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Atlas of Formability

Inconel 625
UNS N06625
Flow Stress Curves



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REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
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1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE February 26, 1991		3. REPORT TYPE AND DATES COVERED Final, November 30, 1990-February 26, 1991
4. TITLE AND SUBTITLE Atlas of Formability Inconel 625			5. FUNDING NUMBERS C-N00140-88-C-RC21	
6. AUTHOR(S) Howard A. Kuhn				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) National Center for Excellence in Metalworking Technology (NCEMT) 1450 Scalp Avenue Johnstown, PA 15904			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Naval Industrial Resources Support Activity Building 75-2, Naval Base Philadelphia, PA 19112-5078			10. SPONSORING / MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY STATEMENT			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) In this investigation, flow behavior of Inconel 625 alloy was studied by conducting compression tests over a wide range of temperatures and strain rates. Stress-strain curves were recorded for each test condition. These data are essential in metalworking process design or finite element analysis of high temperature deformation.				
14. SUBJECT TERMS Inconel 625, High Temperature Deformation, Metalworking			15. NUMBER OF PAGES 24	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT	

ATLAS OF FORMABILITY

INCONEL 625

by

Howard A. Kuhn

**National Center for Excellence in Metalworking Technology
1450 Scalp Avenue
Johnstown, PA 15904**

for

**Naval Industrial Resource Support Activity
Building 75-2, Naval Base
Philadelphia, PA 19112-5078**

February 26, 1991

The views, opinions, and/or findings contained in this report are those of the authors and should not be construed as an official Department of the Navy position, policy, or decision, unless so designated by other documentation

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Unannounced	☐
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Distribution/	
Availability Codes	
Dist	Avail and/or Special
<i>A-1</i>	

Inconel 625

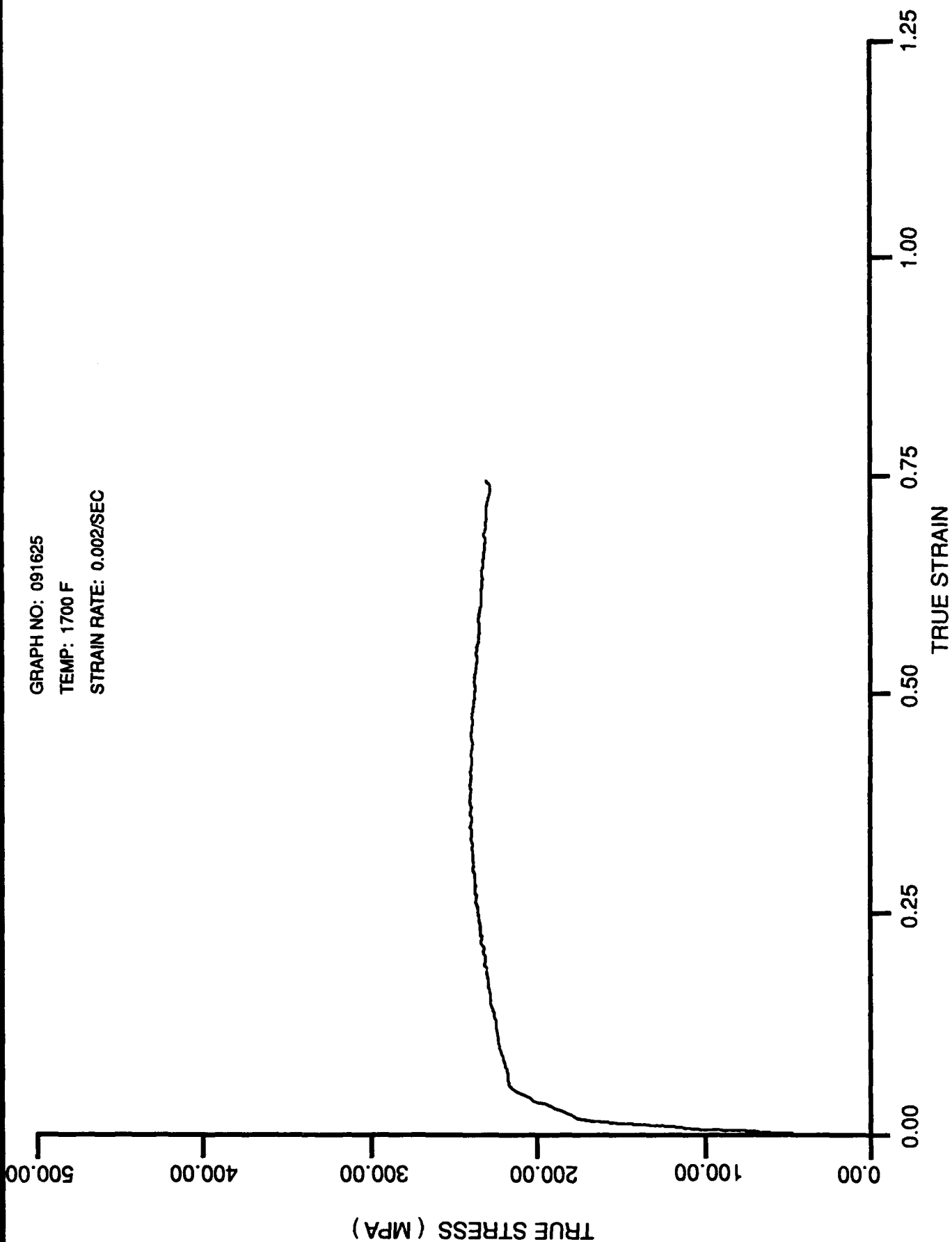
Composition:

Al 0.40 MAX	C 0.10 MAX	Cb 3.15-4.15	Cr 20.0-23.0	Fe 5.0 MAX	Mn 0.50 MAX
Mo 8.0-10.0	Ni Bal.	P 0.015 MAX	S 0.015 MAX	Si 0.50 MAX	Ti 0.40 MAX

Testing Parameters

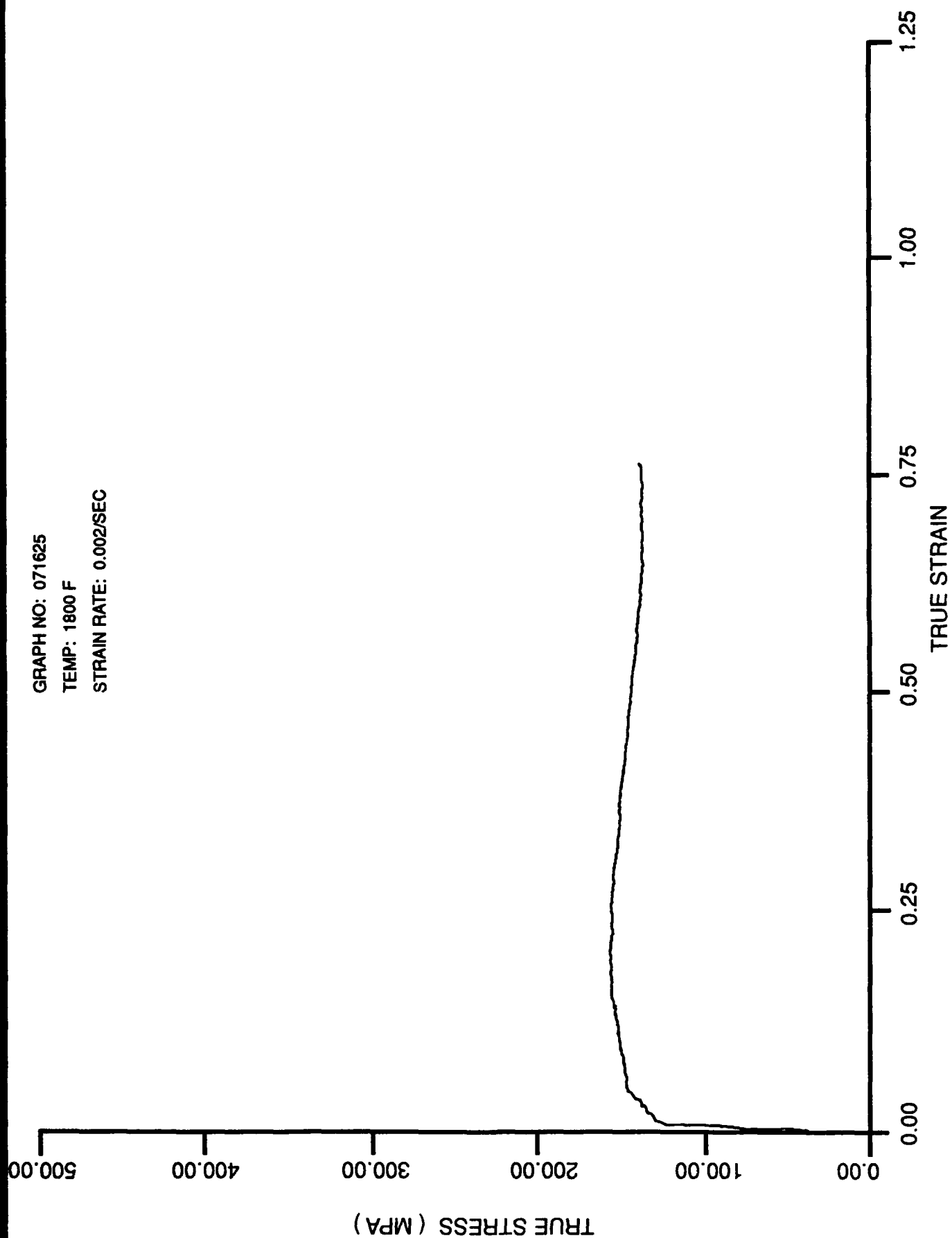
D ₀ (inch)	H ₀ (inch)	H _f (inch)	Strain Rate (1/sec.)	Temperature (deg. F)	Graph Number	Page Number
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.500	.750	.338	0.002	1800	071625	3
.500	.750	.316	0.002	1900	061625	4
.500	.750	.355	0.002	2000	031625	5
.500	.750	.338	0.002	2100	021625	6
-	-	-	0.002	Combination	411625	7
.500	.750	.366	0.020	1700	201625	8
.500	.750	.358	0.020	1800	171625	9
.500	.750	.360	0.020	1900	151625	10
.500	.750	.355	0.020	2000	131625	11
.500	.750	.364	0.020	2100	111625	12
-	-	-	0.020	Combination	421625	13
.500	.750	.369	0.200	1700	291625	14
.500	.750	.358	0.200	1800	281625	15
.500	.750	.369	0.200	1900	261625	16
.500	.750	.361	0.200	2000	231625	17
.500	.750	.354	0.200	2100	211625	18
-	-	-	0.200	Combination	431625	19
.500	.750	.394	0.002, 0.200	1700	311625	20
.500	.750	.351	0.002, 0.200	2100	341625	21

GRAPH NO: 091625
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STRAIN RATE: 0.002/SEC



NCENT

GRAPH NO: 071625
TEMP: 1800 F
STRAIN RATE: 0.002/SEC

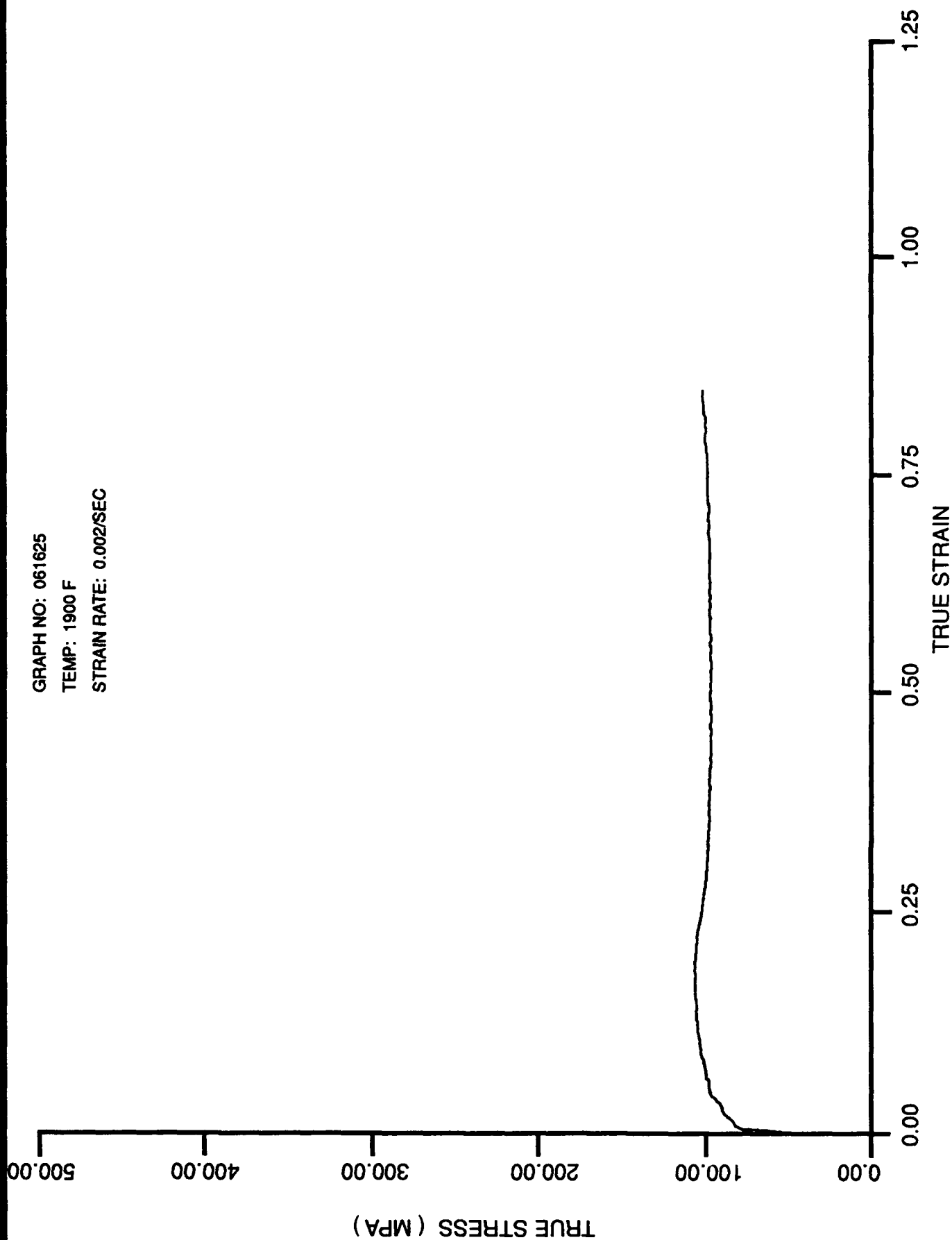


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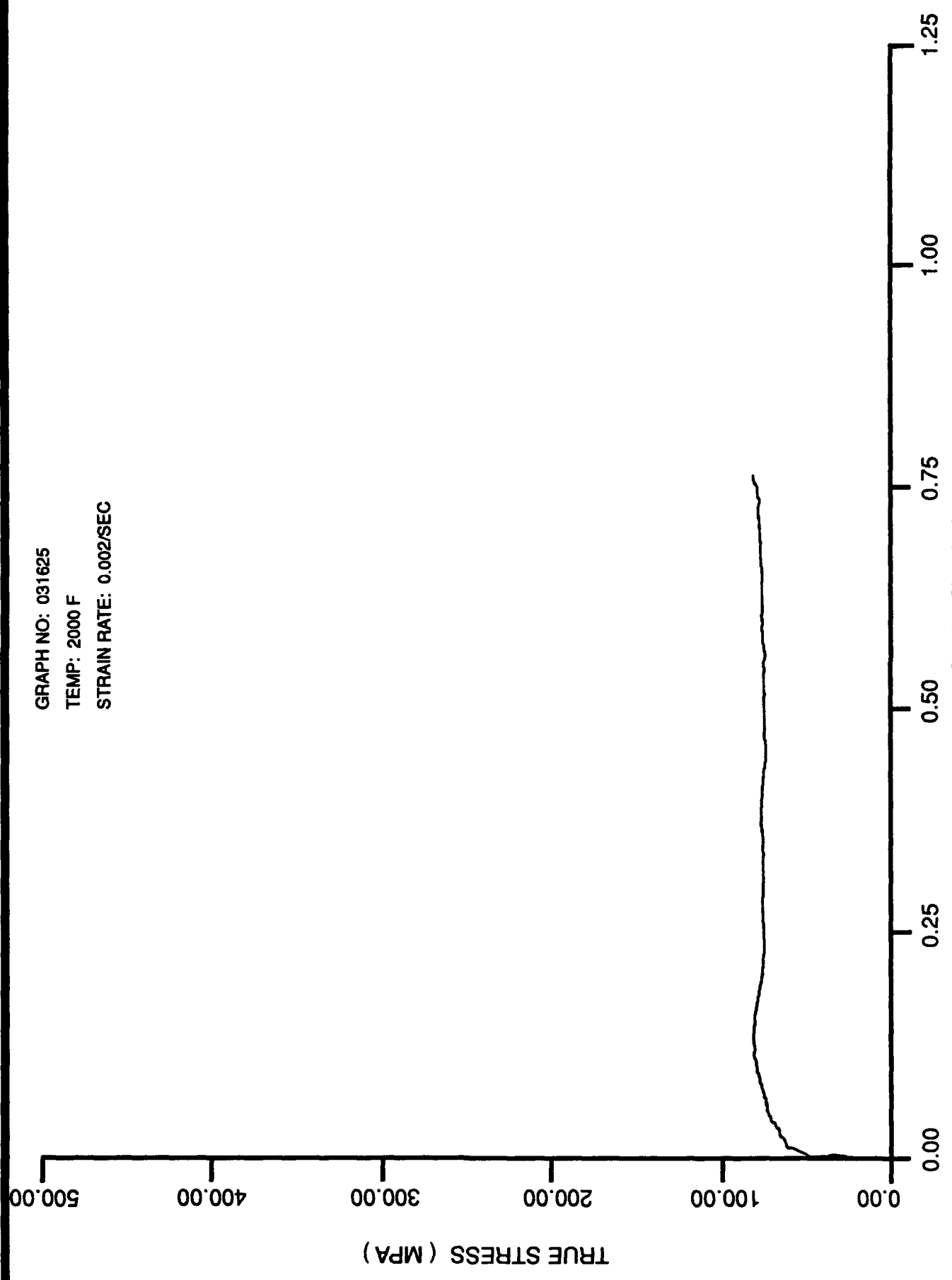
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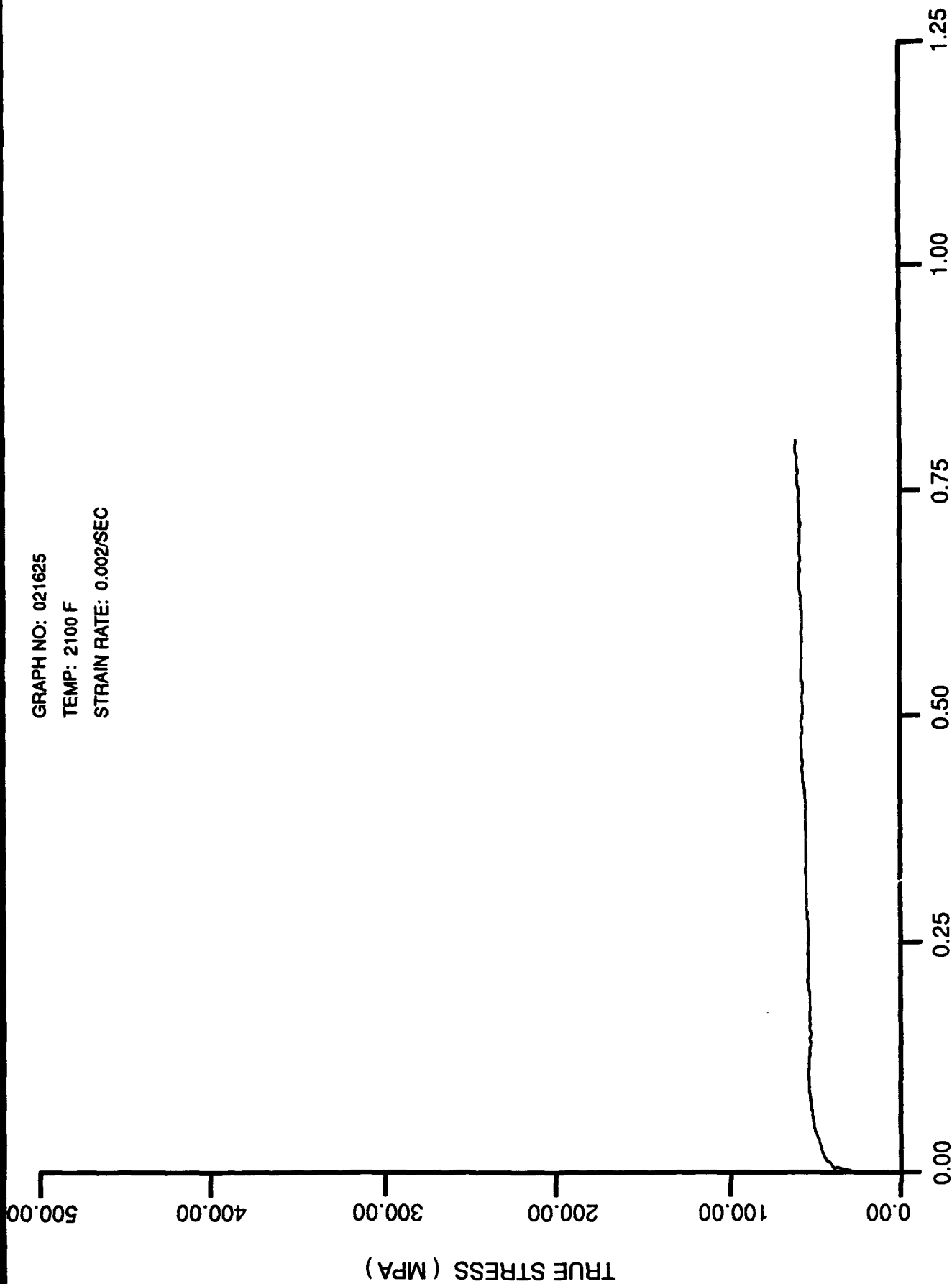


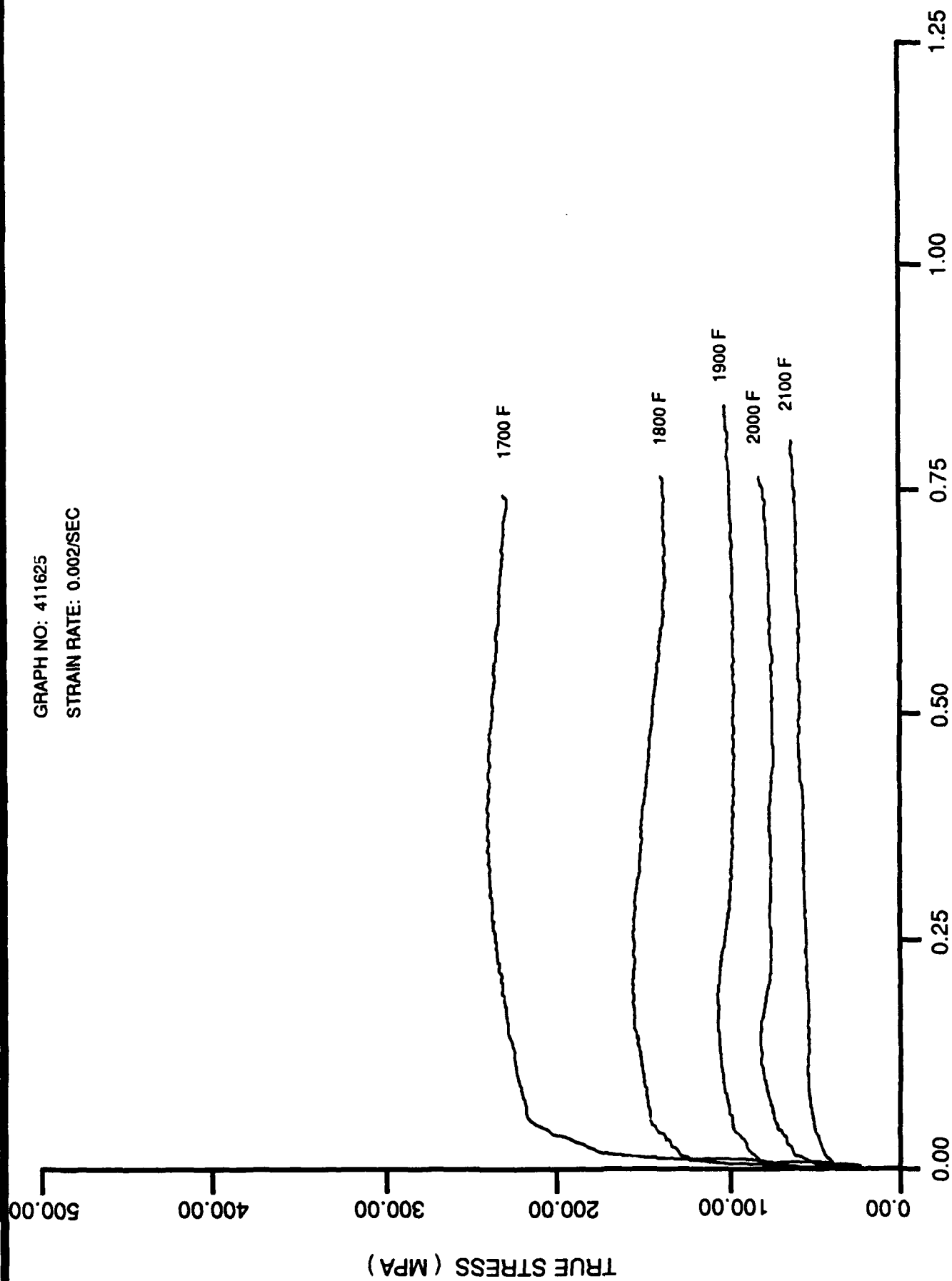
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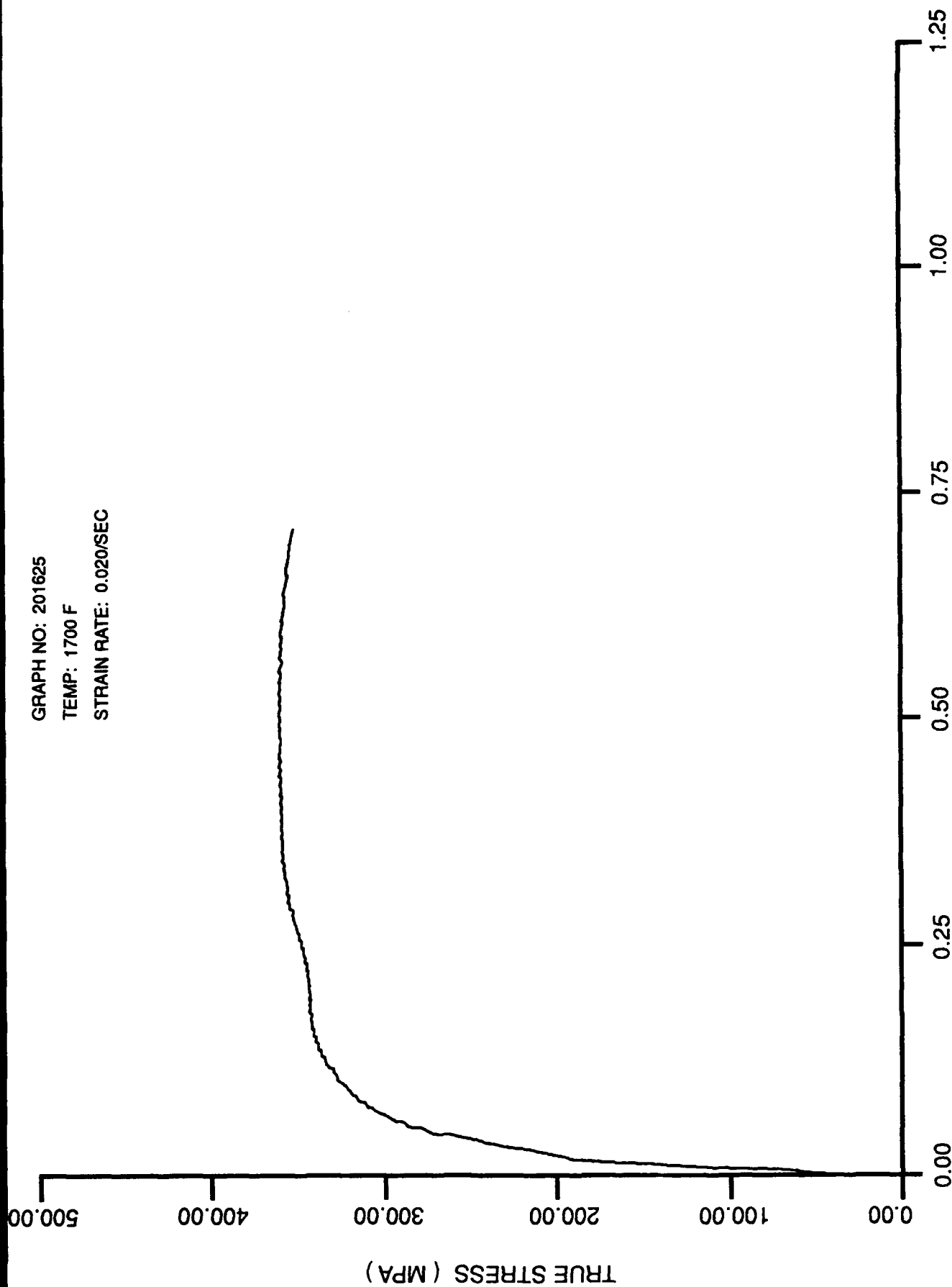


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TRUE STRAIN

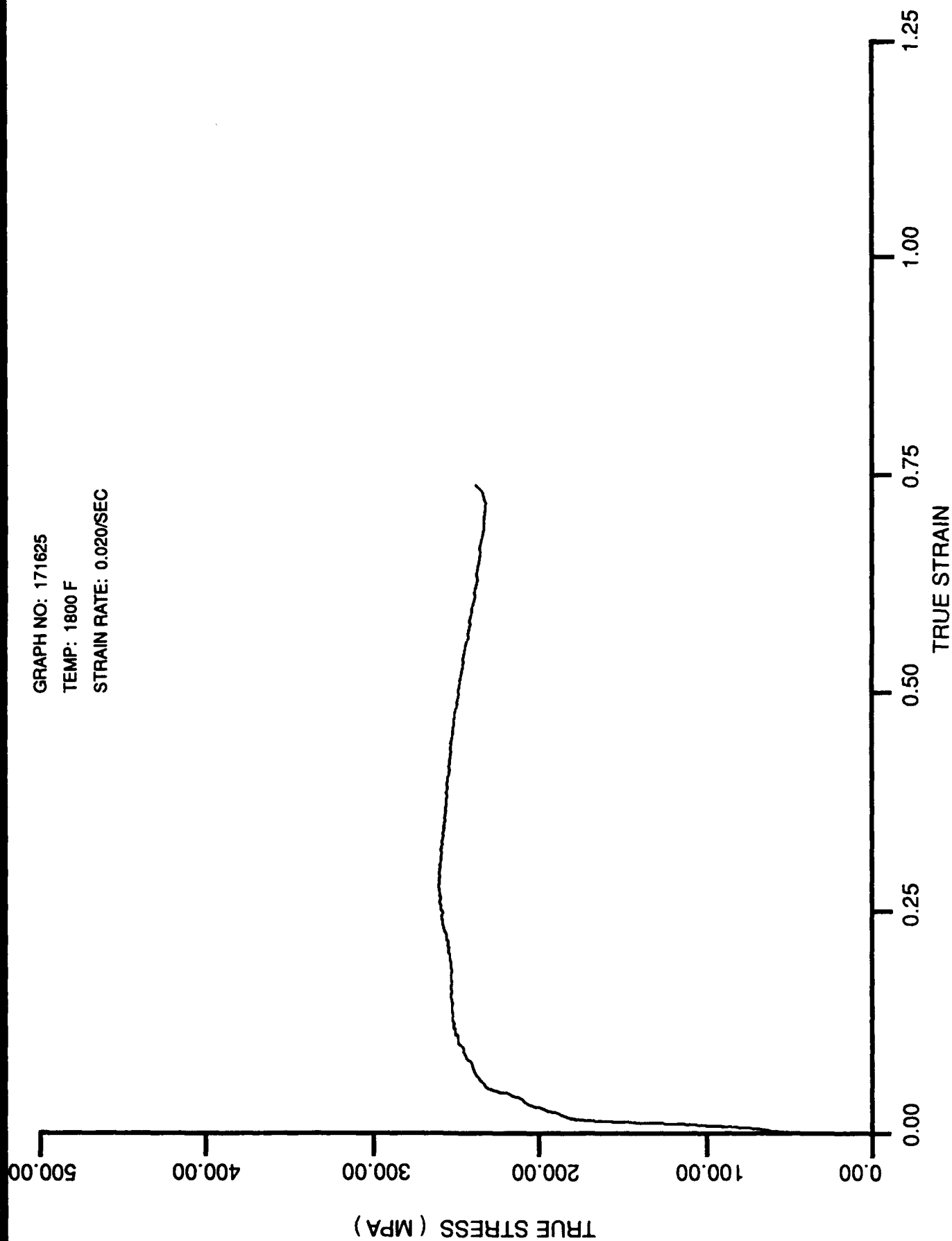


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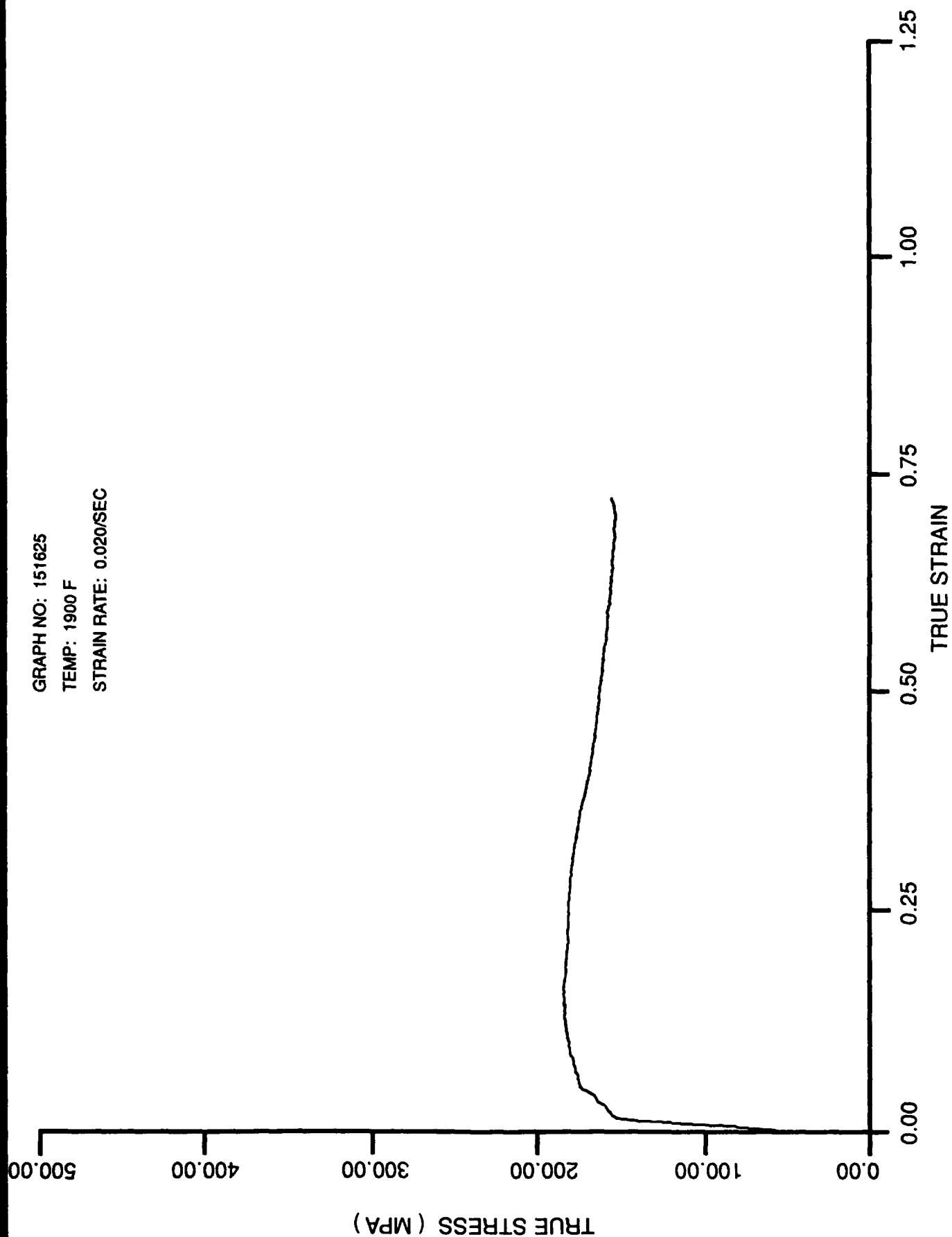
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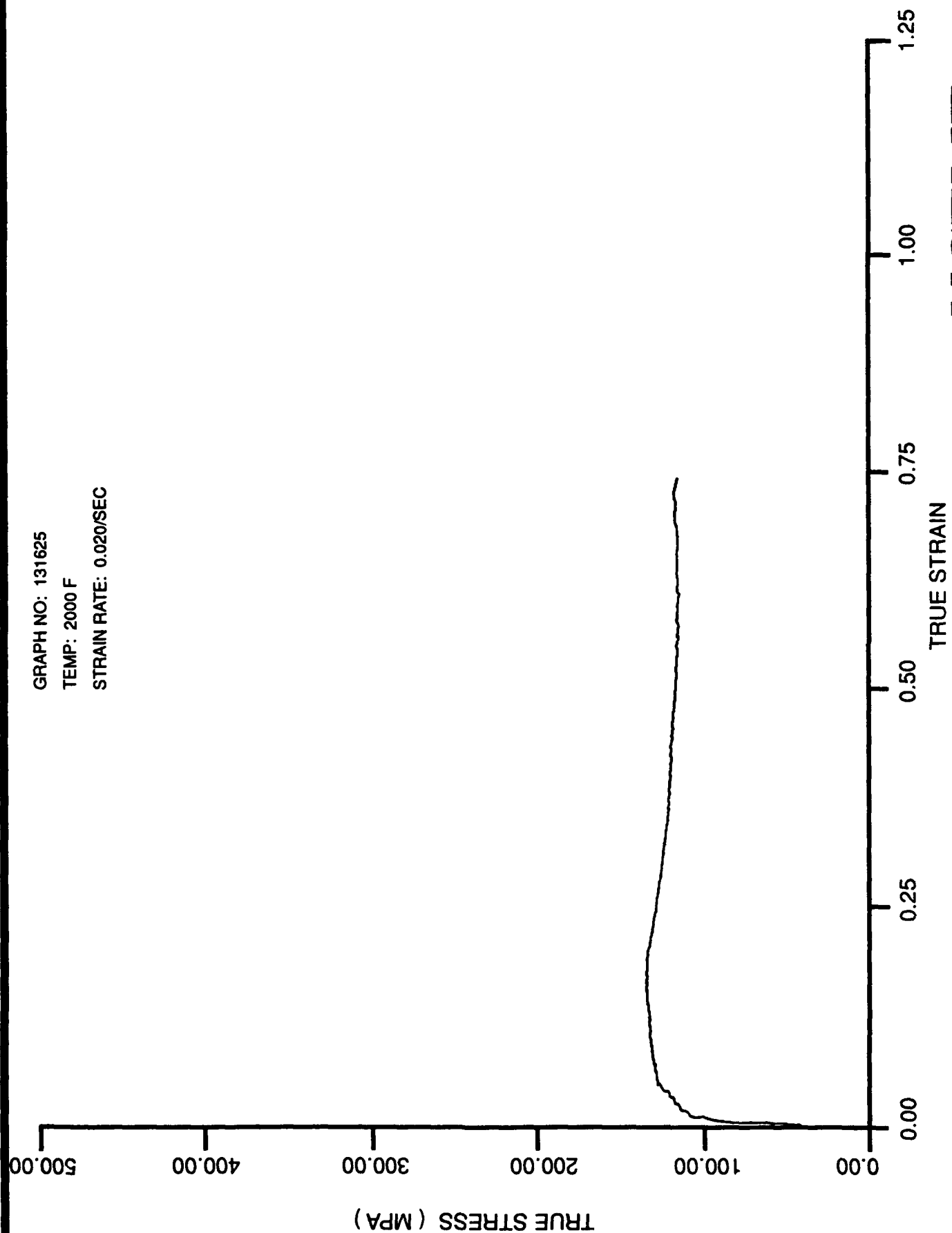


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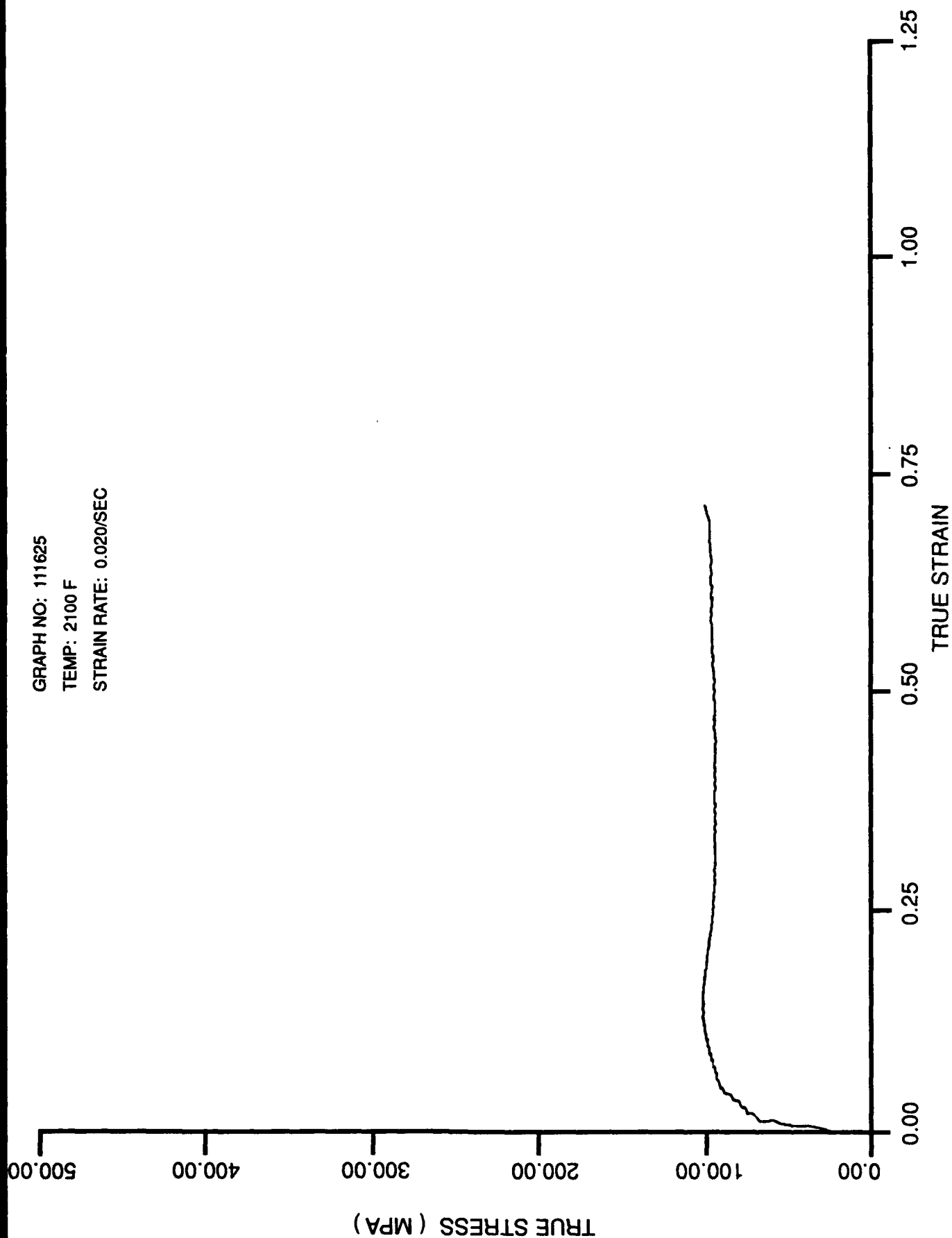
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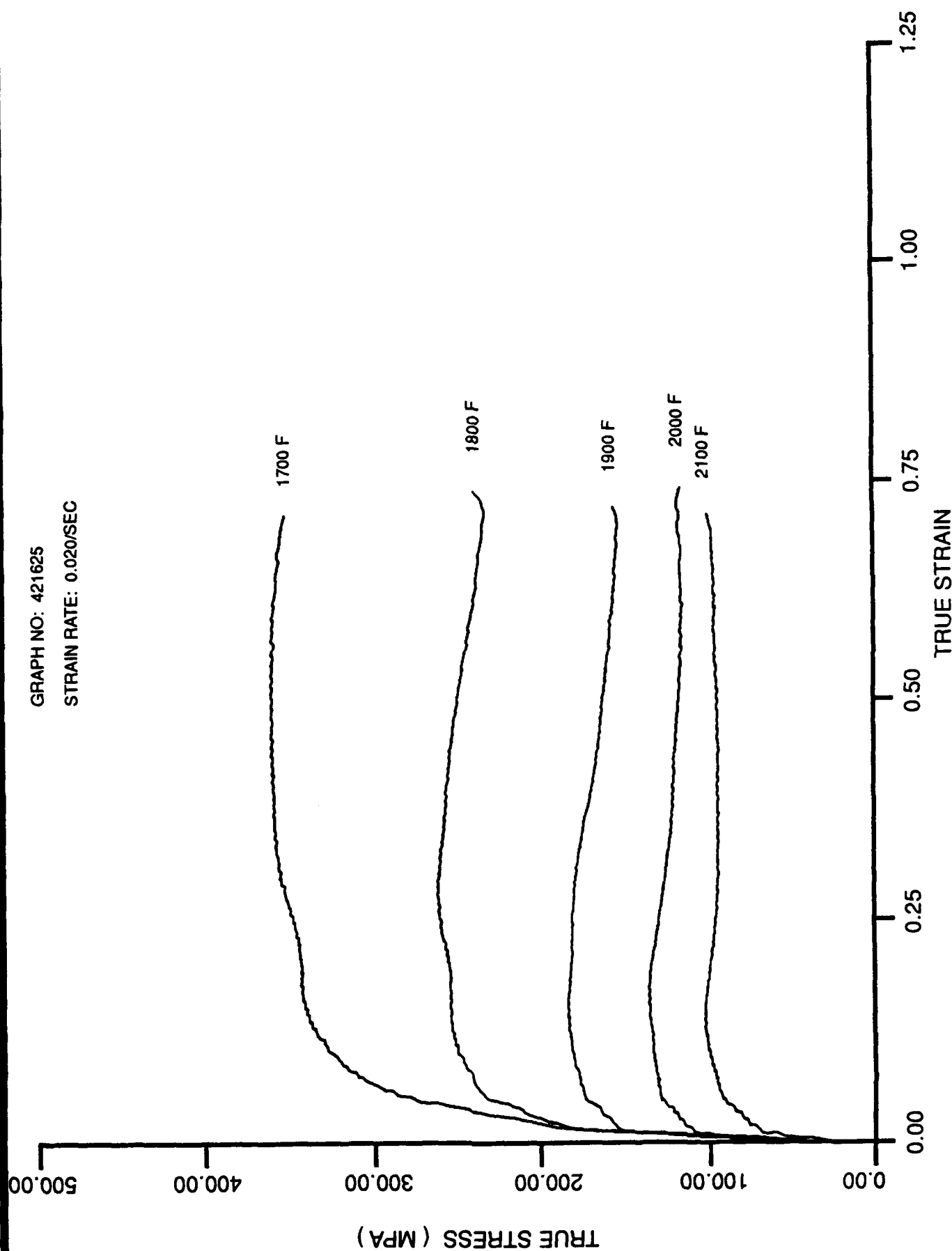
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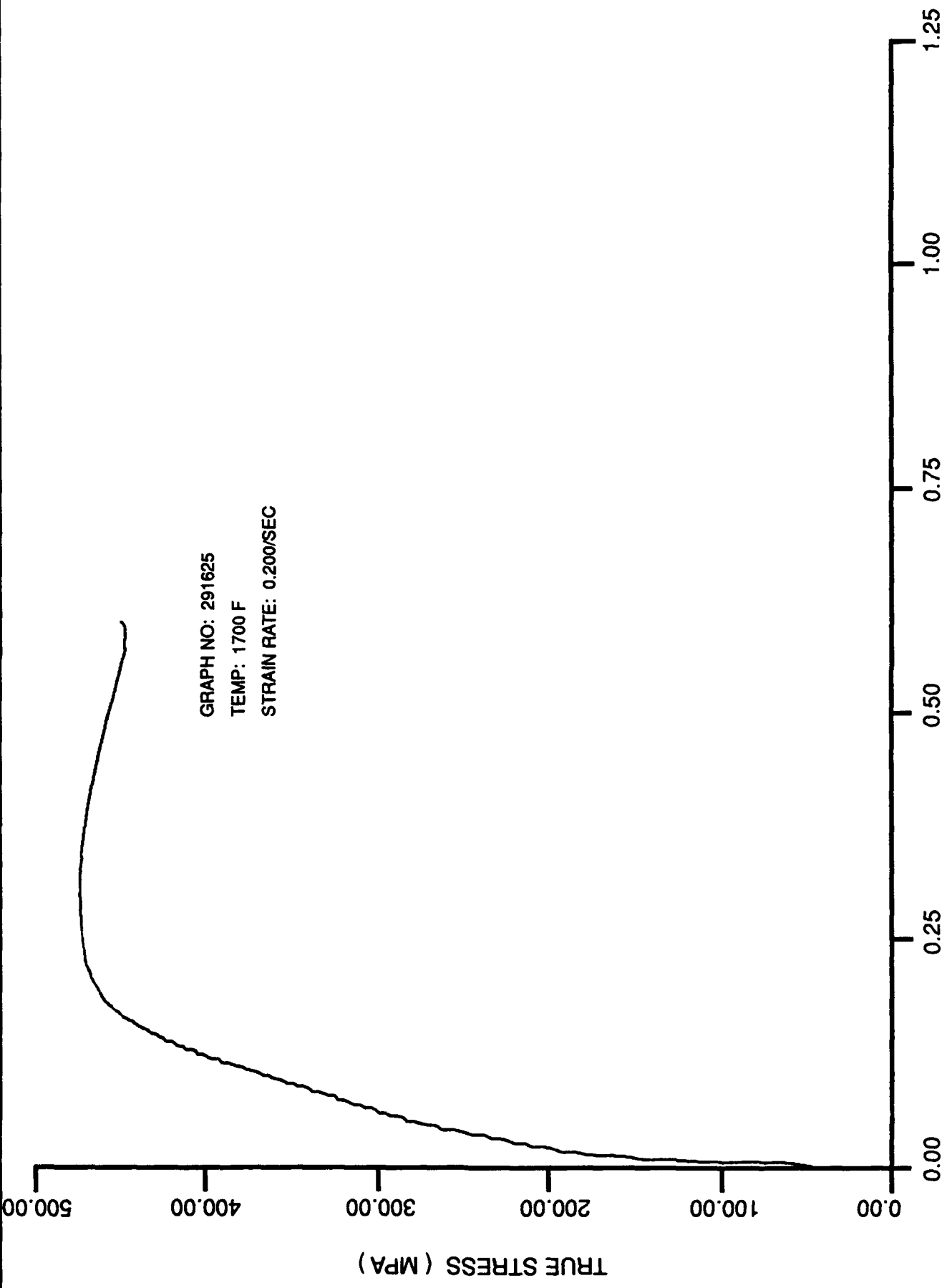


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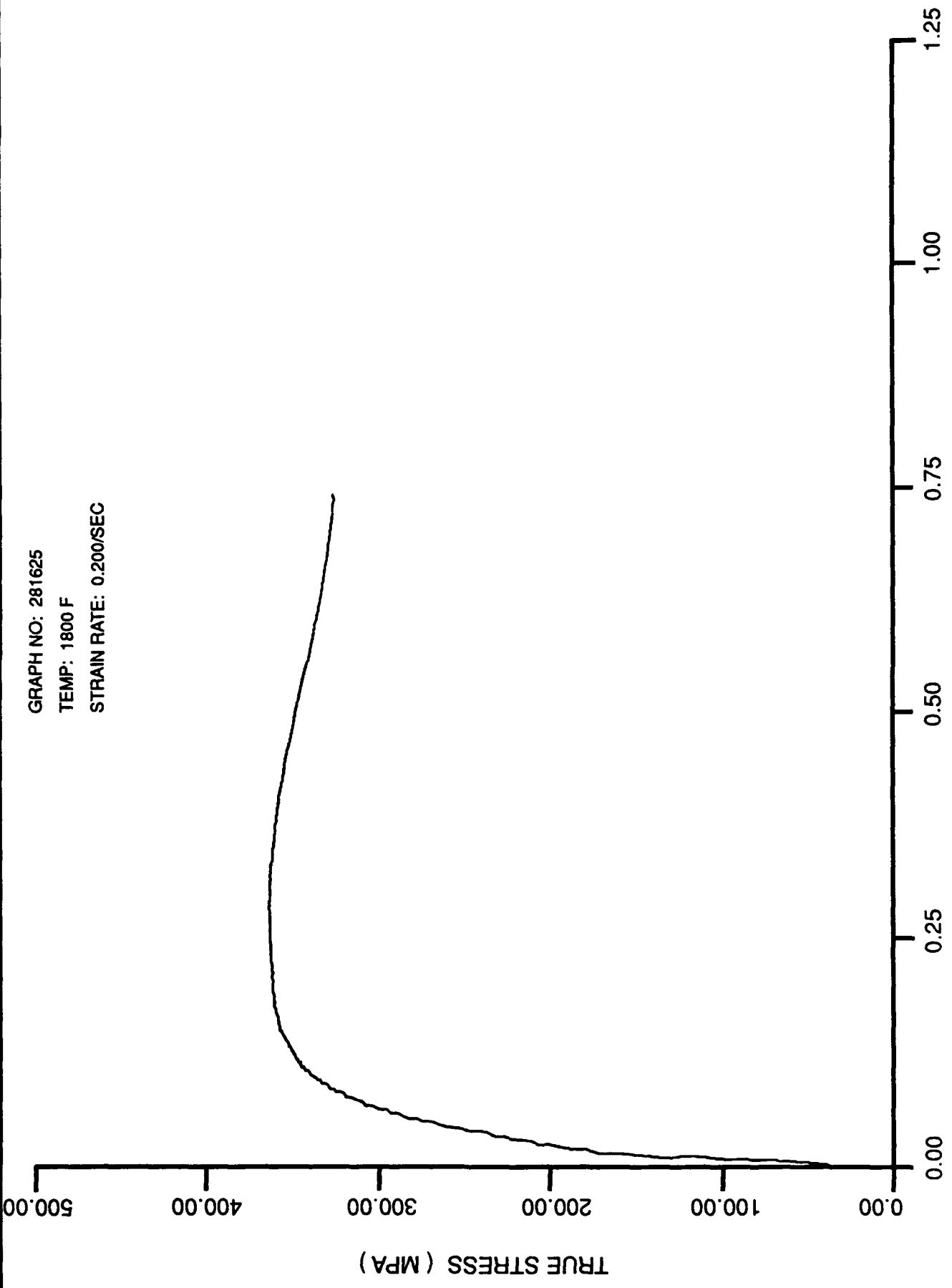


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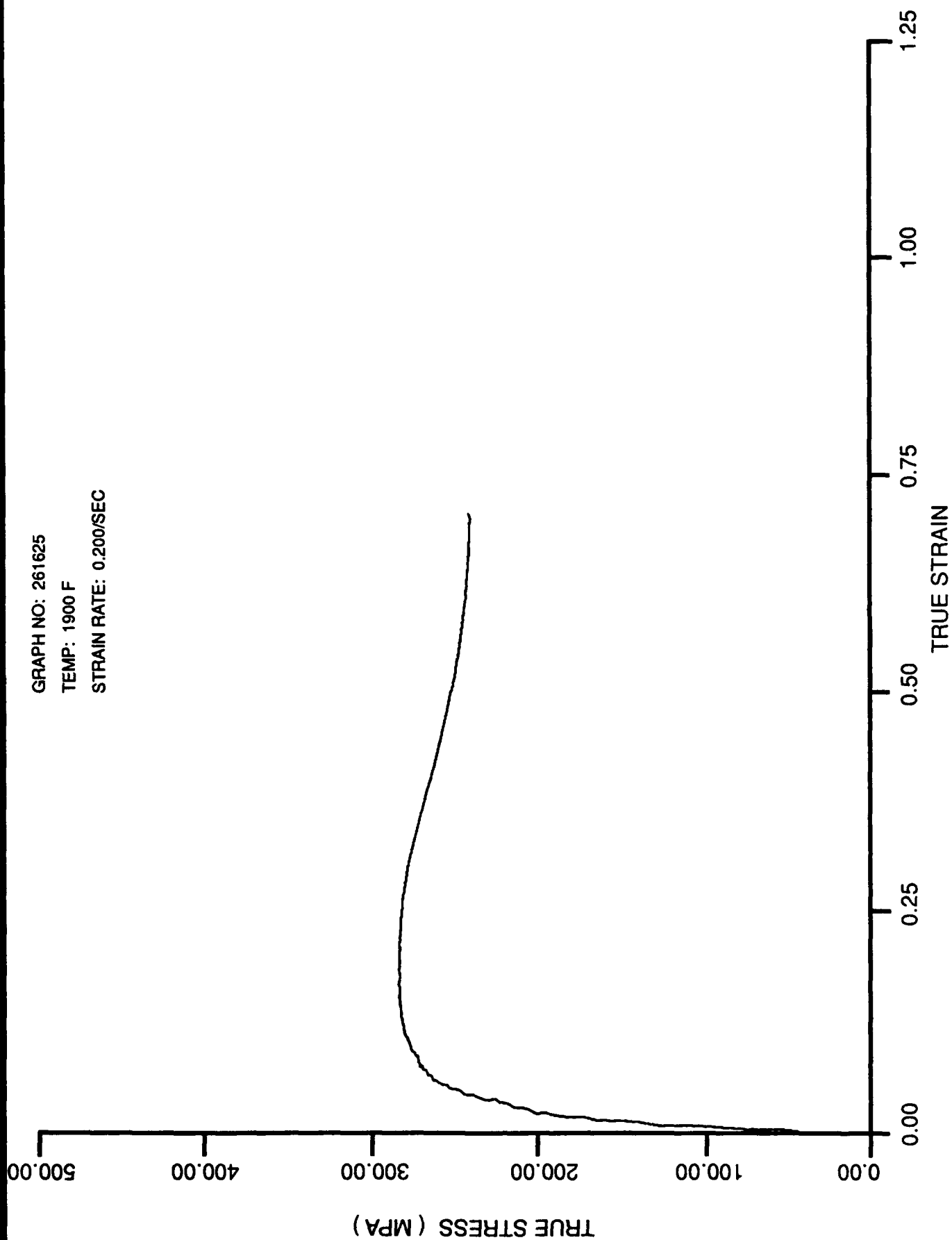
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TRUE STRAIN



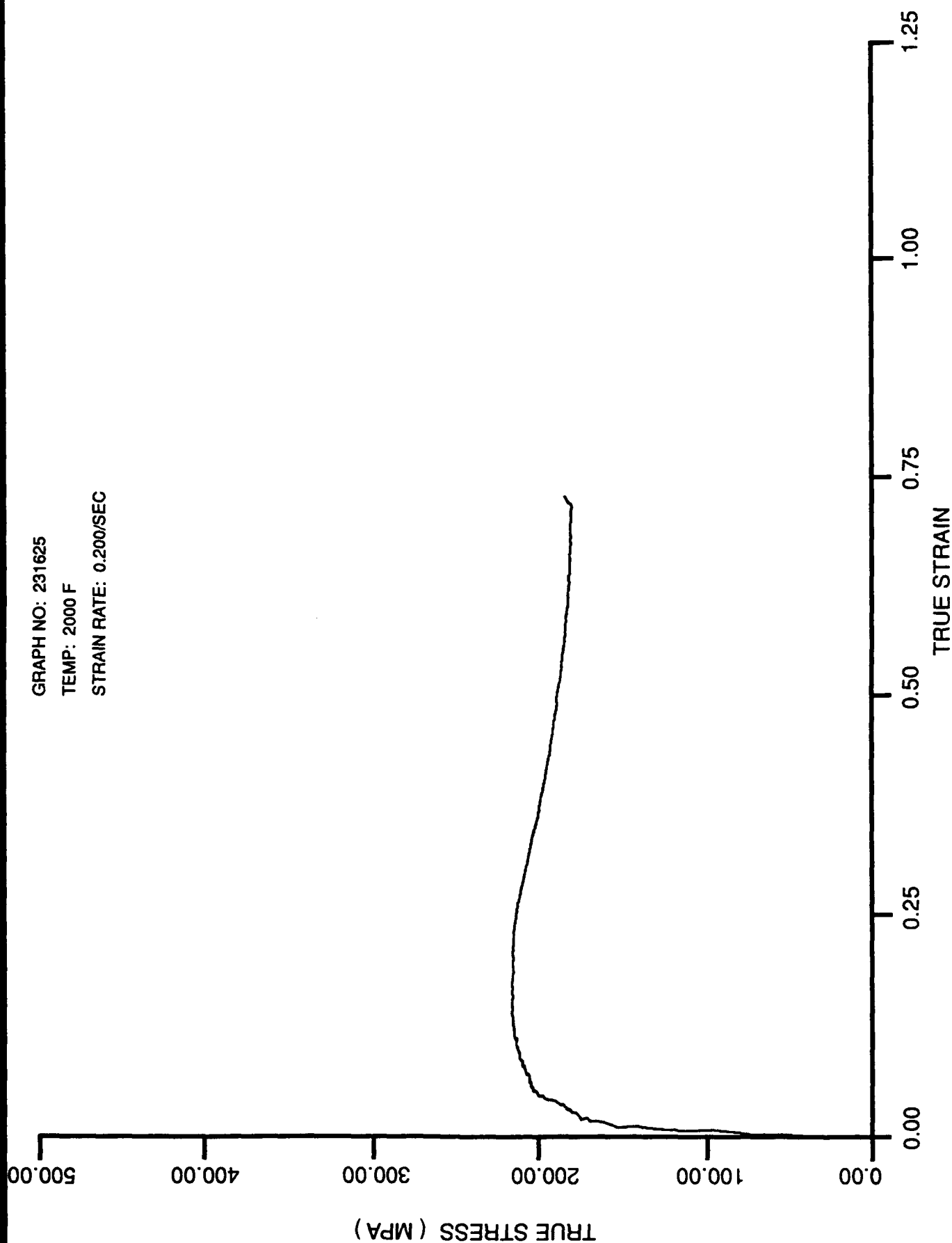
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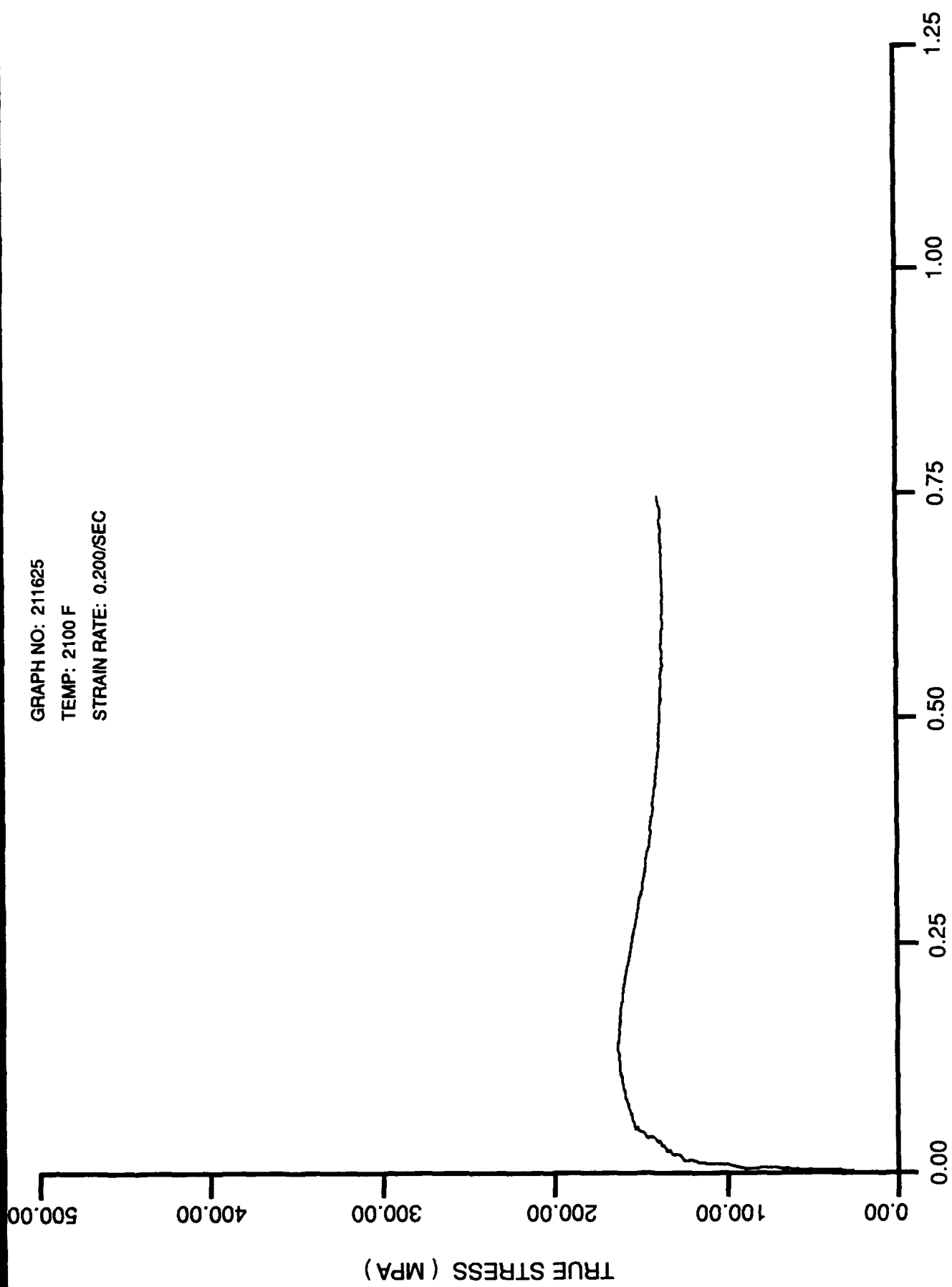
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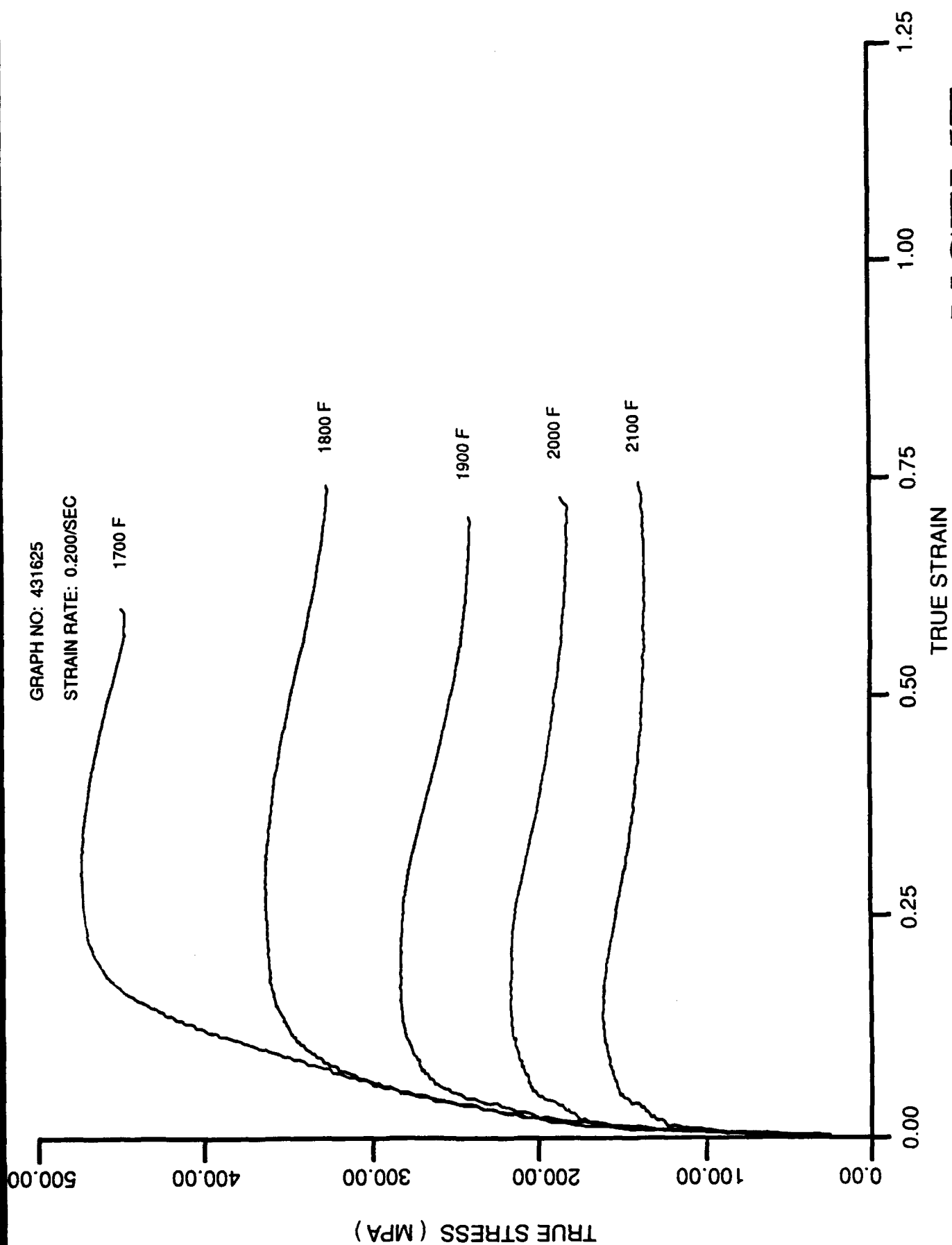
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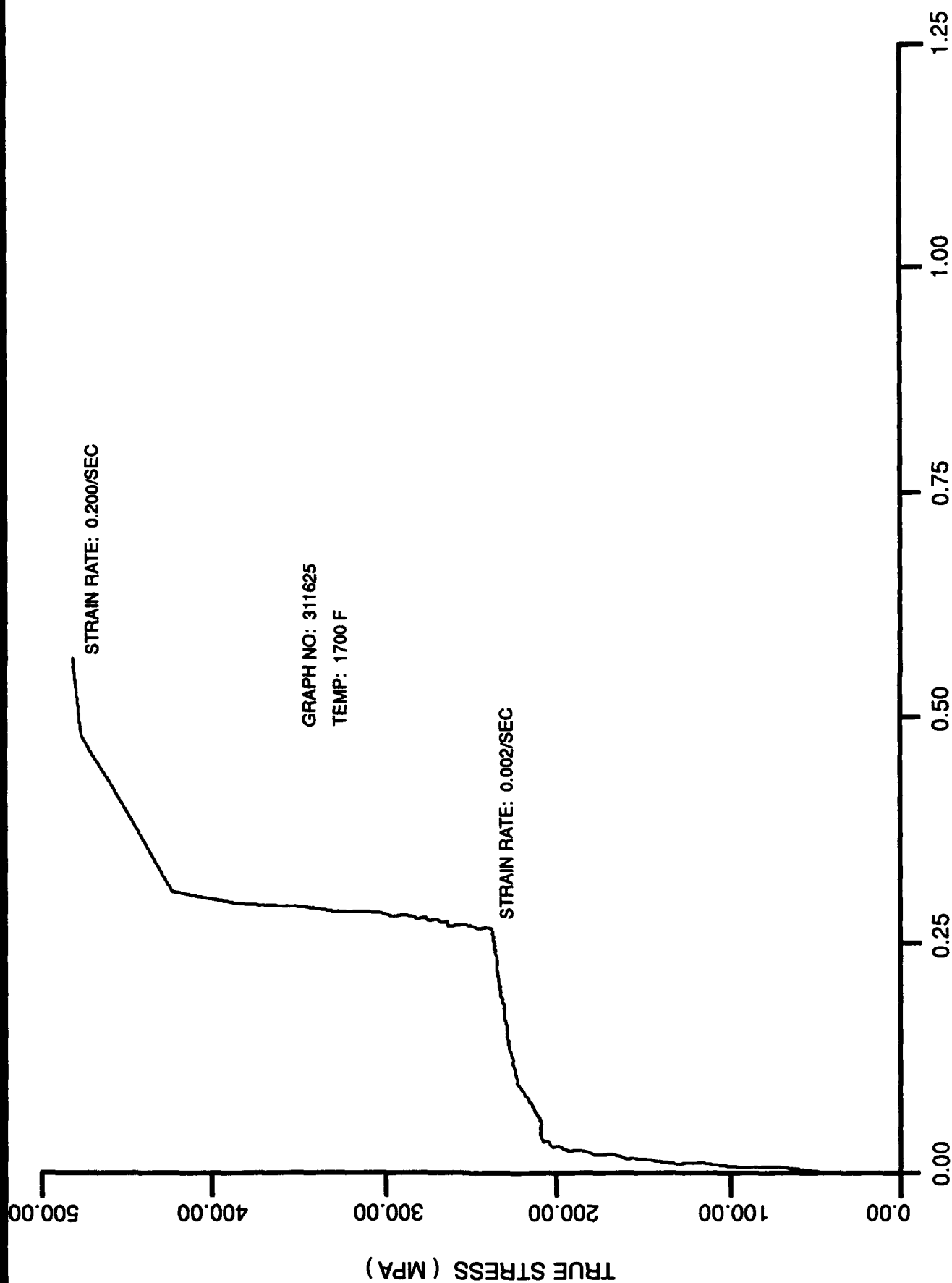


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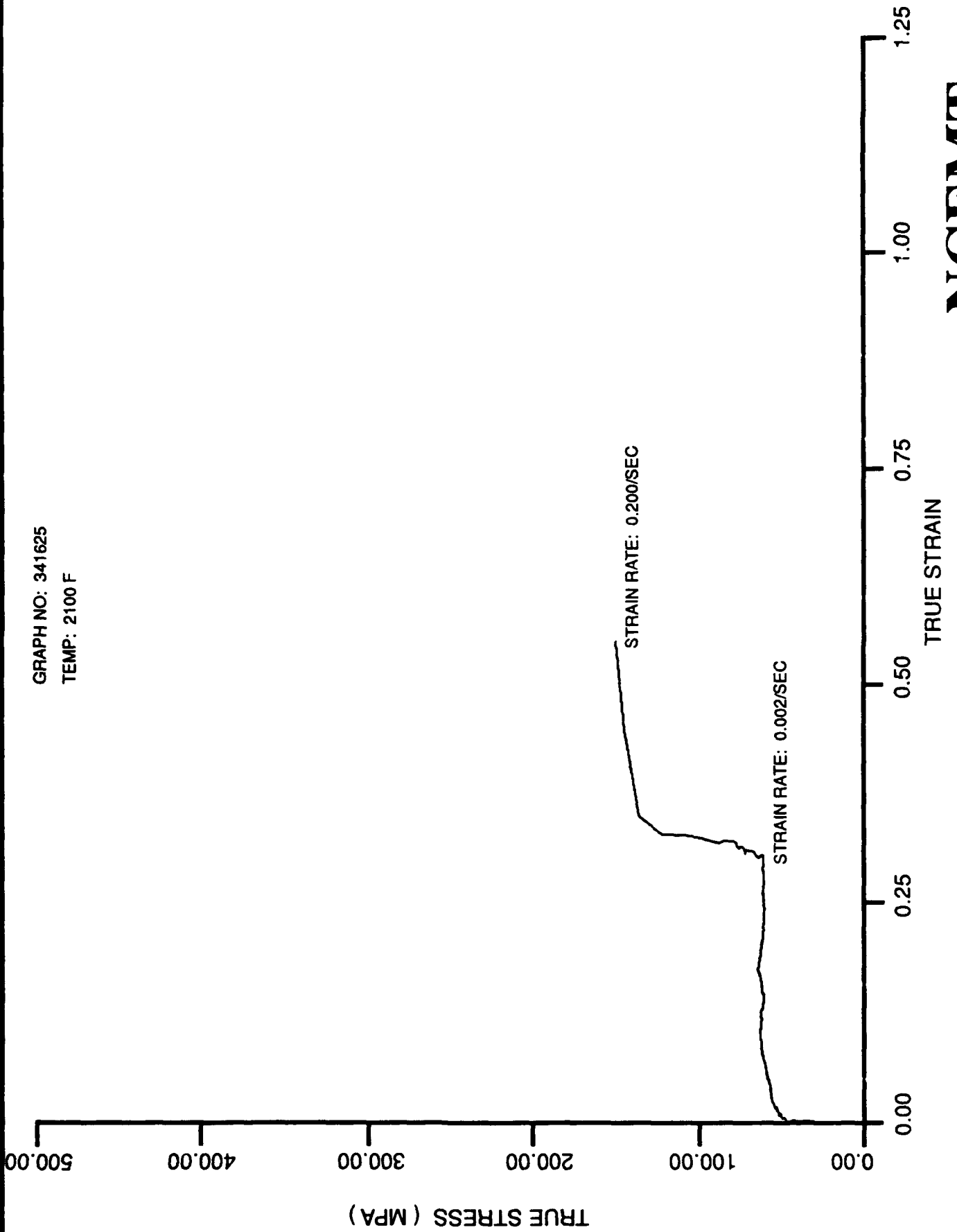


TRUE STRAIN



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