat dyes		15 per lin. yd. (54")	(1)									
15. Cretonne (printed)	100% cotton; vat dyes		10 "	(1)									
16. Friezette	100% cotton		15 "	(1)									
17. Mohair satin (plain or print)	Warp: cotton. Filling: 25% min. mohair or wool; balance rayon.		14 "	(1)									
18. Duck (dyed or print)	Not less than 2-ply cotton, vat dyed colors, mildew resistant & water-repellent treated.		12 "	(1)									

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-F-66a (Cont'd) Type IV 12. 13. 14. 15. 16. 17. 18.	Cloths Nos. 12, 13 & 17 shall be guaranteed resistant to moths & other insects for 5 yrs. min. Moth-resistant compound shall be nontoxic & nonirritant.	Color (1). Colorfastness - "fair" (5660 for 40 hours).		

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Ph. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
								After Flame sec. Min.	Char length Max. "				
Label; For Clothing, Equipment, and Tentage, (General Use)													
DDD-L-20c, Am. 2 (GL)													
				Min	Max	W	F	W	F	W	F	70°F	40°F

**Types:**

I- Label, cloth, cotton, permanent coated, printed  
 Cotton, print, bleached white. Yarns/Inch: 80 in the warp; 72 in the fill.  
 Synthetic rubber or resin. Pigmented.  
 3.6 4.8 (Same as Type II)  
 No. 2

II- Label, cloth cotton, permanent coated, mildew resistant treated, printed.  
 Same as Type I. Shall also be mildew resistant treated with 1.35 + 0.25% 2,2' methylene bis (4-chlorophenol) by weight, applied either to base cloth or coating or both.  
 Synthetic rubber or resin. Pigmented.  
 3.6 4.8  
 A 10% tolerance over the max. wgt. will be allowed for the Type I or II, Classes 3, 7 and 11 labels, because of the additional coating or impregnating required after printing.  
 No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
DDD-L-20c Type I Type II	Types I & II shall be impregnated or surface coated. Printed surface of Classes 5 & 7 instruction labels & Class 11 identification label shall be impregnated or surface coated with the finishing compound after printing. Following materials shall not be used in the coating or impregnating formulations: Thermoplastic polyvinyl butyral resin, proteins and their derivatives, starch, hydrophilic oils and resins, resins, sulfur compounds. Finished labels shall be free from objectionable odor and shall have a relatively smooth surface.	Color - Color of finished labels shall be bleached white. Colorfastness - See spec. for colorfastness of printing requirements.	Unless otherwise specified, the labels and markings shall be equal to the standard sample in respect to legibility, quality or printing, durability of finish, and, where applicable, in the ability to accept writing. Labels shall be printed with a black marking medium. The initial printing shall be legible and shall not show off-setting, smearing, or bleeding. All classes of labels shall be printed with Gothic, sans-serif type. Italic or script type shall not be used. All printing shall be in capitals except instruction labels as specified in spec. See spec. for contents, size of characters of inscription, and format of labels.	Intended Use - In items of clothing, tentage, equipment, and related items as specified for the applicable class.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)		Width Inch		Breaking Strength Lb. Min. (5100)		Tearing Strength Lb. (5132)		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength lb/2" dia. (5122)	Adhesion wide (5870)	Blocking Score (5872)
			Min	Max	W	F	W	F	W	F		70°F	-40°F				
<p><u>Mattress, Pneumatic</u> MIL-C-10747E, Amd. 1</p>																	
Class 1- Cemented seams, I-beam construction	Plain weave nylon; 70 Denier, multi-filament, semi-full, in warp & filling. Cloth shall not be calendered.	Natural or synthetic rubber or mixture of both. Pigmented & heat-vulcanized. Reinforced rubber shall not be used.	8.0	11.5	90	55	640	512	50		No leakage	8	12		6	No. 1	
Class 2- Molded seams, C-beam construction	It shall be heat set to prevent distortion weight: 2.0 - 2.3 oz. Yarns/ inch: 106 in the warp; 92 in the fill. Breaking strength: 80 lb. in the warp; 60 lb. in the fill. Tearing strength: 3.5 lb. in the warp; 3.0 lb. in the fill. Shrinkage: 2% max. in the warp; 1.5% max. in the fill. Chloroform extract: 1% max. Copper content: 0.003% max. Manganese content: 0.0015% max. pH: 5.0 - 8.5.		8.0	11.5	90	65	640	512	50		No leakage	8	12		6	No. 1	

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-10747E Class 1 Class 2	Compound shall be applied to both sides of base cloth, & shall be distributed so that one side will have 1 1/4 (1 1/4) oz/sq yd. & the other side will have the remainder. Coating shall be vulcanized and free from pinholes, windows, or other defects which might affect serviceability. Lightly coated, (Olive Green) surface shall have a dull finish produced by an inert mineral dusting powder.	Color - Base cloth: white. Coated cloth: coating on heavily coated side, which is to be on the inside of the mattress, shall be colored Black throughout. Surface color of lightly coated side shall correspond to Olive Green 207.	(4) Abrasion resistance: no visible loose fibers of the base cloth shall be exposed in the center 1 in. of the abraded portion (5304). No cracking, flaking, or peeling of the coating at low temperatures (5874). Cloth shall not become stiff and brittle or soft and tacky and there shall be no flaking, cracking, or peeling of coating after accelerated aging (5852).	Intended Use - In conjunction with arctic and mountain sleeping bags.

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength		Tearing Strength		Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Cm. Max. Warp	Bursting Strength Pcs. Min.	Acquisition lb/2" wic's	Blocking Scale Rating	
			(5041)	(5041)		(5100)	(5132)	(5512)	After Flame sec. min.		Char Length Max"	(5204)					(5122)
Peulin, Waterproof, Special Purpose, 10 Feet Long by 3 Feet Wide			Min	Max		W	F	W	F		W	F	W	F	70°F	-40°F	
MIL-P-1956C																	
Class 1- Stitched and sealed seams	Cotton sheeting cloth, coating quality, Type VIII, Class 1 of Spec. CCC-C-432.	Compound for coating cloth & strapping material shall be synthetic rubber (except that use of natural rubber is permissible in anchor coat), plasticized & pigmented. Reclaimed rubber shall not be used.	12.5	16.0		65	55	25	20	(lot ave.) 30 (initial) (after low temp. resistance) 30 (after weatherometer) 3 (after strength of coating)	(lot ave.) 30 (initial) (after heat treatment) 30 (after water leaching)	(lot ave.) 11 (initial) (after water spray)	(lot ave.) 6 (initial) (after water spray)				No. 3
Class 2- Single stitched, laid in cement & strapped seams			12.5	16.0		65	55	25	20								No. 3
Class 3- Cemented seams			12.5	16.0		65	55	25	20								No. 3

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL P-1956C Class 1 Class 2 Class 3	Base cloth shall be coated on both sides with $8 \pm 1$ oz/sq yd. of coating compound. Face shall be coated with $6 \pm \frac{1}{2}$ oz. of coating compound per sq. yd. Reverse shall contain balance of coating. After vulcanization, cloth shall be free from pinholes and shall contain no more than 5 windows/lin yd.	Color - Shall be 09-207 and shall match standard sample for shade.	(4) Abrasion: no loose fibers of base cloth shall be exposed in center 1 in. of abraded portion (4.4.5). Cloth and all sealed seams shall be dusted with whitening, talc, or other finely divided mineral material which does not support mildew growth, to prevent blocking.	Intended Use - As protective coverings for signal equipment.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
					(5100)	(#132)		After Flame length sec. min.	Char length Max. "				
			Min	Max	W	F	W	F	W	F	70°F	-40°F	
<u>Plastic Sheet;</u> <u>Polyethylene,</u> <u>Laminated, Nylon</u> <u>Reinforced</u> L-P-00524 (GSA-FSS)													
Type I- Regular duty (ASTM D (1922-61), room temp. -20°F)													
50 in. x 100, 200 yd.	Non-woven nylon 66 (polyamide type 66)	Polyethylene bonded with elastomeric base adhesive. See Type I of L-P-378.		50		100	100		3.25				90
50 in. x 100, 200 yd.	100 denier, min. Yarn to be arranged so that there will be 32 yarns/lin. ft.			50		100	100		3.25		4.50		77
50 in. x 100, 200 yd.	min. in both width and length directions.			50		100	100		4.00		7.00		80
(Rolls)				50		100	100		4.00		7.00		85
Type II- Heavy duty Class 1- Without grommets Class 2- With grommets													
6x8 ft.	"	High density polyethylene bonded with elastomeric base adhesive. See ASTM D2103-62T.		6 ft.		100	100		5.00		6.00		90
10x12 ft.				10 ft.		100	100		5.00		6.00		90
12x12 ft.				12 ft.		100	100		5.00		6.00		90
12x15 ft.				12 ft.		100	100		5.00		6.00		90
16x16 ft.				16 ft.		100	100		5.00		6.00		90
20x20 ft.				20 ft.		100	100		5.00		6.00		90
(flat sheets)						(after tear started)							

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
L-P-00524 Type I 50 in. x 100 50 in. x 100 50 in. x 100 50 in. x 100 Type II Class 1 Class 2	Material shall be a 3-ply laminate formed by bonding nylon yarn between 2 sheets of polyethylene. Each ply of polyethylene shall be 0.0015 in. min. thick. There shall be some slippage of the nylon yarn when laminate is subjected to a tearing stress.	Color - Clear both sides. Black both sides. White both sides. Black & white reversible	Seam shear strength, 1 in. seam, room temperature, lb. min.: Type I 12 lb.; Type II- 16 lb. (ASTM D 1683-59T). Folding endurance (1 kg tension) cycles, min.: 30 x 10 <sup>-4</sup> (UU-P-31). Type II, Class 2 sheet shall be provided with metal grommets of Type I, Class 1 of MIL-G-16491. They shall be placed 3 ft. apart & not less than 1/4 in. from the edge at the sheet periphery. They shall be clinched tightly & installed in prepunched holes without cutting the cloth. Force to pull out grommets: 95 lb. min., Type II. (Fed. Std. No. 406, Method 1013, procedure A).	Intended Use - As protective covers for supplies loaded on railroad flat cars & open trailers, as a tarpaulin, as water barrier membrane in construction operation, as pit liner during evacuation work, & as a blanket for curing highway concrete. They are used as painter's drop cloth and vehicle covers, also.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pt. Min (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)	
			(5041)	(5041)					After Flame After 30 sec min	Char Length Max"					
Fonton Float 18-Ton, with Emergency Kit and Carrying Case			Min	Max		W	F	W	F	W	F	W	F	70°F	-40°F

MIL-P-3671, Amd. 1 Cotton duck. Air chamber cutting discards may be used for chafing strips, repair kit pocket, & D-ring & lifting handle patches. Air chamber cloth- Yarns/inch: 18-22 in the warp; 18-23 in the fill. Weight: 17.25 - 19.8 oz. Breaking strength: 290 in warp and fill. Weave: approximately square. Bulkhead cloth- Yarns/inch: 31 in the warp; 26 in the fill. Weight: 105 oz. min. Breaking strength: 145 in the warp; 125 in the fill. Weave: approximately square.

60% neoprene by volume. Balance shall be softeners, curing agents, anti-oxidants & reinforcing material.

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-P-3671	(a)Cloth shall be passed through a friction calender and given 2 friction passes on each side. It shall then be calender-coated each side with a coat gaging between 0.010-0.012 in. for air chamber cloth & 0.008 in. for bulkhead cloth. or (b)Cloth shall be dipped in a dispersion of neoprene latex & water & run through a drier. It shall be frictioned each side & calender-coated each side with a coating gaging between 0.010-0.012 in. for air chamber cloth & 0.008 in. for bulkhead cloth.	Color - Color of finished float shall be that of finished float by finishing compound.	Production test model to be approved. Coating compound- Tensile strength: 1800 psi min. Elongation: 500% min. Shall show no loss of tensile strength after 24 hours accelerated weathering. Max loss of 10% tensile strength after 96 hours accelerated aging. Water absorption shall be held to a minimum. After fabrication, floats shall be vulcanized in a pressure-type oven or in a mold.	Intended Use - As a floating support for a division floating bridge.

### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Min	Max					After Flame sec min	Char lengthn Max"				
<u>Pouch, Human Remains</u> MIL-P-10808C	Flat duck, 7.26 oz. conforming to Type II of CCC-C-443, except that it shall contain no more than 3% starch and protein content including chloroform-soluble and water-soluble materials. Mildew resistant treated with Class D treatment, using inhibitor "2" or "3" of CCC-D-950. pH: 5.5 - 8.5	Formulated from virgin vinyl chloride polymer or virgin vinyl chloride acetate copolymer, plasticized with phosphate or phthalate ester plasticizers exclusively. Use of water soluble compounding ingredients is prohibited.	20	25		110	70	1280	1600	10				
						(5102)		(grams)	(initial)	10				
									(after low temp resistance)					
														6 No. 3 (initial) 5.5 (after boiling)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-P-10808C	Coating shall be applied in equal quantities on both sides of the cloth.	Color - Coated cloth shall be Olive Green 207, Standard sample available.	(b)	Intended Use - In the transport and burial of human remains in the field

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cn. Max. Wcrp (5204)	Bursting Strength Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Oz/Sq Yd (5041)	Min					Max	After Flame length sec Min				
Screening, Non-metallic, Insect L-8-125 a, Amd. 1. (GL) (See also under Synthetic Cloths)  Type I- Polyvinylidene chloride (See Synthetic Cloths)  Type II- Plastic coated or impregnated fibrous glass Class 1- 0.0115" dia. Size 16x16 Size 18x14 Size 18x16 Size 18x18 Size 20x20 Size 22x22 Class 2- 0.013" dia. Size 16x16 Size 18x14 Size 18x16 Size 18x18 Size 20x20 Size 22x22														
			Min	Max		W	F	W	F	W	F	W	F	70°F-40°F
					(1)					10		(a)	No. 1	
					"					10		-	"	
					"					10		90	"	
					"					10		105	"	
					"					10		150	"	
					"					10		160	"	
					(1)					10		180	No. 1	
					"					10		180	"	
					"					10		-	"	
					"					10		200	"	
					"					10		250	"	
					"					10		275	"	

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
L-8-125 a Type I Type II Class 1 Size 16x16 Size 18x14 Size 18x16 Size 18x18 Size 20x20 Size 22x22 Class 2 Size 16x16 Size 18x14 Size 18x16 Size 18x18 Size 20x20 Size 22x22		Color shall be integrally incorporated in the plastic coating. Aluminum shall fall between color Nos. 36492 and 36173 of Fed. Std. No. 595. Colorfastness - "fair" (Fed. Std. No. 141, method 6151).	(a) See specification for requirements after heat aging, accelerated weathering, and water immersion. Tensile strength of filaments: 125,000 psi (4.4.5). Elongation of filaments: 3% max. Filament slippage resistance: Class 1- 2.5 lb. min.; Class 2- 5.0 lb. Filaments shall remain intact after 10 sec. contact with the end of a lighted cigarette. Woven or mock selvage on each edge, of at least 6 ends/edge. Splices shall be well made, show no tails, and be 1 in. max. long. Knots are not permitted. No. of splices shall not exceed 1/sq. ft. or 15 per roll.	Intended Use - For installation in or on any dwelling, patio, screen enclosure, building, or structure, for the purpose of preventing the ingress of flies, mosquitoes, or other insects, particularly where corrosive conditions are encountered.



### COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm Max. JRP (5204)	Bursting Strength Pts Min. (5122)	Adhesion lb/2" wide 5970	Blocking Score rating 5872	
			(5041)	(5100)					(5132)	After Flame sec min					Char length Max"
			Min	Max		W	F	W	F	W	F	W	F	70°F	-40°F
<b>Tape, Coated-Cloth, Polychloroprene</b> MIL-T-14517 (CE) Balloon cloth conforming to MIL-C-12318 Type HH. Cloth shall be mildew resistant. Fungitoxic compound shall be compatible with cloth and coating. No copper fungitoxic compound shall be used.			Polychloroprene spread compound & uncured polychloroprene compounds shall contain not less than 60% (by volume) of chloroprene. They shall be compatible. Uncured compound shall be compounded to vulcanize or cure by migration of accelerator from polychloroprene cement conforming to MIL-C-5540, Type II. Spread compound shall have min. tensile strength of 1600 psi and min. ultimate elongation of 300%. Loss of tensile strength shall not exceed 10% after acc. aging & after acc. weathering.	6.22	6.88	1-5/8							6 lb/1"		

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-T-14517	Balloon cloth shall be spread coated with polychloroprene spread compound on both sides then cured. One side shall then be spread coated with uncured polychloroprene compound. Not less than 3 spreader coats/sq sq yd of polychloroprene compound shall be applied. A binder coat may be included between the cured & uncured coats of polychloroprene compound. Curing with soapstone shall not be permitted. Tape shall not be overcured.		Tape shall be rolled with an interliner of holland cloth to prevent adhesion between cured & uncured polychloroprene surfaces. Ingredients such as soapstone, talc, paraffin, or similar materials which will immediately or latently affect the strength and adhesion of the tape shall not be imbedded in the surface of the balloon cloth.	Intended Use - In the seams of air-retaining cloth conforming to MIL-C-11390. Tape is cured by activation with a neoprene cement conforming to Type II of MIL-C-5540.

## COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength lb/2" Min. (5122)	Adhesion wide (5970)	Blocking Scale rating (5872)
					W	F	W	F		After Flame sec	Char length Max"				

Wall Covering,  
Vinyl Coated  
CCC-W-408

Min | Max      W | F      W | F      W | F      W | F      70°F - 40°F

Type I - Lgt. Duty	Cotton cloth, non-woven fiberglass, asbestos, or other suitable materials.	Virgin polymerized or copolymerized vinyl-chloride resin, plasticized with phosphate or phthalate ester plasticizers exclusively & shall be integrally pigmented. When necessary, cloth shall be top-coated in the same manner.	7.0 -	(1)	40	30	14	12	20	3	3	4 1/2	4 1/2		No. 2
Type II- Med. Duty			13.0 -	(1)	50	55	25	25	50	3	3	4 1/2	4 1/2		"
Type III- Hvy. Duty			22.0 -	(1)	100	95	80	50	100	3	3	4 1/2	4 1/2		"
Class 1 - Regular finish															
Class 2 - Mildew resistant															

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-W-408 Type I Type II Type III Class 1 Class 2	Base cloth for Class 2 shall be mildew-resistant treated (5762). Coating compound shall be applied to one side of base cloth to form continuous film. Grain shall conform to that of standard sample.	Color (1) - standard sample available. Colorfastness (5660).	(4-5). Breaking strength after soil burial: 80% of initial (5762). Shrinkage: All types, warp- 2% max. Types I & II, fill-1% max. Type III, fill- 1 1/2% max. (4.4.4). No evidence of cracking, stiffening, flaking, or separation of coating from backing at 200F. (4.4.5). Cloth shall not become stiff or brittle, soft or tacky, discolored or show loss of grain after heat aging (5831). Crocking resistance - "good" (5651).	Intended Use - Type I; as a maintenance-free covering for areas not subjected to abrasion or wear traffic, and for ceiling. Type II; for general use in areas where there is average traffic and Type II; only as wain-scot or lower wall protection for areas exposed to damage by move-able equipment or to abusive conditions such as exist in hospitals.

## REFERENCES

COATED CLOTHSTextile Test Methods - CCC-T-191b

<u>Method</u>	<u>Title</u>
	<u>Chemical</u>
2811	Acidity (pH), Potentiometric method.
	<u>Construction</u>
5030	Thickness of cloth.
5041	Weight of cloth; small specimen method.
	<u>Mechanical</u>
5100	Strength and elongation, breaking, of woven cloth, grab method.
5102	Strength and elongation, breaking, of woven cloth, cut strip method.
5104	Strength and elongation, breaking, of woven cloth, ravel strip method.
5120	Bursting strength, ball method.
5122	Bursting strength, diaphragm.
5132	Tearing strength, pendulum method (Elmendorf).
5134	Tearing strength, tongue method.
5136	Tearing strength, trapezoid method.
5202	Stiffness, directional; cantilever bending method (Tinius Olsen).
5204	Stiffness, directional; self-weighting cantilever method (Clark).
5304	Abrasion resistance; oscillatory cylinder (Wyzenbeek) method.
5306	Abrasion resistance of cloth, rotary platform, double head (Taber) method.
	<u>Air Permeability and Water Resistance</u>
5450	Air permeability, calibrated orifice method (Frazier).
5504	Water resistance, (coated cloth) spray absorption.
5512	Water resistance, (coated cloth) hydrostatic pressure, high range.
5516	Water resistance, hydrostatic pressure, water permeability.
	<u>Shrinkage Resistance</u>
5552	Shrinkage in laundering; cloth other than cotton and linen.
	<u>Colorfastness</u>
5614	Laundering of wool, silk, rayon cloth; Launder-Ometer.
5630	Water, cold.
5651	Crocking of cloth.
5660	Light; accelerated (Fade-Ometer).
	<u>Mildew Resistance</u>
5762	Mildew resistance; soil burial method.
	<u>Deterioration Tests</u>
5804	Weathering; accelerated (National Weather Unit).
5831	Leaching; minimum exposure.
5850	Aging; accelerated oven method.
5852	Aging; accelerated oxygen method.
5870	Flexibility after heat.
5872	Temperature, high; blocking.
5874	Temperature, low; coated cloth.
	<u>Fire-Resistance Thermal Tests</u>
5903	Flame resistance of cloth; modified vertical
5910	Burning rate of cloth; 30° angle.
	<u>Adhesion, Coated Cloths</u>
5950	Adhesion, plied (double texture) cloths.
5970	Adhesion of coating; solvent method.

GENERAL NOTES

CORDAGE

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- |                           |   |
|---------------------------|---|
| (1) As specified.         | (4) Sulfur dyes.  |
| (2) Preproduction sample. | (5) Nonfibrous, extractable matter, chloroform soluble. |
| (3) Colormatching.        | (6) See specification for applicable tolerances.        |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

## CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (45G2)
						Min	Max.			
Cord, Acrylic, Lacing (For Assembly of Propelling Charges) MIL-C-40088 (OR)								W	F	
Type 1									20	
Type 2									30	
Type 3									90	
Type 4									100	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-C-40088 Type 1 Type 2 Type 3 Type 4	Acidity or alkalinity: no more than 0.1% as acetic acid and not more than 0.1% as sodium carbonate (4.6.1.1.2). Ash content: not more than 1.0% (4.6.1.2). There shall be no halogens in the cord (4.6.1.3). pH: 5.0 - 9.0 (4.6.1.1.1).	Color- Unless otherwise specified, color shall be natural. If color is specified, it shall be obtained by "dope" dyeing (the color being added to the acrylic polymer mix prior to spinning the filaments) or by conventional dyeing as specified by contracting officer.	(2) Cord shall be made from 99% min. acrylic fiber. Breaks in ends or plies shall be joined by knots. Ave. no. of full knots (a knot in the entire cord) shall be not more than 1 for every 2 oz. of cord.	Intended Use - In the assembly of propelling charges. It is not for use with propellants containing nitroguanidine.

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Fly	Ficks Per Inch Min.
						Min	Max.					
Cord, Cotton, Braided, Prewaxed MIL-C-5649B (ASG) Amd. 1								W	F			
					310 yd.			45			3	10

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-C-5649B	Cord shall be thoroughly impregnated with a wax which shall not have a detrimental effect on doped cloths. Weight of wax: 10-25% of conditioned weight of finished unwaxed cord. Use of detergents or other chemicals or finishing agents which would cause deterioration in storage is prohibited.	Color- Cord shall be natural, unbleached white.	Yarn shall be made from combed peeler cotton or its equivalent. Cord shall be braided and shall have not less than 16-ends of 3-ply cotton.	Intended Use- In lacing the cloth on airplane fuselages.

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength	Elongation	Water Absorption	Picks Per Inch Min.	Elastic Strands Min.	
							Lb. Min.	% Max	(4502)			
							(4102)	(4102)	(4502)			
Cord, Elastic, Cotton MIL-C-43303, Amd. 1							Min	Max.	W	F		
	Yarn Counts $\frac{L}{2}$											
Class 1- General purpose	Cover 20/2	Cord 20/1	3/16	1/32	16 of 1 end/carrier or 8 of 2 ends/carrier.	0.18 oz/lin yd.		117 - 143		26	7	
Class 2- Special purpose	20/2	20/1	3/16	1/32	8 of 2 ends/carrier.	"		117 - 143 (initial) 80% (after acc. aging) 80% (after low temps.)		26	7	

NOMENCLATURE	FINISH	SHADE / D COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)

MIL-C-43303 Class 1 Class 2		Color- natural or dyed (1). When dyed is specified, cotton yarn shall be dyed before braiding. (3-4) Standard sample available. Colorfastness- standard sample available (5500).	Elastic strands shall be made of compounded natural rubber, synthetic rubber, or a mixture thereof. Rubber gage shall be 36 (max. fineness). Cords shall be composed of 7 ends of rubber wrapped first with 4 ends of 20/1 cotton and top wrapped with 1 end of 20/1 cotton yarn. Braid cover shall be braided over the core with the carriers braiding in pairs in a basket weave formation. Class 2: Initial permanent set- 8.0% max. After acc. aging, change in permanent set shall be no more than 20% (3.5.3.4-3.5.2.5).	Intended Use - As a drawcord in the man's field coat, vesicant gas protective coat, cold weather overalls for mechanics, traffic control ensemble, man's parka, rucksack cover, and fragmentation protective body armor.
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### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	No. of Ends in Braid		
						Min	Max.				W	F	Inner
Cord, Elastic, Exerciser and Shock Absorber for Aeronautical Use													
MIL-C-5651B Amd. 1													
		(Outside)		Weight per 100' (lb. max.)	Load for 100% elongation-lbs.			Drift (max)	Set (max)				
Type I- Straight cord with double braided cover (shock-absorbing)		1/4		2.5	170			140	20%	10%	16	24	
		3/8		5.5	300			140	20%	10%	24	40	
		1/2		9.0	400			140	20%	10%	32	60	
		5/8		14.0	500			140	20%	10%	48	60	
		3/4		22.0	1000			100	20%	10%	60	60	
Type II- Endless ring (Burgess) with double braided cover (shock-absorb. ring)		1/4			32-56						32	32	
		3/8			180-300						48	48	
		7/8			260-400						48	48	
		1			350-500						48	48	
		9/16			425-600						48	48	
		5/8			500-700						48	48	
		11/16			650-850						48	48	
		3/4			800-1300						48	48	
		13/16			1100-1500						60	60	
Type III- Straight cord with single braided cover (exerciser cord)		3/16		1.3				45	200	10%	5%	-	32
		5/16		3.1				75	200	10%	5%	-	32

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-C-5651B Type I Type II Type III	Strands shall be thoroughly treated with soapstone or talc to prevent them from adhering to each other in the finished cord.	Color- Types I & II: both inner & outer braids shall be natural in color. Type III: color shall be as specified. See spec. for instructions on color marking.	(2-6) Yarns shall be cotton. Ends shall be made from natural rubber compound, cis-1,4 polyisoprene rubber compound, or a mixture thereof. Cord shall be made of multiple strands encased within double or single layers of cotton braid. Strands shall be continuous throughout the length of the cord and shall be a uniform size in a given cord. Types I & II: outer braid shall consist of polished ply yarns. Inner braid consist of polished (soft) ply yarns. For all types: braid shall be tight and prevent dirt from entering between the threads at 100% elongation. Cord shall be no more than 6 months old from manufacture to delivery date. Low temp. set: Type I- 10% max.; Type I, II- 5% max. Flexing cycles (min): Type I, set size- 5x10'; Type II, 3/4 in.- 1x10'; Type III- 3.5x10'. See spec. for properties after aging.	Intended Use- Types I & II: Shock mount installations. Type III: opening elastic on parachute pack, camera or instrument cradle mounts, airship valve control lines, and where a shock-absorbing cord of low initial tension is required.



## CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Fibs per strand (min.)
						Min	Max				
<u>Cord, Linen, (Plumb-Bob Use)</u> MIL-C-43258A			3/64 min.	8 (4 strands: "s" twist 4 strands: "s" twist)	1350'						
<u>Cord, Linen, Shock Absorber Herring Use</u> MIL-C-2522D			3/32-1/64	8	570'						1 for core 1 for sleeve

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-C-43258A	(5) Cord shall have a smooth dressed surface with a hard polished finish. pH: 5.5 - 7.5 (2611).	Color - Color of cord shall be natural.	Cord shall be made from flax fiber.	Intended Use - For plumb-bob use on surveying equipment.
MIL-C-2522D	(5) Cord shall be waxed. Wax content determined by following chloroform-soluble method in 2611.	Color - Unless otherwise specified, color shall be natural.	Cord shall be made from flax fiber. It shall be braided around a core. No. of core yarns: 4. Picks/Inch: 9 min.	Intended Use - For serving the ends of shock absorber cord and various other applications in airdrop equipment.

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Denier		Fly
						Min	Max.				Core	Sleeve	
Cord, Nylon MIL-C-5040C						No. of Yarns		W/F	(min)	Picks/Inch Sieve	Core Sleeve		C S
		<u>Ends/Carrier</u>				<u>4-7</u>							
Type I		1 or 2		32 or 16	1050'			100	30	26-28	210	70	3 3
Type IA (Coreless)		1		16	1050'			-	30	"	-	210	- 3
Type II		1		32 or 36	315'	4-7		375	30	"	210	210	*5 3 **3
Type III		1		32 or 36	225'	7-9		550	30	"	210	210	*5 3 **3
Type IV		1		32, 36, 44	165'	11		750	30	"	210	210	*5 3 **3

\*- First  
\*\*- Final

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-C-5040C Type I Type IA Type II Type III Type IV	(5) No extraneous weighting material shall be added.	Color- Unless otherwise specified, color of the cord shall be natural. When colored cord is specified, cord shall be yarn dyed to match an approved standard shade of Olive Drab No. 7 (3). Sleeve yarns shall be dyed before braiding. Colorfastness- standard sample available (4660-4614-4620). See spec. for instructions for type identification by color marking. Yarns shall not be subjected to any type of bleaching process.	Core yarns shall be shrunk for min. of 60 min. at 93.3° ±2.8°C., and shall be dried at a temp. not to exceed 93.3°C. before manufacture of the core. No oil shall be added to the yarn. Sleeve yarns shall be shrunk for a min. of 30 min. at a temp. of 71.1° ±2.8°C., after which they shall be dried at a temp. not to exceed 71.1°C. before braiding. No oil shall be added to the yarn. Yarns shall not be stretched. Nylon shall be bright high-tenacity light and heat resistant polyamide of hexamethylene diamine and adipic acid or its derivatives. Melting point shall be 250° ±6°C. Splicing of core yarns is permissible, providing overlap is between 5-10 in. Cord shall not lose more than 25% of original breaking strength after exposure to heat and light (4.4.4-4.4.5). Cord shall not be more than 2 years old from date of manufacture to date of delivery.	Intended Use- As parachute suspension lines.

## CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Yarn Ply	Yarn Denier
						Min	Max					
<b>Cord, Nylon, Coreless</b>						W/F						
MIL-C-7515D	Picks per inch	Ends per carrier	Total ends							Distance between carrier run-offs feet (min)(d)		
Type I	11-15	3	48	16	330			400	20	100	3	210
Type Ia	13-135	2	32	16	330			400	20	100	1	840
Type II	10-12	3	48	16	255			550	20	50	1	840
Type III	8.5-10	6	96	16	150			750	20	90	3	210
Type IV	7-9	6	96	16	120			1000	20	40	1	840
Type V	6.5-8	9	144	16	90			1500	20	25	1	840
Type VI	4.5-6.5	12	192	16	60			2000	20	20	1	840
Type VII	4.5-6	14	224	16	45			2500	20	15	1	840
Type VIII	5.5-7.5	12	288	24	36			3000	20	10	1	840
Type IX	5.5-7	4	96	24	27			4000	20	5	4	840
Type X	4.5-6	5	120	24	22			5000	20	5	4	840
Type XI	14-15.5	7	112	16	480			300	20	100	1	210
Type XII	4-5	16	576	36	12			10000	20	3	7	210
Type XIIa	4-5	18	576	32	12			10000	20	3	7	210
Type XIII	22.5-26	4	64	16	2700			50	20	100	1	70
Type XIV	21-24	3	48	16	1200			100	20	100	1	210
Type XV	13-16	(a)	24	16	675			200	20	10	3	210
Type XVI	6.5-8	7	112	16	105			1250	20	30	1	840
Type XVII	5.5-7	10	160	16	75			1750	20	20	1	840
Type XVIII	5-6	13	208	16	51			2250	20	10	1	840
Type XIX	5.5-7	14	336	24	30			3500	20	10	1	840
Type XX	5.5-6.5	(b)	108	24	24			4500	20	3	4	840
Type XXI	4.5-5.5	(c)	132	24	18			5500	20	3	4	840
Type XXII	4.5-5.5	6	144	24	15			6000	20	5	4	840

- (a) Eight carriers of one end each, eight carriers of two ends each, alternately.  
 (b) Twelve carriers of four ends each, twelve carriers of five ends each, alternately.  
 (c) Twelve carriers of five ends each, twelve carriers of six ends each, alternately.  
 (d) A minus tolerance of 10 percent will be allowed on dyed cord.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-C-7515D	(5)	Color - unless otherwise specified, color of cord shall be natural. When colored is specified, cord shall be piece dyed to match standard shade of Olive Drab #7. The cord shall be piece dyed under uniform tension at all times during dyeing. Dyeing of cord in skeins is prohibited. (3). Colorfastness - standard sample available (4660-4614).	Nylon yarn used in the cord shall be bright, high tenacity, heat and light resistant polyamide prepared from hexamethylene diamine and adipic acid of its derivatives. It shall have a melting point of 250°C. Nylon yarn shall not be subjected to any bleaching process. In manufacture no more than 1 carrier end shall be allowed to run off per length of cord as specified above (**). When carrier ends run off, they shall be spliced a min. distance of 5 inches to max. of 10 inches.	Intended Use - for use in cargo type parachutes. Type XI cord is intended for use as tow cables. Type Ia cord is intended for low cost parachutes.
Type I				
Type Ia				
Type II				
Type III				
Type IV				
Type V				
Type VI				
Type VII				
Type VIII				
Type IX				
Type X				
Type XI				
Type XII				
Type XIIa				
Type XIII				
Type XIV				
Type XV				
Type XVI				
Type XVII				
Type XVIII				
Type XIX				
Type XX				
Type XXI				
Type XXII				

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)
						Min	Max.			
Cord, Nylon, Solid Braid, General Purposes MIL-C-43307, Amd. 1								W	F	
Sizes:		(1/64)								
		3/32		9	380'			250		
		1/8		9	220'			400		
		5/32		12	134'			540		
		3/16		12	99'			720		
		7/32		12	72'			900		
		1/4		12	57'			1100		
		5/16		12 or 18	36'			1900		
		3/8		12 or 18	24'			2700		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-C-43307		Color - Unless otherwise specified, color shall be natural. When specific color is required, it shall be as specified, and shall match standard sample (3). Colorfastness - standard sample available (4671).	Yarn shall be bright, high tenacity multi-filament nylon. Cord shall be of solid braid construction.	Intended Use - In miscellaneous tentage and equipment application.

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Diameter		
						Min	Max				W	F	Inch
Cord, Polyamide, High Temperature Resistant MIL-C-81104 (WEPS)				12, 1 end per carrier	350'			100	30		26-28	200	3

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS <small>(Such as core requirements, etc.)</small>	NOTES <small>(Not Specification Requirements)</small>
MIL-C-81104		Color- Unless otherwise specified, color shall be Olive Green. Color shall be obtained by utilization of solution-dyeing.	Yarn shall be a high strength, aromatic polyamide, and shall not melt.	Intended Use- In the construction of anti-G coveralls, Mark 2A, and related clothing.

## CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Elongation Load (pound)	
						Min	Max.					
Cord, Polyester, Solid Braid MIL-C-432 A						W   F						
Sizes:		( $\frac{1}{64}$ )										
		3/32	8	360'				205	20%		175	
		1/8	9	220'				310	20%		230	
		5/32	12	140'				400	20%		300	
		3/16	12	99'				540	20%		400	
		7/32	12	71'				725	20%		500	
		1/4	12	53'				945	20%		700	
		5/16	12	34'				1575	20%		1200	
		3/8	12	25'				1925	20%		1500	
		1/2	12	14'				2950	20%		2000	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-C-43256A	(5) No extraneous weighting material shall be added.	Color - Unless otherwise specified, color of cord shall be natural. When colored cord is specified cord shall be dyed to match standard shade of Olive Drab # 7. (3). Colorfastness - standard sample available. (4671).	(2) The yarn used in the fabrication of the cord shall be a high tenacity multi-filament, plied or single polyester yarn. When dyed cord is specified, the shade shall be obtained by yarn dyeing or piece dyeing and subsequently processed to stabilize the yarn or cord. The character of the cord shall be equal to standard samples for roundness and firmness.	Intended Use - In tentage, equipment, and other items.

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Fly	Picks Per Inch
						Min	Max.					
Cord, Rayon, Without Core, Braided MIL-C-4232 c								W	F			
Type I				16	126'			400	(min.) 14%		1	9-10
Type II				16	60'			1000	12%		1	5-5½
Type III				16	39'			1500	-		1	3½-4

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS		NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)	
MIL-C-4232 c Type I Type II Type III	No chemical finishes or treatments shall be applied to specifically increase weight or breaking strength.	Color- Unless otherwise specified, cord shall be natural color or methyl orange (tinted).	Yarn shall be high tenacity viscose rayon, 3.0 - 4.6 grams per denier. Denier of basic yarn shall be 1100 min. In manufacture, not more than 1 carrier end shall be allowed to run off per 50 ft. of cord. When carrier ends run off, they shall be spliced a min. of 5 inches to a max. of 10 inches in length.		Intended Use- As suspension lines of cargo parachutes and in other aerial delivery applications.

## CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max (4102)	Water Absorption (4502)	Wgt. of Yarns per Core in % of carrier total Cord.		
						Min	Max				Min.	Max	
<u>Cords, Cotton; General and Special Purpose, Sash and Venetian Blind T-C-571e</u>						W   F							
						Number of Core Yarns							
						Class 1	Classes 2 & 3	Class 1	Classes 2 & 3				
Type I - General Purpose and sash cord (dyed and undyed)										45.0% max.			
Class 1 - Natural fin.													
Class 2 - Polished fin.													
Class 3 - Water & mildew resistant fin.													
Sizes:													
	4	( $\frac{1}{64}$ in)	$\frac{1}{8}$	9	201'	171'		100	10.0	8.0	3	5	19
	5		$\frac{5}{32}$	9	100'	85'		160			4	5	19
	6		$\frac{3}{16}$	12	65'	55'		200			4	5	19
	7		$\frac{7}{32}$	12	54'	45'		300			5	5	19
	8		$\frac{1}{4}$	12	44'	37'		370			6	5	19
	10		$\frac{5}{16}$	18	27'	23'		560			10	3	13
	12		$\frac{3}{8}$	18	20'	17'		720			12	3	13
	16		$\frac{1}{2}$	18	11.7'	10'		1250			14	3	13
Type III- Venetian blind cord (dyed material or bleached)													
Class 6- Glazed polished finish													
		( $\frac{1}{64}$ in)	$\frac{9}{64}$	8	-	-	2	175	-	-	6		
Type IV- Special Purpose Cord (Natural or bleached)													
Class 4 - Polished and water resistant fin.													
		( $\frac{1}{64}$ in)	$\frac{5}{32}$	12	80.3'	5,3 ply		180	7.0		8.0% max. 5,3 ply		
Type V- Mail Bag Lacing cord													
Class 5 - Special polished finish (cont'd)													
		0.167-0.180		12	90'		5	240	13.5		5		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS		NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)	
T-C-571e	(5)				
Type I	Class 1- Natural finish, in which no consistency or luster other than that inherent within the cotton cloth is required. Class 2- Polished finish cord shall have a lustrous, smooth-dressed surface with no protruding fibers. All finishing and glazing materials shall be added after braiding. Class 3- Mildew resistant treated with copper-8-quinolinolate in conformance with T-T-616. It shall be water resistant treated with a solution of amorphous wax or parafin wax, mineral oil, asphalt, pigments (when required) and a volatile solvent. Use of gilsonite, petrolatum or equivalents will also produce a smooth, lustrous surface with no protruding fibers. Class 5 - five 1 Class 2 polished finish. Core yarns shall be impregnated with a 20% aqueous polyvinyl acetate.	Color - Types I, III, V, & VI Classes 1, 2, & 5: Unless otherwise specified cord shall be natural, unbleached. When specific color is required, it shall be obtained by yarn dyeing of Type I, Class 3 shall not be & shall match standard sample. Class 3: Unless otherwise specified, color shall be the natural shade imparted by treatment. When a shade is specified, it shall be obtained by yarn dyeing and shall match standard sample.	Cord shall consist of cotton yarns firmly and evenly braided around a cotton core. Type VI shall not have a core. Types I and V shall be a solid braid weave. After water absorption, the thickness increase of Type I, Class 3 shall not be more than 10%. Elongation after immersion of Type IV shall be not more than 7%. Use of casein, glue, gum, starch, dextrin, water-soluble materials, paint dryers, resin or vegetable oils, oxidizing oils or resins modified with such oils is prohibited with the exception of materials necessary for polishing Class 2 cord.	Intended Use - Type I, Sizes 6, 7, 8, 10 are intended for use with pulleys (see spec. for sizes of pulleys and max. loads). Type I, Class 1, Size 6 is intended for clothes-lines. Type I, Class 3 cord is recommended for outdoor use. Type I cord may also be used for tent ropes, swing line, truck rope, lashing, elevator gate cord, and for overhead doors. Type IV, Class 4 (special purpose cord) is used for medical applications for applying traction in fracture frames.	



## CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min.		Elongation % Max.	Water Absorption	Yarns per Carrier
							(4102)	(4102)			

Min | Max.    W | F  
Number of  
Core Yarns

Cords, Cotton: General and Special Purpose, Sash and Vention Rind  
T-C-571e (cont'd)

Type VI - Aircraft applications  
Class 6 - Glazed  
Polished finish.

(1/64 in)  
3/32

9

480'

-

80

20.0

Flid

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
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T-C-571e (cont'd)  
Type VI  
Class 6

Class 6 - shall have smooth-dressed surface with no protruding fibers.

Class 6: shall be natural when bleached white is required, it shall match color # 17575 of Fed. Std. No. 595. Type IV - Color shall be natural (bleached yarn is acceptable) (3).  
Colorfastness - To be specified in applicable end item specifications or in contract or order. (5610-4660-4671).

Type VI, Class 6 is used in the manufacture of flare chutes.

## CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)
Cords, Yarns and Monofilaments Organic Synthetic Fiber MIL-C-572E, Amd. 3						Min   Max.	W   F		
<p>Type P- Polyamide.</p> <p>Type SAR- Saponified acetate rayon (Forms C and Y only).</p> <p>Type VC- Copolymer of vinylidene chloride and vinyl chloride (Form MF only).</p> <p>Type PVCA- Polyvinyl chloride and its copolymers (Form MF only).</p> <p>Type AR- Cellulose acetate (Forms C and Y only).</p> <p>Type VCR- Viscose rayon (Forms C and Y only).</p> <p>Type CTA- Cellulose triacetate (Forms C and Y only).</p> <p>Form C- Cordage. Form Y- Yarns. Form MF- Monofilaments.</p>									

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-C-572E Type P Type SAR Type VC Type PVCA Type AR Type VCR Type CTA Form C Form Y Form MF		Color - Unless otherwise specified, color shall be natural.	Material shall consist of a suitable synthetic properly formulated with plasticizers pigment, lubricants, or other materials as may be necessary to conform to the specification. See spec. for table of property values of synthetic-fiber electrical insulation.	Intended Use- Type P: For applications requiring high tenacity, moisture resistance, and recovery. It is employed in lieu of silk in fiber sizes of magnet wire and cable applications. Should not be used outdoors. Type SAR: for applications requiring a very high dry tenacity and heat resistance. Type VC: For applications requiring a relatively high tenacity and very high moisture resistance. Type PVCA: For cordage applications requiring a high degree of elongation and good elastic recovery. Type AR: For applications not requiring high tenacity, but where use may be made of its dyeing properties, sea-water resistance, and thermoplastic properties. Type VCR: for applications requiring high tenacity and ability to take high degree of twist. Type CTA: Where high electrical resistivity and high moisture resistance are required.

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Ends Per Carrier	Picks Per Inch Min.
						Min	Max.					
<u>Halyards, Signal, Braided, Treated</u> MIL-N-2260								W	F			
Class 1- Without core		(1/8") 3/4 1		8 9	35' 23'			500 750			4 6	2-3/4 2-1/2
Class 2- With core		1-1/4		12	19'			675	45% max.		23	2-1/4

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-N-2260 Class 1 Class 2	(5) Class 1 halyards shall be mildew resistant treated with copper-8-quinolinolate conforming to T-F-616. Class 2 halyards shall have a smooth polished surface, and shall be mildew resistant treated with copper-8-quinolinolate conforming to T-F-616. They shall be a water resistant treated with a solution of amorphous wax or paraffin wax, mineral oil, asphalt, pigments (when required), and a volatile solvent. Use of gilsonite, petrolatum or equivalent products is permitted. Halyards shall not produce stains (4.2.5.5). Use of casein, glue, gum, starch, dextrin, water-soluble materials, paint driers, resin or vegetable oils, oxidizing oils or resins modified with such oils and finishing or loading materials to specifically increase weight or breaking strength is prohibited.	Color - Shall be that natural shade resulting from the treatment.	Class 1 halyards shall be braided without core from a min. of 9-ply cotton yarn. Class 2 halyards shall be firmly braided around a cotton core from a min. of 3-ply cotton yarn. Number of strands in core: 23. Class 2 halyards may be braided with 18 carriers with 15 ends per carrier.	Intended Use - for use as flag halyards and distance lines.

## CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hordness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Ends per Carrier Min.	Picks per Inch Min.
						Min	Max.					
Laces, Footwear, Cotton						W/F						
V-L-511												
Type I- Mercerized		Width (+1/32")										
Class A	54/2	7/32		44				70			2	32
Class B	50/2	7/32		64				70			1	38
Class C	40/2	7/32		44				70			2	26
Type II- Soft fin.												
Class A	20/2	8/32		32				120			2	16
Class B	20/2	11/32		44				150			2	16
Type III- Glazed												
Class A	20/2	8/32		32				120			2	16
Class B	20/2	11/32		44				150			2	16
Type IV- Waxed fin.												
Class A	24/2	7/32		40				110				22
Class B	26/2	7/32		44				110				22
Class C	33/2	7/32		48				110				26
Class D	23/2	10/32		44				110			2	16

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
V-L-511b				
Type I	Type I laces shall have a smooth and silky luster.	Color (1-4), Standard sample available (3).	(2)	Intended Use - In footwear and other items.
Class A	Type II laces shall have a soft finish. Type III laces shall have a glazed, smooth glossy finish. Type IV laces shall be waxed by immersion in a molten wax solution. Wax shall thoroughly saturate and be evenly distributed.	Colorfastness - standard sample available (4630).	The braid for the laces shall be tubular braided without a core using 2 over and 2 under braiding. Braid shall be pressed flat.	
Class B				
Type II				
Class A				
Class B				
Type III				
Class A				
Class B				
Type IV				
Class A	After waxing, laces shall increase in weight not less than 17.5 nor more than 33.5%. Finished lace shall contain a min. of 0.04% to a max. of 0.09% metallic copper as copper-8-quinolinate. See spec. for types of waxes and wax solution amounts.			
Class B				
Class C				
Class D				
	pH: (All types and classes) 4.0 - 3.0 (2811).			

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4302)	Ends Per Carrier Min.	Picks Per Inch Min.
						Min.	Max.					
<b>Laces, Nylon</b>						Min.	Max.	W	F			
<b>V-L-61c</b>												
<b>Type I- Spun nylon</b>		Width ( $\frac{1}{32}$ ) 7/32		44	Varp ends min.	Stuffer min.			95		1	38
Class 1- 7/32" wide, flat												
Class 2- 10/32" wide, flat		10/32		44	-	-			175		2	26
<b>Type II- Bulked filament nylon</b>												
Class 1- 3/32" diameter, round		8/32	$\frac{3}{32}$ ( $\frac{1}{32}$ )	16	-	-			100		3	26
Class 2 -8/32" wide, flat				44	-	-			190		2	17
Class 3- 4/32" diameter, round				8	(carriers braiding in pairs)	4	1	190		2	16	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS		NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)	
<b>V-L-61c</b>					
Type I Class 1 Class 2		Color (1). Standard sample available (3). The stuffer yarn for Type II, Class 3 need not be dyed. Colorfastness - standard sample available (4630).	(2)	Nylon for Type I, Classes 1 and 2 shall be spun from nylon staple and twisted into 2-ply yarn. Nylon for Type II, Classes 1 and 2 shall be a 210 denier filament yarn which has been increased to size 230-250 denier by air bulking. The cover yarns & varp yarns for braiding Type II, Class 3 laces shall be made from 840 denier high tenacity filament nylon yarn, increased to 940-1000 denier by air bulking process. Stuffer shall be one end of 10,080 denier high tenacity filament nylon yarn, not air bulked, stuffer shall not be braided. Braid shall be tubular braided without a core using a 2 over and 2 under braiding, except for Type II, Class 2 which shall braid 1 pair over and 1 pair under, and type II Class 3 which has a stuffer cord. Type I, Classes 1 and 2, and Type II, Class 2 braid shall be pressed flat. Type II, Classes 1 & 3 faces shall not be pressed and shall be round.	Intended Use - On various types of footwear, clothing, and equipment.
Type II Class 1 Class 2					

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Knots Per Inch Min.
<u>Laces, Leggings</u>										
MIL-L-396C (8A)		3/32 ± 1/64		9 or 16	Weight/144 yds. 21-24 oz.	Min   Max.	70			8 or 3   8 or 16
<u>Lines, Cotton, Braided</u> (Lead Lines and Taffrail Log Lines)										
MIL-L-1145D		3/4 (± 1/8)		12	60'		220	(Max. Elongation in 8 inches) 1 1/2		ply 14

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-L-396C	(5) Laces shall be smoothly finished and polished.	Color - White 3041 or khaki 3727 (1). Standard samples available (3). Khaki laces shall be yarn dyed with vat dyes. (b) Yarns of white laces shall be fully bleached. Bluing agents may be used. Colorfastness - Khaki laces: standard sample available (30-4650-4670).	(2) Yarns shall be 2-ply cotton. Laces shall be firmly & uniformly braided without a core. When braiding with 9 carriers, weave shall be over 2 and under 1 (sash cord weave), and when braiding with 16 carriers, weave shall be over 2 and under 2.	Intended Use - As a closure for leggings worn by personnel of the Navy and Coast Guard.
MIL-L-1145D	(5) Use of casein glue, starch, dextrin, water-soluble materials, paint dryers, resin or vegetable oils, oxidizing oils or resins modified with such oils to specifically effect breaking strength or length per pound is prohibited.	Color- Unless otherwise specified, color of the line shall be natural.	Lines shall be evenly braided around a cotton core.	Intended Use - As lead or taffrail log lines.

## CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength	Elongation	Water Absorption	Elongation load lbs.	
							Lb. Min.	% Max.	(4502)		
							Min   Max.	W   F			
<u>Lines: Shot (For)</u> <u>Line-throwing-Guns</u> T-L-411b		(1/64)							Length of coil (min.) feet	Elongation load lbs.	
Type I - Flax-Cable laid		1/8	3	175'	350	15	2000	260			
Class 1- Natural finish		7/32	3	75'	700	15	2000	520			
		9/32	3	45'	1150	15	2000	850			
Type II- Nylon-Braided without cufe											
Class 2- Waxed finish		3/32	8	400'	425	15	500	370			
Type III- Nylon, Cab's Laid											
Class 2- Waxed finish		13/64	3	100'	940	30	2000	900			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
T-L-411b Type I Class 1 Type II Class 2 Type III Class 2	(5) Class 1 line shall have a soft natural finish. Class 2 line shall have a smooth polished, waxed finish.	Color - Unless otherwise specified, color shall be natural. When specific color is required, color shall be as specified. Standard sample available (3). Colorfastness - standard sample available for dyed line (4671).	Type I line shall be fabricated from flax fiber. Types II & III lines shall be fabricated from nylon fiber having a min. melting point of 244°C. Loss in breaking strength after heat aging for Types II and III shall not exceed 10% of initial (4102).	Intended Use - In the operation of line throwing guns.

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Number of Plies
						Min	Max				
Rope and Yarn, Plied, Synthetic Fiber MIL-R-24183 (SWIPS)								W	F		
Type I - Rope		( $\frac{1}{16}$ )			(at Load "P")						
Class 1 - Ratline and seizing		$\frac{1}{2}$			185'			530			
		$\frac{3}{4}$			83.5'			1050			
		1-			48.0'			1700			
		1- $\frac{1}{4}$			30.0'			2500			
		1- $\frac{1}{2}$			21.0'			3350			
Type II - Yarn, plied					(not at Load "P")						
Class 1 - Marline					530'			15'			2
					260'			500			2
Class 2 - Houseline and Roundline					470'			440			3
					365'			420			3
					165'			750			3

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-R-24183 Type I Class 1 Type II Class 1 Class 2	(5)	Color - of finished ropes or plied yarns shall match an approved std. shade of OD-7. (3). Colorfastness - standard sample available - (4671).	Materials: The ropes and plied yarns shall be fabricated of virgin synthetic fibers, synthetic fibers of the continuous mono-filament or continuous multi-filament types may be used, but not in combination with each other. Mono-filament fibers shall be no larger than 200 denier per filament. Multi-filament fibers shall be at least 4.4 denier. Each fiber type shall be fortified with heat and light stabilizers. Construction: The ropes of right hand of "Z" by construction shall consist of 3 strands, each of which shall be of one-size of balanced-twist 3-ply yarns. The plied yarns shall be either 2-ply or 3-ply "ZS" balanced-twist construction. Splicability-Type I ropes shall be splicable, and shall not develop yarn displacement or strand cockles.	Intended Use - to be used as ratline, seizing, marline, houseline and roundline.



### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Load P-125D lbs.
						Min	Max				

Rope, Cotton  
T-R-00571b (GL)

Class 1- Natural

Class 2- Mildew Resistant Treated

Sizes:	approximate		Length	Breaking Strength	Elongation	Water Absorption
	(nominal)	(a)				
	3/8	1/8	200'	120		2
	5/8	3/16	90'	250		4 1/2
	3/4	1/4	52'	420		8
	1-1/8	3/8	23 1/2'	890		17 1/2
	1-1/2	1/2	13 1/2'	1450		31
	2-1/4	3/4	6'	3100		70
	3-	1-	3 1/2'	5100		125

(a) For information only, and not requirement of specification.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)

T-R-00571b  
Class 1  
Class 2

(5)  
Class 1 rope shall be natural.  
Class 2 rope shall be mildew resistant treated with copper-8-quinolinolate conforming to the requirements of T-T-16, except that the permissible copper content shall be 0.13-0.40% copper as copper-8-quinolinolate.

Intended Use - for general purpose use.

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4302)	Loss, % 2000 <sup>2</sup>
						Min	Max.				
<b>Rope, Manila and Sisal</b> T-R-605b, Amd. 2						Min   Max.		W   F			
<p>Type M- Manila (Musa textilis) Class 1- "Becker" rope value Class 2- "Non-Becker" rope value Type S- Sisal (Agave sisalana)</p>											
		(nominal)	(approx) (nominal)			Length of coil (min)	Manila Sisal		Gross wgt. of coil (approx) lbs.		
Sizes:		5/8	3/16	6	66.6'	3335'	450	360	40		7
		3/4	1/4	6	50.0'	2500'	600	480	40		12.5
		1	5/16	9	34.5'	1725'	1000	800	50		19.5
		1-1/8	3/8	12	24.4'	1220'	1350	1080	50		28.2
		1-1/4	7/16	15	19.0'	1200'	1750	1400	63		38.2
		1-1/2	1/2	21	13.3'	1200'	2650	2120	90		50.0
		1-3/4	5/16		9.61'	1200'	3450	2760	125		63.0
		2	5/8		7.50'		4400	3520	160		78.1
		2-1/4	3/4		6.00'		5400	4320	200		112.5
		2-1/2	13/16		5.13'	1200'	6500	5200	234		132.0
		2-3/4	7/8		4.45'	1200'	7700	6160	270		176.0
		3	1		3.71'	1200'	9000	7200	324		200.0
		3-1/4	1-1/16		3.20'	1200'	10500	8400	375		226.0
		3-1/2	1-1/8		2.78'	1200'	12000	9600	432		253.0
		3-3/4	1-1/4		2.40'	1200'	13500	10800	502		312.0
		4	1-5/16		2.09'	1200'	15000	12000	576		345.0
		4-1/2	1-1/2		1.67'	1200'	18500	14800	720		450.0
		5	1-5/8		1.34'	1200'	22500	18000	893		528.0
		5-1/2	1-3/4		1.12'	1200'	26500	21200	1073		612.0
		6	2		.930'	1200'	31000	24800	1290		800.0
		7	2-1/4		.685'	1200'	41000	32800	1752		1012.0
		8	2-5/8		.524'	1200'	52000	41600	2290		1380.0
		9	3		.414'	1200'	64000	51200	2900		1800.0
		10	3-1/4		.335'	1200'	77000	61600	3590		2120.0
		11	3-5/8		.273'	1200'	91000	72800	4400		2640.0
		12	4		.230'	1200'	105000	84000	5225		3200.0
Manila Hard-lay rope, 3-strand - Sizes:		3-1/2	1-1/8		2.67'	1200'	11000		450		253.0
		4	1-5/16		2.00'	900'	14000		450		345.0

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS		NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)	

T-R-605b  
Type M  
Class 1  
Class 2  
Type S

Manila and sisal rope requiring mildew resistant treatment shall be treated in accordance with T-T-516. Cordage oil - shall be of suitable cordage quality and the % extractable matter, based on the dry weight of the finished rope, shall be not less than 11.5 nor more than 16.5%.

Type M rope shall be made from Musa textilis fiber. Type M, Class 1 rope shall have a "Becker" value of not less than 43 for rope 5/8 - 2 in. in circumference, and not less than 40 for rope 2-1/4 in. and larger in circumference. Type S rope shall be made from Agave sisalana fiber. Unless otherwise specified, rope shall be 3-strand. When specified, 4-strand rope shall be furnished. 4-strand, hard-lay rope shall not be over 7% heavier than 3-strand rope of the same size, and shall have at least 95% of strength required for 3-strand rope of the same size.

Intended Use - For general purpose use.

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Denier
						Min.	Max.				
Rope, Nylon MIL-R-17343C, Aml. 1		(6)						W	F		
	Sizes:	(At Load P)	(Approx.)		(At Load P)				(4106)		
		5/8	3/16		100'	5	25		1000	55	2500-8000
		3/4	1/4		66'	5	25		1500	55	2500-8000
		1	5/16		36'	5	25		2500	55	2500-8000
		1-1/8	3/8		28.5'	5	25		3000	55	2500-8000
		1-1/4	7/16		20'	5	25		4500	55	2500-8000
		1-1/2	1/2		16.5'	5	25		5500	55	2500-8000
		1-3/4	9/16		12.5'	5	25		7000	55	7500-10000
		2	5/8		9.7'	5	25		8400	55	7500-10000
		2-1/4	3/4		7.2'	5	25		11500	55	7500-10000
		2-1/2	13/16		6.2'	5	25		14000	55	7500-10000
		2-3/4	15/16		5.0'	5	25		16000	55	10000-15000
		3	1		4.1'	20	100		22000	55	10000-15000
		3-1/2	1-1/8		3.0'	20	100		28500	55	15000-16000
		3-3/4	1-1/4		2.6'	20	100		33000	55	15000-16000
		4	1-5/16		2.3'	20	100		37500	55	15000-16000
		4-1/2	1-1/2		1.8'	20	100		46000	55	15000-16000
		5	1-5/8		1.5'	20	100		57000	55	15000-16000
		5-1/2	1-3/4		1.25'	20	100		68000	55	15000-16000
		6	2		1.00'	20	100		81000	55	15000-16000
		6-1/2	2-1/8		.90'	20	100		90000	55	15000-16000
		7	2-1/4		.71'	20	100		110000	55	15000 min.
		8	2-5/8		.55'	20	100		137000	55	"
		9	3		.43'	20	100		170000	55	"
		10	3-1/4		.34'	20	100		200000	55	"
		11	3-3/8		.285'	20	100		240000	55	"
		12	4		.24'	20	100		280000	55	"

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-R-17343C	(5) No extraneous weighting material shall be added.	Color- Unless otherwise specified rope shall be natural in color. When color is specified, rope shall be dyed to match approved standard shade of Olive Drab No. 7 (3). Colorfastness- standard sample available (4671).	Moisture content of the rope shall not exceed 5%. Finished ropes shall be spliceable & shall not develop yarn displacement or strand cockles in splicing test. Rope shall be made from bright virgin, continuous-filament nylon fiber of at least 6 denier size, having at least 6.5 grams per denier strength. Nylon shall be a long chain polymer of hexamethylene diamine and adipic acid, or a long chain polymer of epsilon amino caproic acid. Mixtures of nylon fiber types shall not be used in any 1 rope. Ropes shall be made from 3 strands of balanced 3-ply yarns.	Intended Use- For general purpose uses where high strength or stretch is required as in mooring, towing, and hoisting operations.

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Length per 10 turns	
						Min	Max				W	F
Rope, Nylon, Climbing Type MIL-R-1688C Amd. 1		( $\pm$ 1/16)	(approx) (a)		(b)			(4206)	(4106)	Load F (5042)	Min	Max
		3/4	1/4	3	47.0'	20	$\pm$ 5%	1300 (initial) 90% (after aging)	35%	3 lbs.	7.0	7.8
		1-1/8	3/8	3	23.0'	20	$\pm$ 5%	3150 (initial) 90% (after aging)	35%	7 lbs.	11.1	12.4
	1-1/4	7/16	3	17.0'	20	$\pm$ 5%	4500 (initial) 90% (after aging)	35%	9.5 lbs.	12.9	14.3	

(a) For information only, not a specification requirement.

(b) A minus tolerance of 10% is allowed for dyed rope.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-R-1688C	(5) No extraneous weighting material shall be added.	Color - Unless otherwise specified, rope shall be dyed Olive Drab No. 7 to match standard sample (3). Colorfastness - standard sample available (4671).	(2) Rope shall be made from 6 denier per filament, bright virgin, continuous filament light and heat resistant polyamide nylon having a min. of 5.5 grams/denier strength. Nylon shall be a long chain polymer of hexamethylene diamine and adipic acid or a long chain polymer of epsilon amino caproic acid. Mixture of nylon fiber types in any case rope shall be prohibited.	Intended Use - For mountaineering operations.

## CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	At Load Y Ficks Per Inch	Yarns Per Carrier
						Min	Max					
Rope, Nylon, Double-Braided MIL-R-24050 A								W F	Load P (200 xD <sup>2</sup> )		Cover (min)	
Size:	(6) 5/4	(Nominal) 1 1/4	16	(a) Load P					(a)			
	1	5/16	16	36'				1650	40	12	8.00	2
	1-1/8	3/8	16	30'				2750	40	20	6.20	2
	1-1/4	7/16	16	20'				3300	40	28	5.55	2
	1-1/2	1/2	16	15'				5000	40	38	4.60	2
	1-3/4	9/16	16	12'				6650	40	50	4.00	2
	2	5/8	20	9'				8300	40	65	3.60	2
	2-1/4	3/4	20	6.6'				11500	40	80	3.50	2
	2-1/2	13/16	20	5.7'				15000	40	110	3.10	2
	2-3/4	15/16	20	4.8'				17500	40	130	2.85	2
	3	1	20	4.0'				20800	40	175	2.60	2
	3-1/2	1-1/8	24	2.8'				25000	40	200	2.35	2
	3-3/4	1-1/4	24	2.5'				35000	40	250	2.40	2
	4	1-5/16	24	2.2'				40000	40	310	2.25	2
	4-1/2	1-1/2	24	1.6'				45000	40	345	2.10	2
	5	1-5/8	24	1.43'				60000	40	450	1.85	2
	5-1/2	1-3/4	24	1.11'				70000	40	730	1.70	2
	6	2	24	1.00'				90000	40	610	1.50	2
	6-1/2	2-1/8	24	0.83'				100000	40	800	1.40	2
								120000	40	900	1.30	2

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
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MIL-R-24050A	(5) No extraneous weighting material shall be added to the rope.		(a) Load elongation curve, drawn autographically, shall not exhibit evidence of changes in load applications greater than 5% of the load weighed at the instant of change. Inner and outer braids shall be made from bright, white, virgin continuous-filament nylon fiber of at least 6 denier size, having at least 6.5 gram per denier strength. Nylon shall be a long chain polymer of hexamethylene diamine and adipic acid or a long chain polymer of epsilon amino caproic acid. Mixtures of nylon types shall not be employed in finished rope or component braid. Ropes shall be double braided. A cover shall be braided over an inner core, both hollow. Heat setting will not be permitted. Core carriers: 8 min. Core yarns/carrier: 3/4-3 in. in.; 2; 3-1/2 - 6-1/2 in. - 3. Loss in strength after heat aging shall not be more than 10% (4.2.5.3.2). Moisture content shall not exceed 5% (2600).	Intended Use- For general purpose uses where high strength and low elongation are required.
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### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Corries) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)
Rope, Nylon (Spun Yarn) MIL-R-43161		3/4 1/8			47'	Min   Max.	W   F (4106) 850 (initial) 90% (after heat aging)	(4106) 35%	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-R-43161	(5) No extraneous weighting material shall be added.	Color - Shall be Olive Drab No. 7. Standard sample available (3). Colorfastness - standard sample available (4671).	Rope shall be made from bright, virgin, spun staple nylon. It shall be of 3-strand construction, have a firm lay with a high degree of resistance to back turning (subbing or kinking in the strand) upon removal of effort from the rope. Rope shall be not more than 2 years old from date of manufacture to date of delivery. Moisture content shall not exceed 5%.	Intended Use - For Lacing ponton floats.

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.		Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)
					Min.	Max.				
Rope, Polyester MIL-R-30900A, Mod. 1										
Sizes:		(6) (At load P)			(At load P)			W   F (4106)	(a)	
		5/8		3	24.0'	5	25	800	35	
		3/4		3	55.0'	5	25	1200	35	
	1			3	30.0'	5	25	2500	35	
	1-1/2			3	13.0'	5	25	5000	35	
	2			3	8.0'	5	25	8000	35	
	2-1/4			3	6.0'	5	25	10000	35	
	2-1/2			3	5.3'	5	25	13000	35	
	3			3	3.5'	20	100	18500	35	
	3-1/2			3	2.5'	20	100	25000	35	
	4			3	2.0'	20	100	31000	35	
	5			3	1.3'	20	100	48000	35	
	6			3	0.90'	20	100	62000	35	
	7			3	0.66'	20	100	83000	35	
	8			3	0.50'	20	100	110000	35	
	9			3	0.40'	20	100	140000	35	
	10			3	0.33'	20	100	165000	35	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
MIL-R-30900A	(5) No extraneous weighting material shall be added.	Color - Unless otherwise specified, color of the finished rope shall be natural. When colored rope is specified, rope shall be dyed to match an approved standard shade of Olive Drab No. 7 (3). Colorfastness - standard sample available (4671).	(2) (a) Load elongation curve, drawn autographically, shall not exhibit evidences of changes in load applications greater than 5% of load weighed at the instant of change. Changes due to splices slippage shall not be considered. Material shall be bright, viz is, continuous multi-filament fiber of ethylene terephthalate polymer. Rope shall be of 3 strands. Moisture content: 2% max. Rope shall be spliceable and shall not develop yarn displacement or strand cockles in testing (4.2.5.7).	Intended Use - For general purpose uses. (Not Specification Requirements)

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands or Carriers Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Load P 200 X P <sup>2</sup>
						Min	Max.				
Ropes, Polypropylene MIL-R-24049A		(6)						W   F			
Sizes:		(At Load P) (Approx.)		(At Load P)							
		5/8	3/16		118.0'			700			7
		3/4	1/4		83.5'			1000			12
	1	5/16	5/16		47.0'			1700			20
	1-1/8	3/8	3/8		36.1'			2150			28
	1-1/4	7/16	7/16		30.0'			2500			38
	1-1/2	1/2	1/2		21.0'			3700			50
	1-3/4	9/16	9/16		15.8'			4800			65
	2	5/8	5/8		12.0'			6000			80
	2-1/4	3/4	3/4		9.1'			7000			110
	2-1/2	13/16	13/16		7.6'			9000			130
	2-3/4	15/16	15/16		6.35'			11000			175
	3	1	1		5.20'			13000			200
	3-1/2	1-1/8	1-1/8		3.80'			16500			250
	3-3/4	1-1/4	1-1/4		3.30'			19500			310
	4	1-5/16	1-5/16		2.92'			21500			345
	4-1/2	1-1/2	1-1/2		2.28'			26000			450
	5	1-5/8	1-5/8		1.90'			32000			530
	5-1/2	1-3/4	1-3/4		1.58'			38000			610
	6	2	2		1.26'			44000			800
	6-1/2	2-1/8	2-1/8		1.10'			50000			900
	7	2-1/4	2-1/4		.90'			60000			1000
	8	2-5/8	2-5/8		.70'			75000			1400
	9	3	3		.545'			94000			1800
	10	3-1/4	3-1/4		.430'			115000			2100

Type I- Low elongation rope  
Type II- High elongation rope

(a)  
35  
35

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS		NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)	
MIL-R-24049A Type I Type II	(5)	Color- Unless otherwise specified, color shall match an approved standard shade of Olive Drab No. 7 (3). Colorfastness- standard sample available (4671).	(2) (a) Load elongation curve drawn autographically shall not exhibit evidence of changes in load applications greater than 5% of the load weighed at the instant of change. Changes due to splice slippage are not considered. Finished ropes shall be spliceable and shall not develop yarn displacement or strand cockles in testing. Materials used for the rope shall be virgin continuous mono-filament polypropylene, ranging in size from 100-600 denier per filament. Fiber shall have at least 6 grams per denier strength. Softening point of at least 300°F. Specific gravity of no greater than 0.91. Fiber shall contain adequate heat and ultraviolet light stabilizers. Ropes shall be made of 3 strands.		Intended Use- For various Military uses where high strength, lightweight, and flotability are required, as in mooring, towing, and hoisting operations.



### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (45C2)	Yarns Per Strand Min.
						Min	Max				
Rope Tent-Lay MIL-R-1670D		(Nominal)	(b)	(a)	Min Load P. (P=290D <sup>2</sup> )	Max Load P. (P=125D <sup>2</sup> )	W/F (4106)				
Type I- Rope, Manila, Tent-Lay		3/4		3	55.55'	12.5		630			2
		1		3	38.46'	19.5		1030			3
		1-1/8		3	27.02'	26.1		1410			4
		1-1/2		3	14.70'	50.0		2720			7
		2		3	8.33'	78.1		4360			7
		2-1/4		3	6.66'	112.5		5560			7
		3		3	4.11'	200.0		9260			7
		3-3/4		3	2.65'	312.5		13900			7
Type II- Rope, Sisal, Tent-Lay		3/4		3	55.55'	12.5		500			2
		1		3	38.46'	19.5		830			3
		1-1/8		3	27.02'	26.1		1130			4
		1-1/2		3	14.70'	50.0		2170			7
		2		3	8.33'	78.1		3500			7
		2-1/4		3	6.56'	112.5		4450			7
Type III- Rope, Jute, Tent-Lay		3/4		3	50.00'	12.5		480		25%	2
		1		3	34.48'	19.5		750		25%	3
		1-1/8		3	24.39'	28.1		1000		25%	4
		1-1/2		3	13.33'	50.0		1630		25%	7
		2		3	7.51'	78.1		2620		25%	7
		2-1/4		3	5.98'	112.5		3220		25%	7
Type IV- Rope, Cotton, Tent-Lay		5/8		3	71.42'		4.4	222		35%	2
		3/4		3	43.47'		7.8	400		35%	2
		1		3	27.77'		12.2	630		35%	3
		1-1/8		3	18.86'		17.6	850		35%	4
		1-1/2		3	11.49'		31.3	1400		35%	7
		2		3	6.49'		48.8	2300		35%	7
		2-1/4		3	5.10'		70.3	3000		35%	7
Class 1- Natural Class 2- Mildew Resistant treated											

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-R-1670D Type I Type II Type III Type IV Class 1 Class 2	(5) Class 1 rope shall have a natural finish. Class 2 rope shall be mildew resistant treated with copper-8-quinolinolate to conform with T-T-616. Use of finishing or loading materials to increase weight or strength is prohibited. Types I & II rope shall contain cordage oil lubricant.	Color- Unless otherwise specified, color of the rope shall be natural. Color of treated rope shall be that imparted by the treatment to natural colored rope.	(a) A 5% minus tolerance on min. length per pound is allowed for Class 2 treated rope. (b) When specified, 4-strand rope shall be furnished. It shall be not more than 7% heavier than 3-strand rope of the same type and class, and shall have at least 95% of the strength required for the 3-strand rope. Type I rope shall be made from no other fiber than manila hemp (Abaca or Musa). Type II rope shall be made from no other fiber than sisal (Agave sisalana). Type III rope shall be made from no other fiber than jute (Corchorus capsularis or Corchorus olitorius). Type IV rope shall be made from no other fiber than cotton. Stained or tinged cotton is acceptable.	Intended Use - in the fabrication of test lines.

## CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)
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Rope, Yarn and Twine,  
Best Fiber  
T-R-650

				Min	Max.	W	F
(6) nominal	(a)	Load "P" 200 D <sup>2</sup> lbs.					
Type I- Rope, Jute							
Class 1 - Natural							
Class 2 - Mildew-Resistant treated							
	5/8	3/16	3	66.6'	7.	70	
	3/4	1/4	3	50.0'	12.5	360	
	1	5/16	3	34.5'	19.5	600	
	1-1/8	3/8	3	24.4'	28.2	310	
	1-1/4	7/16	3	19.0'	38.2	350	
	1-1/2	1/2	3	13.3'	50.0	590	
	1-3/4	9/16	3	9.61'	63.3	2070	
	2	5/8	3	7.50'	78.1	2640	
	2-1/4	3/4	3	6.00'	112.0	3240	
	2-1/2	13/16	3	5.13'	132.0	3900	
	2-3/4	7/8	3	4.45'	153.0	4620	
	3	1	3	3.72'	200.0	5400	
	3-1/4	1-1/16	3	3.20'	226.0	6300	
	3-1/2	1-1/8	3	2.78'	253.0	7200	
	3-3/4	1-1/4	3	2.40'	312.0	8100	
	4	1-5/16	3	2.09'	345.0	9000	
	4-1/2	1-1/2	3	1.67'	450.0	11100	
	5	1-5/8	3	1.34'	528.0	13500	
	5-1/2	1-3/4	3	1.12'	612.0	15900	
	6	2	3	0.93'	800.0	18600	

Type II- Rope, hemp,  
tarred

Class 1 - Ratline	6	3/4		33.3'	12	600
	9	1		23.8'	20	900
	12	1-1/8		17.3'	28	1100
	15	1-1/4		13.3'	38	1400
	18	1-3/8		11.3'	44	1600
	21	1-1/2		10.0'	50	1800
Class 2 - Seizing	4	1/2		63.2'	7	300
	6	5/8		50.0'	8	450
	9	7/8		36.4'	16	600
(cont'd)	12	1		28.6'	20	750

NOMENCLATURE	FINISH	SHADE AND COLOR/FASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
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<p>T-R-650 Type I Class 1 Class 2 Type II Class 1 Class 2</p>	<p>Use of casein, glue, gum, starch, dextrin, water soluble materials, paint dryers, resin or vegetable oils, oxidizing oils, or resins modified with such oils is prohibited. Class 1- natural jute ropes shall be treated with a water repellent lubricant, and it shall be not less than 10 nor more than 15% of the weight of the finished rope. No substance shall be added for loading or weighting the rope. Class 2, mildew-resistant ropes shall be treated in accordance with the requirements of Type I, II, or III treatment of MIL-T-16070, or the requirements T-T-616.(5) Type III shall have a polished finish, and be considered stainless Type IV - (5).</p>	<p>(a) When specified, ropes of 4-strand medium lay construction shall be furnished. The breaking strength shall be, at least 95% that of the 3-strand rope, and the weight no more than 7% heavier. Type II, tarred hemp ropes - both classes shall be treated with pine tar, content which shall be not less than 10% or more than 22%.</p>		
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### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	
						Min	Max.				
Rope, Yarns & Twine, East Fiber T-R-650 (cont'd)											
Type III- Twine, hemp, polished, stainless											
	12				1710'			31			
	18				950'			49			
	24				855'			67			
	36				570'			105			
	48				427'			145			
	60				250'			190			
Type I7											
Class 1- Marline											
											<u>Designation</u>
					180'			175			Navy
					220'			160			Common
					360'			95			Medium
Class 2- Spun yarn											
											<u>Number of plies</u>
					120'			215			2
					85'			305			3
Class 3- Houseline											
											<u>Designation</u>
					160'			170			Houseline
					120'			225			Navy
Class 4- Roundline											
											<u>Number of plies</u>
					90'			300			3

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)

T-R-650 (Cont'd)  
 Type III  
 Type IV  
 Class 1  
 Class 2  
 Class 3  
 Class 4

## CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Width Thickness	
						Min.	Max.				Inch (+10%)	Inch (+0.003)
Tape: Impregnated, Lacing and Tying MIL-T-43435												
		Length/Pound										
Type I- Polyamide Nylon				Finish								
Sizes:		A	B	C	E							
1		400	300	350	325	135	40	.225	.014			
2		700	500	600	550	80	40	.125	.012			
3		1000	800	900	850	50	40	.090	.012			
4		2000	1500	1800	1650	25	40	.062	.012			
5		3200	2400	2800	2600	15	40	.050	.012			
Type II- Polyester				B	C	E						
Sizes:				200	250	225	135	40	.225	.014		
2				400	450	425	80	40	.125	.012		
3				600	900	900	50	40	.090	.012		
4				950	1400	1000	25	40	.062	.012		
5				1400	1550	1450	15	40	.050	.012		
Type III- Tetrafluorocarbon				A	C							
Sizes:				350	300			30	30	.125	.011	
4				650	550			15	30	.065	.011	
5				1150	1000			10	30	.025	.011	
Type IV- Glass				D	E							
Sizes:				150	145	200	5	.225	.016			
2				400	375	100	5	.125	.016			
3				600	575	75	5	.090	.016			
4				900	875	50	5	.062	.016			
5				-	-	-	-	.050	.016			
Type V- Polyamide Nylon heat-resistant				A	C	F						
Sizes:				450	400	400	85	40	.225	.014		
(Continued)				800	700	700	50	40	.125	.012		
				1150	1000	1000	35	40	.090	.012		
				1550	1300	1300	25	40	.062	.008		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-T-43435 Type I Type II Type III Type IV Type V (Continued)	All tape finishes shall contain no copper, mercury, or compounds of copper and mercury. All finishes shall be able to be used freely in contact with insulated cable or wire.	Color- Unless otherwise specified, color shall be natural.	Type I yarn shall be a high tenacity, continuous filament nylon. Type II yarn used shall be a high tenacity continuous filament polyester. Type III yarn shall be a continuous filament tetrafluorocarbon. Type IV yarn shall be an electrical grade, continuous filament, glass, having high insulation resistance, high dielectric strength, high resistance to aging, and low moisture pickup. Material shall be free from any free alkali metal oxides, such as soda or potash, and from foreign particles, dirt or other impurities. Type V yarn shall be an electrical grade, continuous filament, non-melting, aromatic polyamide, having high temperature resistance, high dielectric strength, and high resistance to aging. Yarn shall be substantially free from sizing, loading, and other adulterants.	Intended Use- For lacing and tying telephone switchboard cable forms, hookup wires, cable ends, aircraft cable bundles, electrical and electronic equipment, and electrical wire-harness assemblies.

## CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength	Elongation	Water Absorption	
							Lb. Min.	% Max.		
							(4102)	(4102)	(4502)	
Tape: Impregnated, Lacing and Tying MIL-T-43435 (Cont'd)						Min   Max.	W   F			

Finish A- Natural.  
 Finish B- Wax impregnated.  
 Finish C- Synthetic rubber including elastomer coatings.  
 Finish D- Tetrafluorocarbon coating.  
 Finish E- Vinyl chloride or vinyl chloride-acetate copolymer coating.  
 Finish F- Silicone resin impregnated.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)

MIL-T-43435 (Cont'd)  
 Finish A  
 Finish B  
 Finish C  
 Finish D  
 Finish E  
 Finish F

Finish A tape shall have a natural finish. Finish B tape shall be uniformly treated with microcrystalline fungicide wax. Wax content: 15-32%. Finish C tape shall be uniformly impregnated with a synthetic rubber finish. Rubber content: 7-17%. Finish D tape yarns shall be uniformly impregnated with tetrafluorocarbon coating before braiding. Tetrafluorocarbon content: 10-20%. Finish E tape shall be uniformly coated with virgin vinyl chloride or vinyl chloride-acetate copolymers plasticized with phosphate or ester plasticizers exclusively. Coating content: 15-30%. Finish F tapes shall be uniformly impregnated with silicone resin. Resin content: 7-17%.

All tapes shall be braided in a flat braid construction. No tape shall show visible fungus growth on the surface of test specimens (4.2.5.3). Finish C, E, and F tapes: Stress applied to a specimen by joining 2 ends of the braided tape with a square knot shall result in breakage rather than in slippage or pulling out of the knot (4.2.5.4). Finish C, D, E, and F tapes: no visible damage or removal of coatings after blocking test (4.2.5.5). Finish C, D, E, and F tapes: no stiffness, brittleness, softness or tackiness after accelerated aging (5852).

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Ply
Twine, Cotton, Mattress T-T-931b						Min. Max.	W   F 32			6

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
T-T-931b	Twine shall have a waxed polished finish and smooth dressed surface.	Color - Unless otherwise specified, color shall be natural or tan.		Intended Use - For tufting mattresses by hand or machine.

### CORDAGE

NOMENCLATURE	Commercial Number of Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Plies Per Strand
						Min	Max.				
Twine, Cotton, Seined T-T-881c						Min	Max.	W	F		
Type I- Natural											
Type II- Mildew Resistant											
Size (Number):											
	6				3000'			12			2
	9				2055'			18			3
	12				1545'			24			4
	15				1245'			30			5
	18				1020'			35			6
	24				780'			45			8
	30				600'			60			10
	36				510'			70			12
	48				375'			86			16
	72				255'			124			24
	84				210'			140			28
	96				195'			156			32
	108				165'			172			36
	120				150'			188			40
	144				135'			214			48
	168				105'			238			56

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
T-T-881c Type I Type II	(5) Type I shall have a natural finish. Type II twine shall be mildew resistant treated in accordance with Type I, Class 1 treatment of MIL-T-3530.	Color - Unless otherwise specified, color of twine shall be natural. Color of Type II shall be that imparted by mildew resistant treatment on natural colored twine.		Intended Use - For general purpose use.

## CORDAGE

NOMENCLATURE	Commercial number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength	Elongation	Water	
							Lb. Min.	% Max.	Absorption	
Twine, Cotton, Wrapping Int. Amd. 1 (GSA-FSS)							Min	Max.	W	F
T-T-871d										

Type I- Natural

Type II- Mildew resistant

Class 1- Copper-8-quinolinolate  
Class 2- 2,2, methylenebis-(4-chlorophenol)

Sizes (Plies):		Length	Breaking Strength	Elongation	Knot Strength (min.)
3		6000'	5.5	-	-
4		4500'	8	-	-
5		3600'	10	-	-
6		3000'	12	-	-
8		2250'	16	-	-
12		1500'	24	-	-
16		1125'	32	-	-
20		900'	40	-	-
24		750'	48	-	-
A*		950'	40	24	-
B*		1950'	20.5	15	-

\* The number of plies for A and B, which will normally be Type I twine, is optional for the manufacturer.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
T-T-871d Type I Type II Class 1 Class 2	(5) Type I twine shall have a natural finish. Type II, Class 1 twine shall be mildew resistant treated with copper-8-quinolinolate in accordance with Type I, Class 1 or MIL-T-3530. Type II, Class 2 twine shall be mildew resistant treated with 2,2 methylenebis-(4-chlorophenol) in accordance with Type I, Class 2 treatment of MIL-T-3530.	Color- Unless otherwise specified, twine shall be furnished in natural color. Color of treated twine shall be that imparted by treatment to natural colored twine.	Elongation: Type I, A & B ply twines for typing machines, shall have not more than 12% stretch. The test for knot strength shall be in accordance with 4.2.5.2 of the specification.	Intended Use - For general purpose use.



## CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Stiffness
						Min	Max.				
<u>Twine, Impregnated, Lacing and Tying</u>											
MIL-T-713D											
Type N, waxed-Vegetable fiber											
Class 1											
Class 2											
Class 3											
Type P, unwaxed-Polyamide (nylon)											
Class 1											
Class 2											
Class 3											
Type P, waxed-Polyamide (nylon)											
Class 1											
Class 2											
Class 3											
Type SAR- Saponified acetate											
Class 1											
Class 2											
Class 3											

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-T-713D				
Type N	Type N shall be uniformly mildew resistant and microcrystalline wax treated. Mildew resistant treatment shall conform to Type I, Class 2 inhibitor of MIL T-3530 and may be applied with wax treatment. Treatment utilized shall not contain copper or mercury. Wax content: 10-25%. Type P waxed twine shall be uniformly treated with a microcrystalline fungicidal wax. Treatment shall not contain copper or mercury. Wax content: 20-32%. No mildew growth on surface (4.2.5.3).	Color - Unless otherwise specified, color shall be the natural unbleached color of the fiber & as naturally resulting from the treatment.	Type N shall be made from cotton, flax, soft hemp, flax and soft hemp, or flax and ramie fiber. It shall be constructed of singles yarn, with a min. of 6 strands in finished twine. Types P and SAR - shall be fabricated from types P and SAR, form C fiber conforming to requirements of MIL-C-572. The twine shall be composed of continuous filament twisted yarns.	Intended Use- Type N: For use where it is desired that heat have no effect on strength or elongation, and where a relatively stiff twine is required. Type P twine is a strong, lightweight twine suitable for applications at relatively high humidity. Type SAR is a strong, lightweight twine suitable for applications where high temperatures and humidities are not encountered. Has a min. stretch under tension.
Class 1				
Class 2				
Class 3				
Type P (unwaxed)				
Class 1				
Class 2				
Class 3				
Type P (waxed)				
Class 1				
Class 2				
Class 3				
Type SAR				
Class 1				
Class 2				
Class 3				

## CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	(b) Ply
						Min	Max.				
<u>Twine, Jute</u>						W   F					
T-T-911d, Int. Amd. 5 (CSA-FSS)											
Type I- Natural fin.	0				3000'(a)			17			1
Size No.	1				1710'			20			
	2				1140'			32			
	3				855'			43			
	4				685'			54			
	5				570'			65			
	6				285'			125			
	7				170'			210			
	7A				140'			260			
	8				105'			335			
	9				85'			420			
Type II- Polished fin.											
Size No.	1				1620'			25			
	2				1080'			40			
	3				800'			55			
	4				590'			75			
	5				440'			100			
	6				350'			125			
	6A				195'			155			
	7				140'			215			
	8				110'			270			
	9				85'			350			

- (a) feet/lb. for size "0" shall be an average of 3,000 in lieu of minimum.  
 (b) In no instance shall this twine be less than 2 ply, except for size "0" which shall be single ply.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
T-T-911d Type I Type II	Type I neutral finish shall denote a twine for which no consistency or luster other than that inherent with the jute material is required. Type II - polished finish shall be lustrous and have a smooth dressed surface.	Color - Twine shall be natural.	Twine shall be made of jute (Corchorus Olitorius or Corchorus Capsularis or both) or kenaf (Hibiscus Cannabinus). Twine shall be stainless when tested (4.2.5.1). Twine shall be not less than 2-ply.	Intended Use - For wrapping purposes.

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Ply
						Min	Max.				
Twine, Linen M-T-891 a								W/F			
Type I- Natural finish, fine twine					2280'			35			3
Plies: 3					1710'			50			4
4					1368'			65			5
5											
Type II- Natural finish, mildew resistant, fine twine					2280'			35			3
Plies: 3					1710'			50			4
4					1368'			65			5
5											
Type III- Polished finish, fine twine					3000'			29			2
Type IV- Polished finish, mildew resistant, fine twine					3000'			29			2
Type V- Natural finish rope twine				3	120'			325			2
Type VI- Natural finish, mildew resistant, rope twine				3	120'			325			2
Type VII- Natural finish twine					300'			170			5
Type VIII- Natural finish, mildew resistant twine					300'			170			5

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
M-T-891 a Type I Type II Type III Type IV Type V Type VI Type VII Type VIII	Type I shall have a natural finish. Type II shall be mildew resistant treated in accordance with Type I, Class 1 of MIL-T-3530. Type III twine shall be polished and have a lustrous, smooth dressed surface. Type IV twine shall be polished and shall be mildew resistant in accordance with Type I, Class 1 of MIL-T-3530. Type V shall have a natural finish. Type VI twine shall be mildew resistant treated in accordance with Type I, Class 1 of MIL-T-3530. Type VII twine shall have a natural finish. Type VIII twine shall be mildew resistant treated in accordance with Type I, Class 1 of MIL-T-3530.	Color- Unless otherwise specified, color shall be natural. When mildew resistant twine is specified, color shall be that imparted by the treatment to natural colored twine.	The linen twine shall be non-staining. (2.5.1).	Intended Use- For sails, baling, mattress stitching, and wrapping.

### CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min. (4100)	Elongation % Max. (4102)	Water Absorption (4502)	Plies Per Strand (min.)
						Min	Max.				
<u>Twine, Linen (Waxed and Blocking)</u>								W/F			
MIL-T-2520C											
Type I - Waxed					2235'			32			6
					1110'			60			12
					510'			120			27
		(a)									
Type II - Blocking	20	0.105	4	4	210'			230			5
	28	0.125	4	4	150'			300			7

(a) Included for information, not a specification requirement.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-T-2520C Type I Type II	(5) Type I twine shall be waxed and mildew resistant treated in accordance with Type I, Class 2 inhibitor of MIL-T-3530. Inhibitor may be applied with wax or prior to waxing. Type II twine shall have hard polished surface. pH: 5.5 - 7.5 (2611).	Color - Unless otherwise specified, color shall be natural.	Twine shall be made from flax fiber.	Intended Use - In serving and whipping rope ends and splices, for aircraft rigging, and for use in ammunition fuses.

REFERENCES

CORDAGE

Textile Test Methods - CCC-T-191b

<u>Method</u>	<u>Title</u>
	<u>Chemical</u>
2811	Acidity (pH), potentiometric method.
	<u>Mechanical</u>
4102	Strength and elongation, breaking small cords; single strand.
4106	Strength, breaking, heavy cordage (tape).
	<u>Air Permeability and Water Resistance</u>
4502	Water absorption; thread, cord, braid, immersion method.
	<u>Colorfastness</u>
4614	Colorfastness to laundering; wool, silk and rayon yarn, thread and cordage; Launder-Ometer method.
4630	Colorfastness to water; yarn, thread, cordage.
4650	Crocking resistance; yarn, thread, cordage.
4660	Colorfastness to light; yarn, thread, cordage; accelerated method (Fade-Ometer).
4670	Colorfastness to weather; yarn, thread, cordage; accelerated method (Twin Arc Weather-Ometer).
4671	Colorfastness to weather of yarn, accelerated method (National Weathering Unit).
5600	Chlorine bleaching; cloth.
5610	Colorfastness to Laundering of Cotton and/or Linen Textile Materials; Launder-Ometer Method.
	<u>Deterioration Test</u>
5952	Aging; accelerated oxygen method.

GENERAL NOTES

KNITTED CLOTHS

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- |                           |                                     |
|---------------------------|-------------------------------------|
| (1) As specified.         | (4) Sulfur dyes.                    |
| (2) Preproduction sample. | (5) Nonfibrous, etc., restrictions. |
| (3) Colormatching.        | (6) Knitting instructions.          |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min. (5070)	Width Inch	Weight Oz./Sq Yd (5041)	Thick-ness Inch (5030)	Bursting Strength Lb. Min. (5120)	Air Permeability (5450)	Shrinkage and Elongation % Max (5536)
	Fiber	Yarn Number	Ply	Denier								
<u>Cloth, Knitted, Acrylic, Double-Pique</u> MIL-C-43491	Acrylic	1	1		Double Pique	22 32	(1)	7.0 8.0		100		6 4 1 2
<u>Cloth, Dacron, Knit</u> MIL-C-21286A (AER)	Dacron				Circular pile knit	30 30	<del>34</del> 21	7.5 <del>8.0</del>	0.15 (0.1 psi) 0.07 (1.0 psi) 0.12 (unloading at 0.1 psi)			(5552) 1.5 1.5
<u>Cloth, Knitted, Cotton</u> MIL-C-12836A (MU)	Cotton				Jersey knit, tubular	19 22	<del>32</del> 21	10.5 -		90		85-100

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-C-43491	Face side of cloth should have a distinct honey-combed effect.	(1) Standard sample available. (3).	Acidity (PH) of the water extract of the finished cloth shall be not lower than 5.0 nor higher than 8.5. (2)	Intended Use - The cloth covered by this specification is intended for use as the basic material for the Sweater, Woman's, Green 329.
MIL-C-21286A	Cloth shall be evenly napped on both sides to produce a uniform thickness throughout. Finished cloth shall be soft, flexible, and free from sizing and finishing materials.	Color - Unless otherwise specified, color of cloth shall be natural. (4)	Breaking strength: 50 lb. min. in warp & courses (5100). Flammability of the cloth shall be "Normal" as defined in Commercial Std. C8191-53.	Intended Use - In the fabrication of winter flight clothing.
MIL-C-12836A	Cloth shall be well napped on one side.	Color - Shall be Olive Drab Shade No. 7 (4). Colorfastness - "good" (5630).	(2)	Intended Use - As a filter material in dust respirators.

### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min. (5070)	Width Inch	Weight Oz / Sq Yd (5041)	Thick-ness Inch (5030)	Bursting Strength Lb. Min. (5120)	Air Permeability (5450)	Shrinkage and Elongation % Max (5556)
	Fiber	Yarn Number	Ply	Denier								
Cloth, Knitted, Cotton (Circular, Waffle Type) MIL-C-22781 (SA)	Cotton	1	1		Waffle (6)	(1)	11.5 ± 1	0.10 (0.1 psi) 0.07 (1.1 psi)	65			12 12

Cloth, Knitted,  
Cotton, Simplex  
MIL-C-40004A

Type I	(5550)
Class 1- White 3028 Cotton	10 3
Class 2- Gray 1164 "	10 3
Class 3- Gray 1163 "	10 3
Class 4- Seal brown 105 "	10 3
Class 5- Gray beige 270 "	10 3
Class 6- Black 3226 "	10 3
Type II (lighter weight cloth)	10 3

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-C-22781	(5) Cloth shall be scoured (not bleached), rinsed, and finished to produce a clean, soft, lofty material in a relaxed state suitable for manufacture of underwear. Resins, sizing, or loading material shall not be used to increase weight or to control dimensional stability. Cloth shall be evenly napped on both sides and shall match standard sample for finish.	Color- Cloth shall be natural (undyed and unbleached) and shall match standard sample.	(2)	Intended Use- In the manufacture of cold weather underwear (drawers and undershirts) worn by military personnel.
MIL-C-40004A	(5) Type I Cloth shall be sueded on both sides and have a suppleness equal to the standard sample. Class 2 Class 3 Class 4 Class 5 Class 6 Type II	Color (1)- Standard sample available (3-4). When White is specified, cloth shall be bleached and tinted with Vat Blue 6, CI 69825/6. Colorfastness- standard sample available (5614-5651-5680).	(2) Type I- Stretch: 15% max. in the length; 40-60% in the width(4.4.2.1). Type II- Stretch: 20% max. in length; 60-80% in width.	Intended Use- In the fabrication of gloves, scarves, and lining of protective headgear, and earphones and other personal equipment.



### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min. (5070)	Width Inch	Weight Oz/Sq Yd (5041)	Thick-ness Inch (5030)	Bursting Strength Lb. Min. (5120)	Air Permeability (5450)	Shrinkage and Elongation % Max (5556)
	Fiber	Yarn Number	Ply	Denier								
<u>Cloth, Knitted, Cotton</u> <u>(Waffle Type)</u> MIL-C-17157C (SA)	Cotton 20's		1	1	Waffle effect (6)	W   C		Min   Max		100		W   C
								11.0 / 1.0	0.08 (0.1 psi) 0.06 (1.1 psi)			12   12
<u>Cloth, Knitted, Nylon, Fleece</u> MIL-C-17155C (SA)	Semi-sull; dull or bright filament nylon, regular tenacity.				Face Back 200 70 or 210	28   28	(1)	9.5 / 0.5	0.175 (1.1 psi) 0.125	100		(Shrinkage) 8   5 (Elongation) 130% (course)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-C-17157C	(5) Cloth shall be scoured (not bleached), rinsed and finished to produce a clean, soft, lofty cloth in a state suitable for underwear.	Color - Cloth shall be natural (undyed and unbleached).	(2)	Intended Use - In the manufacture of cold weather underwear (drawers and undershirts) worn by military personnel.
MIL-C-17155C	Cloth shall be slit, dyed and napped. Nap shall be completely disoriented, well tapered and have a uniform density. Finish shall be equal to finish of the standard sample.	Color - Shall be Green 3405. Standard sample available (3). Coloristness - standard sample available (5610-5622-5651-5680).	Yarns shall consist of 30-40 continuous filaments.	Intended Use - As a lining material for cold weather clothing.

### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min. (5070)	Width Inch	Weight Oz/Sq Yd		Thick-ness inch (5030)	Bursting Strength Lb. Min. (5120)	Air Permeability (5450)	Shrinkage and Elongation % Max (5556)	
	Fiber	Yarn Number	Ply	Denier				Min	Max				W	C
Cloth, Knitted, Nylon/Triacetate, Tricot, OG-106 MIL-C-43358			W   C	W   C		W   C		Min   Max					W   C	
	Back bar: multifilament semi-dull normal ten- sacity nylon Front bar: 20 filament triacetate.			Back bar: 40 Front bar: 75	Warp knitted so that tri- acetate yarn will be run in to produce a long float.	40 47	(1)	5.0 6.5	min. 0.065	45			3 4	
Cloth, Knitted, Nylon, Tubular, Stretch Type MIL-C-43247A (GL)														
Class 1 - 7.0/0.5 oz/sq yd. (inter- lock)	Stretch nylon yarn				Interlock	30 35		6.5 7.5		165			75 130	
Class 2 - 10.5/0.5 oz/sq yd (inter- lock)					Interlock	28 40		10 11		200			115 160	
Class 3 - 10.0-11.5 oz/sq yd (1x1 rib Knit)					Rib Knit	15 28		10 11.5		-			90 300	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-C-43358	Cloth shall be scoured and heat set. The long floats on reverse side of cloth shall be napped and sheared to produce a uniform density of pile throughout. Character of napped surface shall be equal to that of standard sample. (5).	Color - Shall be OG 106. (2) Standard sample available (3). Colorfastness - standard sample available (5614-5651-5680).		Intended Use - As the basic material for the Shirt, Sleeping, Man's, Nylon/Triacetate, Tricot Knit, OG 106.
MIL-C-43247A	Cloth shall be scoured, dyed, slit, and heat treated.	Class 1 & 2 - shall be Olive Green 106. Class 3 - shall be Blue 3328.	Class 1 & 2 shall not shrink or elongate more than 2% in the wale direction and 3% in the course direction.	Intended Use - Class 1 cloth is intended for use in manufacturing of man's field coats. Class 2 cloth is intended for use in the manufacturing of insulating caps for helmet liners. Class 3 cloth is intended for use in the manufacturing of utility coveralls for Navy Personnel aboard nuclear type submarines.

### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min. (5070)	Width Inch	Weight Oz / Sq Yd (5041)		Thick-ness inch (5030)	Bursting Strength Lb. Min. (5120)	Air Permeability (5450)	Shrinkage and Elongation % Max (5556)	
	Fiber	Yarn Number	Ply	Denier				Min	Max				W	C
<u>Cloth, Knitted, Wool and Cotton Fleece</u> MIL-C-17238B	Cotton & fleeces and/or pulled wool, 50's		Cotton: 1 or 2 Wool: 1		2 ends of cotton knit ss 1; 2 ends of wool tucked ss 1. Cotton back; napped wool face.	18.5- 17- 21.5 23	(1)	17.5	20.5	0.24 (0.1 psi) 0.17 (1.1 psi)	65		-	95
<u>Cloth, Knitted, Wool, Tubular, Shrink Resistant</u> MIL-C-3739A	Fleece and/or pulled wool, 56's min. U.S. Std.	2	2		True 1x1 rib stitch	12 18	(1)	13.0	-		80			(5558) 8% 8% (relaxation) 8% 8% (felting) (5554)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-C-17238B	Cloth shall be secured (not bleached) and evenly napped to form a disorientated pile on the face.	Color - Shall be natural (undyed and unbleached).	(2) Cloth shall have a min. of 65% wool and a max. of 35% cotton.	Intended Use - is insulated cold weather boots worn by military personnel.
MIL-C-3739A	Finished cloth shall have the type and character of the standard sample. Wool shall be treated for resistance to felting shrinkage in stock, top, yarn, or cloth form by a controlled oxidation method approved by contracting officer. Process shall not increase alkali solubility more than 6% (absolute). pH: 4.0 - 8.0 (2611).	Color (1)- Standard sample available (3). Wool shall be dyed in stock, top, yarn, or cloth form. Colorfastness - standard sample available (5660-5660-5650-5514).	Yarn shall be spun on the Bradford, French, or American system. Wool content of finished cloth shall be no less than 95%.	Intended Use - As the collar for jacketliner, for anklets in the intermediate cold weather trousers and the arm hole gussets in the liner for the woman's wool overcoat with removable liner.

### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min (5070)	Width Inch	Weight Oz/Sq Yd (5041)	Thick-ness Inch (5030)	Bursting Strength Lb. Min. (5120)	Air Permea-bility (5450)	Shrinkage and Elongation % Max (5556)
	Fiber	Yarn Number	Ply	Denier								
<p><u>Cloth, Netting, Nylon</u>  <b>MIL-C-003395F</b> (GL) Amd. 1                      (See also under Synthetic Cloths)</p> <p>Type I - Woven (See Synthetics)</p> <p>Type II- Warp Knitted      Bright or semi-dull multi-filament nylon.</p>												
			W   C	W   C		W   C		Min   Max				W   C
				70   70	Warp knit (6).		(1)      2.0					2    2
<p><u>Cloth, Netting, Nylon:</u>  <b>MIL-C-43352A</b> (GL) Amd. 1</p> <p>Class 1-Untreated Mono-filament</p> <p>Class 2 - Resin treated semi-dull normal tenacity nylon.</p>												
					Mesh type		(1)      0.5 0.1			19		
					Mesh type		(1)      0.5 0.1			19		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
<b>MIL-C-003395F</b> Type I Type II	Cloth shall be given a permanent resin finish & character of finished cloth shall be equal to standard sample. To insure proper number of meshes/inch and the size of meshes, cloth shall be heat set and framed to size.	Color - Cloth shall be dyed Olive Green No. 106. Standard sample available (3). Use of pigmented resin emulsion finishes to provide color & finish in one operation will be permitted. Colorfastness - standard sample available (5614-5671).	Breaking strength: 50 lb. min. (5100). Mesh size- Initial: 0.035 in. max. After 3 launderings and slippage tests: 0.100 in. max. Meshes per sq in: 500-635.	Intended Use - In tentage and equiptage items.
<b>MIL-C-43352A</b> Class 1 Class 2	Class 1 cloth shall be scoured. Class 2 cloth shall be given a permanent resin finish. Character of finish shall equal that of standard sample. Both classes shall be framed and heat set to assure proper number of meshes/inch and the size of the meshes.	Color - Class 1: Shall be Olive Green 106. Standard sample available (3). Class 2: shall be Black 221. Standard sample available (3). Colorfastness - standard sample available (5614-5680).	Meshes per inch- Width: 19-21; Length: 27-29.	Intended Use - As a component of the medical kit used by military personnel and as a component of the head net.

### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min. (5070)	Width Inch	Weight Oz/Sq Yd (5041)	Thick-ness Inch (5030)	Bursting Strength Lb. Min. (5120)	Air Permeability (5450)	Shrinkage and Elongation % Max (5556)
	Fiber	Yarn Number	Ply	Denier								
<u>Cloth, Pile, Acrylic Fiber Pile</u> MIL-C-43251			W   C	W   C		W   C		Min   Max				W   C
	File: Acrylic fiber. Backing: blend of cellulose & triacetate. Triacetate content: 4% min.		File: 3		Circular knit (6)		(2)	11.5   13.5				
<u>Cloth, Nylon, Knitted, Raschel</u> MIL-C-41831	Bright high tenacity filament nylon				Raschel (6)	20   26	35 min.	10.5   -		200		1   1

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-C-43251	Cloth shall be opened & sheared. Pile height shall be 13/32"±. Pile characteristics shall be equal to those of standard sample. An acrylic type resin applied to the back of the cloth as an anticurl or bonding agent will be permitted. pH: 5.5 - 8.0 (2611).	Color - Shall be Green 252. Standard sample available (3). Dullness (lack of lustre) that of standard sample. Colorfastness - standard sample available (5614).	(2)	Intended Use - As the lining component in canteen covers.
MIL-C-41831	Cloth shall be heat set and resin treated using a thermo-setting resin to provide stiffness. Stiffness- Initial min. of 0.300 load-lb. parallel to the wales and 0.200 across the wales. After 3 launderings: min. of 0.175 parallel to the wales and 0.150 across the wales.	Color - Shall be Olive Green 106. Standard sample available (3). Colorfastness - standard sample available (5614-5651-5680).		Intended Use - As the front stiffener in field, hot weather baseball caps.

### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min.		Width Inch	Weight Oz / Sq Yd		Thick-ness Inch	Bursting Strength Lb. Min.	Air Permeability	Shrinkage and Elongation % Max	
	Fiber	Yarn Number	Ply	Denier		(5070)	(5041)		(5030)	(5120)				(5450)	(5556)
Cloth, Rayon, Knitted MIL-C-8065 (USAF) Amd. 1			W   C	W   C	Milanese knit (6).	46- 50	44- 48	(1)	Min   Max	4.75   5.25	(5122) 80		W   C	35   60- 80	
	Continuous filament viscose rayon														

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-C-8065	(5) Use of dyestuffs, detergents, or other chemicals or finishing agents which would cause deterioration in storage or dermatitis on skin contact is prohibited. pH: 5.0 - 9.0 (2611).	Color (1-3). Colorfastness - "good" (5682-5620-5622-5614-5651).		Intended Use - In the manufacture of glove inserts.

### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per inch Min		Width inch	Weight Oz/Sq Yd		Thick-ness inch	Sursting Strength Lb. Min.	Air Permeability	Shrinkage and Elongation % Max
	Fiber	Yarn Number	Ply	Denier		(5070)			(5041)					
			W   C	W   C		W	C		Min	Max				W   C
Cloth, Synthetic Morton, Knitted MIL-C-6590 (USAF) Amd. 1	Cotton ground													
Type I- 100% Acrylonitrile Copolymer, Pile Fiber	Acrylo- nitrile copolymer		Pile 6 or 7		Ground: knitted on a 10-gage machine	15	12	(1)	26.0	-		85		
Type II- 100% Acrylonitrile Copolymer Vinyl Chloride, Pile Fiber	Acrylo- nitrile copolymer vinyl chloride		6			15	12	(1)	27.0	-		85		
Type III- 100% Acrylic, Pile Fiber	Acrylic		6 or 7			15	12	(1)	26.0	-		85		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-C-6590 Type I Type II	Use of dyestuffs, detergents, or other chemicals or finishing agents which would cause deterioration in storage or cause dermatitis on prolonged intimate skin contact is prohibited.	Color- Unless otherwise specified, color shall be Sage Green. 530. Colorfastness- "good" (5620-5660-5651).	File height: $\frac{1}{2}$ $\pm$ 1/16 in. File recovery: 85% after 1 minute; 95% after 4 hours (4.5.2). Backing material shall show no signs of blocking (5872). Backing material shall not crack or break when tested for flexibility (4.5.3). Backing compound shall consist of a neoprene latex, a suitable plasticizer and a suitable cellulose flock, to form a flexible backing.	Intended Use- In the manufacture of clothing items.

### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min (5070)	Width Inch	Weight Oz/Sq Yd		Thick-ness Inch (5030)	Bur-ting Strength Lb. Min. (5120)	Air Permea-bility (5450)	Shrinkage and Elongation % Max (5556)
	Fiber	Yarn Number	Ply	Denier				Min	Max				
<b>Drawers, Men's Winter, Lightweight</b> <b>MIL-D-43261</b>													
			W   C	W   C		W   C			Min   Max				W   C
Type I - Ribbed Knit	Cotton/Wool merino				1x1 Rib Knit	18	28			.035 min.	60		13
Class 1 - Natural mix													
Class 2 - Olive Green													
Type II - Jersey (flat) knit	Cotton/Wool merino				Jersey (flat) knit	18	28			.035 min.	60		13
Class 1 - Natural mix													
Class 2 - Olive Green 109													

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-D-43261 Type I Class 1 Class 2 Type II Class 1 Class 2		Color - Class 1 shall be natural (unbleached) Class 2 shall be Olive Green 109. Colorfastness: Standard sample available.  (3)	The wool or blend for the finished drawers shall be treated for resistance to felting shrinkage in stock, top, yarn or fabric form by a controlled oxidation process. The alkali solubility shall not be increased more than 6% over untreated material.	Intended Use - the drawers are intended for cold-climate use by personnel of the Armed Forces.



### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min.	Width Inch	Weight Oz/Sq Yd	Thick-ness Inch	Bursting Strength Lb. Min.	Air Permeability	Shrinkage and Elongation % Max
	Fiber	Yarn Number	Ply	Denier								
Wet, Laundry (Nylon) JJ-N-180E Fed. I (See also under Synthetic Cloths)			W   C	W   C		W   C		Min   Max				W   C

Type I - With grommets  
Type II - Without "

Style B - Warp Knit											
Size 1 - 10x15 in. Nylon:			260 260	Warp			4.6 5.5			175	
Size 2 - 12x22 in. bright,			260 260	"			4.6 5.5			175	
Size 3 - 18x30 in. high-			260 260	"			4.6 5.5			175	
Size 4 - 24x36 in. tenacity			260 260	"			4.6 5.5			175	

Style A - Leno Weave  
(See under Synthetic Cloths)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
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JJ-N-180E Type I Type II Style B Size 1 Size 2 Size 3 Size 4 Style A	Cloth shall be scoured and heat set.	Color - Cloth shall be white (natural).	Yarns shall be 17 filament. Brass grommets shall conform to Type I, Class 1, Size 4, of MIL-G-16491. Meshes/sq in.: 18-22.	Intended Use - In the form of a bag for washing items of clothing in a laundry.
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### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min (5070)	Width Inch	Weight Oz/Sq Yd (5041)	Thick-ness Inch (5030)	Bursting Strength Lb. Min. (5120)	Air Permeability (5450)	Shrinkage and Elongation % Max (5556)
	Fiber	Yarn Number	Ply	Denier								
<u>Net, Multipurpose</u> MIL-W-43181	Bright high tenacity multi-filament nylon		W   C 3	W   C 260   260	Mesh	W   C	Min   Max 16.5   -					W   C
<u>Scarf, Neckwear, Wool</u> MIL-S-2063E												
Class 1- Olive Green 208	Fleece and/or pulled wool:		2   2		Flat Jersey, tube, made on a circular machine using 2 ends per feed.	8   10	9 1/2			60		13   13
Class 2- Gray 115	56's worsted.		2   2									
Class 3- Navy Blue 3345			2   2									

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-W-43181	(5)	The color of the finished net shall be Olive Green 106. Colorfastness: Standard sample available.	The material shall be heat set to stabilize the construction of the net.	Intended Use - The net covered by this specification is intended to meet multiple requirements of Special-Welfare units. It is usable as a hammock, camouflage net, carrier for bulky loads, a litter, or as a net or seine for subsistence fishing and catching game.
MIL-S-2063E Class 1 Class 2 Class 3	(5) Face of the cloth shall have a lightly brushed finish.	Color (1)- Standard sample available (3). Colorfastness - standard sample available (5651-5654-5660-5680).	Wool shall be treated for resistance to felting shrinkage in stock, top, yarn or cloth by controlled oxidation process approved by procuring activity. Process shall not increase alkali solubility more than 6% (absolute).	Intended Use - As neck scarves for personnel of the Department of Defense.

### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min. (5070)	Width Inch	Weight Oz / Sq Yd (5041)	Thick-ness Inch (5030)	Bursting Strength Lb. Min. (5120)	Air Permeability (5450)	Shrinkage and Elongation % Max (5556)
	Fiber	Yarn Number	Ply	Denier								
Scarf, Neckwear, Woman's, Fabric Dress												
MIL-8-4213B (UBAF)												
Type A - Cotton, Color Gray	Cotton, 85/2- 95/1				2 1/2 on a 32 gage, 2- needle bar- warp machine (simplex double woven)	58 43		9.0 -				

Breaking Strength		
Lgt.	Wdt.	(5550)
135	85	8% 3%
		(after sueding)

Type B - Synthetic,  
Color White To conform to Type I or Type II of MIL-C-4231.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-8-4213B Type A Type B	Cloth shall be sueded on both sides.	Color - Type A: Gray, UBAF Shade No. 163. Type B: White. Colorfastness - Type A: "good" (5610-5660-5630-5650-5600-5620-5682-5622).	Type A - Finished cloth shall show no appreciable stretch in length and 40-60% stretch in width.	Intended Use - To be worn by the female personnel of the Air Force as a component of the winter dress uniform.

### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min. (5070)	Width Inch	Weight Oz / Sq Yd (5041)	Thick-ness Inch (5030)	bursting Strength Lb. Min. (5120)	Air Permeability (5450)	Shrinkage and Elongation % Max (5556)
	Fiber	Yarn Number	Ply	Denier								

Stockinet, Surgical  
JJ-S-746a

W | C |    W | C |            W | C            Min | Max                            W | C

Type I- Rib knit unbleached (Natural color) or bleached  
 Sizes: 3 in. wide  
       4 in. wide  
       6 in. wide  
       8 in. wide  
       9 in. wide  
      10 in. wide  
      12 in. wide  
      20 in. wide

12/1  
 or  
 14/1  
 or  
 16/1

Rib knit  
 seamless  
 or circular  
 in contin-  
 uous tube  
 of cloth.

	Ribs	Loops		(per lin yd)	
	16	24	3	1.25	115
	16	24	4	1.50	115
	16	24	6	2.50	115
	16	24	8	3.00	115
	16	24	9	3.50	115
	16	24	10	4.00	115
	16	24	12	4.50	115
	16	24	20	8.00	115

(+15%)  
 Ribs    Loops  
 75    300  
 75    300  
 75    300  
 75    300  
 75    300  
 75    300  
 75    300  
 75    300

Type II- Plain or flat knit, olive drab  
 Sizes: 13-14 in. wide  
       50-54 in. wide

24/1  
 or  
 26/1  
 or  
 28/1

Plain knit  
 on a cir-  
 cular or  
 flat ma-  
 chine.

	Ribs	Loops		(per sq yd)	
	24	36	13-14	4.4	75
	24	36	50-54	4.4	75

75  
 75

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
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JJ-S-746a  
 Type I  
 Type II

Color- Type I: unbleached (natural color) or bleached. Type II: Olive Drab. Stock, yarn, or piece dyed. (4).  
 Colorfastness- Type II: "good" (5672-5651).

Intended Use- In the treatment of fractures and wounds.

### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min		Width inch	Weight Oz/Sq Yd		Thick-ness Inch	Bursting Strength Lb./lin. (5120)	Air Permeability (5450)	Shrinkage and Elongation % Max (5556)
	Fiber	Yarn Number	Ply	Denier					Min	Max				
<u>Sweat Pants</u> HBC-8-1269			W   C	W   C		W	C		Min	Max				W   C
Jersey Knit Class 1 - White Class 2 - Silver Gray Class 3 - Nickel Gray	Cotton	26/1 (facing) 26/1 (tie in) 7/2 (backing fleece)			Jersey	20	24	(1)	9.2	.12	.12	90		
Rib Knit		12/1 or 14/1			Rib Knit	20	22	(1)	8.4	-	-	95		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
HBC-8-1269 Class 1 Class 2 Class 3	(5) pH: 5.5 - 8.5 (2811)	Class 1 pants shall be white (bleached) Class 2 shall be silver grey to approximately match cable number 70151. Class 3 shall be nickel gray to approximately match cable number 70152. (4) Colorfastness - (5605-5680).		Intended Use - The sweat pants covered by this specification are intended for use by personnel of Government agencies.

### KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per inch Min.		width inch	Weight Oz/Sq Yd	Thick-ness inch	Bursting Strength Lb. Min.	Air Permeability	Shrinkage and Elongation % Max
	Fiber	Yarn Number	Ply	Denier		(5070)							
<b>Sweat Shirt</b>													
<b>HHB-S-1268</b>													
		W	C	W	C		W	C	Min	Max		W	C
Jersey Knit	Cotton	26/1				Jersey	20	24	9.2	0.12	90		
Class 1 - White		(facing)											
Class 2 - Silver		26/1											
gray		(tie in)											
Class 3 - Nickel		7/1											
gray		(backing fleece)											
Ribbed Knit						Ribbed	20	22	8.4	-	95		
Class 1 - White		12/1											
Class 2 - Silver		14/2											
gray													
Class 3 - Nickel													
gray													

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
HHB-S-1268 Class 1 Class 2 Class 3	(5) pH: 5.5 - 8.5 (2811)	Color: Class 1: shall be whited (bleached). Class 2: shall be silver gray to approximately match cable number 70151. Class 3: shall be nickel gray to approximately match cable number 70152. (4) Colorfastness: "good" (5605-5680).		Intended Use - the sweatshirts covered by this specification are intended for use by personnel of Government agencies.

### KNITTED CLOTHS

NOMENCLATURE	FIBER				Type of Knit	Yarns Per Inch Min. (5070)	Width Inch	Weight Oz / Sq Yd (5041)	Thick-ness Inch (5030)	Bursting Strength Lb. Min. (5120)	Air Permeability (5450)	Shrinkage and Elongation % Max (5556)
	Fiber	Yarn Number	Ply	Denier								
<u>Undershirt, Men's, (Cotton, Quarter-Sleeve)</u> JJ-U-513b												
Type I - Crew Neck	Cotton	2			Circular Knit	30 36	(1)			55		12%
Type II - U-Neck												
Class 1 - White, Bleached												
Class 2 - Olive Green 109												
<u>Undershirt, Men's Winter, Lightweight</u> MIL-U-43262												
Type I - Ribbed Knit	Cotton wool Merino mix.	62's			Rib Knit	18 28			.035 min.	60		8%
Type II - Jersey (flat) knit		62's			Jersey (flat) knit	18 28			.035 min.	60		8%
Class 1 - Natural												
Class 2 - Olive Green 109												

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
JJ-U-513b Type I Type II Class 1 Class 2	Class 1 undershirt shall be scoured and bleached. Class 2 undershirts shall be dyed.	Class 1 undershirts shall be white(bleached). Class 2 undershirts shall be Olive Green 109. Colorfastness: standard sample available. (5610-5600-5651).		Intended Use - The undershirts covered by this specification are intended for use by personnel of Government agencies.
MIL-U-43262 Type I Type II Class 1 Class 2	(5)	The Class 1 undershirts shall be natural (unbleached). The Class 2 undershirts shall be Olive Green 109. Colorfastness: Standard sample available. (5614-5680-5651)	The knitted fabric shall contain not less than 50% wool.	Intended Use - The undershirts are intended for cold-Climate use by personnel of the Armed Forces.

REFERENCES

KNITTED CLOTHS

Textile Test Methods - CCC-T-191b

<u>Method</u>	<u>Title</u>
	<u>Chemical</u>
2811	Acidity (pH), Potentiometric method.
	<u>Construction</u>
5030	Thickness of cloth.
5041	Weight of cloth; small specimen method.
5070	Wales and courses in knit cloth.
	<u>Mechanical</u>
5100	Strength and elongation, breaking, grab method.
5120	Bursting strength, ball method.
	<u>Air Permeability and Water Resistance</u>
5450	Air permeability, calibrated orifice method (Frazier).
	<u>Shrinkage Resistance</u>
5550	Shrinkage in laundering; cotton, linen, and mixed cotton and linen cloth.
5556	Shrinkage in laundering; mobile laundry method.
	<u>Colorfastness</u>
5600	Chlorine bleaching; cloth.
5605	Colorfastness to Combined Laundering and Bleaching of Textile Materials; Launder-Ometer Method.
5610	Laundering; cotton and/or linen; Launder-Ometer.
5614	Laundering of wool, silk, rayon cloth; Launder-Ometer.
5620	Dry cleaning (petroleum solvent).
5622	Wet cleaning (with dry cleaning).
5630	Wash, cold.
5651	Crocking of cloth.
5660	Light; accelerated (Fada-Ometer).
5671	Weather; accelerated method (National Weathering Unit).
5672	Weather; natural weather method.
5680	Perspiration; perspirometer method.
5682	Perspiration; tube method.



GENERAL NOTES

NARROW FABRICS

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- |  |  |
|--|--|
| (1) As specified.                                | (5) Nonfibrous and extractable matter restrictions.        |
| (2) Preproduction sample.                        | (6) Restrictions on sulfur dyes.                           |
| (3) Colormatching.                               | (7) Bid sample and laboratory report.                      |
| (4) See specification for applicable tolerances. | (8) See specification for weave diagrams and instructions. |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

## NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thickness Inch (5030)	Number of Carriers
			oz/gross yd	Min		Max	Total	Face & Back					
Braid, Textile, Cord-Edge MIL-B-1667D													
Class 1- General Officers, Army	28/2-32/2	Cotton, continuous filament,	22.0	-	3/16-1/4	4(150 denier)				26(150 denier)			Cover: 19 Flat Braid: 21-27 (For All Classes)
Class 2- Officers, Army		regenerated rayon of 15+7.5 den.	22.0	-	3/16-1/4	3(300 denier)				25(300 denier)			
Class 3- Warrant Officers, Army		& 24 filament min.	22.0	-	3/16-1/4	10(21 carrier)				Flat braid: 26			
Class 4- Enlisted Men, Army		or 300+15 den. & 44 filament				12(25 carrier)							
Class 5- General Officers, Air Force		min. & non-tarnishable metallic silver color cellophane: 0.020 in. wide & 6500 yds/lb.	22.0	-	3/16-1/4	Cover: --- Flat braid: Same as Class 1				Cover: --- Flat braid: 26			
Class 6- Officers, Air Force			22.0	-	3/16-1/4	Cover: 4 or 3 Flat braid: Same as Class 1				Cover: 25(150 denier) or 21 (300 den.)			
Class 7- Airmen, Air Force			22.0	-	3/16-1/4	Cover: 4 or 3 Flat braid: Same as Class 1.				Cover: 26 or 23 Flat braid: 26			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weaves, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
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MIL-B-1667D		Color (1). Standard samples available (3-6). Colorfastness- Standard sample available (4680-4682-5651-4660).	(2) Flat braid section and cord section shall be braided together in one operation on a cord-edge braider. Cord section shall consist of a cord cover braided around a cotton core. Width of finished cord section shall be 3/32-1/8 in. Core shall be 4 cotton stuffer yarns. Each yarn shall be a 20/3/4 ply cord with permissible + or - count on the singles yarn. Classes 1, 4 and 7: cord cover shall be braided with 1 color of rayon yarn. Class 2: cord cover shall be braided using 14 carriers of black rayon yarn & 5 carriers of black rayon yarn equally spaced. Class 3: cord cover shall be braided using 14 carriers of black rayon yarn & 5 carriers of silver gray rayon equally spaced. Class 5: Cord cover shall be braided using metallized silver color cellophane (1 end/carrier, 21 picks/in.) Class 6: Cord cover shall be braided using 9 carrier cellophane, of remaining 10 carriers with every other carrier out, 5 carriers blue rayon.	Intended Use- In garrison caps worn by personnel of the Departments of the Army and the Air Force.
Class 1				
Class 2				
Class 3				
Class 4				
Class 5				
Class 6				
Class 7				

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width inch	Warp Yarns - Full Width				Picks Per inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thickness inch (5030)
			Min	Max		Total	Face & Back	Binder	Stuffer				
Braid, Textile, Cord-Edge, Polyester Fiber MIL-B-40092A		(a) 60/4 or 30/2 cotton & multifila- ment polyester conforming to Type I, Class 1 of V-T-205.	20	-	3/32-1/8 (cover) 3/16-1/4 (flat braid)	19 min. (cover) 21-25 (flat braid)				25 (cover) 25 (flat braid)			Beds/Carrier min. 3 (cover) 2 (flat braid)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-B-40092A		Color - (1-6). Standard sample available (3). Colorfastness - Standard sample available (4614-4680-4660-5651).	(2) (a) Cover: 70 denier, 3 ply (letter size A). Core: 220 denier, 3 ply, plied 3 times (number size 3). Flat braid and core sections shall be braided together in 1 operation on a cord-edge braider. Cord section shall consist of a cover braided around a core of stuffer yarns. Flat section shall be reinforced with cotton yarns.	Intended Use - As piping on clothing.

## NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Wcrp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min.	Elongation % Max.	Thick-ness Inch	Ends Per Carrier Core	No. Of Ends	
			oz/144 yd	( $\pm 1/32$ )		Total	Face	Binder							Stuffer
Braid, Textile (Cotton, Tubular) MIL-B-371C, Amd. 2															
			Min	Max				Back							
											Fly (4102) Braid Core				
Type I- With core		Cotton	14.0	-	4/32 (dia)	16			16	60	2	3	1	10	
Type II- With core		Cotton	28.0	-	5/32 "	8			10	75	2	3	8	8	
Type III- Flat		Cotton	16.5	-	6/32	24			22	75	2	-	2	-	
Type IV- Solid		Cotton	21.0	-	4/32 (dia)	8			10	80	3		2		
Type V- Solid		Cotton	26.0	-	6/32 (dia)	8			8	100	4		2		
Type VI- Solid		Cotton	25.0	-	4/32 (dia)	8			8	100	2		6		
Type VII- Flat		Cotton	25.0	-	11/32	44			22	140	2		2		

Class 1- Natural finish.  
 Class 2- Water-repellent finish.  
 Class 3- Water and mildew resistant finish (Copper-8-quinolinolate).  
 Class 4- Water and mildew resistant finish 2,2' Methylenebis-(4-chlorophenol).

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-B-371C Type I Type II Type III Type IV Type V Type VI Type VII Class 1 Class 2 Class 3 Class 4	Class 1: natural finish. Class 2: water repellent treated with metallic salt wax emulsions. After treatment, dynamic absorption shall be not more than 40% (4500). Class 3: water repellent treated in the same manner as Class 2, and mildew resistant treated in accordance with Type I, Class 1 of MIL-T-3530. Class 4: water repellent treated in the same manner as Class 2, and mildew resistant treated in accordance with Type I, Class 2 of MIL-T-3530.	Color (1-6). Standard samples available (J). Colorfastness- Standard samples available. Class 1: (4660-4610-4600). Class 2: (4660-4610). Class 3: (4660-4610). Class 4: (4600-4610).	(2) Types I, II, IV, V and VI shall be braided with a basket type braiding. Types III and VII shall be braided with a plain type braiding. A loss in breaking strength based on the min. specified for untreated braid shall be permitted for the applicable Class as follows: Class 2: 15%. Classes 3 and 4: 20% (includes loss for water repellent and mildew treatment).	Intended Use- For use with various items of clothing as a tie-cord or lacing cord.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength	Elongation	Thick-ness	
			Min	Max				Lb. Min.	% Max.	Inch	
Braid, Textile, For Cap Covers NXL-B-41803		Mercerised Cotton	70	(oz/gross yd)	1-3/4 min.	40/6	26	(5100)	(5100)	(5030)	
Warp		Fill	Stuffer		Min	Max	Total	Face & Back	Binder	Stuffer	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
NXL-B-41803		Color (1). Standard sample available (3). For white, cotton shall be bleached. Colorfastness - standard sample available (4614-4600-4622-4660).	(2) No. of lines: 20 No. of carriers: 81; 2 ends per carrier. Braiding type 2/2 plain. Shrinkage: 3% max. in the warp (5550).	Intended Use - As a component of cap covers used by military personnel.

### NARROW FABRICS

NOMENCLATURE	Yarn Number		Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thick-ness Inch (5030)	Ends Per Carrier																																																																																																																																									
	Warp	Fill		Stuffer	Min		Max	Total	Face & Back	Binder					Stuffer	Min.	Lines																																																																																																																																							
<b>Braid, Textile (Flat)</b>																																																																																																																																																								
MIL-B-593D																																																																																																																																																								
Type I- Mohair outer covering																																																																																																																																																								
Class 1- 3/3 plain stitch (Hercules)																																																																																																																																																								
<table style="width: 100%; border: none;"> <tr> <td style="text-align: right;">Sizes:</td> <td style="width: 10%;">Cotton</td> <td style="width: 10%;">Cotton &amp; Mohair:</td> <td style="width: 5%;">45</td> <td style="width: 5%;">-</td> <td style="width: 10%;">3/4</td> <td style="width: 10%;">16/3</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td></td> <td>40/2</td> <td>28's,</td> <td>62</td> <td>-</td> <td>1</td> <td>24/3</td> <td></td> <td></td> <td>26</td> <td>110</td> <td></td> <td></td> <td style="text-align: center;">No. of Carriers</td> <td>49</td> <td>2</td> <td>8</td> </tr> <tr> <td></td> <td>Mohair</td> <td>worsted.</td> <td>78</td> <td>-</td> <td>1-1/2</td> <td>32/2</td> <td></td> <td></td> <td>26</td> <td>170</td> <td></td> <td></td> <td>73</td> <td>2</td> <td>12</td> <td></td> </tr> <tr> <td></td> <td>2/28</td> <td></td> <td>100</td> <td>-</td> <td>1-3/4</td> <td>44/2</td> <td></td> <td></td> <td>26</td> <td>190</td> <td></td> <td></td> <td>97</td> <td>2</td> <td>16</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>110</td> <td>-</td> <td>2</td> <td>48/2</td> <td></td> <td></td> <td>26</td> <td>220</td> <td></td> <td></td> <td>133</td> <td>2</td> <td>22</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>166</td> <td>-</td> <td>2-1/2</td> <td>48/3</td> <td></td> <td></td> <td>24</td> <td>300</td> <td></td> <td></td> <td>145</td> <td>2</td> <td>24</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>182</td> <td>-</td> <td>3</td> <td>48/4</td> <td></td> <td></td> <td>19</td> <td>360</td> <td></td> <td></td> <td>145</td> <td>5</td> <td>24</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>19</td> <td>390</td> <td></td> <td></td> <td>145</td> <td>5</td> <td>24</td> <td></td> </tr> </table>																	Sizes:	Cotton	Cotton & Mohair:	45	-	3/4	16/3												40/2	28's,	62	-	1	24/3			26	110			No. of Carriers	49	2	8		Mohair	worsted.	78	-	1-1/2	32/2			26	170			73	2	12			2/28		100	-	1-3/4	44/2			26	190			97	2	16					110	-	2	48/2			26	220			133	2	22					166	-	2-1/2	48/3			24	300			145	2	24					182	-	3	48/4			19	360			145	5	24											19	390			145	5	24	
Sizes:	Cotton	Cotton & Mohair:	45	-	3/4	16/3																																																																																																																																																		
	40/2	28's,	62	-	1	24/3			26	110			No. of Carriers	49	2	8																																																																																																																																								
	Mohair	worsted.	78	-	1-1/2	32/2			26	170			73	2	12																																																																																																																																									
	2/28		100	-	1-3/4	44/2			26	190			97	2	16																																																																																																																																									
			110	-	2	48/2			26	220			133	2	22																																																																																																																																									
			166	-	2-1/2	48/3			24	300			145	2	24																																																																																																																																									
			182	-	3	48/4			19	360			145	5	24																																																																																																																																									
									19	390			145	5	24																																																																																																																																									
Class 2- 8/8 basket or diamond stitch																																																																																																																																																								
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			112	-	1-3/4	32/2			8	230			66	4	16																																																																																																																																									
Class 3- 2/2 plain stitch																																																																																																																																																								
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	2/28		90	-	1-3/4	32/4			18	200			65	2	16																																																																																																																																									
Type II- Nylon & mohair outer covering, 2/2 plain stitch																																																																																																																																																								
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Type III- Skip-Weave																																																																																																																																																								
<table style="width: 100%; border: none;"> <tr> <td style="width: 10%;"></td> <td style="width: 10%;">Cotton</td> <td style="width: 10%;"></td> <td style="width: 5%;">1-3/4</td> <td style="width: 5%;">-</td> <td style="width: 10%;">(1/16)</td> <td style="width: 10%;">23/6</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;">10</td> <td style="width: 10%;">-</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;">64</td> <td style="width: 10%;">8</td> <td style="width: 10%;">-</td> <td style="width: 10%;"></td> </tr> </table>																		Cotton		1-3/4	-	(1/16)	23/6			10	-			64	8	-																																																																																																																								
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Carriers Braiding pairs

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
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MIL-B-593D	Finished braid shall be singed (in either yarn or braid).	Color (1-6). Standard sample available (3). Colorfastness- Standard sample available (5622-5651-5660-5680-5682).	Type I braid shall be made with a cotton warp with a mohair outer covering. Type II braid shall be made with a cotton warp with a nylon-mohair outer covering. Shrinkage- Type I, Class 3: shall not shrink more than 2% length (5558). Type III - Braid shall be made with cotton yarn.	Intended Use- To designate rank on military uniforms.
Type I				
Class 1				
Class 2				
Class 3				
Type II				
Type III				

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz./yd	Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness Inch (5030)
					Warp	Fill	Stuffer	Min.				
Cloth, Glass; Tape, Textile, Glass; and Thread, Glass MIL-C-20079D (See also under Synthetic Cloths)												
Type I- Cloth (See Synthetic Cloths)												
Type II- Tape Class 1- Plain weave, untreated												
		Continuous filament fibrous glass	(+10%) (untreated) 5.80	(1)	42±2				32±2	(5104) 150 (initial) 40 (after heating)		
Class 2- Plain weave, treated												
			5.80 (untreated) 7.05 (treated)	(1)	42±2				32±2	150 (initial) 40 (after heating)		
Class 3- Knitted, untreated												
			11.25	(1)	10±2				22±2	15 (initial) 9 (after heating)		
Type III- Thread Class 1- Medium weight sewing												
			(yards/lb) 640							48		
Class 2- Heavy weight sewing												
			350							75		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrie, etc.)	NOTES (Not Specification Requirements)
MIL-C-20079D Type I Type II Class 1 Class 2 Class 3 Type III Class 1 Class 2	Unless otherwise specified, Class 2 tape shall be treated with a suitable synthetic resin.		Weave: Class 1 and Class 2 tape shall be plain woven. Ends shall be properly inter- locked with picks to insure that there shall be no ravel- ling of tape edges. Class 3 tape shall be knitted. Wales shall be properly interlocked with courses to insure that there shall be no raveling of tape edges. Construction of tape shall be such that there shall be no distortion of the tape such as curling.	Intended Use- As a lagging material or jacket over thermal insulation.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min.	Elongation % Max.	Thickness Inch
							(5100)	(5100)	(5030)
Cloth, Thread, and Tape; Asbestos SS-C-466e See also under Natural Fibers Other than Cotton or Wool  Form I- Cloth  Form II- Thread, sewing, reinforced with wire  Form III- Thread, sewing, without wire  Form IV- Tape Grade U.G.- 80% asbestos Style 1- Plain weave	Warp	Fill	Stuffer	Min	Max	Total	Face & Back	Binder	Stuffer
			Asbestor		(1)	16+1			8+1

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
SS-C-466e Form I Form II Form III Form IV			Tape shall contain not less than 80% asbestos. It shall be made of good-quality chrysotile asbestos and organic fiber. Hygroscopic moisture shall not exceed 5% (4.4.1.1). Warp yarn shall be 10-cut and filling shall be 10-cut, 2-ply. Tape shall have woven selvage edges.	Intended Use- Tape shall be used as the jacketing material over insulation where the temperature of the insulated surface is more than 125 F (52 C), except that it is not intended to be used on fittings or flanges, or where it will be in contact with heated metal.



### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max (5100)	Thickness Inch (5030)	Hooks Shear Per Strength Lin. Lb. Inch Min.								
			Gr/Lin Yd			Total	Face & Back	Binder					Stuffer								
Fastener Tape, Hook and Pile, Nylon																					
MIL-F-21840B																					
Type I- 6.5 Mil hook		Nylon Yarns	(+12%)		5/8	Ground	Hook			51	105			216	6.5						
			4.3													109	17		(+0.015)		
			5.2													129	21		0.065	268	7.0
			6.8	1												174	30		0.065	382	7.5
Type II- 8.0 Mil hook		Nylon Yarns			5/8	Ground	Hook		51	110			108	7.5							
			4.3												109	17		0.065	134	10.0	
			5.4												129	21		0.065	191	15.0	
			7.2	1											174	30		0.065	258	16.0	
Pile		Nylon			5/8	Ground	Hook		51	76			341	17.0							
			5.2												54	15		(+0.020)			
			6.2												110	19		0.115			
			9.0	1											150	28		0.115			
			14.2	1-1/2	228	47		51	200		0.115										
			19.0	2	298	65		51	285		0.115										

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specific to Requirements)
MIL-F-21840B Type I Type II Pile	Hook and pile tapes shall be framed and preshrunk to allow for max. flatness, evenness, and dimensional stability. Back of each tape shall be coated and properly cured with a sufficient amount of polyurethane resin coating to provide stabilization of the pile and hook sections against pull out that might occur during wear and after laundering and dry cleaning. Shrinkage- Hook tapes: 3% max. in the length. Pile tapes: 4% max. in the length (5556).	Color (1). Standard samples available (2). Colorfastness- standard sample available (5610-5621-5651-5680).	(2) Hook tape shall be a woven warp pile, narrow fabric construction containing nylon multifilament ground ends including selvages & picks. Nylon monofilament auxiliary warp ends of diameter specified shall be woven in the form of raised loops which can be heat set to retain their shape, and cut near the top of the loop to form a free hook engaging section. Hooks shall be leno woven in a staggered order. Hook repeat- Type I: every 4 picks; Type II: every 8 picks. Pile tape shall be a woven warp pile, narrow fabric construction having nylon multifilament ground ends (including selvages and picks) and leno woven pile ends. Pile shall be suitably napped to form a uniform disoriented surface of uncut loops capable of being engaged by the hooks of the hook tape. Loop repeat: every 2 picks. Stiffness- Type I: Initial- 2-2/30; Type II: Initial- 1-2/30; Pile: Initial- 2-12/30. See spec. for requirements after laundering, and dry cleaning, and for tolerances (5556).	Intended Use- Nylon tape fasteners are intended as a closure for equipment and clothing items.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thick-ness Inch (5030)	Yarn Ply Min.	
			oz/lin yd			Total	Faces & Back	Binder					Stuffer	W
Tape and Webbing, Textile, Cotton Reinforcing, Woven MIL-T-5661C (+1/32)														
Type I- Plain Sizes:		Cotton	-	0.11	1/4	7				20	80		4	2
			-	0.15	3/8	10				20	120		4	2
			-	0.22	1/2	14				20	150		4	2
			-	0.28	5/8	18				20	170		4	2
			-	0.33	3/4	22				20	200		4	2
			-	0.47	1	30				20	250		4	2
Type II- Double herringbone Sizes:		Cotton	-	0.15	1/2	142				48	110		2	2
			-	0.22	3/4	212				48	165		2	2
			-	0.29	1	284				48	220		2	2
			-	0.36	1-1/4	356				48	275		2	2
			-	0.43	1-1/2	426				48	330		2	2
			-	0.50	1-3/4	496				48	375		2	2
			-	0.57	2	558				48	425		2	2
Type III- Twill Sizes:		Cotton	-	0.10	1/2	64				60	45		2	1
			-	0.12	5/8	85				60	55		2	1
			-	0.14	3/4	96				60	75		2	1
Type V- Plain (Transverse cord) Sizes:		Cotton	-	0.65	1	48				16	350		4	4
			-	1.30	2	96				16	650		4	4
Type VI- Nonelastic Sizes:		Cotton	-	0.23	5/8	-	95	22	37	46	80			See spec.
			-	0.98	1	-	112	30	31	52	375			See spec.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-5661C Type I Type II Type III Type V Type VI	(5) Type I tape and webbing shall be compatible with aircraft dops. Dops shall dry within 45 min. and show no signs of cracking and peeling when applied to finished tape and webbing as specified in 4.4.7. pH: 6.0 - 8.0 (2811).	Color- Unless otherwise specified, color for all Types shall be natural (unbleached). When an Olive Drab color is specified, it shall match TCA Cable No. 66022, Shade S-1 (U.S. Army Olive Drab). Colorfastness- "good" (5651-5630-5632-5660).	Weave- Type I: Plain (1-up 1-down). Type II: 2-up, 2-down herringbone twill weave, having 3 reversals of twill, 1 at center & 1 on each side of center midway between center & edge. All ends shall be woven singly in the warp. Type III: a 2-up, 2-down twill with reversal at 1/4 and 3/4 of the width. Type V: Plain, with 2 warp yarns weaving as 1, except that at the selvage there shall be 3 warp yarns weaving singly. Type VI: Weave known commercially as "nonelastic." See spec. for diagram.	Intended Use- Type I: For reinforcing tape on cloth under lacing cords of airfoil sections. Types II, III, V and VI: For building and reinforcing applications in parachute packs.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max (5100)	Thickness Inch (5030)
			Lin	Yd/Lb		Total	Face	Binder	Stuffer				
<u>Type and Weaving</u>		<u>Warp</u>	<u>Fill</u>	<u>Stuffer</u>	<u>Min</u>	<u>Max</u>	<u>Total</u>	<u>Face</u>	<u>Binder</u>	<u>Stuffer</u>			
<u>Textile, Rayon</u>													
MIL-T-5237C		Bombs											
Type I- Flat weave tape		Bright, multifilament viscose rayon			(4)								
			200 -		1/16	48				36	50		
			100 -		1-1/8	94				36	100		
		80 -		1-1/4	110				30	140			
Type Ia- Flat weave webbing		Fill: 275 den. min.											
			100 -		3/8	30				30	160		
			40 -		9/16	280				21	500		
			30 -		1	90				30	500		
		15 -		1-5/8	136				30	750			
Type II- Tubular weave webbing													
			125 -	1/8	23				24	150			
			100 -	3/16	30				30	200			
			40 -	1/2	81				30	500			
			40 -	9/16	81				30	500			
			23 -	5/8	130				52	900			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-5237C Type I Type Ia Type II	(5) Tape or webbing shall have a smooth even finish. pH: 5.5 - 8.5 (2811).	Color- Unless otherwise specified, color shall be the natural white of the finished rayon yarn. Colorfastness- "good" (4630). When specified, tape or webbing shall contain 1 end of warp yarn dyed Red to match Cable No. 70180 and woven into the center of the face of tape or webbing. Use of solution dyed yarn is permissible.	See spec. for weave instructions.	Intended Use- In the manufacture of parachute canopies for bombs.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength (Lb. Min.)	Elongation % Max.	Thickness Inch																				
			Oz/Lin Yd																											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Tape, Insulating (Electrical) Linen-Finish, Plain</td> <td style="width: 5%;">Warp</td> <td style="width: 5%;">Fill</td> <td style="width: 5%;">Stuffs:</td> <td style="width: 5%;">Min</td> <td style="width: 5%;">Max</td> <td style="width: 5%;">Total</td> <td style="width: 5%;">Face &amp; Back</td> <td style="width: 5%;">Binder</td> <td style="width: 5%;">Stuffs:</td> </tr> <tr> <td>MIL-T-638A</td> <td></td> <td>(±5%)</td> <td></td> <td></td> <td>(4)</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>											Tape, Insulating (Electrical) Linen-Finish, Plain	Warp	Fill	Stuffs:	Min	Max	Total	Face & Back	Binder	Stuffs:	MIL-T-638A		(±5%)			(4)				
Tape, Insulating (Electrical) Linen-Finish, Plain	Warp	Fill	Stuffs:	Min	Max	Total	Face & Back	Binder	Stuffs:																					
MIL-T-638A		(±5%)			(4)																									
	30/1 38/1	Cotton			1/2	36		35	15	0.005																				
	30/1 30/1	Cotton			3/4	56		35	25	0.005																				
	20/1 30/1	Cotton			1/4	18		35	15	0.007																				
	20/1 30/1	Cotton			1/2	36		35	25	0.007																				
	20/1 30/1	Cotton			3/4	56		35	30	0.007																				
	20/1 30/1	Cotton			1	72		35	40	0.007																				
	20/1 30/1	Cotton			1-1/2	108		35	60	0.007																				

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-638A	(5) Tape shall be unbleached, and no finish shall be applied other than calendering. Tape shall have smooth, even surface commonly known as linen-finish. pH: 5.0 - 8.0 (2811).		Weave shall be plain, with woven selvages on each side.	Intended Use- Tape is Class O insulation, for use in cables and similar items, with continuous operating temp. limit of 90°C., and, in general, is used when combined with a liquid dielectric to form Class A insulation with a continuous operating temp. limit of 105°C.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thickness inch (5030)
			Min	Max		Total	Face & Back	Binder	Stuffer				
Tape, Non-Woven (Parallel-Yarn Flat String) DDD-T-90L													
Class 1- 0.0045 in. thick													
Sizes:		Any synthetic and/or natural fiber											
			3/16	16						16		0.0045	
			1/4	21						21		0.0045	
			5/16	27						27		0.0045	
			3/8	32						32		0.0045	
			1/2	46						46		0.0045	
			5/8	60						60		0.0045	
			3/4	73						73		0.0045	
			1	97						97		0.0045	
Class 2- 0.006 in. thick													
Sizes:													
			3/16	17						21		0.006	
			1/4	23						28		0.006	
			5/16	30						35		0.006	
			3/8	37						40		0.006	
			1/2	48						55		0.006	
			5/8	58						70		0.006	
			3/4	75						85		0.006	
			1	100						115		0.006	
Class 3- 0.010 in. thick													
Sizes:													
			3/16	16						65		0.01	
			3/8	21						93		0.01	
			1/2	27						124		0.01	
			5/8	33						155		0.01	
			3/4	40						186		0.01	
			1	53						248		0.01	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
DDD-T-90b Class 1 Class 2 Class 3		Color- Unless a specific color is stated in the invitation for bids, the tape shall be white, natural, or any color. Colorfastness- "fair" (5651). When water resistant binding agent is specified, also "fair" for 5630. Dyed tape shall be uniform in color.	Tape shall be a flat strip of closely paralleled yarns bonded by a suitable binding agent. If a water resistant binding agent is required, it shall be so specified in the invitation to bid. Bonding material shall be a suitable adhesive of any suitable backing or coating substance. When specified in the invitation for bid, the tape shall be printed on one or both sides in black or colored ink, any lettering, insignias, or serial number.	Intended Use- Primarily for tying packages, identification purposes, and as a removal strip in packaging.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thick- ness Inch (5030)
			Min	Max		Total	Face & Back	Binder	Stuffer				
Tape, Nylon; Elastic; One-Inch MIL-T-17964A (MC)		200/34 or 210/34 den. nylon & 37 gauge extru- ded natural rounded rubber.	0.5	-	1 (1/16) (- 1/32)	65	Rubber 32 min.			69 ± 5			(4121 of Fed. Std. 601) 130

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-17964A		Color - Unless otherwise specified, color shall be Olive Drab No. 7. Colorfastness - "good" (5651-5622-5660-5682).	(2) Tape shall be made on a carrier braider. Ends per carrier: 2 min. Weave: 2/2.	Intended Use - For use on Marine Corps clothing and equipment items.

## NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lt. Min. (5100)	Elongation % Max. (3100)	Thickness Inch (5030)	Denier	
			yd/lb			Min	Max	Total	Face & Back					Binder	Stuffer
Tape, Parachute Canopy, Textile, Nylon MIL-T-5608F (ASG)															
Class A- Extra lightweight		Class A: Semi-dull			(4)					Sei-					
Types: I		normal ten-	1300	-	0.250	72	12			14	13	18		20	40
II		acity light	875	-	0.375	104	12			140	14	18		20	40
III		resistant	440	-	0.625	247	32			140	4	18		20	40
IV		nylon.	260	-	1.250	352	32			140	65	18		20	40
V			165	-	2.000	537	32			-	0	18		20	40
Class B- Lightweight		Classes B, C, D & E:													
Types: I		bright	970	-	0.250	81	12			114	22	18		30	40
II		high ten-	650	-	0.375	126	12			114	23	18		30	40
III		acity, heat	360	-	0.625	237	32			114	70	14		30	40
IV		& light	210	-	1.250	392	32			114	120	14		30	40
V		resistant	120	-	2.000	557	32			-	200	14		30	40
VV		nylon.	50	-	5.000	1641	32			-	100	18		30	40
											(14/in)				
											(5104)				
Class C- Medium weight		All Classes: polyamide													
Types: I		of hexame-	770	-	0.250	100	12			82	39	22		40	40
II		thylene di-	520	-	0.375	148	12			82	58	22		40	40
III		amine & adi-	335	-	0.625	227	32			82	60	22		40	40
IV		pic acid or	160	-	1.250	457	32			82	185	22		40	40
V		its deriva-	100	-	2.000	757	32			80	300	22		40	40
(Continued)		tives. Melt-													
		ing point:													
		250+6°C.													

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-5608F Class A Class B Class C (Continued)	Yarn of tape shall not be bleached in any manner or process. pH: 5.0 - 9.0 (3810).	Color- Unless otherwise specified, color shall be natural, except for Class B, Type VI, which shall be dyed international orange, color No. 12197 of Fed. Std. No. 595, and Class C, Type V, which shall be yarn or piece dyed yellow, Air Force color No. 1365 (3). Colorfastness- Standard sample available (5660-5051).	Weave: Unless otherwise specified, weave of body of cloth shall be a conventional 2-up, and 2-down right-hand twill, except that for Class E, Type VI, warp ends shall weave 2 ends as 1. Unless otherwise specified, selvage weave for Classes A, B, and C shall be a double weave of conventional hatband type. For Classes D and E, there shall be no additional selvage ends. Air Permeability: Class A, Type V; Class B, Types V and VI; and Class C, Type V- 150±10 cfm/sq ft. Finished tape shall not lose more than 25% of its original strength when exposed to heat and light (4.2.3.2.1 - 4.2.3.2.2).	Intended Use- In the fabrication of parachutes of tape-type construction known as "ribbon parachutes".

### NARROW FABRICS

NOMENCLATURE	Yarn Number		Fiber	Weight		Width inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min.  (5100)	Elongo- tion % Max.  (5100)	Thick- ness Inch  (5030)
	Warp	Fill		Min	Max		Total	Face B Back	Binder				
<b>Type (Tactic):</b>													
<b>Silk</b>													
<b>DND-T-126</b>													
Type I- $\frac{1}{4}$ in. wide, High Grade			811k			1/4	80			72/2	18		
Type II- $\frac{1}{4}$ in. wide, Medium Grade			811k			1/4	50			72/2	12		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
DND-T-126 Type I Type II		Color (1).	Tape shall have a satin weave.	Intended Use - For affixing seals on official documents.



### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thick-ness Inch (5030)	Denier		
			Oz/yd			Total	Face & Back	Binder					Stuffer	W	F
<u>Tape, Textile and Webbing, Textile, Reinforcing, Nylon</u>															
MIL-T-5038D					(+1/32)										
Type II- Tape, herringbone twill weave		Bright, high ten- acity, heat & light resistant	0.40	1	96			40	900	18	0.025-	840	210		
			0.60	1-1/2	144			40	1300	18	0.035	840	210		
			0.80	2	192			40	1700	18	"	840	210		
Type III- Tape, plain weave		polyamide of polyhexa- methylene diamine & adipic acid	0.12	3/8	74			33	200	18	0.015-	210	420		
			0.15	1/2	100			33	250	18	0.025	210	420		
			0.20	3/4	150			33	400	18	"	210	420		
			0.30	1	200			33	525	18	"	210	420		
			0.40	1-1/2	300			33	900	18	"	210	420		
Type IV- Webbing, plain weave		or its der- ivatives.	0.35	1/2	99	8		48	550	18	0.030-	420	420	420	
			0.40	5/8	123	10		48	625	18	0.040	420	420	420	
		Melting point: 250°C min.	0.50	1	197	16		48	1000	18	"	420	420	420	
			0.60	1-1/8	221	18		48	1100	18	"	420	420	420	
			0.75	1-1/2	293	24		48	1500	18	"	420	420	420	
Type V- Tape, herringbone twill weave			0.20	9/16	48			32	500	18	0.020-	840	420		
											0.030				
Type VI- Tape, herringbone twill weave			0.20	3/4	150			38	425	18	0.020-	210	420		
											0.030				

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
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MIL-T-5038D	(5) pH: 5.0 - 8.5 (2811).	Color- Types II, III, IV and V: color shall be natural unless other- wise specified. Type VI: (1). Standard samples available (3). Colored tape and webbing shall be yarn or piece dyed. Colorfastness- Standard sample available (5614).	Tape or webbing shall not lose more than 25% of original breaking strength on exposure to light and heat (4.3.2- 4.3.3). See spec. for weave instructions.	Intended Use- For binding & reinforcing applications in parachute packs and similar purposes and for equipage.
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### NARROW FABRICS

NOMENCLATURE	Yarn Number		Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness Inch (5030)
	Warp	Fill		Stuffer	Min		Max	Total	Face B Back	Binder				
Tape, Textile, 1-Inch MIL-T-10372A (M)	26/2	30/2	Cotton	0.20	-	1 (1/16)	11 <sup>4</sup>				46	(5102) 140		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-10372A		Color - Shall be Olive Drab Shade No. 7 (6).	(2) Weave shall be a 4-barreled herringbone twill, 2/2, with 5 divisions alternating to the right and to the left. Cloth shall be mildew resis- tant and non-toxic on the skin.	Intended Use - For use with the AEC-M4 dust respirator.

**NARROW FABRICS**

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thick-ness Inch (5030)
			oz/sq yd			Total	Face & Back	Binder				
<u>Type, Textile, Cotton, Bias-Cut</u> DDD-T-140												
Type I- Cambric		Cotton	2.7	-	(1)	64			55			
Type II- Percalé		Cotton	3.0	-	(1)	85			72			
Type III- Sateen		Cotton	2.8	-	(1)	88			140			
Type IV- Twill		Cotton	4.0	-	(1)	76			114			
Class 1- Bleached Class 2- Dyed												
<u>Type, Textile, Cotton For Bandoliers</u> MIL-T-13452A (CND)												
		Cotton	0.35	0.39	1-3/8 (-1/8 )					185 warp 66 fill		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
DDD-T-140 Type I Type II Type III Type IV Class 1 Class 2	Type I cloth shall contain enough sizing to produce a cambric finish.	Color (1-5). Standard samples available (3). Colorfastness- Standard samples available (5610-5600-5622-5651-5660-5680 or 5682).	Weaves - Types I and II: plain; Type III: Sateen; Type IV: 1/2 twill.	Intended Use- Primarily for the the binding of seams in wear- ing apparel.
MIL-T-13452A	(5) Chloride content: no more than 0.020%. pH: 7.0 - 8.0 (2610).	Color- Shall be Olive Drab No. 7, and shall be produced by vat dyes to match approved standard shade (3-6). Chromium salts shall not be used for oxidation of vat dyestuffs. Colorfastness- Standard sample available (5651-5610-5600-5660).	Weave: Unless otherwise spec- ified, weave shall be 2/2 herringbone twill.	Intended Use - In making bando- liers for small arms ammunition.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thickness Inch (5030)
			Per linear yd.			Total	Face & Back	Binder	Stuffer				
<b>Tape, Textile, Cotton, Genera Purpose, Natural or in Colors</b> MIL-T-43566													
<b>Type I - Lightweight type</b>													
	16/2	20/2 or 40/2	Cotton	.13	3/8	37	7	42 or 84	50				
	16/2	20/2 or 40/2		.17	1/2	49	10	42 or 84	70				
	16/2	20/2 or 40/2		.21	5/8	61	13	42 or 84	85				
	16/2	20/2 or 40/2		.26	3/4	69	15	42 or 84	100				
	16/2	20/2 or 40/2		.30	7/8	77	17	42 or 84	115				
	16/2	20/2 or 40/2		.34	1	89	20	42 or 84	130				
	16/2	20/2 or 40/2		.39	1-1/8	97	22	42 or 84	145				
	16/2	20/2 or 40/2		.43	1-1/4	109	25	42 or 84	165				
	16/2	20/2 or 40/2		.51	1-1/2	129	30	42 or 84	190				
	16/2	20/2 or 40/2		.68	2	169	40	42 or 84	250				
	16/2	20/2 or 40/2		.86	2-1/2	209	50	42 or 84	300				
	16/2	20/2 or 40/2		1.02	3	249	60	42 or 84	360				
<b>Type Ia - Extra Lightweight tape</b>													
	20/2	20/2 or 40/2		0.45	2	155		32 or 64	235				

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-43566	Class 1a - Natural, water repellent, mildew resistant, 2,2' methylenebis-(4-chlorophenol)	Color - The tape shall be unbleached, bleached white, dyed Olive Drab No. 7, Ultramarine Blue No. 65010 or as specified.	(8)(6)(5) The acidity (pH) of the water extract of the classes 1a, 4 and 8 tapes shall be not less than 5.5 nor more than 8.5 when tested as specified in specification.	Intended Use - The tape is for use in manufacturing of tentage, clothing and equipment items.
	Class 2 - Bleached	Colorfastness: Class 3	The finished tape shall show no more lateral curvature than 1/4-inch within a yard when tested according to specification.	
	Class 3 - Dyed	Class 4 - fair to combined laundering and chlorine bleaching, and accelerated weathering and no more crocking than Munsell Value 8.5 (for Ultramarine Blue No. 65010-8.0).	Class 4 - fair to combined laundering and chlorine bleaching, and accelerated weathering and no more crocking than Munsell Value 6.5.	
	Class 4 - Dyed, water repellent, mildew resistant, (copper 8-quinolinolate)	Class 8 - fair to combined laundering and chlorine bleaching, and accelerated weathering and no more crocking than Munsell Value 8.5.		
	Class 8 - Dyed, water repellent (Above classes applicable to both types)			

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thick-ness Inch (5030)	Yarn Counts and Fly $\pm 5.0\%$	
			Min	Max		Total (min)	Face	Binder	Stuffer					Warp	Fill
Tape, Textile; Cotton, General Purpose (Unbleached, Bleached, or Dyed) DDF-T-86e															
Type I- Stay bindings, herringbone twill weave															
					(4)										(warp)
		Cotton			1/4	28				38	25			40/2	60/2
		Cotton			3/8	36				38	30			or	or
		Cotton			7/16	44				38	35			20/1	30/1
		Cotton			1/2	52				38	42			"	"
		Cotton			5/8	60				38	50			"	"
		Cotton			11/16	68				38	58			"	"
		Cotton			3/4	76				38	65			"	"
		Cotton			13/16	84				38	72			"	"
		Cotton			7/8	92				38	80			"	"
		Cotton			1	100				38	85			"	"
		Cotton			1-1/16	108				38	90			"	"
		Cotton			1-1/8	116				38	95			"	"
		Cotton			1-1/4	132				38	115			"	"
		Cotton			1-1/2	164				38	130			"	"
Type II- Other bindings herringbone twill weave (Continued)															
		Cotton			3/16	32 <sup>1</sup>				58	22			60/2	60/2
		Cotton			1/2	74 <sup>2</sup>				70	50			"	30/1
		Cotton			5/8	94 <sup>3</sup>				70	60			"	or 60/2

1. 8 ends left- 16 ends right- 8 ends left.
2. 20 ends left- 34 ends right- 20 ends left.
3. 22 ends left- 50 ends right- 22 ends left.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
DDD-T-86e Type I Type II (Cont'd)	(5)	Color- Tape shall be unbleached, bleached, or dyed as specified. Std. samples available (3-6). Colored tape shall be stock, yarn, or piece dyed. Colorfastness (1). Standard samples available. If no requirements are stated elsewhere, the following shall hold (5600-5610-5622-5651-5660-5671-5680).	When specified, Classes 1, 2, and 3 shall be preshrunk, & shall not shrink more than 4% in the warp (4.3.2). Weave - Type I: a 2/2 single or multiple herringbone twill with 1 or more reversals of the twill across the width of the tape. Tape shall have a woven edge on both sides. Weave - Type II: shall be the same as for Type I. Tape shall have a woven edge on both sides.	Intended Use- As bindings in the fabrication of clothing and other textile items.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width inch	Warp Yarns - Full Width				Picks Per inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thick-ness inch (5030)	Yarn Counts and Fly $\pm 5.0\%$
			Min	Max		Total (min)	Face & Back	Binder	Stuffer (Min)					
<u>Type, Textile;</u> <u>Cotton, General</u> <u>Purpose (Unbleached, Bleached, or Dyed)</u> DDD-T-86e (Cont'd)														
(4) <span style="float: right;">(warp)</span>														
Type III- Bindings, plain weave		Cotton			3/16	13				28	14			24/2 30/1
		Cotton			1/4	17				28	18			" or
		Cotton			3/8	25				28	24			" 60/2
		Cotton			1/2	34				28	35			" "
		Cotton			9/16	35				28	26			" "
		Cotton			1	65				28	65			" "
Class 1- Unbleached Class 2- Bleached Class 3- Dyed														

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
DDD-T-86e (Cont'd) Type III Class 1 Class 2 Class 3	See p. 245 for additional information.		Weave - Type III: shall be plain. Tape shall have a woven edge on each side.	

### NARROW FABRICS

NOMENCLATURE	Yarn Number		Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max (5100)	Thick-ness Inch (5030)	Fly
	Warp	Fill		Stuffer	Min		Max	Total	Face & Back					
<u>Tape, Textile</u> <u>Cotton, Tying</u> DDD-T-00101A			Cotton	( $\frac{1}{16}$ )	( $\frac{5}{16}$ )		19			12	25			
<u>Tape, Textile,</u> <u>Nylon, Arametic,</u> <u>Nonmelting, Paracnute</u> <u>Canopy</u> MIL-T-38377 (USAF)				(Yds/Lb)	( $\frac{1}{20.0625}$ )			Selvaqe						
Type I			Nonmelting arametic polyamide. No carbonization below 800°F.	100	-	2	258	32		70	300 (initial) 85% (aged)	12	1	1
Type II			Type I: 100 denier. Types II & III: 200 denier	30	-	2	450	-		36	1000 (initial) 85% (aged)	12	1	2
Type III				12	-	2	320	-		26	3000 (initial) 85% (aged)	-	4	4

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
DDD-T-00101A		Color - Unless otherwise specified unbleached (1). Colorfastness - standard sample available.	Tape shall have a straight weave. (2)	Intended Use - Tying documents, books, and publications for storage, shipment, or sale.
MIL-T-38377 Type I Type II Type III		Color - Shall be natural.	Weave- Body weave: A conventional 2-up and 2-down right-hand twill. Selvaqe: Type I shall be a double plain weave of a conventional hatband type. Types II and III shall have no additional selvaqe ends. Type I: Air permeability shall be $75/20 \text{ ft}^3/\text{min}/\text{ft}^2$ .	Intended Use - For use in the fabrication of parachute canopy piea of tape-type construction known as ribbon parachutes.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thickness Inch (5030)	Fly		
			Min	Max		Total	Face	Binder					Stuffer	W	F
Tape, Textile, Nylon, Loop MIL-T-26089 (USAF) Amd. 1															
		210 denier bright 34 filament high ten- acity poly- amide of hexamethy- lene & ad- ipic acid or its deriva- tives. Melt- ing point: 482° ± 10°F.	-	6" (yd/lb)	5/16" (tape & cord) 7/16" (tape & loop)	26	38 & 37			(4102) 175		0.030-0.040 (exclusive of cord)	1	3	
Tape, Textile, Nylon, For Ring- Slot Parachutes MIL-T-27736 (USAF)															
		840 denier 140 filament ultraviolet resistant nylon poly- amide of hexamethy- lene diamine & adipic acid or its derivatives. Melting point: 482° ± 10°F.	-	3.5 (oz/lin yd)	11 (±1/4)	48			36	(5104) 625 (warp) 450 (fill)					

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	CORRECTION REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-26089	(5) pH: 5 - 9 (2811).	Color - Tape shall match Air Force Sage Green shade No. 520 (3). Colorfastness- "good" (5651-5614-5600-5682).	Loop cord shall be manufactured in such a manner that the core yarns are held firmly in place to prevent puckering of core yarns when released from stress. See spec. for sleeve, core, and cord requirements. Weave: see spec. for diagram.	Intended Use- In flight clothing as a lacing tape.
MIL-T-27736	Finished tape shall be smooth and even, and shall contain no sizing, lubricating or weighting materials. Finish shall be permanent. Thickness shall not increase more than 10% and cloth shall not shrink more than 5% in warp and fill (4.3.2.1). pH: 4.5 - 8.5 (2811).	Color- Shall be natural only.	Weave: See spec. for diagram. Selvage width: 1-1/8 ± 1/16 in. Breaking strength (warp) of selvage width: 900 lb. Air permeability: 70 ± 20 ft <sup>3</sup> /min/ft <sup>2</sup> of cloth body.	Intended Use- In the fabrication of ring-slot parachute. Existing narrow fabric looms may be used to weave the tape by folding over a 5-1/2 in. width on the loom that will unfold to an 11 in. finished tape off the loom.



### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thickness Inch (5030)
			oz./lin. yd.			Total	Face & Back	Binder				
<u>Tape, Textile, Nylon, Multiple Tubular</u> MIL-T-5666B	Warp 210 Fill 420 Stuffer DENIER	Bright, high tenacity, light and heat resistant polyamide prepared from hexamethylene diamine and adipic acid	0.40	1-5/16 1/16	199				84	500	20%	0.020 min. 0.025 max.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
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MIL-T-5666B		Color - (a) Sage green 15A5 or (b). Olive Drab 7 as specified. Colorfastness - Standard breaking strength upon exposure to the light and heat tests as specified in specification.	The tape shall be yarn piece dyed the tape shall not lose more than 25% of the original breaking strength upon exposure to the light and heat tests as specified in specification.	Intended Use - The tape covered by this specification is intended for use in the manufacture of parachute packs. Specifically the tape holds the springs used to pull the pack flaps when the parachute ripcord is pulled.
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### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength (lb. Min.) (5100)	Elongation % Max. (5100)	Thickness inch (5030)	Yarn Ply	
			oz./lin. yd.			Total	Face & Back	Binder					Stuffer	W
Type, Textile, Nylon, Parachute, Construction MIL-T-6134B														
Type I		Nylon (a)	-	0.40	1	200			64	525	16	0.025-.045	1	4
Type II		Nylon (a)	-	0.145	1	104			53	300	14	0.010-.030	1	2

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-6134B Type I Type II		Color- Unless otherwise specified, color for both Types shall be natural, except for identification yarns for Type I. If color is specified, specific colorfastness requirements shall be as specified by procuring activity.	polyamide of hexamethylene diamine & adipic acid or its derivatives. Melting point: 250-260°C. Warp: 210 denier, high tenacity, bright filament. Fill: Spun nylon of 20/4 for Type I, and 40/2 for Type II (56). Weave- Type I: Tubular, plain weave. Warp ends may weave 2 ends as 1, or 1 end as 1. Type II: 2-up, 2-down herringbone twill, with 1 reversal in the middle. Tape shall have a woven release.	Intended Use- In the manufacture of parachutes. Type I: In skirt bands for parachutes. Type II: for reinforcing bands on parachutes.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warr Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min.	Elongation % Max	Thick-ness Inch
			oz./sq. yd.	oz./sq. yd.		Total	Face & Back	Stuffer				
Tape, Textile, Nylon, woven, White or Dyed MIL-T-2283D			Min	Max	(+1/16) (-1/16)							
	Warp	Fill	Stuffer									
			10 (50)	10.0	-	1/2	95		40	80		
			Gen., bright	11.0	-	5/8	99		40	140		
			High ten-	13.5	-	3/4	95		40	190		
			acity poly-	17.0	-	1	107		40	260		
			amide or	22.0	-	1-1/4	157		40	360		
			hexamethy-	26.0	-	1-1/2	177		40	490		
			lene dia-									
			mine & adi-									
			pic acid or									
			its deriva-									
			tives									

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-2283D		Color- Natural (white) or dyed as specified. Standard samples available (1). Colorfastness- standard sample available for dyed tape (5602-5614-5660).	Tape shall have a plain weave with woven selvages on both edges.	Intended Use- In the fabrication of clothing and individual equipment.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max (5100)	Thick-ness Inch (.0030)	Fly
			Min	Max		Total	Face & Back	Binder					
<u>Tape, Textile, Polyamide, High Temperature Resistant, Loop</u> MIL-T-81116 (WEPS)													
		High strength aromatic polyamide, non-melting, 200 denier.	-	1.2	5/16 (tape & cord) 7/16 (tape & cord loop)	76	38 (face) 37 (back)	1	60	(4102) 375			
<u>Webbing, Cotton, 1.2 Oz., Bleached 2 Inch (USMA) P/Des 295 (Superseding MIL-W-1643)</u>													
	16/3	16/3/4 - Cotton	1.2		(-1/16) (-1/32) 2	192			22	400			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-81116		Color- Shall be Olive Green. Color shall be obtained by the utilization of solution dyeing.	Loop cord shall be constructed in such a manner and with such a yarn tension that core yarns are held firmly in place to prevent puckering of core yarns when released from stress. Weave- See spec. for diagram. See spec. for requirements for sleeve, core, and cord.	Intended Use- As a lacing tape in the anti-G coveralls, Mark 2A, and related clothing.
P/Des 295	(5)	Color- Fully bleached and may be supplemented with fluorescent optical brighteners.	See spec. for weave instructions.	Intended Use- In the manufacture of equipment.

### NARROW FABRICS

NOMENCLATURE	Yarn Number		Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thick-ness inch (5030)	Fly	
	Warp	Fill		Min	Max		Total	Face & Back	Binder	Stuffer					W	F
<b>Webbing, Nylon, Slotted (For Cargo Ships)</b> <b>MIL-W-23223 (SHIPS)</b>																
Type I			840 denier ultraviolet resistant, high tenacity continuous filament nylon.	2.3	-	1-3/4 (1/16")	280				24/2	6000 (initial) 90% (after abrasion)	0.080-0.110	2	2	
Type II				1.7	-	1-1/4	200				24/1	4500 (initial) 90% (after abrasion)	0.080-0.110	2	2	
Type III				1.28	-	1	100				24/1	3500 (initial) 90% (after abrasion)	0.075-0.100	2	2	
Class A - Anti-static treated. Class B - Standard treated																

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc)	NOTES (Not Specification Requirements)
MIL-W-23223 Type I Type II Type III Class A Class B	Unless otherwise specified, webbing shall be impregnated with a suitable polychloroprene compound containing the necessary curatives, pigments, acid acceptors, flameproofing compounds, and antioxidants. A deposit of not less than 8% solids shall be made. If anti-static webbing is required, conductive rubber latex impregnation shall be used in lieu of polychloroprene. Anti-static treatment shall increase weight of webbing by 7-14%. Yarn shall be substantially free from sizing, loading, or other adulterants.	Color - Webbing (excluding markers, web insertions, and anti-static treated webbing) shall be Olive Drab. The anti-static treated webbing shall result in a charcoal color from the treatment with conductive rubber latex so that it is readily identifiable. Yarn shall be yarn or piece dyed with acetate dyes. Oli. Drab color dyes are not required in anti-static treated. Metallized or chrome dyes shall not be used. Colorfastness - "fair" (5600-5614).	Weave: A double plain weave with filling acting as binder. Shall have integrally woven slots. See diagram. See spec. for length & spacing of slots. Webbing shall not stiffen at low temps (4.5.2). See spec. for weight of polypropylene rubber to be used. Use of dyes, detergents, or other chemical or finishing agents which would cause deterioration in storage, cause dermatitis on prolonged skin contact, or increase the flammability of the webbing is prohibited.	Intended Use - In fabrication of cargo slings.

## NARROW FABRICS

NOMENCLATURE	Yarn Number		Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max (5100)	Thick- ness Inch (5030)
	Warp	Fill		Min	Max		Total	Face	Binder	Stuffer				
<p><u>Webbing and Tape,</u> <u>Textile, Cotton,</u> <u>General Purpose</u> <u>Natural or in Colors</u> <u>MIL-W-530E</u></p> <p>Type II- Medium weight webbing (hard texture) Sizes:</p>														
													(full width)	
	16/2	16/2	Cotton	0.20	-	3/8	48				40		100	
	8/4	8/4	Cotton	0.32	-	1/2	24				14		160	
	8/4	8/4	Cotton	0.40	-	5/8	30				14		200	
	8/4	8/4	Cotton	0.48	-	3/4	36				14		235	
	8/4	8/4	Cotton	0.65	-	1	48				14		315	
	8/4	8/4	Cotton	0.81	-	1-1/4	60				14		385	
	8/4	8/4	Cotton	0.97	-	1-1/2	72				14		460	
	8/4	8/4	Cotton	1.30	-	2	96				14		585	
	8/4	8/4	Cotton	1.78	-	2-3/4	132				14		760	
	8/4	8/4	Cotton	1.95	-	3	144				14		810	
(Continued)														

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
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MIL-W-530E  
Type II  
(Continued)

(5)  
Classes 1a, 1b, 2a, 4, 7 and 8  
webbing or tape shall have a  
water repellent finish, consist-  
ing of aluminum salts of satur-  
ated carboxylic acid (such as  
formate, acetate, palmitate,  
or stearate) mixed with refined  
mineral and vegetable waxes.  
Product shall be applied either  
in the form of an aqueous emul-  
sion or of a water-free solvent  
solution, to effect the deposit  
of not more than 6% on the  
weight of the finished cloth.  
Dynamic absorption of treated  
cloth shall be no more than  
40% (5500). Classes 1b and 4  
webbing or tape shall be mil-  
dev resistant treated with an  
aven deposit of 0.13-0.40%  
copper as metal from copper-  
8-quinolinolate. See spec.  
for method of application.

Color - Webbing & tape  
shall be unbleached,  
bleached white, dyed  
Olive Drab 7, Black,  
or other color as  
specified. Standard  
samples available (3).  
Dyed webbing or tape  
shall be stock or  
yarn dyed, except Type  
IIA which may be piece  
dyed. Only those  
warps of stock or  
yarn dyed webbing  
specifically listed  
as "stuffer warps"  
may, if properly  
covered, be undyed.  
When Classes 4, 7  
and 8 are required,  
shade of dyed web-  
bing or tape prior  
to application of  
finish shall, unless  
otherwise specified,  
match standard sam-  
ple. Unless specifically  
authorized by contrac-  
ing officer, use of  
coloring matter as a  
component of the  
finish is not permitted.

(2-7).  
(a) Two or more plied yarns of  
equal yarn size, weaving as 1  
may be substituted for the  
yarn sizes shown, providing  
that the single equivalent  
count of the yarns is equal  
to the yarn sizes specified,  
and providing that the min.  
weight, equivalent texture,  
and min. breaking strengths  
are not reduced. See spec.  
for special instruc-  
tions and/or diagrams for  
all other weaves.

Intended Use - In the manufacture  
of tentage clothing, and equip-  
age items. Class 7 webbing or  
tape is specified when intended  
for end use in contact with  
natural or synthetic rubber.  
Type VI webbing is used as  
understraps in the manufacture  
of prosthetic appliances and  
for lamp wicks.

### NARROW FABRICS

NOMENCLATURE	Yarn Number		Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thickness Inch (5030)
	Warp	Fill		Min	Max		Total	Face & Back	Stuffer				
webbing and tape, Textile, Cotton, General Purpose Natural or in Colors MIL-W-530 g (Cont'd)													
Type IIa- Medium weight webbing (hard texture)		(+3%) (a)											(Per Inch)
Sizes: (Cont'd)	8/4	8/4	Cotton	2.43	-	3-3/4	180			14			315
	8/4	8/4	Cotton	3.25	-	5	240			14			315
	8/4	8/4	Cotton	3.65	-	5-5/8	270			14			315
Type IIa- Medium weight webbing (soft texture)													(warp)
	12/2	12/2	8/3 Cotton	0.25	-	3/8	41	5	10	36			130
	12/2	12/2	8/3 Cotton	0.33	-	1/2	47	6	12	36			170
	12/2	12/2	8/3 Cotton	0.41	-	5/8	53	7	14	36			190
	12/2	12/2	8/3 Cotton	0.49	-	3/4	65	9	18	36			230
	12/2	12/2	8/3 Cotton	0.65	-	1	83	12	24	36			300
	12/2	12/2	8/3 Cotton	0.81	-	1-1/4	101	15	30	36			370
	12/2	12/2	8/3 Cotton	0.97	-	1-1/2	119	18	36	36			440
	12/2	12/2	8/3 Cotton	1.30	-	2	155	24	48	36			580
	12/2	12/2	8/3 Cotton	1.47	-	2-1/4	173	27	54	36			645
Type IIb- Medium hvy.wgt. webbing	8/4	10/3	Cotton	0.60	-	5/8	49	5		24			310
	8/4	10/3	Cotton	0.72	-	3/4	57	6		24			365
	8/4	10/3	Cotton	0.96	-	1	73	8		24			475
	8/4	10/3	Cotton	1.20	-	1-1/4	89	10		24			590
	8/4	10/3	Cotton	1.44	-	1-1/2	105	12		24			700
	8/4	10/3	Cotton	1.92	-	2	137	16		24			925
	8/4	10/3	Cotton	2.25	-	2-1/4	161	19		24			1050
	8/4	10/3	Cotton	2.88	-	3	201	24		24			1375

(Continued)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specificat:n Requirements)
MIL-W-530 g (Cont'd) Type IIa Type IIb (Continued)	Classes 1a, 2a, and 7 webbing or tape shall be mildew resistant treated with 1.1-1.6% of 2,2' methylenebis-(4-chlorophenol). See spec. for method of application. pk: Classes 1a, 1b, 2a, 4, 7 and 8 shall be 5.5 - 8.5.	Dyed webbing or tape shall show good dye penetration and dye shall be completely oxidized. Webbing or tape shall be well scaped and washed after dyeing(6). Colorfastness- Class 3; standard sample available (5651-5671). In addition, Class 3, Classes 4 & 7; standard sample available (5651-5671). Class 8; standard sample available (5651-5671-5600-5610).		

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thickness Inch (5030)
			Min	Max		Total	Face & Back	Binder				
Webbing and Tape, Warp/Fill/ Stuffer Textile, Cotton, General Purpose, Natural or in Colors MIL-W-530E (Cont'd)												
(+3%)												
Type III- Heavy-weight webbing	8/4	3/4	8/4	Cotton	1.00	-	5/8	57	5	12	24	(var)
	8/4	8/4	4/4	Cotton	1.20	-	3/4	65	6	14	24	300
	8/4	8/4	8/4	Cotton	1.33	-	1	81	8	18	24	400
	8/4	8/4	8/4	Cotton	1.50	-	1-1/4	89	10	11	24	550
	8/4	8/4	4/4	Cotton	2.00	-	1-1/4	97	10	22	24	650
	8/4	8/4	4/4	Cotton	2.40	-	1-1/2	113	12	26	24	750
	8/4	8/4	8/4	Cotton	2.65	-	2	145	16	34	24	800
	8/4	8/4	4/4	Cotton	4.00	-	2-1/2	177	20	42	24	1100
	8/4	8/4	4/4	Cotton	4.80	-	3	209	24	50	24	1350
Type IV- Webbing Special Use	8/4	8/4	Cotton	0.90	-	5/8	48	7		40	255	
	8/4	8/4	Cotton	1.90	-	1-1/4	94	15		46	500	0.135 max.
	10/5	10/5	Cotton	2.25	-	1-3/8	119	18		40	800	
	8/4	8/4	8/4	Cotton	3.40	-	2-1/4	167	10	99	28	1200
	8/7	8/7	Cotton	4.30	-	2-1/4	196	32		38	1100	0.135-0.155
Type V- Webbing multiple weave	12/3	12/3	Cotton	2.75	-	(+1/32) 1-3/4	333			100	1000	1/8±1/64
Type VI- Webbing special (appliances and wicks) (Continued)	5/2	10/2	Cotton	0.53	-	(+1/16) 1	49	11		18	350	0.080±0.005

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
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MIL-W-530E (Cont'd) For additional information see page 254.

Type III  
 Type IV  
 Type V  
 Type VI  
 (Continued)



### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max (5100)	Thickness Inch (5030)	Elastic Strands Weave No.
			oz./11n yd			Min	Max	Total	Face R					
Webbing, Textile, Warp Fill Stuffer (Cotton, Elastic) JJ-W-1553, Amt. 1														
Type I- Woven (+2 counts) (4) (elastic)														
Class 1	20/2 24/2	Cotton	0.28	-	1/2	7	18	-	-	50	50%	0.045-0.060	36	2
Class 2	24/2 24/2	Cotton	0.30	-	1/2	8	21	-	6	100	50%	0.042 min.	30	1
Class 3	24/2 24/2	Cotton	0.43	-	3/4	11	30	-	9	100	50%	0.042 min.	30	1
Class 4	24/2 24/2	Cotton	0.50	-	7/8	13	36	-	11	100	50%	0.042 min.	30	1
Class 5	20/2 24/2	Cotton	0.45	-	7/8	12	33	-	-	50	50%	0.045-0.060	36	2
Class 6	20/2 24/2	Cotton	0.50	-	1	13	36	-	-	50	50%	0.045-0.060	36	2
Class 7	24/2 24/2	Cotton	0.57	-	1	15	42	-	13	100	50%	0.042 min.	30	1
Class 8	24/2 20/2	Cotton	0.54	-	1-1/4	14	26	-	-	52	50%	0.050-0.065	50	4
Class 9	20/2 20/2	Cotton	0.62	-	1-1/4	14	28	24	-	60	50%		36	3
Class 10	16/2 12/1	Cotton	0.65	-	1-1/2	17	26	11	-	70	50%	0.050 min.	44	3
Class 11	24/2 24/2	Cotton	0.85	-	1-1/2	26	100	-	24	96	40%	0.038 min.	30	1
Class 12	24/2 24/2	Cotton	0.87	-	1-1/2	23	66	-	21	100	50%	0.043 min.	30	1
Class 13	12/2 12/1	Cotton	0.95	-	1-3/4	19	54	-	-	40	50%	0.048 min.	36	2
Class 14	12/2 12/1	Cotton	1.25	-	2	22	63	-	-	40	50%	0.048 min.	36	2
Class 15	24/2 20/2	Cotton	1.28	-	3	22	42	-	-	52	50%	0.049 min.	50	4
Class 16	24/2 20/2	Cotton	2.60	-	6	42	82	-	-	52	50%	0.049 min.	50	4
Class 17	40/2 30/2	Cotton	3.30	-	5	113	885	216	-	84	40%	0.058 min.	42	5
Class 18	40/2 30/2	Cotton	4.60	-	7	157	1237	304	-	84	40%	0.058 min.	45	5
Class 19	40/2 30/2	Cotton	6.70	-	10	221	1749	432	-	84	40%	0.058 min.	42	5
Class 20	20/2 20/2	Cotton	0.55	-	1/2	28	53	7	6	60	50%	0.09 min.	30	6
Class 21	20/2 20/2	Cotton	1.40	-	1	28	171	13	12	90	40%	0.09 min.	30	6
Class 22	20/2 12/2	Cotton	1.50	-	1-1/2	19	153	36	17	60	40%	0.09 min.	30	6
Class 23	20/2 20/2	Cotton	2.07	-	1-1/2	42	253	20	19	90	40%	0.09 min.	30	6
Class 24	20/2 12/2	Cotton	2.10	-	1-1/2	44	182	40	38	86	40%	0.09 min.	30	6
Class 25	20/2 20/2	Cotton	2.66	-	2	56	342	26	24	90	40%	0.09 min.	30	6
Class 26	30/2 24/2	Cotton	0.43	-	5/8	12	46	-	10	96	50%	0.053 min.	28	1

(Continued)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
JJ-W-1553 Type I Class 1 Class 2 Class 3 Class 4 Class 5 Class 6 Class 7 Class 8 Class 9 Class 10 Class 11 Class 12 Class 13 Class 14 Class 15 Class 16 Class 17 Class 18 Class 19 Class 20 Class 21 Class 22 Class 23 Class 24 Class 25 Class 26 (Continued)	Unless otherwise specified, Classes 1, 20 & 26 shall be water repellent and mildew resistant treated. Class 5 shall be mildew resistant treated. Mildew resistant treatment shall be with 2,2' methylenebis-(4-chlorophenol) so that concentration of the inhibitor deposited on the webbing shall be 1.35 + 0.25%. Inhibitor shall be applied from a two bath aqueous emulsion. Water repellent treated shall be obtained by the use of a wax or metallic salt wax compound. As a result of the treatment, dynamic absorption shall not be more than 40% (5500).	Color- Classes 1-8, 10-12, 14, 20, 22, 24, and 26 shall be unbleached, bleached, or dyed as specified. Class 9 shall be bleached. Classes 13, 15, and 16 shall be unbleached. Classes 17-19 shall be dyed Tea Rose. Classes 21, 23, and 25 shall be dyed Gray. Standard samples available (3). For dyed webbing, yarns shall be vat dyed before weaving (6). Colorfastness- standard samples available. For dyed webbings of Classes 1, 5, 6, 8-11, and 13-26 (5610-5671). For Classes 2, 3, 4, 7, and 12 (5610-5660).	Elastic strands for all webbing except Class 5 shall be made from compounded natural rubber. Class 5 shall be made from natural rubber. When a core is covered, it shall be wrapped with multiple ends of cotton yarns. See spec. for special directions for weaves 1-6. See spec. for initial tension requirements to be met by all Classes. After aging, tension of all webbings except Class 5 shall change not more than 20% (4.3.2.1). Tension for Class 5 shall not change more than 10% (4.3.2.2). Permanent set of all webbing shall not exceed 8% initially. Change in set shall not be more than 20% after acc. aging. (4.3.4.2 for all Classes except Class 5; 4.3.4.3 for Class 5). Change in set of Class 5 after low temperatures shall be not more than 35% (4.3.4.4). Elongation of all Classes except Class 5, after low temps. shall be not less than 10% (4.3.5.1). For Class 5, 50% min. (4.3.5.2). *Synthetic rubber may also be allowed.	Intended Use- Class 1, 6 and 9: used by the Chemical Corps. Class 1: also used in fabrication of various types of Army goggles. Class 5: used by Chemical Corps in one type of protective mask, head harness. Class 9: used in boxer shorts. Class 14: used in Navy swim trunks. Class 17, 18, 19, 21, 23 and 25 (untreated): used in medical installations for construction of orthopedic appliances. Class 20: used in the fabrication of helmet, camouflage, bands.

## NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max (5100)	Thickness Inch (5030)	Elastic Strand Gage Weave Number	
			oz/lin yd			Total	Face	Binder					Stuffer	
Webbing, Textile, Warp, Fill, Stuffer (Cotton, Elastic) JJ-W-155d, Amd. 1 (Cont'd)														
			Min	Max				Back						
Type II- Braided (+2 courts) (4) (carrier)(elastic)														
Class 1	20/2	Cotton	0.16	-	5/16	17	8		68	50%	0.035-0.050	42	7	
Class 2	20/2	Cotton	0.20	-	3/8	25	12		68	50%	0.035-0.050	42	7	
Class 3	20/2	Cotton	0.24	-	1/2	33	16		68	50%	0.035-0.050	42	7	

NOMENCLATURE	FINISH	SHADE AND COLOFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
JJ-W-155d (Cont'd) Type II Class 1 Class 2 Class 3		Color- Classes 1-3 shall be unbleached, bleached, or dyed as specified. Standard samples available (2). For dyed webbing, yarns shall be vat dyed before weaving (6). Colorfastness- Standard samples available. For Classes 1 and 2 (5610-5660). For Class 3 (5610-5661).	Class 5 shall meet all requirements for tension before and after aging, elongation, and all permanent set, after being boiled (4.3.4). Type II- Elastic strands shall be made from natural and/or synthetic rubber. When a core is covered, it shall be wrapped with multiple ends of cotton yarns. Weave No. 7 shall be plain, 2 over and 2 under. See spec. for initial tension requirements to be met by all classes. Tension shall not change more than 20% after acc. aging (4.2.2.1). Permanent set shall not exceed 8% initially. After acc. aging, set shall not change more than 20% (4.3.4.2). Elongation shall not be less than 1:1 after low temp. (4.3.5.1).	Intended Use- All Classes are used by the Chemical Corps.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min.  (5100)	Elonga- tion % Max.  (5100)	Thick- ness Inch  (5030)									
			oz./lin. yd.			Total	Face & Back	Binder					Stuffer								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Warp</th> <th>Fill</th> <th>Stuffer</th> <th>Min</th> <th>Max</th> <th>Total</th> <th>Face &amp; Back</th> <th>Binder</th> <th>Stuffer</th> </tr> </thead> </table>													Warp	Fill	Stuffer	Min	Max	Total	Face & Back	Binder	Stuffer
Warp	Fill	Stuffer	Min	Max	Total	Face & Back	Binder	Stuffer													
<u>Webbing, Textile,</u> <u>Cotton, Splint</u> <u>MIL-W-43378</u>																					
Class 1- 1 inch		Cotton	0.72		1	17	15	64	48	250											
Class 2- 1½ inches			1.08		1½	201	23	96	48	300											
Class 3- 2 inches			1.45		2	257	31	122	48	400											
<u>Webbing, Textile,</u> <u>Cotton, Stov-Loop</u> <u>MIL-W-9406 (DEAF)</u>																					
		Cotton	8.19	9.0	3-1/2 (1/8)					1'00		.085/.015									

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-43378 Class 1 Class 2 Class 3	Natural	Color - Natural	The weave shall be composed of two ground warps (face and back) one binder warp, and one stuffer warp. The face warp shall weave plain with the picks that show on the face, and the back warp shall weave plain with the picks that show on the back. The binder warp shall weave plain throughout. There shall be 12 ground warp threads on one edge and 13 ground warp threads on the other.	Intended Use - The webbing is used for orthopedic braces, corsets, leg traction, apparatus, straps for back support, and Balsa wood life rafts.
MIL-W-9406	Use of dyestuffs, detergents, or other chemical or finishing agents which would cause deterioration or affect color in storage or cause dermatitis on prolonged intimate skin contact is prohibited.	Color- Color of webbing and loops shall be natural, except for 1 binder or thread, which shall be black (6). Colorfastness- "good" (561).	See spec. for weave diagrams.	Intended Use- In the manufacture of troop-type parachute packs.

## NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thick-ness Inch (5030)	Fly of Warp Ends Min.
			Min	Max		Total	Face	Binder	Stuffer					
Webbing, Textile. Warp   Fill   Stuffer Cotton Warp MIL-W-5665E, Amd. 1														
Class 1A- Undyed & not fungus proofed		Warp: Cotton			(4)									
Class 1B- Undyed & fungus proofed		Fill: For types I-VII, IX, XII, XIII, XVII, XVIII, and XIX-												
Class 2A- Dyed & not fungus proofed		Cotton. For Types VIII, XV, and XVI-												
Class 2B- Dyed & fungus proofed		bright, high tenacity, heat & light resistant												
Class 3- Resin dyed & fungus proofed during dyeing		polyamide of hexamethylene diamine & adipic acid or its derivatives.												
Types: I		Unbleached.	-	0.40	9/16	68				20	350	.040-.050	4	
II			-	0.75	1	122				20	575	.040-.050	4	
III			-	0.90	1-1/4	158				20	750	.040-.050	4	
IV			-	2.50	5	200				16	1900	.050-.100	3	
V			-	4.30	5	350				16	3100	.050-.100	3	
VI			-	2.10	1-3/4	116				11	1800	.070-.090	5	
VII			-	3.00	1-3/4	122				24	2600	.140-.170	7	
VIII			-	3.00	1-3/4	132				10	2900	.075-.095	7	
IX			-	4.65	3	175				12	4500	.090-.115	6	
X			-	3.50	1-3/4	160				20	5000	.130-.150	6	
XII			-	1.25	1-3/4	220				20	1000	.040-.050	4	
XIII			-	3.40	1-3/4	126				11	3400	.100-.130	6	
XV			-	3.50	1-3/4	150				20	4500	.130-.150	6	
XVI			-	2.60	1-3/4	124				10	2700	.095-.115	7	
XVII			-	1.25	1	70				11	1000	.075-.095	5	
XVIII		(+3%)	-	1.40	2-1/2	270				20	1250	.050-.060	4	
XIX	11/9-10/4 8/7		3.68	-	2	-	139	33		21	2500	.130-.01	-	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-5665E	(5)	Color- Webbing shall be natural, dyed Olive Drab No. 7, or other color as specified. Standard samples available (3). Classes 2A & 2B: Oil dyeing is prohibited (6). Shade of dyed webbing prior to application of finish shall match standard sample. Class 3: Resin dyed with fungus resistant treatment added during dyeing process. Dyed and finished webbing shall match standard sample. Colorfastness- Classes 1A, 1B, 2A & 2B: standard sample available (5651-5660). Class 3: standard sample available (5651-5671-5680). See spec. for instructions on colored marking threads.	Shrinkage of finished webbing shall not exceed 12.5% (4.3.1) Weave- Types VII & X: See spec. for diagram. Weave for Type XIX shall consist of a face warp & a back warp bound together by a binder warp & a filling. Face warp shall weave plain, with the picks that show on the face, and the back warp shall weave plain with the picks that show on the back. Binder warp ends shall weave over 2 and under 2. Weave for all other types: 2-up, 2-down herringbone twill with 1 twill reversal in the center of the webbing.	Intended Use- In cargo parachute harnesses & packs, cargo drop kits, cargo tie down lines, hoists and slings, life raft belts and crew bunk safety belts. Copper-8-quinolinolate is to be used in fungus proofing of webbing intended for equipment subject to considerable ground contact under conditions of actual use, and where color is not of primary importance. It is not to be used on webbing in contact with natural rubber materials. 2,2' methylene-bis-(4-chlorophenol) is to be used where color is of prime importance or where webbing may be in contact with natural rubber materials.
Class 1A	Webbing shall be subjected only to light spring calendaring to smooth out surface. Class 1B, 2A & 3 shall be treated with either copper-8-quinolinolate or 2,2' methylene-bis-(4-chlorophenol) mildew inhibitor agents as specified. Copper-8-quinolinolate: Webbing shall be mildew resistant treated by evenly depositing within the webbing a min. of 0.13% to a max. of 0.40% copper as metal from copper-8-quinolinolate, using method of application outlined in spec. 2,2' methylene-bis-(4-chlorophenol): Webbing shall be treated to resist mildew with 1.1-1.6% of 2,2' methylene-bis-(4-chlorophenol), using method of application outlined in spec. pH: For Classes 1B, 2A & 3: 5.5 - 8.5 (2811).			
Class 1B				
Class 2A				
Class 2B				
Class 3				
Type I				
Type II				
Type III				
Type IV				
Type V				
Type VI				
Type VII				
Type VIII				
Type IX				
Type X				
Type XII				
Type XIII				
Type XV				
Type XVI				
Type XVII				
Type XVIII				
Type XIX				

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max (5100)	Thick-ness Inch (5030)	Fly	
			Gr/Yd			Total	Face & Back	Binder					Stuffer	W
Webbing, Textile, Dacron MIL-W-25339 (USAF)			Min	Max										
Types: I		220 denier continuous filament	- 1.30	1-23/32	108			18	1800		.040-.050		7	9
II		high tenacity type 5100 dacron	- 1.80	1	120			20	3000		.110-.140		10	10
III			- 3.75	1-23/32	320			20	8100		.125-.145		10	9
IV			- 4.35	2	346			18	9700		.110-.130		10	10

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-25339 Type I Type II Type III Type IV	(5) Finished webbing shall be heat relaxed at a temp. in excess of 350°F. in such a manner that no more than 2% shrinkage occurs in testing. (4.3.2.1). pH: 5.0 - 9.0 (2611).	Color- Shall be natural. See spec. for instructions on identification yarns.	Weave- Type I: a 2-up, 2-down herringbone twill with 1 reversal at the center of the webbing. Types II, III, IV: See spec. for diagram.	Intended Use- In the fabrication of parachutes for use where exposure to high temp. conditions is anticipated.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thickness Inch (5030)
			oz/lin yd			Total	Face	Binder				
Webbing, Textile, Elastic, Cotton MIL-W-5664B			Min	Max								
Class 1		Cotton	-	0.28	(4) 3/8							.016-.046
			-	0.38	1/2							.016-.046
			-	0.53	3/4							.016-.046
			-	0.55	7/8							.016-.046
			-	0.73	2							.015-.046
			-	1.00	1-1/2							.016-.046
			-	1.60	2							.031-.061
			-	2.00	2-1/2							.031-.061
Class 2		Cotton	-	2.30	1-1/2							.094-.156
Class 3		Cotton	-	2.35	1-1/2							.094-.156

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-5664B Class 1 Class 2 Class 3	pH: 6.0 - 9.0 (2811).	Color- Webbing shall be yarn or piece dyed. Class 1: Natural or dyed (1). If Sage Green is specified, webbing shall be dyed to match shade sample for Sage Green color No. 531. When natural is specified, webbing shall be unbleached. Class 2: Natural or dyed (1). When specified, face shall be black & back white. Black shall conform to TCA Cable No. 66507 shade 0 (Black), and white shall conform to TCA Cable No. 70001 white (crepe side). Sage Green Color No. 531. Class 3: Unless otherwise specified, shall match TCA Cable No. 66022 shade S-1, U.S. Army Olive Drab. Sage Green shall match shade sample for Sage Green No. 531. Colorfastness- "good" (5651-5660-5630).	See spec. for amount of load to produce 50% elongation & for low temperature elongation resistance. Drift of load on webbing, elongated & maintained at 50% elongation for 4 hours, shall be not more than 20% (4.6.2). After webbing has been elongated and maintained at 50% elongation for 10 min, and then allowed to rest for 10 min., the webbing tension set (change in length of sample) shall be not more than 5%. Same requirement shall hold after heat aging.	Intended Use- Class 1: For headbands for aviator's face masks and goggles, parachute packs and harnesses, service cap covers, gloves, waist bands, and for harness elastic on gas mask face pieces. Class 2: For suspenders. Class 3: For parachute packs and rip-cord grip pocket for parachutes.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thick-ness Inch (5030)
			Min	Max		Total	Face	Back				
<p> <u>Knitting, Textile:</u>  <u>Knitted, Nylon</u>  <u>Elastic 5-1/4</u>  <u>Sub-Width</u>  <b>KIL-W-17965A (MC)</b> </p>												
			50 gauge ar- 2.2	2.6	5-1/4 ( $\frac{1}{2}$ 1/8)	Wales 22 ( $\frac{1}{2}$ )			Ribs 19/2		(4121 of Fed. Std. 601) 0.038 200 ( $\frac{1}{2}$ .003)	
			treaded natural round rubber elastic wrapped with 70 & 200 den. nylon. Knitting yarns: 210 den. nylon.									

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
KIL-W-17965A		Color- Unless otherwise specified, color shall be Olive Drab No. 7. Colorfastness- "good" (5651-5682-5660-5682).	(2) Total sewing sections (warp): 6 min. No. of ends per sewing section: 6 min. Knitted webbing shall have a transverse web of interlocking and inter-connecting warp and filling yarns with a selvage at each edge. Laid-in elastic warps shall consist of a rubber core wrapped first with 2-ply, 70 denier nylon, and then wrapped with single ply, 200 denier nylon.	Intended Use - On Marine Corps clothing and equipage items.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thickness Inch (5030)	Fly
			Min	Max		Total	Face & Back	Binder					
Webbing, Textile, Nylon MIL-W-43042 (ORD)													
			(oz/lin yd)										
Type I- 0.065 in. nominal thickness		Continuous filament											
Sizes:		bright high tenacity	- 0.40	1/2	49	5	24	550			0.050-	4	8
		nylon polyamide of hexamethylene diamine & adipic acid or its derivatives.	- 0.50	3/4	73	8	24	800			0.079	4	8
			- 0.80	1	97	11	24	1100			"	4	8
Type II- 0.090 in. nominal thickness													
Sizes:			- 1.20	3/4	109	13	24	500			0.080-	8	8
			- 1.25	7/8	127	15	24	3000			0.100	8	8
			- 1.30	1	143	17	24	3400			"	8	8
		Melting point: 250°/5°C. 210 den.	- 2.00	1-1/2	213	26	24	5600			"	8	8
			- 2.80	2	287	35	24	6700			"	8	8
			- 3.20	2-1/2	359	44	24	8200			"	8	8
		3/4 filament	- 3.90	3	431	53	24	10000			"	8	8

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-43042 Type I Type II	(5) pH: 5 - 9 (2811).	Color- Unless otherwise specified, webbing shall be piece dyed with acetate or acid type dyes of color Olive Drab No. 34087 of Fed. Std. 595. Metallized or chrome dyes shall not be used. Colorfastness - "fair" (5062).	(2-7) Weave: Webbing shall be composed of 2 ground warps (face and back), 1 binder warp, and 1 filling. Face warp shall weave plain (1 end as 1), with picks that show on face, and the back warp shall weave plain (1 end as 1), with picks that show on back. Binder warp shall weave plain throughout.	Intended Use - For manufacturing carrying straps for fire control instruments.



### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz/yd	Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness Inch (3030)	Yarn Ply						
					Total	Face & Back	Binder					Stuffer	W	F	B			
Webbing, Textile, Warp/Fill/Stuffer Nylon, Latex Impregnated MIL-W-8630C, Amd. 2																		
			Min/Max															
Types: I		Bright nylon. All Types but IV: 210 den. 3/4 filament. Type IV: 840 den. 140 filament.	- 2.40 (initial) - 2.65 (impregnated)	1-15/16	200			22	5300		.075-.095	10	-	6				
II		All yarn shall be sunlight resistant type.	- 2.25 (initial) - 2.45 (impregnated)	1-15/16	196			17	5500		.055-.075	10	-	10				
III			- 4.20 (initial) - 4.60 (impregnated)	3		309	37	28	8200		.080-.100	10	7	10				
IV			- 5.10 (initial) - 5.60 (impregnated)	1-15/16		246	40	21	13000		.170-.180	5	4	10				
V			- 2.90 (initial) - 3.20 (impregnated)	1-23/32		225	29	22	6500		.080-.100	10	4	7				
VI			- 3.70 (initial) - 4.05 (impregnated)	1-23/32		305	37	22	8700		.110-.130	10	4	10				
VII			- 1.70 (initial) - 1.90 (impregnated)	1-23/32	132			18	3600		.055-.080	10	-	10				

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-8630C Type I Type II Type III Type IV Type V Type VI Type VII	(5) Webbing shall be impregnated with a suitable natural rubber latex compound containing the necessary curatives & antioxidants. Webbing shall be saturated by total immersion in a latex bath for a period of time sufficient to allow penetration to the core of the web. Excess may be removed by suitable devices. Totally impregnated webbing shall then be properly dried and vulcanized to develop max. physical properties. Use of any dyestuffs, detergents, curative methods, impregnating compounds, or other chemical or finishing agents which are known to cause deterioration in storage or cause dermatitis on prolonged intimate skin contact or increase the flammability of the webbing is prohibited.	Color- Unless otherwise specified, color of Types I & II shall match TCA Cable No. 16522 Cinder Gray. Other Types shall match TCA Cable No. 66022, Shade 8-1 (U.S. Army Olive Drab). Webbing shall be uniformly dyed before any finishing agent is applied, and before impregnation. Color penetration shall be good in both warp & fill. Metallized or chrome dyes shall not be used. Colorfastness- "good" (5660-5614).	See spec. for weave instructions. Webbing shall lose not more than 5% of original strength after abrasion (4.5.2.4). Breaking strength of impregnated webbing shall not be less than 80% of unexposed untreated webbing after exposure to acc. weathering (4.5.2.5). Webbing shall display no appreciable stiffening or change in pliability when subjected to low temps. (4.5.2.6). Webbing shall lose no more than 5% of original breaking strength after acc. oven aging. After cooling, aged webbing shall display no stickiness or gumming (5870).	Intended Use- In the manufacture of aircraft tie-down and armament-handling equipment, and other safety devices.

### NARROW FABRICS

NOMENCLATURE	Yarn Number		Fiber	Weight oz./lin. yd.		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min.  (5100)	Elongo- tion % Max.  (5100)	Thick- ness Inch  (5030)
	Warp	Fill		Stuffer	Min		Max	Total	Face B				
<u>Webbing, Textile, Nylon-Pneumatic Life Preserver</u> MIL-W-21733 (AER)													
Type I- Harness Webbing	210/4	210/4	Binder 210/4 Bright high ten- acity, 210 den. nylon.	-	1.07	1-1/2 ( $\frac{1}{16}$ )	178	144	34	48	1800		
Type II- Acc- essory webbing	210/4	210/4	Melting point: 250°/6°C.	-	0.40	1 ( $\frac{1}{32}$ )	100	100		40	575		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-21733 Type I Type II		Color- Unless otherwise specified, color shall be Orange Yellow to match TCA Cable No. 70068, Spanish Yellow (crepe side). Colorfastness - "good" (5660).	Weave- Type I: A double plain weave, 1 end as 1 with a single filling. Binders shall be drawn to weave in groups of 2. See spec. for instructions. Type II: 2-up and 2-down herringbone twill with 1 reversal in center.	Intended Use - In the manufacture of various pneumatic life preservers.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min.  (5100)	Elongation % Max.  (5100)	Thick- ness Inch  (5030)
			oz./gross	yd.						
Webbing, Textile, Nylon, Tubular MIL-W-56290	Warp	Fill	Stuffer	Min	Max	Total	Face & Back	Binder	Stuffer	
						(1/16)	(m.n.)			
			Bright, high tenacity light and heat resistant polyamide prepared from hexamethylene diamine and adipic acid or its deri- vatives.	- 0.50	1/2	111		26	1000	0.090
				- 0.60	9/16	137		26	1500	0.090
				- 0.75	5/8	89		26	2250	0.100
				- 1.05	3/4	109		26	2300	0.120
				- 1.70	1	159		26	4000	0.120
			- 1.00	7/8	121		26	3100	0.120	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-56290		When dyed webbing is required, the webbing shall be piece dyed as specified, of the following colors: natural, yellow No. 1365, Olive Drab No. 7, air force sage green no. 1531. Colorfastness: Standard sample available. Identification yarns shall be woven as specified.	The residual shrinkage of the natural and dyed webbing shall be no more than 2.0 percent. The webbing shall lose no more than 25.0 percent of its original breaking strength when tested as specified in specification.	Intended Use - The webbing is intended for use in parachute construction.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thickness Inch (5030)	Ply		
			Min	Max		Total	Face & Back	Binder	Stuffer					W	F	B
Webbing, Textile Polyester, Type I, II, III, IV, V, VI MIL-W-25361A																
Type I- Untreated		Warp & fill for V & VI 1100 den.	- 1.65	1-23/32	154					19	3600	18 (2500 lb)	.050-.065	2 - 3		
Type II- Untreated		semi-dull or bright high tenacity polyester -	- 2.10	1-23/32	216					23	6000	13 (3000 lb) 17.5 (5400 lb)	.060-.080	2 - 3		
Type III- Untreated		polyethylene glycol terephthalate. Melting point: 250°+6°C. Fill for I, II, III and IV: spun nylon 15/3+3% on the cotton system.	- 2.50	1-23/32	256					23	7000	12 (3000 lb) 17.5 (6300 lb)	.075-.090	2 - 3		
Type IV- Untreated			- 3.75	3	346					32	8700	12 (3000 lb) 18.5 (7830 lb)	.065-.090	2 - 3		
Type V- Latex treated			- 3.90	1-3/4	362					22	10000 (initial) 9000 (after abrasion) 95% (after acc. aging)	9 (3000 lb) 16 (9000 lb)	.110-.130	2 - 2		
Type VI- Latex Treated			- 7.50	1-3/4	449	37				17	15000 (initial) 13500 (after abrasion) 95% (after acc. aging)	7.5 (3000 lb) 17.5 (13500 lb)	.215-.235	3 2 2		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-25361A Type I Type II Type III Type IV Type V Type VI	(5) Types I, II, III and IV webbing shall be untreated. Types V & VI shall be treated with a natural rubber latex. They shall be impregnated with a natural rubber latex containing the necessary curatives and antioxidants. Webbing shall be saturated by total immersion in a latex bath for a period of time sufficient to allow penetration to the core, and the excess shall then be removed to permit conformance to finished weight requirements. Webbing shall then be dried and vulcanized. pH: 5.0 - 8.5 (2811).	Color- Types I, II, III & IV shall be natural white or shall match standard sample for Air Force shade Sea Green No. 1001 or Olive Drab No. 7 (3). Types V and VI shall be Olive Drab No. 7 (3). Colorfastness- Standard sample available (651).	See spec. for weave diagrams and instructions. Types V & VI shall show no evidence of stickiness or gumminess after acc. aging (5850). Types V & VI shall show a change in pliability of no more than +20% after low temps. and a further change of no more than +20% after acc. aging. (5206-5850).	Intended Use- In aircraft safety belts and restraining harnesses. Type VI webbing is intended for use as slings for heavy rockets and rocket warheads.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thick-ness Inch (5030)	Shrinkage (Warp)
			Min	Max		Total	Facs & Back	Binder					
Webbing, Textile, Warp   Fill   Stuffer Woven, Cotton and Rayon													
MIL-W-4576 (USAF) Amd. 2													
			(+0.025)		(+1/32)								
Type I		Warp: continuous filament viscoee rayon	0.125		5/8	106			30	50		0.015-0.020	2% max.
Type II		Fill: cotton, 8-ply	0.175		7/8	148			30	70		0.015-0.020	2% max.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-4576 Type I Type II	(5) Use of dyestuffs, detergents, or other chemicals or finishing agents which would cause deterioration in storage or cause dermatitis on prolonged intimate skin contact is prohibited. pH: 5.0 - 9.0 (2811).	Color (1-6). Colorfastness- "good" (5614-5651-5620-5660-5682).	Weave shall be plain, 1 up, 1 down.	Intended Use- In the construction of flying clothing.

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thick-ness Inch (5030)	No. of Single Yarns for Final Plied Yarn (min.)	
			oz/lin yd	Min		Max	Total	Face	Binder						Stuffer
Webbing, Textile, Warp Fill Stuffer															
Woven Nylon															
MIL-W-4088 F (GL)															
Amd. 2															
Denier & Filament (4)															
W B F															
Types: I	420/68	840/140	Bright,	- 0.28	9/16	92				34	500	0.025-.040	1	-	1
Ia	420/68	840/140	high ten-	- 0.32	3/4	108				36	600	0.025-.035	1	-	1
II	420/68	840/140	acity, heat	- 0.42	1	134				34	600	0.025-.040	1	-	1
III	420/68	840/140	& light	- 0.52	1-1/4	163				34	800	0.025-.040	1	-	1
IV	420/68	840/140	resistant	- 1.20	3	400				34	1800	0.025-.040	1	-	1
VI	840/140	840/140	polyamide	- 1.15	1-23/32	114				21	2500	0.030-.050	2	-	2
VII	840/140	840/140	of hexame-	- 2.35	1-23/32	229	27			24	5500	0.060-.100	2	1	2
VIII	840/140	840/140	thylene	- 1.60	1-23/32	166				18	3600	0.040-.070	2	-	2
VIIIa	840/140	840/140	diamine &	- 2.80	3	280				18	6300	0.040-.070	2	-	2
IX	840/140	840/140	adipic acid	- 4.00	3	257	31			28	9000	0.065-.100	3	2	2
X	840/140	840/140	or its deri-	- 3.70	1-23/32	257	31			22	8700	0.110-.140	3	1	2
XII	420/68	840/140	vatives.	- 0.85	1-23/32	266				34	1200	0.025-.040	1	-	1
XVII	840/140	840/140	Melting	- 2.90	1-23/32	281	34			24	6500	0.080-.120	2	1	2
XIV	210/34	210/34	point: 482°	- 0.80	1/2	51				36	1200	0.070-.100	7	-	7
XV	210/34	210/34	F. min. (5).	- 1.25	2	88				15	1500	0.035-.050	10	-	10
XVI	840/140	840/140		- 2.00	1-23/32	198				17	4500	0.045-.080	2	-	2
XVII	840/140	840/140		- 1.15	1	114				15	2500	0.045-.070	2	-	2
XVIII	840/140	840/140		- 2.05	1	260				18	6000	0.100-.160	2	-	2
XIX	840/140	840/140		- 4.10	1-3/4	280				18	10000	0.105-.130	3	-	2
XX	840/140	210/34		- 3.25	1	162	26			19	9000	0.190-.235	5	1	10
XXI	210/34	210/34		- 1.70	1-1/4	260				25	3600	0.065-.085	5	-	10
XXII	260/17	840/140		- 3.50	1-23/32	259				18	7300	0.090-.120	10	-	2
XXIII	840/140	840/140		- 3.70	1-1/8	324	27			15	12000	0.200-.300	3	2	3
XXIV	840/140	840/140		- 2.25	1-15/16	244				17	5500	0.055-.075	2	-	3
XXV	840/140	840/140		- 1.50	1	169	20			22	4500	0.090-.125	2	1	2
XXVI	840/140	840/140		- 4.90	1-3/4	236				15	15000	0.170-.200	5	-	3

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-4088 F		Color (1). Standard sample available (3).	Type XXII webbing shall retain not less than 95% of original breaking strength when abraded (4.5.1). Weave-Types I, Ia, II, III, IV, VI, VIII, VIIIa, XII, XV, XVI, and XVII: weave shall be 2 up, 2 down herringbone twill and 1 reversal at center of webbing. Types VII, IX, X, XIII, and XXV: weave shall be a double plain weave with a single filling. Separate binder warp ends shall weave 2 up, 2 down, 1 end at 1. All other warp yarns shall weave 2 ends as 1 except that the edge warp yarns shall weave 1 end as 1 not exceeding 8 ends on one selvage & 9 on the other. Types XX, XXIII, and XXII: See spec. for diagrams. Types XIV, XVIII, XIX, and XXI: a 5 up, 1 down, 1 up, 5 down herringbone twill with 1 reversal in center. See diagram. Type XXIV: 2 up, 2 down herringbone twill with 3 reversals. See diagram. Type XXVI: See spec.	Intended Use- In parachutes and their accessories, tow target reinforcement, safety belts, bomb hoists and slings, tie-down equipment, and over-run barriers.
Type I				
Type Ia				
Type II				
Type III				
Type IV				
Type VI				
Type VII				
Type VIII				
Type VIIIa				
Type IX				
Type X				
Type XII				
Type XIII				
Type XIV				
Type XV				
Type XVI				
Type XVII				
Type XVIII				
Type XIX				
Type XX				
Type XXI				
Type XXII				
Type XXIII				
Type XXIV				
Type XXV				
Type XXVI				

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min.  (5100)	Elonga- tion % Max.  (5100)	Thick- ness Inch  (5030)
			oz/gross yd.	Min Max		Total	Face & Back	Binder	Stuffer				
<div style="display: flex; justify-content: space-between; font-size: small;"> <span>Webbing, Textile, Woven, Nylon, Impregnated MIL-W-27265A</span> <span>Warp Fill Stuffer</span> <span>Min Max</span> <span>Total Face &amp; Back</span> <span>Binder</span> <span>Stuffer</span> </div>													
Class R-Resin Impregnated		Nylon webbing	(1) (/ 10%)								(1) (MIL-W-4088)	(1) (-12%)	
Class L-Latex Impregnated		"	"								"	"	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (No) Specification Requirements)
MIL-W-27265A Class R- Resin Impregnated	The class R webbing shall be impregnated with polyvinyl butyral plasticized with butyl ricinoleate. Applied from water dispersion, dried and cured to form a firm adherent and even deposit or coating on the yarns of the webbing.	Class 1 and Class 2 undyed webbing may deviate from the natural state to that degree imposed by the color of the treating agent used. When dyed webbing is specified, the dyed untreated webbing shall match the applicable shade standard and the shade imparted by the treatment shall be acceptable.	The extractable matter in methyl ethyl ketone of all treated class R webbing, except type XVIII of MIL-W-4088 shall not exceed 8.5% by weight when tested as specified in specification the extractable matter in methyl ethyl ketone of the treated Class R type XVIII webbing shall not exceed 4.5% when tested as specified in specification.	Intended Use - The webbing is intended for use in parachutes and their accessories, tow target reinforcement, safety belts, bomb-hoist, and slings, tie down equipment, and over-run barriers.
Class L- Latex Impregnated	The class L webbing shall be impregnated with natural rubber latex containing the necessary curatives and anti-oxidants to meet the physical properties as specified in specification.		Class L- treated webbing shall be subjected to a temperature of -65°/20° and its flexibility not vary more than 20% from a specimen tested at standard conditions. The Class L treated webbing, after accelerated aging, shall be tested for flexibility and compared to that of a treated but unaged specimen similarly tested and shall not vary more than 20%.	

### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thick-ness Inch (5030)
			oz/lin yd			Total	Face & Back	Binder	Stuffer				
Webbing, Textils, Woven, Low Elongation MIL-W-10828D (DL)													
			Min	Max		Body	Edges						
Type I- Low strength	12/3	Cotton & continuous filament	(.5%) .30	(1/16) 1.0		78	17	14	15	56	600	8 at 600 lb.	
Type II- High strength	12/3	esaponified acetate stuffer of 270 denier, 9 ply.	1.23	1.5		96	17	17	34	56	1200	6 at 1000 lb.	
Type III- Super strength	12/3		1.75	1.5		96	18	17	68	112	2000	8 at 2000 lb.	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
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MIL-W-10828D Type I Type II Type III	(5) Webbing shall be water repellent & mildew resistant treated. The water repellent shall consist of aluminum salts of saturated carboxylic acid (such as formate, acetate, palmitate, or stearate) mixed with refined mineral and vegetable waxes. Product shall be applied either as an aqueous emulsion or as a water-free solvent solution. Dynamic absorption of treated webbing: 40% max. Mildew resistant treatment shall be through an even depositing of 0.13-0.40% copper as metal from copper-8-quinolinolate, by the method outlined in the spec. Webbing shall be dried after finishing with sufficient tension for elongation. pH: 5.5 - 8.5 (2811).	The color of the webbing shall be natural undyed. The color of the webbing after finishing may deviate from natural by that degree imposed by the functional finishes required or specified.	(2-7). See spec. for weave diagrams.	Entered Usa- As framing in manufacturing of tents and liners, requiring low elongation webbing.
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### NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min.	Elongation % Max.	Thickness Inch
			oz./lin. yd.			Total	Face	Binder	Stuffer				
Webbing, Woven, Nylon MIL-W-17337A (NAVY)													
		Warp	Fill	Stuffer	Mln	Max	Total	Face	Binder	Stuffer			
Sizes:				Bright, high, tenacity, continuous filament nylon, 840 denier.	0.71	1	119	96	22	48	1200		
					1.07	1-1/2	179	144	34	48	1800		
					1.42	2	239	192	46	48	2200		
					2.2	3	356	288	68	48	3200		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-17337A	(5) No extraneous weighting material shall be added to the webbing.	Color- Unless otherwise specified, webbing shall be dyed Orange-Yellow conforming to shade No. 33538 of Fed. Std. 595 or Deck gray conforming to dry standard color chip of MIL-P-699 (1-3). Colorfastness- Standard sample available (5651-5660-5610).	(2) Weave: Webbing shall be of tubular construction, with 1-up and 1-down weave, with the exception of the binder ends, which shall be evenly spaced across the width of the webbing and shall be woven plain, 2 ends weaving as 1.	Intended Use- In the manufacture of life preservers and other equipment.

REFERENCES

NARROW FABRICS

Textile Test Methods - CCC-T-191b

<u>Method</u>	<u>Title</u>
	<u>Chemical</u>
2810	Acidity (pH), colorimetric method.
2811	Acidity (pH), potentiometric method.
	<u>Construction</u>
5030	Thickness of cloth.
	<u>Mechanical</u>
4102	Strength and elongation, breaking; small cords, single strand.
5100	Strength and elongation, breaking, of woven cloth, grab method.
5104	Strength and elongation, breaking, of woven cloth, ravel strip method.
5202	Stiffness, directional; cantilever bending method (Tinius Olsen).
5206	Stiffness, drape and flex; cantilever bending method (Pierce formula).
	<u>Air Permeability and Water Resistance</u>
4500	Water absorption; sewing thread; dynamic method.
5500	Water resistance, dynamic absorption.
	<u>Shrinkage Resistance</u>
5550	Shrinkage in laundering; cotton, linen, and mixed cotton and linen cloth.
5558	Shrinkage, relaxation; wool cloth.
	<u>Colorfastness</u>
4600	Colorfastness to chlorine bleaching; cotton yarn, thread and cordage.
4610	Colorfastness to laundering; cotton and linen yarn, thread and cordage; Launder-Ometer Method.
4614	Colorfastness to laundering; wool, silk and rayon yarn, thread and cordage; Launder-Ometer Method.
4622	Colorfastness to wet cleaning (associated with dry cleaning); yarn, thread, cordage.
4630	Colorfastness to water; yarn, thread, cordage.
4660	Colorfastness to light; yarn, thread, cordage; accelerated method (Fade-Ometer).
4680	Colorfastness to perspiration; yarn, thread, cordage; perspirometer method.
5600	Chlorine bleaching; cloth.
5610	Laundering, cotton and/or linen; Launder-Ometer.
5620	Dry cleaning (petroleum solvent).
5622	Wet cleaning (with dry cleaning).
5630	Water, cold.
5632	Salt water and soap.
5651	Crocking of cloth.
5660	Light; accelerated (Fade-Ometer).
5662	Light; natural light method.
5671	Weather; accelerated method (National Weathering Unit).
5680	Perspiration; perspirometer method.
582	Perspiration; tube method.
	<u>Mildew Resistance</u>
5762	Mildew resistance; soil burial method.
	<u>Deterioration Test</u>
5850	aging; accelerated oven method.

### NATURAL FIBERS OTHER THAN COTTON AND WOOL

NOMENCLATURE	Weight Oz/Sq Yd		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min. (5070)	Breaking Strength Lb. Min. (5100)	Air Permea- bility (5450)	Shrink- age Max. (5550)	Dynamic Absorption Max. (5500)	Hydr- stati- Press re Low Range Mil. (5516)	Water Permea- bility Max. (5516)	Point Value Max.
	Min	Max											
Cloth, Burlap, Jute (Or Kenaf) CCC-C-467b													
		(±5% tol.)											
Class 1- 7.5 oz.	6.7		Plain,	40		8-11	8-11						
Class 2- 8.0 oz.	7.2		modified	min.		9-12	8-11						
Class 3-10.0 oz.	9.0		plain, or	inc.		11-13	10-12						
Class 4-12.0 oz.	10.8		3-leaf twill.	of selvage		11-13	11-13						

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Tearing Strength, etc.)	NOTES (Not Specification Requirements)
CCC-C-467b Class Class 2 Class 3 Class 4			Cloth shall be made of jute or kenaf, or any combination thereof, at the option of the supplier. Selvages shall be firm and straight, and may contain cotton yarn.	Intended Use- Burlap cloth is intended for use in equipment, covering of baled material, camouflage materials, sand bags, and overwrapping of textile products when packed for delivery. Jute is defined as the bast fiber obtained from various species of Corchorus. Kenaf is defined as the bast fiber obtained from Hibiscus Cannabinus.

### NATURAL FIBERS OTHER THAN COTTON AND WOOL

NOMENCLATURE	Weight Oz/Sq Yd		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min. (5050)	Breaking Strength Lb. Min. (5100)	Air Perme- ability (5450)	Shrink- age Max. (5550)	Dynamic Absorption Max. (5500)	Hydro- static Pressure ow Range Min.	Water Permea- bility Max. (5516)	Point Value Max.
	Min	Max											
<p><u>Cloth, Thread, and Tape; Asbestos</u>                      SS-C-466e Int. Amend. 1                      (See also under Narrow Fabrics)</p> <p>Form I- Cloth                      Grade U.G.- 80% asbestos, blue stripe</p> <p style="margin-left: 40px;">(+7%) <span style="margin-left: 150px;">(+1)</span></p> <p>Style 1- plain weave, reg. wgt. 2.25 lb. Plain (1) 18 9 90 40</p> <p>Style 2- plain weave, lt. wgt. 1.40 lb. Plain (1) 19 10 80 40</p> <p>Style 3- plain weave, special wgt. 0.75 lb. Plain (1) 21 17 40 30</p> <p>No. 1 construction.</p> <p>Style 4- plain weave, special wgt. 1.05 lb. Plain (1) 20 15 65 40</p> <p>No. 2 construction.</p> <p>Style 5- plain weave, combination asbestos &amp; glass, (asbestos yarn &amp; glass filament yarn plied together) 1.10 lb. Plain (1) 13 9 65 40</p> <p>No. 3 construction.</p> <p>Style 6- plain weave, combination asbestos &amp; glass, (asbestos yarn &amp; glass filament yarn plied together). 1.40 lb. Plain (1) 18 9 90 40</p> <p>No. 4 construction.                      (Continued)</p>													

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Tearing Strength, etc.)	NOTES (Not Specification Requirements)
SS-C-466e Int. Amend. 1 Form I Style 1 Style 2 Style 3 Style 4 Style 5 Style 6 (Continued)	Cloth may be finished to provide qualities and characteristics such as lint-free, brushed, and filled, calendared, napped, dry-woven, or wet-woven, providing tensile and construction qualities as maintained as specified.		Asbestos cloth, thread, and tape shall be made of good-quality chrysotile asbestos and organic fiber. Hygroscopic moisture shall not exceed 5% (4.4.1.1). Cloth shall be woven with single or plied yarns. Grade U.G. cloth shall contain no less than 80% asbestos. A blue marker thread shall be woven into each sel- vage.	Intended Use- Form I, Grade U.G.: For use as jacketing material over insulation where the temperature of the insulated surface is more than 125°F (52°C), except that it is not to be used on fittings and flanges, nor where it will be in contact with heated metal.

## NATURAL FIBERS OTHER THAN COTTON AND WOOL

NOMENCLATURE	Weight Oz/Sq Yd		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min (5050)	Breaking Strength Lb. Min. (5100)	Air Permea- bility (5450)	Shrink- age Max. (5550)	Dynamic Absorption Max. (5500)	Hydro- static Pressure Low Range Min.	Water Permea- bility Max. (5516)	Paint Value Max.
	Min	Max											
<b>Cloth, Thread, and Tape; Asbestos</b> SS-C-466e (Cont'd)													
Grade AA- 90% asbestos, red stripe													
Style 1- plain weave, reg. wgt.	(+7%) 2.25 lb.		Plain	(1)		(+1) 18	9	100	40				
Grade AAA- 95% asbestos, green stripe													
Style 1- plain weave, reg. wgt.	2.25 lb.		Plain	(1)		18	9	125	50				
Style 2- plain weave, lt. wgt.	1.40 lb.		Plain	(1)		19	10	80	40				
Grade AAA-M- 95% asbestos, plain weave, wire insertion, no stripe													
Style 7- nominal	per sq. yd. 2.60 lb.		Plain	(1)		18	9						
Style 8- "	2.75 lb.		Plain	(1)		18	9						
Style 9- "	3.50 lb.		Plain	(1)		18	9						
(Continued)													

Diameter (+.001")	Wire Composition	No. of strands
.006	Soft annealed nickel	1
.008	Nickel-copper alloy (58% nickel)	1
.008	Nickel-copper alloy (58% nickel)	2

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Tearing Strength, etc.)	NOTES (Not Specification Requirements)
SS-C-466e				
Grade AA	For additional information see p. 287.		Grade AA- cloth shall contain not less than 90% asbestos. A red marker thread shall be woven in each selvage. Grade	Intended Use- Form I, Grade AA cloth is intended for use as the outside surface on removable & replaceable covers for flanges & fittings where the temperature of the insulated surface does not exceed 500°F.
Style 1			AAA- cloth shall contain not less than 95% asbestos. A green marker thread shall be woven in each selvage. Grade	Form I, Grade AA cloth is intended for use as the outside surface on removable & replaceable covers for flanges & fittings where the temperature of the insulated surface is more than 500°F. or for the wrapping of exhaust pipes where the temperature of the metal in contact does not exceed 500°F.
Grade AAA			AAA-M- cloth shall contain not less than 95% asbestos exclusive of wire insertion. It shall be plain woven.	Form I, Grade AAA-M cloth is intended for use as the inside surface on removable & replaceable flanges & fittings, or for the wrapping of engine exhaust pipes where the temperature of metal in contact shall be over 500°F. but not exceeding 1000°F.
Style 1				
Style 2				
Grade AAA-M				
Style 7				
Style 8				
Style 9				
(Continued)				

### NATURAL FIBERS OTHER THAN COTTON AND WOOL

NOMENCLATURE	Weight Oz/Sq Yd		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min. (5050)	Breaking Strength Lb. Min. (5100)	Air Permea- bility (5450)	Shrink- age Max. (5550)	Dynamic Absorption Max. (5500)	Hydra- static Pressure Low Range Min.	Water Permea- bility Max. (5516)	Paint Value Max.
	Min	Max											
Cloth, Thread, and Tape; Asbestos SS-C-466e (Cont'd)													
Form II- Thread, sewing, reinforced with wire							(4.4.2.1)						
Form III- Thread, sewing, without wire	450 yds/ lb. min.				2 2			4					
Form IV- Tape (See Narrow Fabrics)													

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Tearing Strength, etc.)	NOTES (Not Specification Requirements)
SS-C-466e (Cont'd) Form II Form III Form IV	For additional information see p. 287.		Form II, thread, sewing, reinforced with wire- strands shall be composed of 3 nickel- copper wires, each of which shall have asbestos yarn spun around it, twisted together to definitely interlock the asbestos and wire. Each yarn shall be 10-cut and shall contain not less than 58% nickel and shall be 0.008 +0.001 in. in diameter. Form III, thread, sewing, without wire- thread shall be made from yarn not heavier than 10-cut, 2-ply, and shall contain not less than 75% asbestos. One pound of thread shall provide not less than 450 yards.	

GENERAL NOTES

NON-WOVEN TEXTILE MATERIALS

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- |   |  |
|---|--|
| (1) As specified.                                       | (6) Pre-award sample and laboratory report.                  |
| (2) Preproduction sample.                               | (7) Bid sample and laboratory report.                        |
| (3) Colormatching.                                      | (8) See specification for weave diagram and/or instructions. |
| (4) See specification for instructions on construction. | (9) Sulfur dyed.   |
| (5) Nonfibrous and extractable matter.                  |  |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

## NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight		Width Inch	Breaking Strength		Tensile Strength		Splitting Resistance	Thickness Inch	Water Absorption	Bursting Strength min. lb. (dry)
		Oz/Sq Yd			Min.	Max.	Min.	Max.				
		Min	Max			L	W					
<u>Cloth, Cleaning, Nonwoven Fabric</u> CCC-C-46a (GL), Int. Amd 1						Weaker direction	Comb. Total Ave.	Tear Strength min. (dry)	Max. Stiffer direction	Stiffness lb. Weaker direction		
Type I- Untreated	Fibers and yarns											
Class 1- Lgt. duty	shall be vegetable,	1.26	2.40	-	-	-	-	-	-	-	-	12
Class 2- Med. duty	animal or synthetic	1.26	1.94	-	-	-	-	-	-	-	-	17
Class 4- Extra heavy duty	origin and the fibers or combination of	3.5	4.0	-	14	22	0.47	0.012	0.0085	-	-	-
Class 5- Med. extra hvy. duty	fibers and yarns shall be in a planar assembly held together				7	15						
Type II- Oil treated	are use, they shall be											Elongation at break-minimum
Class 5- Med. extra hvy. duty	no more than 2" long. Binder shall be odorless and stable. Use of water soluble plasticizer material in Type I cloth shall not exceed 5% by weight	2.00	2.76	-	1.5	5	0.2	0.003	0.001			50.0% (dry)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
CCC-C-46a Type I Class 1 Class 2 Class 4 Class 5 Type II Class 5	Oil used for treating Type II, Class 5 cloth shall be a standard grade mineral-oil emulsion with an unobjectionable odor, having a non-tendency to sour or mildew after impregnation of the cloth. It shall be of a viscosity suitable for impregnating nonwoven cloth for polishing and cleaning purposes without harmful effects to the surfaces to which it is applied. Oil shall be nontoxic. The bonded finished or Type I cloth shall be free from blocking (4.4), and shall not become brittle. Type II shall have a soft hand.	Color- Shall be unbleached, white or a dyed white or a dyed color as specified. When the following colors are specified, they shall approximate the following color numbers of Fed. Std. No. 595. White- 37886; Tan- 23594; Yellow- 23793; Red- 21158; Unbleached- 37855. Colorfastness- When a dyed color is specified, cloth shall show "fair" fastness (5651-5630).	(2) Cloth shall be in the form of either cut size-sheets or full-width rolls or bolts as specified. Finished cloth shall be essentially lintless when used in wet or dry condition. Class 1 & 2 cloths shall not be seriously affected by carbon tetrachloride, turpentine, and stoddard solvent (5508). Type I, Classes 4 & 5 shall not lose more than 2% in weight by extraction when immersed in a hydrocarbon fuel, and the cloths shall show no tackiness, appreciable stiffness, surface pilling, or other textually observable effect (4.4.2). Cloths shall be free from objectionable odor. Type II Class 5: The max. confidence limit (arithmetic mean), dirt pick-up efficiency shall average not less than 21% based on weight of cloth before soiling (4.4.3). Type I, Class 4: When specified by procurement officer, cloth shall be prewashed to remove any existing impregnated detergent, and the procurement officer shall state the percentage of allowable residual soluble materials acceptable.	Intended Use - Type I, Class 1 cloth is used for dusting, wiping, washing and polishing. Type I, class 2 cloth is used for survey markers. Type I, classes 4 and 5 cloths are intended for use in industrial type wiping operations; class 4 may be used as a substitute for chamois skins for cleaning and wiping purposes. Type II, class 5 cloth is intended for dusting and floor wiping operations. Nonwoven cloths are not intended for use where high abrasive qualities of cloth are required.



### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd		Width inch	Breaking Strength Min.  (5100)	Tensile Strength Min.  (5100)	Splitting Resistance	Thickness inch	Water Absorption
		Min	Max						
<u>Felt, Ballistic,</u> <u>Nylon</u> MIL-P-43539	Bright high tenacity, 6.0 / 1.5 denier per filament, 3.5-inch minimum to 4.0-inch maximum staple length, and crimped. The denier and staple length values apply to the fiber before crimping.	48	54	(1)	L   W			0.40 (.05%)	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
MIL-P-43539	The felt shall be needled or pressed to meet specification requirements.	Color- Natural white.	The ballistic limit V50 for the felt (one thickness) shall be not less than 1020 feet per second and no single ballistic determination on a sample unit shall be less than 980 feet per second.	Intended Use- The felt covered by this specification is intended for use in the manufacture armor including that worn by personnel, and to provide protection against ammunition fragments.

## NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min.  (5100)	Tensile Strength Min.  (5100)	Splitting Resistance	Thickness Inch	Water Absorption
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Felt, Cattlehair or  
Wool: Mildew Resistant,  
and Moisture Resistant,  
Treated  
MIL-F-2312C, Amd. 1

Min | Max                      L | W

Type I- Mildew  
resistant

Felts shall be in accordance with those of the applicable felt spec. C-F-202  
or C-F-206, as specified.

Type II- Moisture  
resistant

Type III- Mildew  
resistant and  
moisture resistant

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
--------------	--------	----------------------------	--------------------	--

MIL-F-2312C  
Type I  
Type II  
Type III

(5)  
Type I: Unless otherwise specified, felt shall be treated with 2,2' methylenebis-(4-chlorophenol) or salicylanilide. Felt shall be well penetrated by inhibiting agent, and there shall be no noticeable crystallization of the inhibitor on the felt surface. Finished felt shall contain 1-2% of 2,2' methylenebis-(4-chlorophenol) or 0.5-1% of salicylanilide. Type II: Unless otherwise specified, felt shall be treated with a wax or metallic-salt wax compound or emulsion. The treated felt shall show no more than a 50% increase in weight. Type III: Felt shall be treated with a combination of Type I and Type II treatments. Types II and III treated felt shall be allowed to reach equilibrium prior to testing for moisture resistance.

Color- When undyed felt is specified, color of the treated felt may deviate from the natural state to that degree imposed by the color of the dyeing agent used. Color of dyed felt, prior to the application of the finish shall, unless specified otherwise, match the standard sample. When dyed felt is specified, the color of the treated felt shall be that resulting from the combination of the base color and the color imparted by the finishing compound.

(7)  
A plus tolerance of 7% in weight shall be allowed for the Types I, II, and III treated felt based on the max. specified for the untreated felt.

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd		Width Inch	Breaking Strength Min.  (5100)	Tensile Strength Min.  (5100)	Splitting Resistance	Thickness Inch	Water Absorption
		Min	Max						
Felt Sheet (Hair) and Felt Roll (Hair) C-F-202c					L   W				
							(nominal)		
Type I- Flaten or needle loom pro- cess, without backing.	Washed cattle hair.	16	22					1/8	
	Felt shall contain no less than 95% cattle hair, except for the cloth reinforcement material for Types II, III, and V.	23	31					3/16	
		29	41					1/4	
		50	62					1/2	
		70	88					3/4	
		90	120					1	
		112	148					1-1/4	
Type II- Punched or needle loom processes, with tobacco cloth center reinforce- ment.		135	177					1-1/2	
		156	204					1-3/4	
		180	234					2	
		16	22					1/8	
		23	31					3/16	
		29	41					1/4	
		50	62					1/2	
Type III- Punched or needle loom processes, with tobacco cloth center reinforcement (break- ing strength require- ment)		70	88					3/4	
		90	120					1	
		112	148					1-1/4	
		135	177					1-1/2	
		156	204					1-3/4	
		180	234					2	
		18	24		30	30		1/8	
(Continued)		25	33		30	30		3/16	
		31	42		30	30		1/4	
		52	64		30	30		1/2	
		72	90		30	30		3/4	
		92	124		30	30		1	
		114	150		30	30		1-1/4	
		137	179		30	30		1-1/2	
	158	206		30	30		1-3/4		
	182	236		30	30		2		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-202c Type I Type II Type III (Continued)	When specified, felt shall be mildew resistant treated in accordance with MIL-T-2312. Requirements for organic acidity, alkalinity, and mineral acidity shall not apply to mildew resistant treated.	Color- Unless otherwise specified, felt shall be natural. The color result- ing from the cattle hair used shall be acceptable.	(2-4). When specified, Types I, II, III, and V felt shall show an organic acidity of not greater than 0.2% (4.4.2). When spec- ified, Types I, II, III, and V felt shall have a pH of 7.0 ± 1.0 (4.4.1). Type IV: Shall show no sign of cracking. This requirement shall not apply to 1/8 thick (4.4.3). Class 1 felt shall show an organic acidity not exceeding 0.2%. Class 2 show a pH of 7.0 ± 1.0.	Intended use- Type I: For insulation where the temp- erature will not be higher than 120°F. For cushion- ing, packing, padding, & crating where breaking strength is not important. Type II: For use as a cushion material in pack- ing, padding, and crating, where a moderate breaking strength is required. Type III: For use as a cushion material for packing and crating where a high breaking strength is required, such as cush- ioning against shock. It may also be used for insulating purposes. Type IV: For packing, padding, and crating where a firm and semi-hard material is required. Other appli- cations are: Polishing, resistance to impact, bumpers & vibration cushioning. Type V: For use as a soft, springy cushion under carpets and rugs.

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd		Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption
		Min	Max						
Felt Sheet (Hair) and Felt Roll (Hair)		(nominal)							
C-F-202c (Cont'd)									
Type IV- Felted & fulled process		27	35				-	1/8	
Class 1- Untreated		40	52				4 lb.	3/16	
Class 2- Neutralized		54	70				4 lb.	1/4	
		67	81				4 lb.	5/16	
		81	125				4 lb.	3/8	
		108	140				4 lb.	1/2	
		162	210				4 lb.	1/2	
		216	280				4 lb.	3/4	
Type V- Felted process, burlap core		29	35					3/16	
		36	44					1/4	
		43	53					3/8	
		51	71					1/2	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
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C-F-202c (Cont'd) For additional information see p. 296.

Type IV  
Class 1  
Class 2  
Type V

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd		Width Inch	Breaking Strength Min. (5100)		Tensile Strength Min. (5100)	Splitting Resistance	Thick-ness Inch	Water Absorption	Compre- ssion Deform- Resil- tance
		Min	Max		L	W					
<u>Felt, Sheet, Nylon,</u> <u>Non-Woven, Needle</u> <u>Finished</u> HLL-F-43310											
Type I	Nylon. Use of regen- erated or reprocessed nylon is prohibited. Melting point: 250°C. ± 6°C.	13.0	-	5 $\frac{1}{2}$ (min)	10	10			0.130		(max.) 32% 70%
Type II		18.0	-	5 $\frac{1}{2}$	10	10			0.180		32% 70%
Type III		29.0	-	5 $\frac{1}{2}$	40	40			0.310		32% 70%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
HLL-F-43310 Type I Type II Type III	The staple or felt shall be heat treated. Finished felt shall show a dimensional change of not more than 3% in either length or width (4.4.4).	Color- shall be natural.	Finished felt shall lose not more than 50% of its breaking strength after acc. aging (4.4.3).	Intended Use- As padding for laundry presses.

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd		Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5' 0)	Splitting Resistance	Thickness Inch	Water Absorption	Compress- ibility Min.
		Min	Max							
Felt, Sheet, Wool, Compound Impregnated, Chock Padding		(lbs.)			L   W (in.) (lbs/2")			(nominal)	Increase (max.)	(a)
MIL-F-17057A (WEP)	Carrier shall be wool felt sheet conforming to Type 1, classification 8R5 of C-F-206.	0.80	1.40	(1)	15			1/16	50%	50%
		1.45	2.20	(1)	30			1/8	50%	45%
		2.25	2.95	(1)	45			3/16	50%	40%
		3.00	3.80	(1)	60			1/4	50%	35%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
MIL-F-17057A	Carrier shall be impregnated with a nondrying, nonoxidizing, water resistant, fungus resistant, anticorrosive, chromated compound with a min. softening point of 165°F (74°C). The fungus resistant agent (which may be impregnated separately) shall be copper-8-quinoline, applied in solubilized or emulsion form, to provide a concentration of 0.15-0.05% copper in the dry treated materials. The impregnated felt sheet shall be coated on 1 side only with adhesive of the solvent-activated or of the pressure sensitive type. The adhesive shall provide the required bond without the use of auxiliary stapling. Impregnating compound to carrier weight ratio shall be not less than 0.40. Impregnated felt sheet shall show no evidence of extrusion of impregnating compound (4.4.15).		(a) After acc. aging test, impregnated felt sheet shall not become hardened or impaired in a manner that would affect its serviceability after acc. aging (4.4.10). Corrosion protection: Impregnated felt sheet shall allow no corrosion of the metallic surfaces with which it is in contact (4.4.12). Impregnated felt sheet shall remain pliable without breaking or delaminating (4.4.13). Impregnated felt sheet shall show no visible evidence of fungus growth (4.4.14). Impregnated felt sheet shall have no detrimental effect on painted or lacquered surfaces (4.4.16). Adhesive bond between impregnated felt sheet and surface to which it is applied shall be greater than the cohesive strength of the impregnated felt sheet (4.4.17).	Intended Use- To be applied to chock surfaces in such a way that, interposed between the chock and the part to be supported, it affords padding and anti-corrosive protection.

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd		Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch (Nominal)	Water Absorption	Wool Fiber Con- tent	Ash Con- tent Max.
		Min	Max								
<u>Felt, Sheet, Wool, Pressed</u> C-F-206b, Amd. 1											
					L   W						
				(lbs.)	(min.)		(psi)	(lb/2")	(Nominal)		
Type I- Mechanical- roll felts	Fleece, pulled wool, wool noil, reprocessed wool, reused wool or a combination thereof.										
16R		2.15 3.23 4.30 5.38 6.45 7.60	2.35 3.53 4.70 5.88 7.05 9.40	60 60 60 60 60 60		600 600 600 600 600 600	35 35 35 35 35 35	1/8 3/16 1/4 5/16 3/8 1/2		95% 95% 95% 95% 95% 95%	1 1/2% 1 1/2% 1 1/2% 1 1/2% 1 1/2% 1 1/2%
16R		0.712	0.788	60 or 72		500	-	3/64		95%	1 1/2%
1X		0.937	1.013	60 or 72		500		1/16		95%	1 1/2%
		1.162	1.238	60 or 72		500		5/64		95%	1 1/2%
		1.387	1.463	60 or 72		500		3/32		95%	1 1/2%
16R		0.712	0.788	60 or 72		300	-	3/64		92%	2 1/2%
3X		0.937	1.013	60 or 72		300		1/16		92%	2 1/2%
		1.162	1.238	60 or 72		300		5/64		92%	2 1/2%
(Continued)		1.387	1.463	60 or 72		300		3/32		92%	2 1/2%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-206b Type I 16R 16R 1X 16R 3X (Continued)	Ammunition felt: (5) Organic acidity of extract calculated as acetic acid shall not exceed 0.12%. When spec- ified, the felt shall be given a mildew resistant treatment in accordance with MIL-T-2312. When specified, felt shall be given a properly applied sili- cofluoride moth-repellent treatment in order that the felt will leave 0.5 - 0.85% by weight of silicofluoride as a nonsubliming silicofluo- ride. pH: 7.0 ± 1.0.	Color- 16R- White, 16R 1X- White, 3X- Grey.	(6)	Intended Use (suggested)- 16R: For use where a hard, high grade felt possessing long wearing properties is desired, 16R1X: For ball & roller bearing oil retainer washers and small dust ex- cluding washers. Also for mechanical purposes where an accurate, thin, smooth, high-grade felt is required. 16R3X: For the same purposes as 16R1X, but in installations where tolerances & length of life are not as important. Also for thin cut parts such as gaskets and liners.

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd		Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance (lb/2")	Thickness Inch (Nominal)	Water Absorption	Wool	Ash
		Min	Max							Fiber Con- tent	Con- tent Max.
Felt, Sheet, Wool, Pressed C-F-206b (Cont'd)											
Type I- Mechanical roll felts											
16R1		0.95	1.05	60		500	33	1/16	95%	1 1/4%	
		1.90	2.10	60		500	33	1/8	95%	1 1/4%	
		2.85	3.15	60		500	33	3/16	95%	1 1/4%	
		3.80	4.20	60		500	33	1/4	95%	1 1/4%	
		4.75	5.25	60		500	33	5/16	95%	1 1/4%	
		5.70	6.30	60		500	33	3/8	95%	1 1/4%	
		7.60	8.40	60		500	33	1/2	95%	1 1/4%	
		9.50	10.50	60		500	33	5/8	95%	1 1/4%	
		11.40	12.60	60		500	33	3/4	95%	1 1/4%	
		13.30	14.70	60		500	33	7/8	95%	1 1/4%	
		15.20	16.80	60		500	33	1	95%	1 1/4%	
16R2 (Continued)		0.95	1.05	60		500	28	1/16	95%	2%	
		1.90	2.10	60		500	28	1/8	95%	2%	
		2.85	3.15	60		500	28	3/16	95%	2%	
		3.80	4.20	60		500	28	1/4	95%	2%	
		4.75	5.25	60		500	28	5/16	95%	2%	
		5.70	6.30	60		500	28	3/8	95%	2%	
		7.60	8.40	60		500	28	1/2	95%	2%	
		9.50	10.50	60		500	28	5/8	95%	2%	
		11.40	12.60	60		500	28	3/4	95%	2%	
		13.30	14.70	60		500	28	7/8	95%	2%	
		15.20	16.80	60		500	28	1	95%	2%	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
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C-F-206b (Cont'd) Type I 16R1 16R2 (Continued)		Color- 16R1- White. 16R2- Any, except gray or black.	(6)	Intended Use (suggested)- 16R1: For oil retention in installations where the felt is not compressed, for feed- ing low viscosity or light oil, and where unusual stre- ngth and hardness are required. Washer; bushings; wicks; ink rolls and pads; door bumpers; polishing blocks; wheels & pads; grommets; window channels; resilient mount- ings, anti-vibration and dampening pads; and parts where wear & resistance to abrasion are required, are typical uses. 16R2: For vi- bration mountings, oil and grease shields, and the same general purposes as 16R1, where a felt of slightly lower quality is satisfactory.
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### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight: Oz/Sq Yd		Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	Wool Fiber Con- tent	Ash Con- tent Max.
		Min	Max								
<b>Felt, Sheet, Wool, Pressed</b> C-F-206b (Cont'd)											
Type I- Mechanical roll felts											
		(lbs.)		(min.)		(psi)	(lb/2")	(nominal)			
16R3		1.90	2.10	60		400	22	1/8		90%	2 1/2%
		2.85	3.15	60		400	22	3/16		90%	2 1/2%
		3.80	4.19	60		400	22	1/4		90%	2 1/2%
		4.75	5.24	60		400	22	5/16		90%	2 1/2%
		5.70	6.29	60		400	22	3/8		90%	2 1/2%
		7.60	8.39	60		400	22	1/2		90%	2 1/2%
		9.50	10.49	60		400	22	5/8		90%	2 1/2%
		11.40	12.59	60		400	22	3/4		90%	2 1/2%
		13.30	14.69	60		400	22	7/8		90%	2 1/2%
		15.20	16.79	60		400	22	1		90%	2 1/2%
12R3X		0.712	0.788	60 or 72		200	-	1/16		75%	3%
		1.087	1.163	60 or 72		200		3/32		75%	3%
12R1 (Continued)		1.45	1.61	60 or 72		400	18	1/8		95%	2%
		2.17	2.41	60 or 72		400	18	3/16		95%	2%
		2.90	3.22	60 or 72		400	18	1/4		95%	2%
		3.62	4.02	60 or 72		400	18	5/16		95%	2%
		4.35	4.83	60 or 72		400	18	3/8		95%	2%
		5.80	6.44	60 or 72		400	18	1/2		95%	2%
		7.25	8.05	60 or 72		400	18	5/8		95%	2%
		8.70	9.66	60 or 72		400	18	3/4		95%	2%
		10.15	11.27	60 or 72		400	18	7/8		95%	2%
		11.60	12.88	60 or 72		400	18	1		95%	2%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-206b (Cont'd) Type I 16R3 12R3X 12R1 (Continued)		Color- 16R3- Gray. 12R3X- Gray or Black. 12R1- White.	(6) (a) Felt for ammunition of 1/16 and 3/32 in. thickness shall have a min. tensile strength of 125 psi.	Intended Use (suggested)- 16R3: For ammunition compo- nents; for aircraft applica- tions; between rocker arm covers of engines, ring cowlings, radio cushion strips, retaining and feed- ing oil under difficult conditions, washings & bushings. 12R3X: For anti- squeak strips and for lining when cemented to fiber board or metal panels. 12R1: For dust shields, wipers, grease retainer wash- ers, wicks, vibration mount- ings, and uses where a resilient felt is required.

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd		Width Inch	Breaking Strength Min.  (5100)	Tensile Strength Min.  (5100)	Splitting Resistance   (lb/2")	Thickness Inch   (nominal)	Water Absorption	
		Min	Max						Wool Fiber Con- tent	Asst. Con- tent Max.
Felt, Sheet, Wool, Pressed (Cont'd) C-F-206b		Min   Max (lbs.)    (min.)		L   W		(psi)	(lb/2")	(nominal)		
Type I- Mechanical- roll felts										
12R2		1.45	1.61	60		275	16	1/8	92%	2 1/2%
		2.17	2.41	60		275	16	3/16	92%	2 1/2%
		2.90	3.22	60		275	16	1/4	92%	2 1/2%
		3.62	4.02	60		275	16	5/16	92%	2 1/2%
		4.35	4.83	60		275	16	3/8	92%	2 1/2%
		5.80	6.44	50		275	16	1/2	92%	2 1/2%
		7.25	8.05	60		275	16	5/8	92%	2 1/2%
		8.70	9.66	60		275	16	3/4	92%	2 1/2%
		10.15	11.27	60		275	16	7/8	92%	2 1/2%
		11.60	12.88	60		275	16	1	92%	2 1/2%
	12R3 (Continued)		1.45	1.61	72		250	12	1/8	80%
		2.17	2.41	72		250	12	3/16	80%	3%
		2.90	3.22	72		250	12	1/4	80%	3%
		3.62	4.02	72		250	12	5/16	80%	3%
		4.35	4.83	72		250	12	3/8	80%	3%
		5.80	6.44	72		250	12	1/2	80%	3%
		7.25	8.05	72		250	12	5/8	80%	3%
		8.70	9.66	72		250	12	3/4	80%	3%
		10.15	11.27	72		250	12	7/8	80%	3%
		11.60	12.88	72		250	12	1	80%	3%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-206b (Cont'd) Type I 12R2 12R3 (Continued)		Color- 12R2- Gray. 12R3- Gray.	(6)	Intended Use (suggested)- 12R2 and 12R3: For dust shields, grease retainer washers, wicks, vibration mountings, and uses where a resilient felt is required.

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd		Width Inch	Breaking Strength Min.  (5100)	Tensile Strength Min.  (5100)	Splitting Resistance	Thickness Inch	Water Absorption	Wool	Ash
		Min	Max							Fiber Con- tent	Con- tent Max.
Felt, Sheet, Wool, Pressed (Cont'd) C-F-206b											
Type I- Mechanical- wool felts											
9R1		0.60	0.70	72		225	8	1/16		95%	2 1/2%
		0.98	1.14					1/8			
9R2		1.47	1.71	72		200	6	3/16		92%	3%
		1.96	2.28					1/4			
9R3		2.45	2.85	72		100	3	5/16		85%	3 1/2%
		2.94	3.42					3/8			
9R4		3.92	4.56	72		75	2	1/2		75%	3 1/2%
		4.90	5.70					5/8			
9R5		5.88	6.84	72		75	2	3/4		55%	4%
		6.86	7.98					7/8			
		7.84	9.12					1			
		15.68	18.24					2			
8R5		0.81	0.99	72 or 36				1/8		45%	5%
(Continued)		1.62	1.98	72 or 36				1/4		45%	5%
		2.43	2.97	72 or 36				3/8		45%	5%
		3.24	3.96	72 or 36				1/2		45%	5%
		4.86	5.94	72 or 36				3/4		45%	5%
		6.48	7.92	72 or 36				1		45%	5%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-206b (Cont'd) Type I 9R1 9R2 9R3 9R4 9R5 8R5 (Continued)	9R1-9R5: The felt shall be mildew treated according to MIL-T-2312, except that complete penetration of the treatment shall not be required, and that the contractors shall certify the amount and kind of inhibitor which was applied.	Color- 9R1- White. 9R2- Gray. 9R3- Gray. 9R4- Gray. 9R5- Gray. 8R5- Gray.	(6)	Intended Use (suggested)- 9R1, 9R2, and 9R3: for grease and oil retention where the felt is confined and compressed in assembly. Also recommended for dust shields under less severe operating conditions, where 12R1, 12R2, and 12R3 are not required. 9R4 and 9R5: for sound deadening, chassis strips, spacers, dust shields, pedal pads, dash liners, and for mechanical purposes where abrasion and wear are not important factors. 8R5: for packing and padding when held in place between other materials. This grade should not be used for mechanical purposes.

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd		Width Inch	Breaking Strength Min.  (5100)	Tensile Strength Min.  (5100)	Splitting Resistance  (lb/2")	Thickness Inch  (nominal)	Water Absorption	Wool Fiber Con- tent Max.	Ash Con- tent Max.
		Min	Max								
Felt, Sheet, Wool, Pressed (Cont'd) C-F-206b		(lbs.)		L   W		(psi)			(Water Thickness Swell Max.)	(min	
Type II- Sheet felt	Fleece, pulled wool, wool noi. reprocessed wool, reused wool, or a combination thereof.	2.80 4.20	3.20 4.80			400	18	1/4 3/8	20%	95%	1 1/2%
12-S	Grades of wool: Class 1: Fine Spanish or its equivalent, com- posed of white wool, U.S. Standard 62's or finer; scoured, car- bonized, dusted, neu- tralized, depitched, and depainted.	7.05	7.95			300	16	1/2	25%	95%	1 1/2%
1		8.50	9.50			300	12	3/4 7/8	30%	95%	2%
2		9.95	11.05			300	10	1 1-1/4	30%	95%	2 1/2%
3		14.30	15.70			300	10	1-1/2	30%	95%	2 1/2%
4		17.20	18.80					1-3/4			
		20.10	21.90					2			
		23.00	25.00					2-1/2			
		28.95	31.05					3			
		34.90	37.10								
16-S	Class 2: Spanish, or its equivalent, com- posed of white wools, U.S. Standard 58's or finer; scoured, car- bonized, dusted, and neutralized.	1.90	2.10			500	32	1/8	25%	95%	1 1/2%
1		2.85	3.15					3/16			
2		3.70	4.30			400	28	1/4	30%	95%	1 1/2%
3		5.60	6.40			400	22	3/8	35%	95%	2%
4		7.50	8.50			400	20	1/2	35%	95%	2 1/2%
(Continued)	Class 3: Mexican or its equivalent, com- posed of wool, 75% U.S. Standard 56's or finer, 25% U.S. Stan- dard 48's or finer; scoured and dusted.	9.40	10.60			300	20	5/8			
		11.30	12.70					3/4			
		13.25	14.75					7/8			
		15.20	16.80					1			
		19.10	20.90					1-1/4			
		23.00	25.00					1-1/2			
	26.90	29.10					1-3/4				
	38.80	33.20					2				
	38.75	41.25					2-1/2				
	46.70	49.30					3				

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-206b (Cont'd) Type II 12-S		Color- 12-S 1- White, 2- White, 3- White, White. 16-S 1- White, 2- White, 3- White, 4- White. Other colors are manufactured on order.	(6)	Intended Use (suggested)- 16S: For use as medium den- sity polishing wheels and buffs for precious metal and plastic polishing, rough optical polishing, metal wiping, drum beaters; also drilled wicks, bearing seals, shoe rolls (shank), fluid transfer rolls, oil and fluid wicks, grease and oil retaining washers, ink roll- ers, vibration and shock mountings, bumpers, plugs, glass channels. 12-S: For use as soft density polish- ing wheels and buffs for polishing plastic, polishing and wiping brass; also for piano wedge, surgical pads, punched wicks, dampeners, absorbent pads, oil and fluid retainers, fluid transfer rolls, bearing seals, washers, wicks, shim and spacer pads, shoe insoles, dust shields, anti-vibration pad.
1				
2				
3				
4				
16-S				
1				
2				
3				
4				
(Continued)				

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd		Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance (lb/2")	Thickness Inch (nominal)	Water Absorption (Water Thickness Swell Max.) (min)	Wool	Ash
		Min	Max							Fiber Con- tent	Con- tent Max.
<u>Felt, Sheet, Wool Pressed (Cont'd)</u> C-F-206b		(lbs.)		L   W		(psi)	(lb/2")	(nominal)	(min)		
Type II- Sheet felt	Class 4: Coarse Mexi- can, or its equiva- lent, composed of wool, 60% U.S. Standard 50's or finer, and 40% U.S. Standard 44's or finer.										
20-S											
1		2.20	2.80		600	44	1/8	30%	95%	1 1/4%	
2		3.40	4.10		500	40	3/16	40%	95%	1 1/4%	
3		4.60	5.40				1/4				
4		7.00	8.00		400	36	3/8	50%	95%	2%	
		9.40	10.50				1/2				
		11.80	13.20				5/8				
		14.20	15.80		300	32	3/4	50%	95%	2 1/4%	
		16.60	18.40				7/8				
		19.00	21.00				1				
		23.90	26.10				1-1/4				
		28.80	31.20				1-1/2				
		33.70	36.30				1-3/4				
		38.60	41.40				2				
		48.55	51.45				2-1/2				
		58.50	60.50				3				
26-S											
1		2.85	3.65		600	48	1/8	40%	95%	1 1/4%	
2		4.40	5.40				3/16				
3	5.90	7.10		500	46	1/4	50%	95%	1 1/4%		
4	8.95	10.55				3/8					
(Continued)	12.00	14.00		400	40	1/2	60%	95%	2%		
	15.15	17.35				5/8					
	18.30	20.70		400	30	3/4	60%	95%	2 1/4%		
	21.45	24.05				7/8					
	24.60	27.40				1					
	31.00	34.00				1-1/4					
	37.40	40.60				1-1/2					
	43.80	47.20				1-3/4					
	50.20	53.80				2					

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-206b (Cont'd)				
Type II			(6)	Intended Use (suggested)-
20-S		Color- 20-S 1-White, 2- White, 3- White, 4- White.		20-S: For use as medium-hard
1		26-S 1- White, 2- White, 3- White, 4- White.		density polishing wheels and
2		Other colors manufactured on order.		buffs for polishing lenses,
3				mirrors, and glass, marble
4				and granite; also for fluid
26-S				transfer rolls, ink rolls,
1				(securing), furniture rub- bing, rough metal polishing,
2				metal wiring, drilled wicks,
3				bearing seal washers, stamp
4				pads, cushioning under sand
(Continued)				paper. 26-S: For use as
				hard density polishing
				wheels for glass sheet,
				glassware, ophthalmic lense
				polishing, metal and metall-
				ographic polishing, wood
				polishing and furniture
				rubbing; also for block
				cutters, print rolls, cash
				carrier heads, points for
				making pens, casters, boot
				and shoe soles, artificial
				limbs.

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd		Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance (lb/2')	Thickness Inch (nominal)	Water Absorption	Wool Fiber Con- tent	Ash Con- tent Max.
		Min	Max								
Felt, Sheet, Wool, Pressed (Cont'd) C-F-206b		(lbs.)		L   W		(psi)	(lb/2')	(nominal)	(Water Thickness Swell Max.)	(min)	
Type II- Sheet felt 32-S											
1		3.50	4.50			600	50	1/8	50%	95%	1 1/4
		5.25	6.75					3/16			
2		7.00	9.00			500	48	1/4	60%	95%	1 1/4
		10.90	13.10					3/8			
3		14.90	17.20			400	46	1/2	70%	95%	2%
		18.70	21.30					5/8			
4		22.60	25.40			400	40	3/4	70%	95%	2 1/4
		26.50	29.50					7/8			
		30.40	33.60					1			
		38.30	41.70					1-1/4			
		46.20	49.80					1-1/2			
		54.10	57.90					1-3/4			
		62.00	66.00					2			
Type III- Pull-felt (apparel & decora- tive)		(oz)		(min)							Wool Grade Min.
11A2	Fleece, pulled wool, wool noil, reprocessed wool, reused wool or a combination thereof.	2.92	3.15	80	-			0.030		20%	48's
11A1		2.92	3.15	80	-			0.030		20%	48's
10A2		5.75	6.25	72	8			0.065		45%	48's
10A1		5.75	6.25	72	10			0.065		35%	48's
(Continued)											

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-206b (Cont'd) Type II 32-S 1 2 3 4 Type III 11A2 11A1 10A2 10A1 (Continued)		Color- 32-S 1- White, 2- White, 3- White, 4- White. Other colors manufactured on order. 11A2- Gray. 11A1- White. 10A2- Gray. 10A1- White.	(6)	Intended Use (suggested)- 32-S: For use as extra-hard density polishing wheels and buffs in dental jewelry, glass, and lapidary polish- ing; also hard washers, bumpers, and casters. 11A1 and 11A2: For use in fronts of coats to give required fullness and drape to outer fabrics. 10A1 and 10A2: For use as a lining material in outer wear gar- ments. Also as a lining on inside of shoe tongues, gen- erally white in color. Backing for household ob- jects to prevent scratching or marking furniture.

## NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd		Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	Wool Fiber	Wool Grade
		Min	Max							Content	Min.
Felt, Sheet, Wool, Pressed (Cont'd) C-F-206b					L   W						
					(min)						
							(nominal)				
Type III- Roll-Felt (Apparel & decorative)											
9A2		6.75	7.25	72	10			0.075		45%	48's
8A1		7.50	8.50	72	30			0.040		95%	58's
7A1		9.25	10.75	60	45			0.040		95%	62's
6A1		11.00	13.00	72	30			0.063		95%	62's
		(lbs.)									
5A1		0.94	1.06	72				0.125		35%	56's
		1.88	2.13	72				0.250		35%	56's
		2.75	3.25	72				0.375		35%	56's
		3.75	4.25	72				0.500		35%	56's
4A1		0.50	0.56	36	20			0.063		50%	56's
		1.00	1.12	72	45			0.125		50%	56's
		2.875	3.125		175			0.375		50%	56's
3A1		6.50	7.00	60x40 sheets				0.250		95%	56's

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-206b (Cont'd) Type III 9A2 8A1 7A1 6A1 5A1 4A1 3A1		Color- 9A2- Gray. 8A1- White & all colors. 7A1- White & all colors. 6A1- White & all colors. 5A1- White. 4A1- White. 3A1- Gray.	(6)	Intended Use (suggested)- 9A2: For use as lining material in outer wear garments. 8A1: For use as undercollar cloth and in face mask. 7A1: For use in garment decoration, and as background for embroidered designed hat bodies. 6A1: For use in garment decoration and in military insignia; for face masks and auto flags. 5A1: For use as padding on orthopedic and truss appliances, and as athletic equipment padding. 4A1: Can be pulled down in layers to graduated thicknesses needed for medical requirements. 3A1: For use in footwear, boots, etc., as lining or inserts.

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd		Width Inch	Breaking Strength Min.	Tensile Strength Min.	Splitting Resistance	Thickness Inch	Water Absorption
		Min	Max		(5100)	(5100)			
<u>Pad, Ironing Board, Cotton</u>					L   W (4104)				
DDD-P-55a	Cotton. Card sliver shall be used to form the base material.	16.0	-	15 1/2 (head) 4 1/2 (taper)	200 (avg.) 190 (ind. test)				
<u>Pad, Lithographic Plate Emulsion</u>									
MIL-P-43296 (OL)	Cotton. Use of resins or other binding material is prohibited.	Ave. 23 gr.		Pad: 4x3-3/4 1 1/4					30 sec. max. for complete submersion of the pad.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
DDD-P-55a			(4) Strands per inch, card sliver: 2 min. Rows per inch, warpwise stitching: 3 min.	
MIL-P-43296	(5) When sample is tested for dextrin or starch, no blue or violet color shall develop (4.2.2). RH: 5.0 - 8.0 (2813).			Intended Use- As applicators or wipers for lithographic, off-set, and/or duplicating plates.



### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd		Width Inch	Breaking Strength Min.  (5100)	Tensile Strength Min.  (5100)	Splitting Resistance	Thickness Inch	Water Absorption
		Min	Max						
<u>Padding and Cover Set.</u> <u>Asbestos, Flatwork</u> <u>Ironer Roll</u> MIL-P-43219									
Padding	A felted, woven, or knitted material of min. of 75% asbestos. Balance shall be cotton, a synthetic, or a mixture of cotton and a synthetic.				Sufficient for 1 wrap around the roll.				Such a thickness that when binder, padding, & cover are installed on roll, caliper of entire assembly shall meet max. limits recommended by manufacturer of flatwork ironer.
Binder	Uncoated asbestos. See above for fiber content.				71 223				
Liner	Woven asbestos cloth. See above for fiber content.				Sufficient to wrap once around the roll.				
Cover	Woven asbestos cloth. Min. 80% asbestos. Balance as above. Coated or impregnated with thermosetting resin. Shall not stain or mar appearance of articles processed through ironer.				190 152 (initial) 50% 50% (after heat aging)				

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES  (Not Specification Requirements)
MIL-P-43219				Intended Use- For covering 2, 4, 6, and 8 roll flatwork ironers.

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sa Yd	Width Inch	Braking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption
<u>Padding, Cotton, Stitched Roving</u> CCC-P-86d  Type II- 5/8" thickness (com- mercial designa- tion)	Cotton	Min   Max 32.0	L   W 74				5/8	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
CCC-P-86d Type II			The padding shall be constructed of cotton roving joined by means of stitching to simulate a woven construction, the roving running filling wise and stitching running warpwise in row formation binding each strand of roving in successive order. There shall be four strands of roving and four rows of stitching per inch. Tolerance will be plus or minus: (1) one strand of roving. (2) one row of stitching.	Intended Use- The padding covered by this specification is intended primarily for use on flatwork ironers and pressing machines.

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min.  (5100)	Tensile Strength Min.  (5100)	Splitting Resistance	Thickness Inch	Water Absorption			
<u>Rag, Wiping, Cotton</u> DPP-R-30b <b>Amd. 2</b>		Min   Max		L   W							
Class 1- Unused fabrics.	Woven or knitted cotton fabrics. Class 1 shall consist of clean mill ends, mill remnants, or both. Rags shall be soft and absorbent, free from dust and abrasive material. Class 2 shall consist of fabrics reclaimed principally from household articles, none of which has been used for wiping rag purposes, and shall be soft and absorbent. Both Classes: Heavily napped fabrics, mesh fabrics, fabrics woven with hard twisted yarn, & starched or stiffened fabrics are not acceptable. U.S. Flags or Flags of other Nations, or remnants thereof are strictly prohibited.	(a)									
Grade A- White only		2.0	6.0	See spec. for requirements of area.		Water & oil shall be absorbed into cloths within 30 sec. (4.3.3).					
Grade B		2.0	12.0								
Class 2- Reclaimed fabrics.											
Grade A- White only		2.0	6.0	"							
Grade B		2.0	12.0								

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES  (Not Specification Requirements)
DPP-R-30b Class 1 Grade A Grade B Class 2 Grade A Grade B			(a) At least 35% of the weight in each inspection lot of Grade B fabrics shall consist of wiping rags weighing between 2.0-5.0 oz/sq yd. Class 2 wiping rags shall be thoroughly washed, rinsed, and sterilized. This processing shall be done within the United States, its possessions, or Puerto Rico. All Classes and Grades of wiping rags shall have a moisture content of no greater than 10% (4.3.3.2).	Intended Use- In wiping oil and grease from machinery and for miscellaneous cleaning.

## NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min.  (5100)	Tensile Strength Min.  (5100)	Splitting Resistance	Thickness Inch	Water Absorption
Waste, Matted, Yarns, (Cotton, Colored) DDD-W-101c Int. Amd. 1		Min	Max	L   W				

Cotton yarns or a mixture of cotton and rayon yarns. 20%+5% of the yarns shall be min. 20 in. long, & not more than 5% shall be less than 3 in. 40% min. shall be fine undyed soft spun yarns. 20%+2% shall be slasher yarns. 40% max. shall be fine dyed soft spun yarns. 20%+2% of nonbright spun-rayon yarns may be used in lieu of same quantity of cotton by weight. Yarns shall be free from excessive lint and hard-twisted string, shredded rag, premachined stock, soiled or oily stock, crepe yarn, lustrous rayon, yarns of more than 3-ply, dark colored yarns, fly sweepings, and dirt or other foreign matter.

Water & oil shall be absorbed within 50 sec.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
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DDD-W-101c  
Int. Amd. 1

(5)  
Waste shall be machined twice to produce a uniformly mixed product with regard to color and length of yarns. The various components shall be properly floor mixed by spreading each bale of stock material on a laying pile in successive layers, so that a portion cut from the edge of the pile to put through the machines will have its proper proportion of every bale of stock material used in the manufacture of the waste. All spools, needles, metal clips, etc. shall be removed. Tare content: 6%. Moisture content: 6.5%.

The waste shall contain no more than 2.0% extractable matter when tested according to specification.

Intended Use- In wiping and and packing in journals.

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption
Yarn, Cotton MIL-Y-16698B	Cotton. Yarn shall be carpet warp 8/4 ply $\pm$ 3%, 6- turns per in. of "S" twist in the ply.	Min   Max		L   W (-100) (Filed)				

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
MIL-Y-16698B		Color- Shall be natural, bleached white, or color, as specified, and shall conform to the approved shade standard (3). When white is specified, the yarn shall be bleached using a peroxide type bleach. No tinting is permissible, and the use of optical bleaches is not permitted. When natural is specified, the yarn shall be a natural shade (9). Colorfastness- Standard sample available (4610).		Intended Use- For hand weaving in occupational therapy.

### NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	Wool Content Min.
Yarn, Wool MIL-Y-16654C		Min   Max		L   W					
Type I- White or dyed	Fleece wool, pulled wool, or any combination thereof no. lower in grade than 56's US Standard. Use of noils or laps is prohibited. Yarn shall be spun on worsted system from combed top on either the Bradford, French, or American system. Yarn shall be not finer than 8's 4-ply or coarser than 7's 4-ply. Twist shall be soft, with 5 (+5%) turns per inch in the single yarn & 2 (+5%) turns per inch in ply yarns.								95%
Type II- Natural									95%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (No. Specification Requirements)
MIL-Y-16654C		Color- Type I: (1)- Standard sample available (3). When white is specified, the yarn shall be bleached using hydrogen peroxide. Unless otherwise specified, white yarn shall not be treated with an optical bleach. In the event, however, than an optical bleach is specified, or permitted, it shall be so selected that the finished yarn shows no discoloration (4660). Type II: Shall be natural, undyed, unbleached, and not chemically processed. Colorfastness- Type I: Standard sample available (4660-4614).		Intended Use- Type I: For hand weaving and textile work in occupational therapy. Type II: For lubricating purposes.

REFERENCES

NON-WOVEN TEXTILE MATERIALS

Textile Test Methods - CCC-1-191b

<u>Method</u>	<u>Title</u>
	<u>Chemical</u>
2811	Acidity (pH), Potentiometric method.
	<u>Mechanical</u>
4100	Strength and elongation, breaking; yarn; single strand.
4104	Strength, breaking yarn and thread skein.
5100	Strength and elongation, breaking, of woven cloth, grab method.
	<u>Air Permeability and Water Resistance</u>
5508	Dry cleaning solvent resistance of water-resistant finish, tumble jar.
	<u>Colorfastness</u>
4610	Colorfastness to laundering; cotton and linen yarn, thread and cordage.
4614	Colorfastness to laundering; wool, silk, and rayon yarn, thread, and cordage; Launder-Ometer method.
4660	Colorfastness to light; yarn, thread, cordage; accelerated method (Fade-Ometer).
5630	Water, cold.
5651	Crocking of cloth.

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13. ABSTRACT		
<p>Specification requirements for military fabrics and related military textile materials such as felts and cordage are summarized in tables which give details for yarn, texture, finish and key performance parameters. Included are finishing, after-treatment specifications and test methods.</p> <p>This report brings up-to-date and adds to the data contained in Textile Series Report No. 102 dated July 1967 (Revised).</p>		

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14. KEY WORDS	LINK A		LINK B		LINK C	
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Performance	8					
Parameters	8					
Test Methods	8					
Texture	8					
Finishes and finishing	8					
Fibers	8,9					
Fabrics	8,9					
Textiles	8,9					
Felts	8,9					
Cordage	8,9					
Specifications	4,8					
Military requirements	4					
Tables	0					