XI. MECHANICAL PROPERTIES

CONTENTS

(OVER)

ABBREVIATIONS AND TERMS

UTS	ultimate tensile strength
PSI	pounds per square inch
KSI	1000 pounds per square inch
°F	degrees Fahrenheit
HR	hour, hours
MIN	minute, minutes
IN.	inch, inches
MM	millimeter, millimeters
DIA	diameter
FT-LB	foot-pounds
BTU	British Thermal Units
WQ	water quench
OQ	oil quench
AC	air cool
FC	furnace cool
R	stress ratio (minimum stress/maximum stress in fatigue tests)
K_t	theoretical stress concentration factor, according to Peterson's data
LONG.	longitudinal grain direction
TRANS	transverse grain direction
DPH	Diamond Pyramidal Hardness
NOL	Naval Ordnance Laboratory

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All of the mechanical properties data in this section are presented graphically. For the materials listed the following properties are included where available:

a. Yield Strength (0.2% offset)
b. Tensile Strength
c. Elongation
d. Weld Tensile Strength
e. Stress-strain Diagram
f. Modulus of Elasticity
g. Impact Strength
m. Compressive Strength
o. Fatigue Strength

The data sheets marked "**" have been reproduced from:

"Cryogenic Materials Handbook"
AD 609 562
F.R. Swartzberg, et al.
The Martin Company
Denver, Colorado
August 1964

The attached list of references are given as the original sources of the material presented in the above document.

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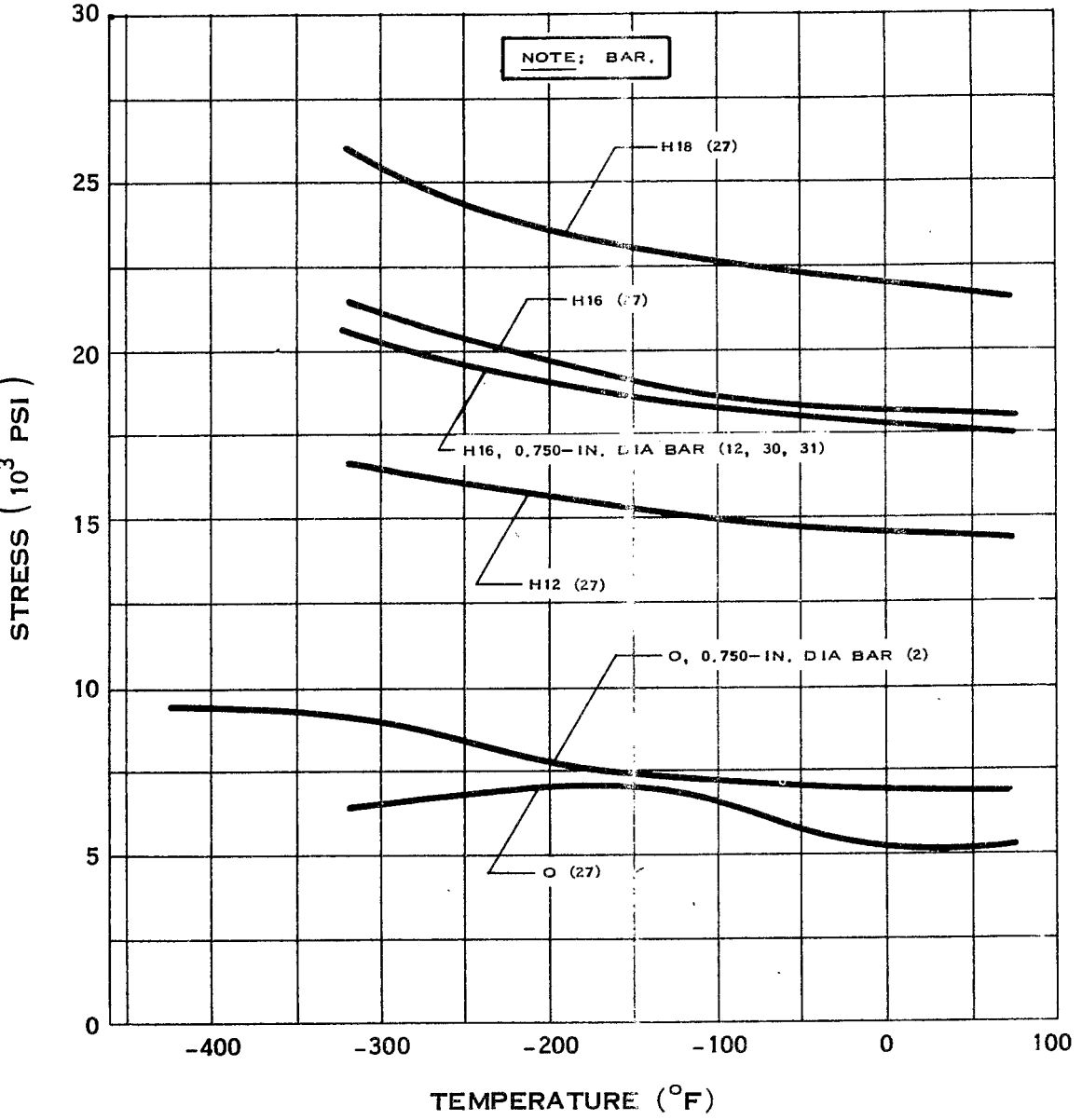

YIELD STRENGTH OF 1100 ALUMINUM

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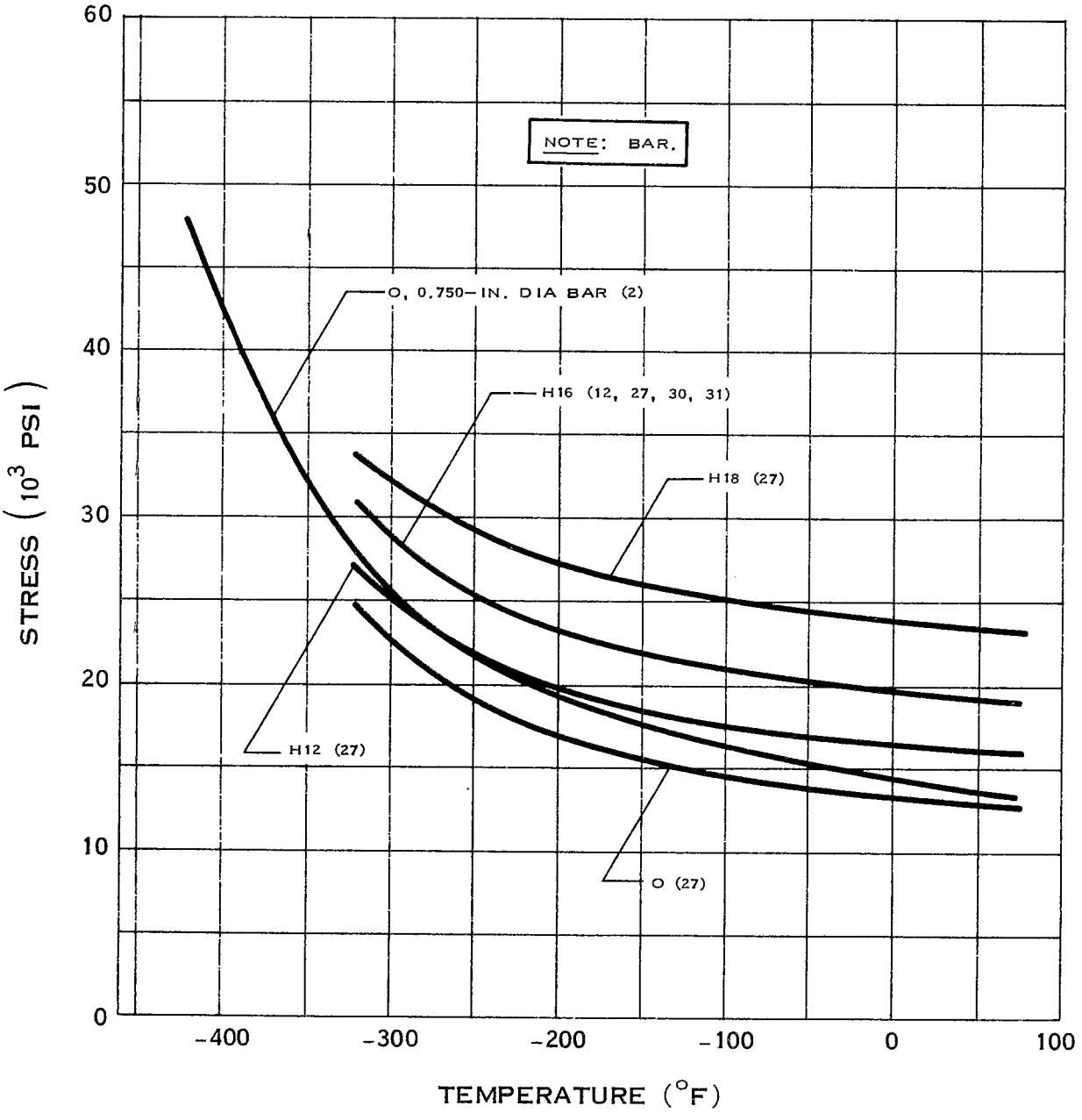

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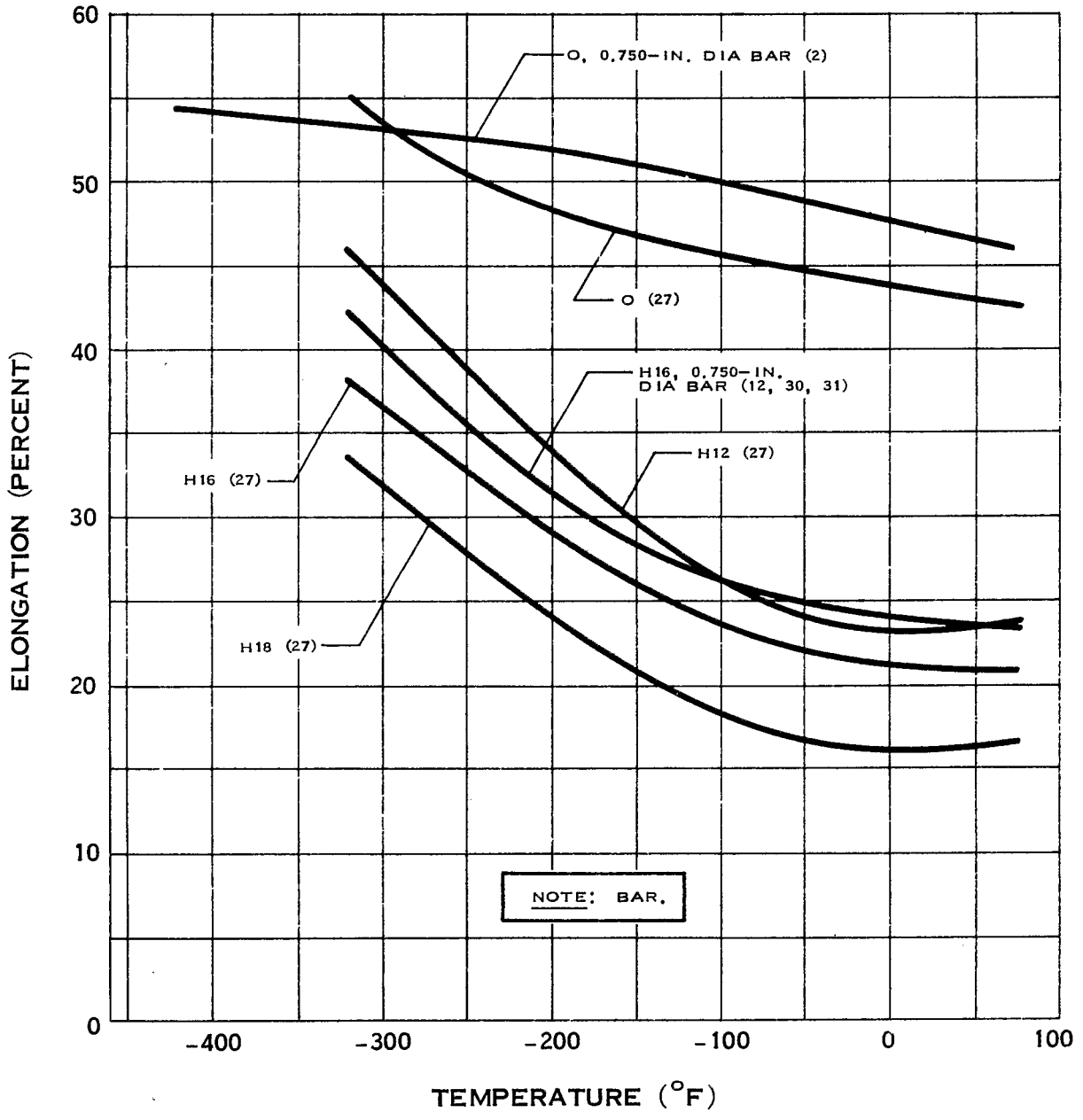

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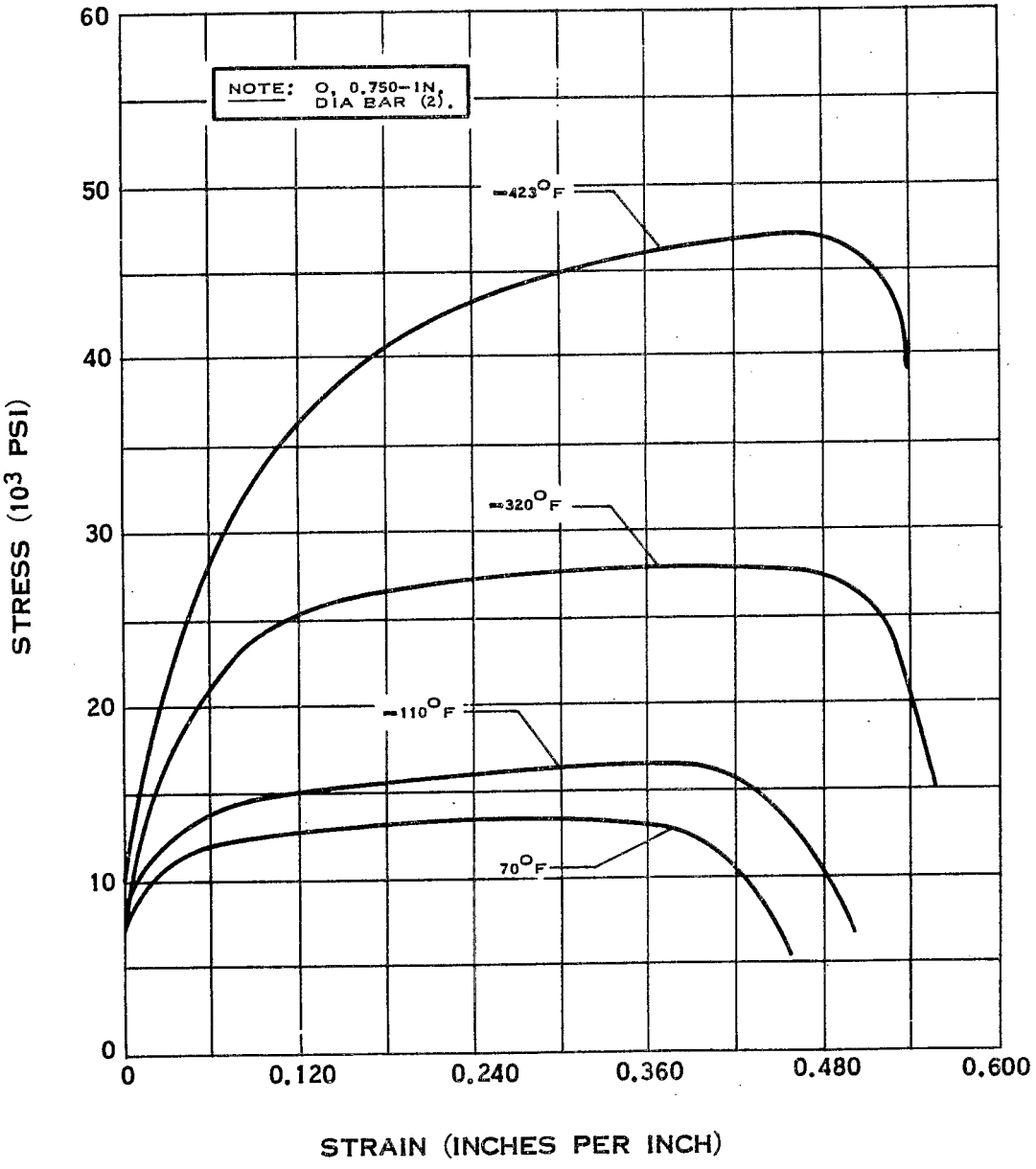

STRESS-STRAIN DIAGRAM FOR 1100 ALUMINUM

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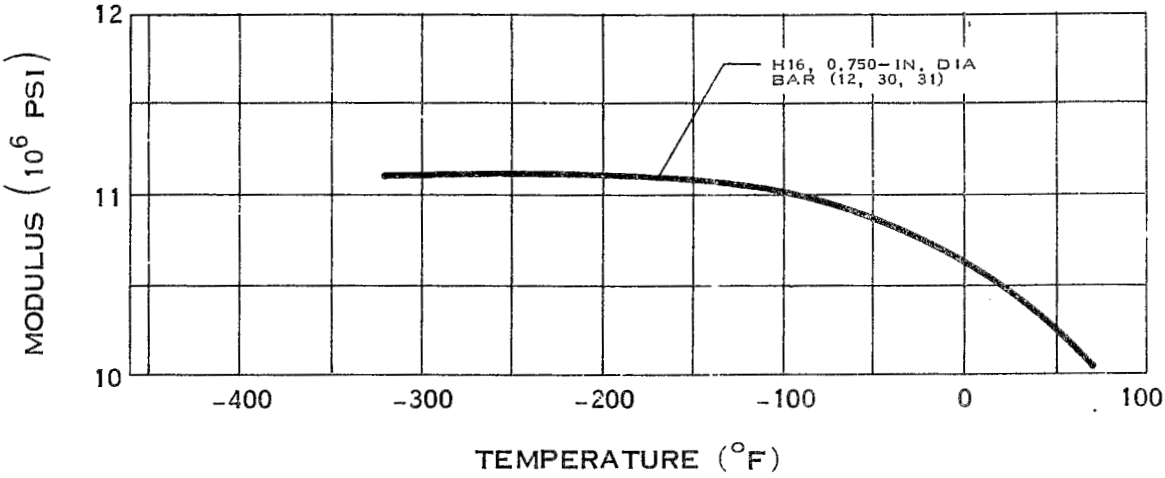

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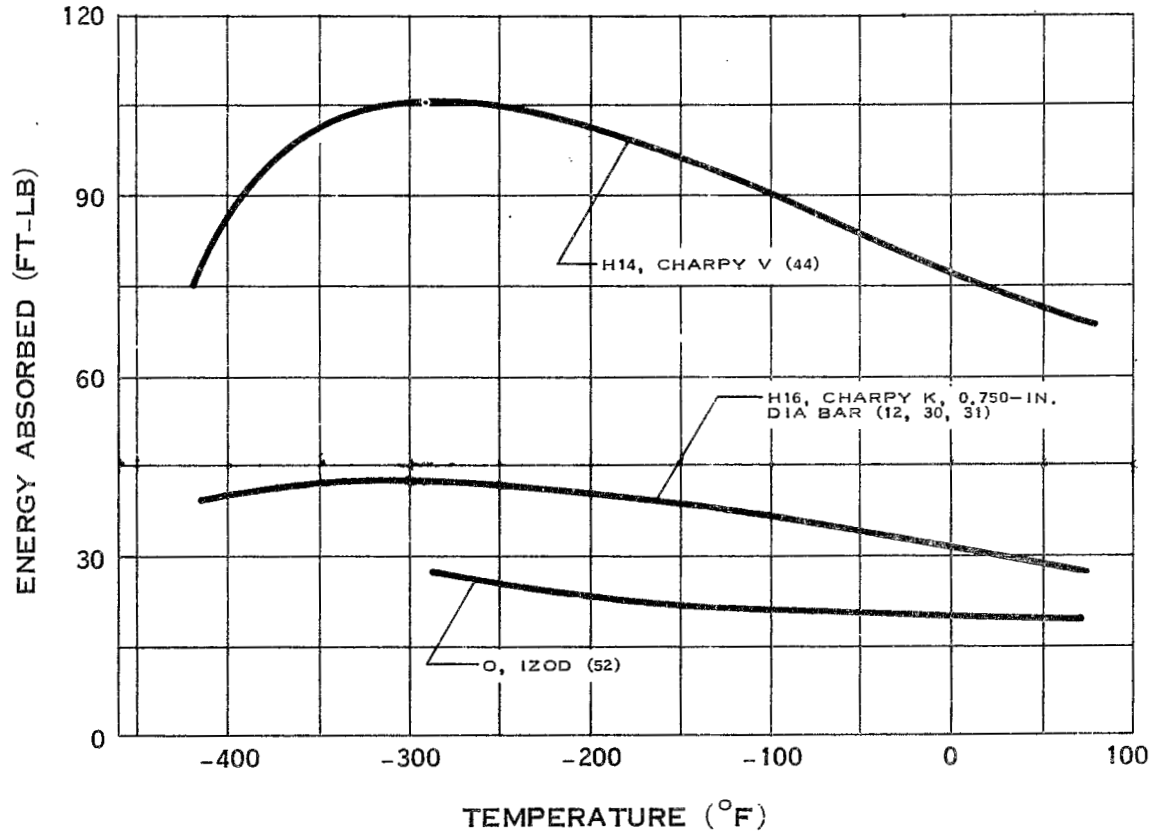

IMPACT STRENGTH OF 1100 ALUMINUM

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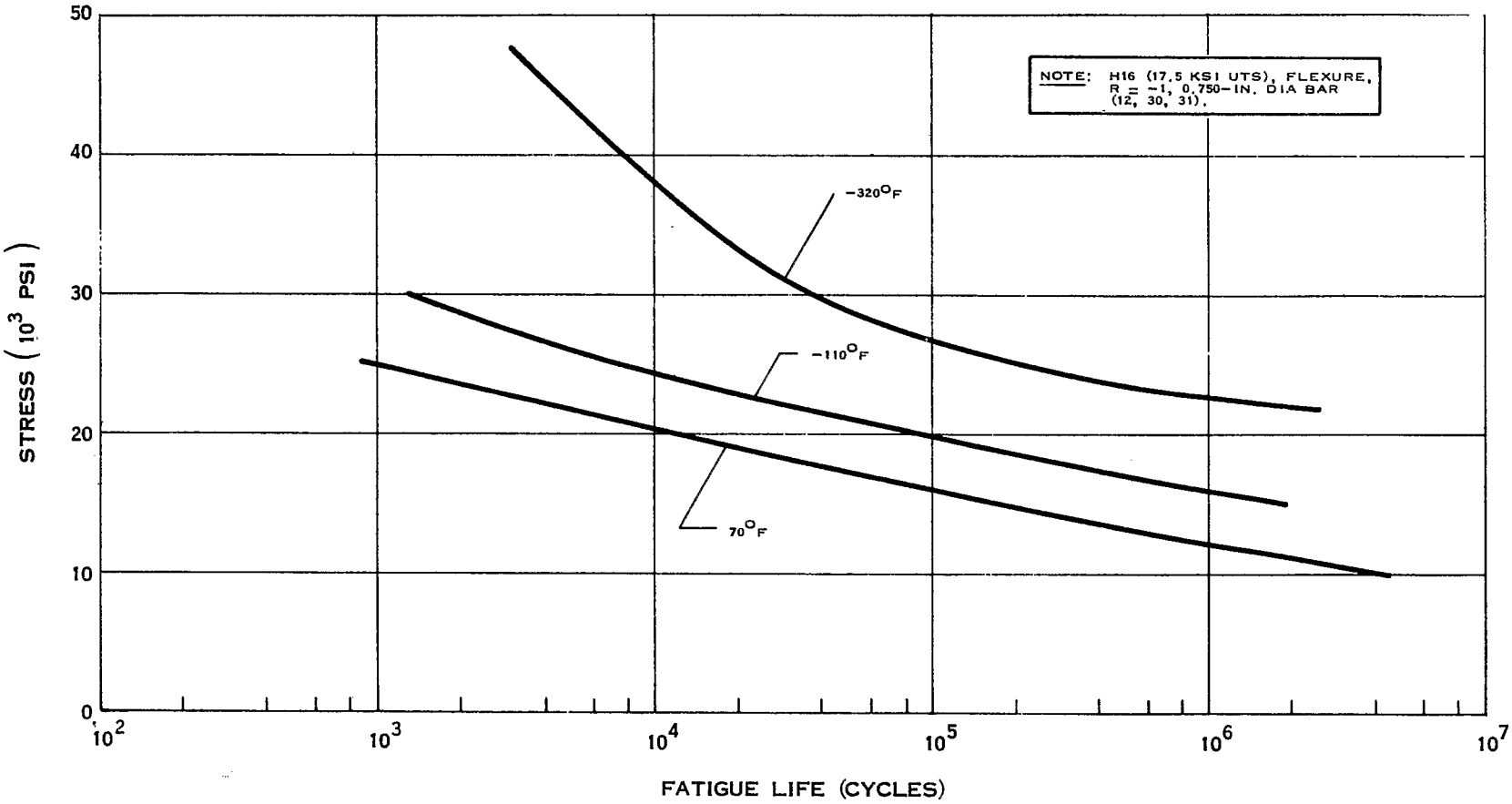

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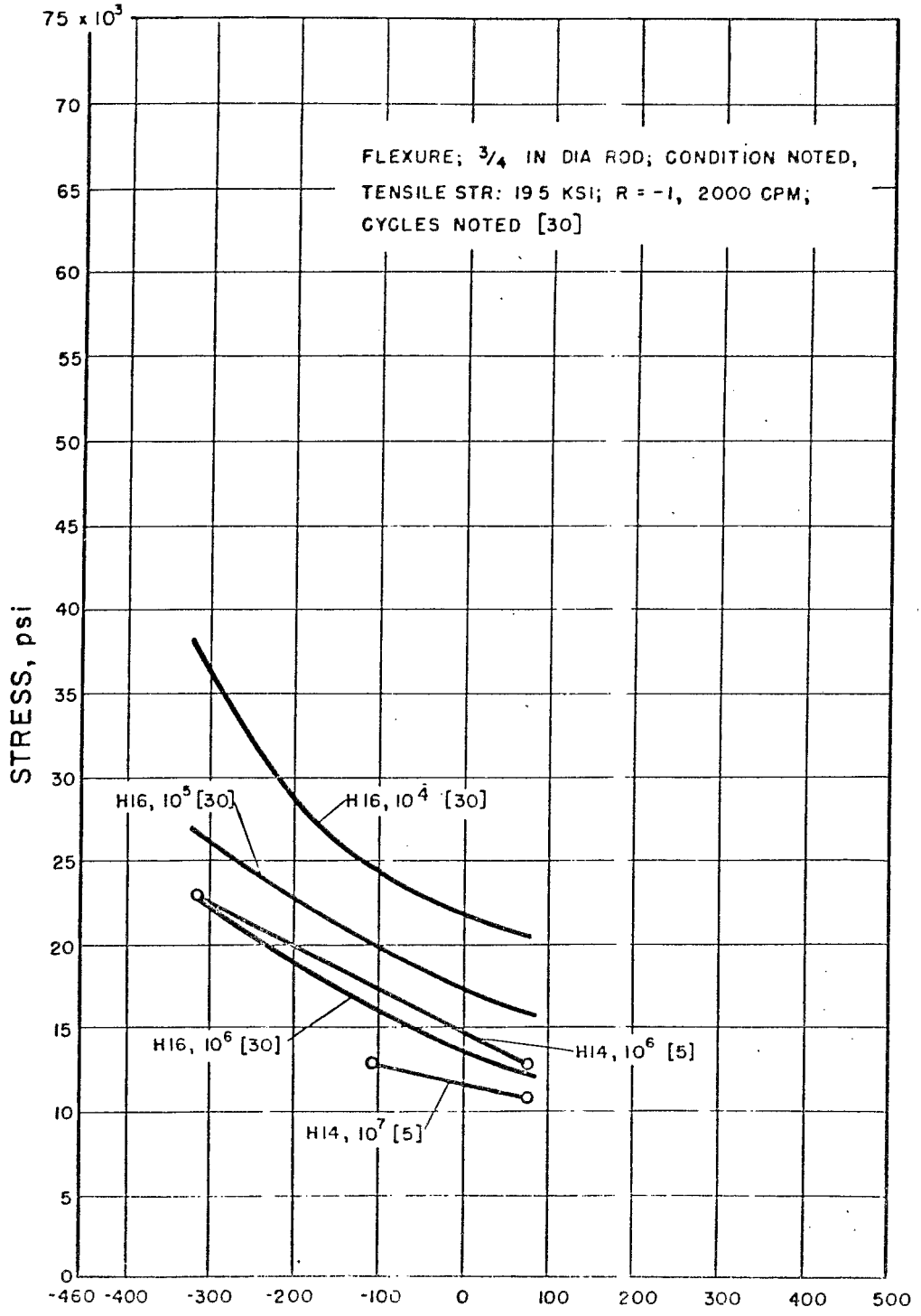

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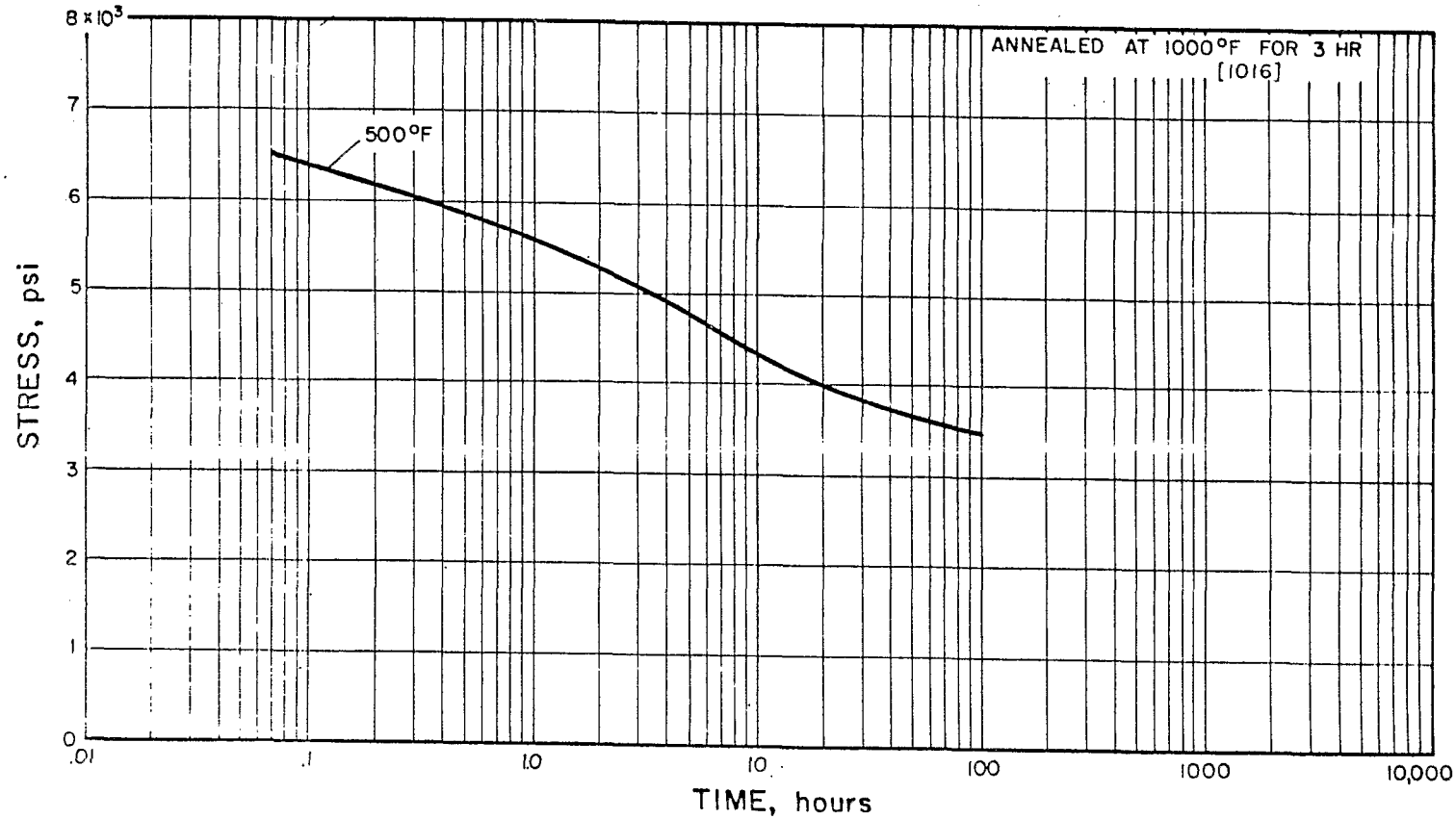
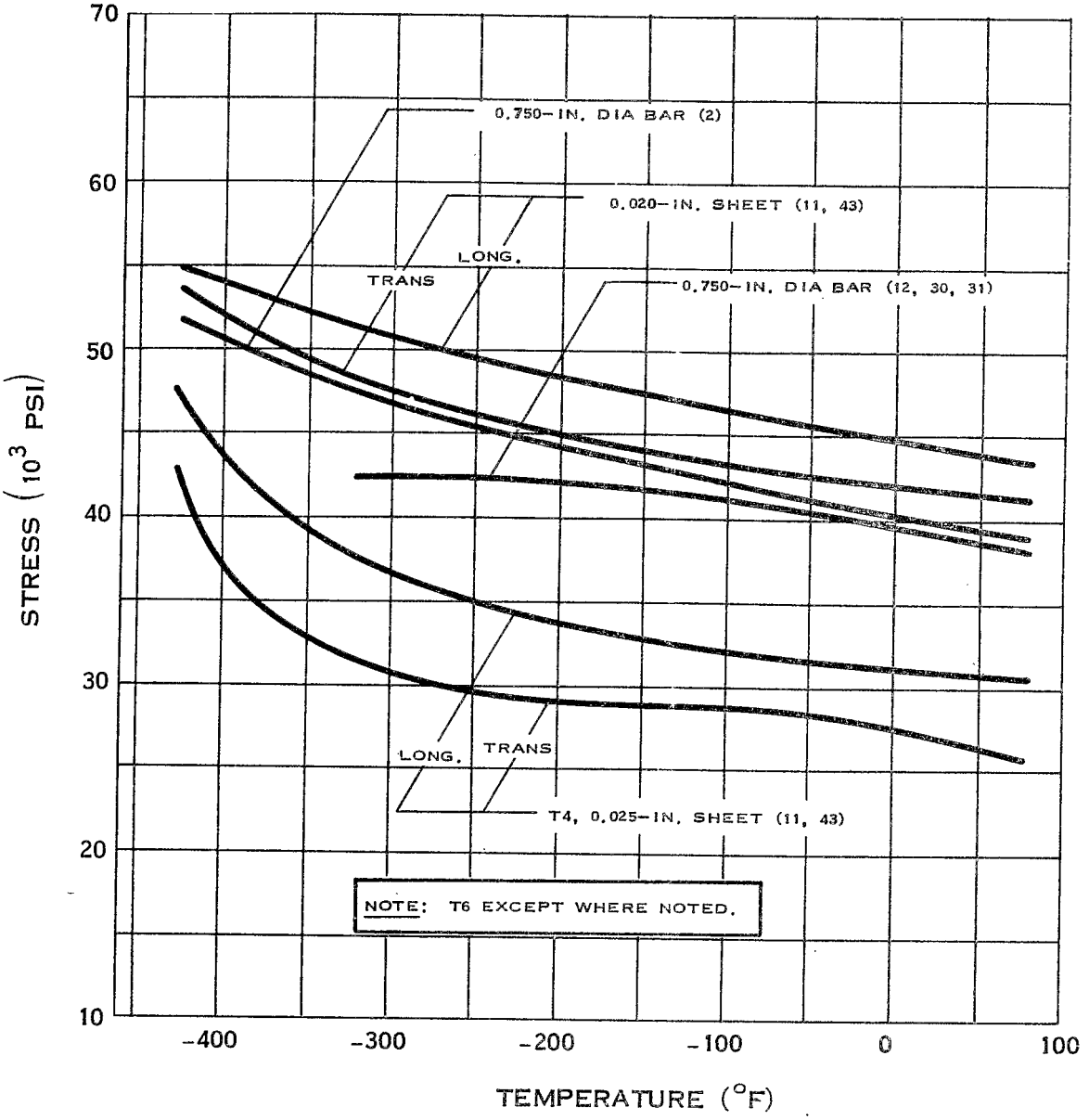


STRESS RUPTURE CURVE OF 1100 ALUMINUM



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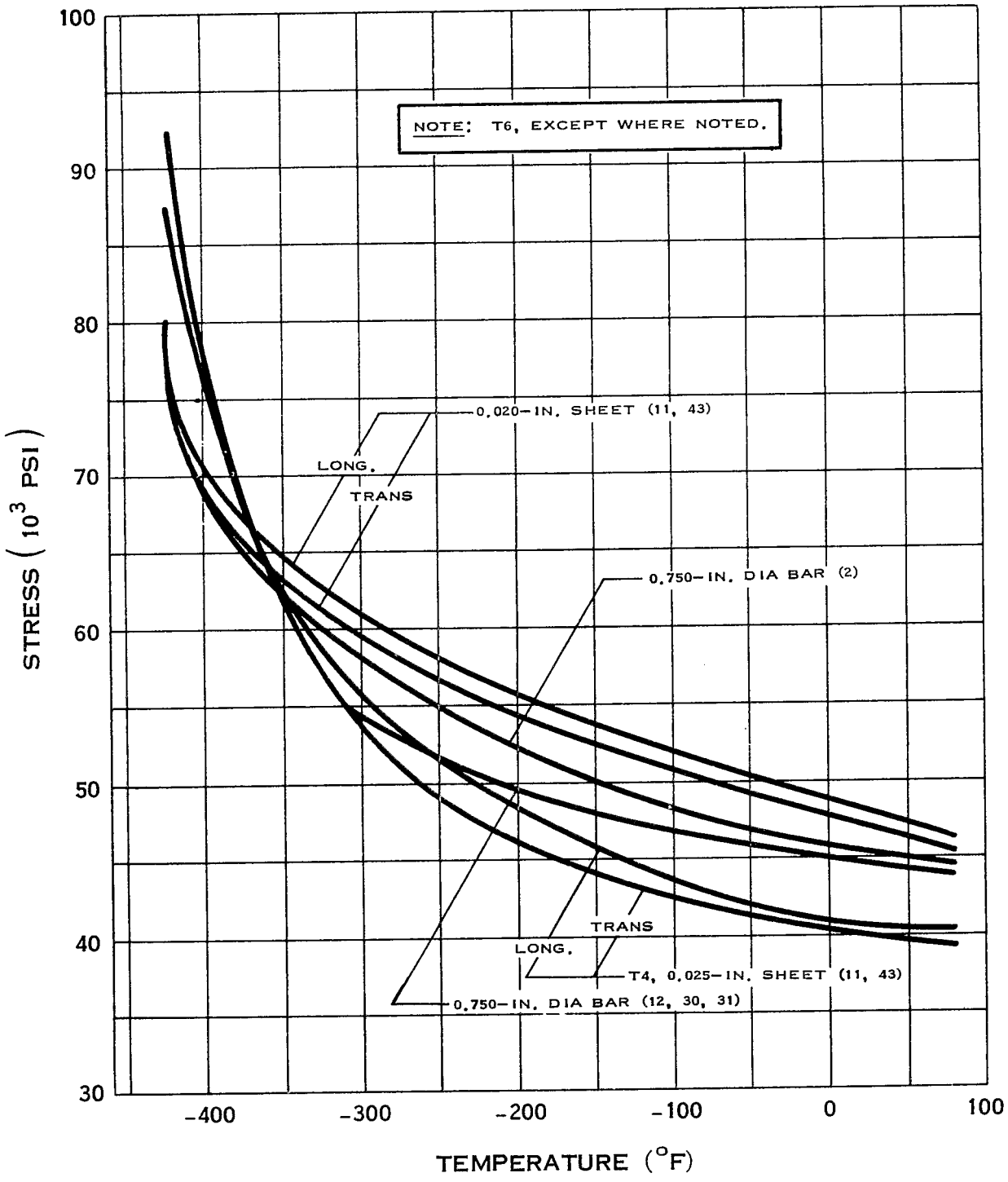

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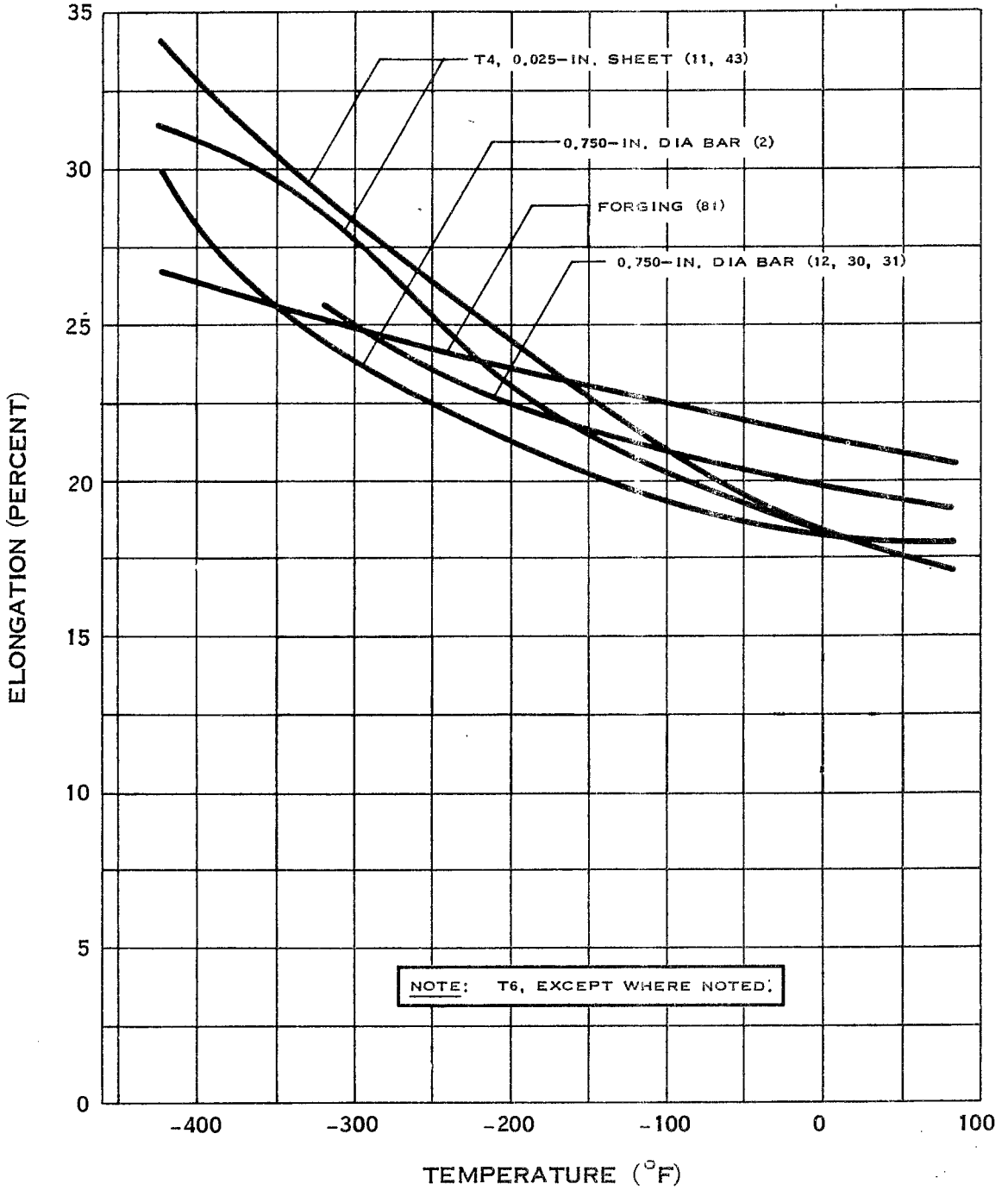

ELONGATION OF 6061 ALUMINUM

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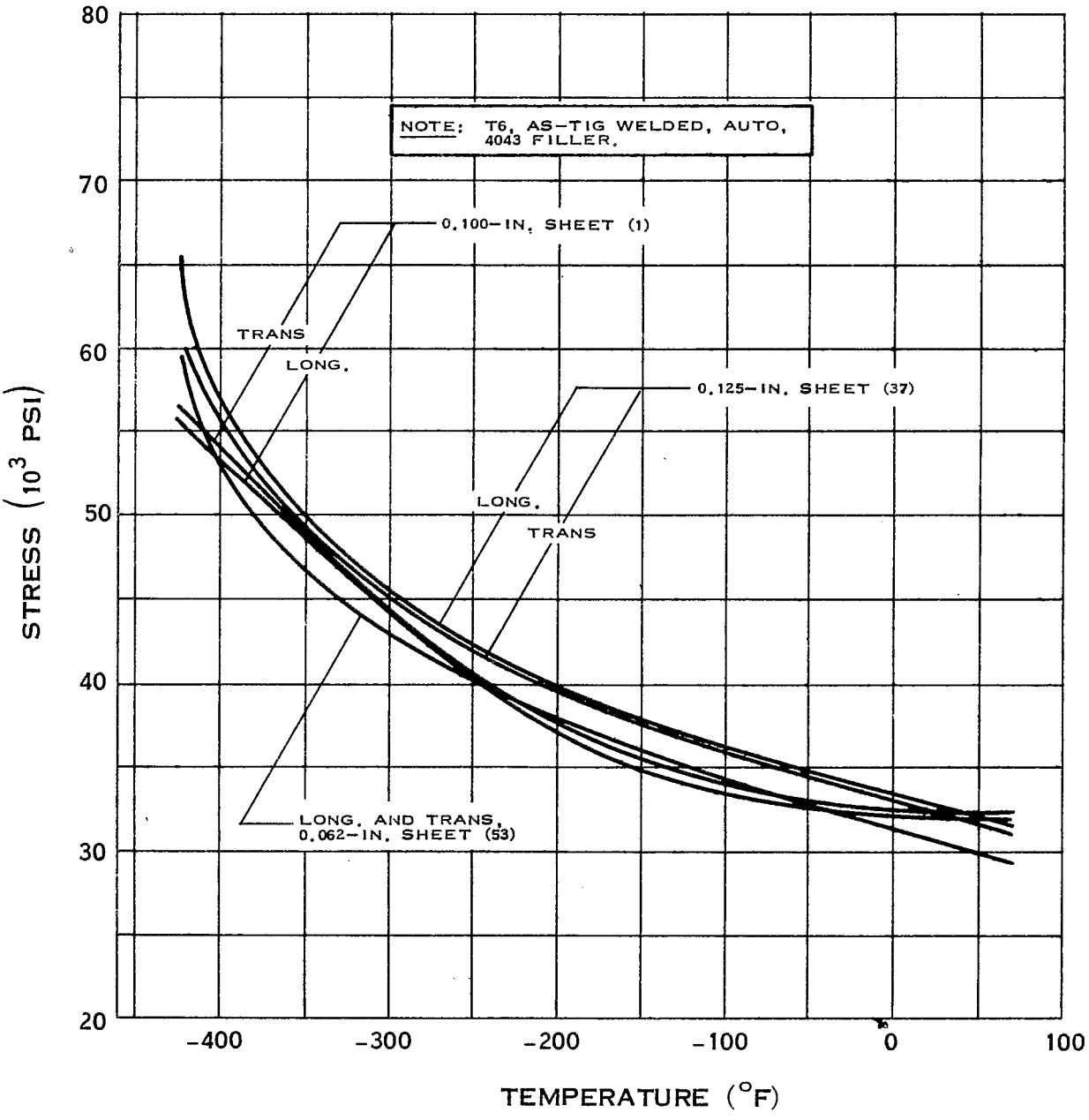

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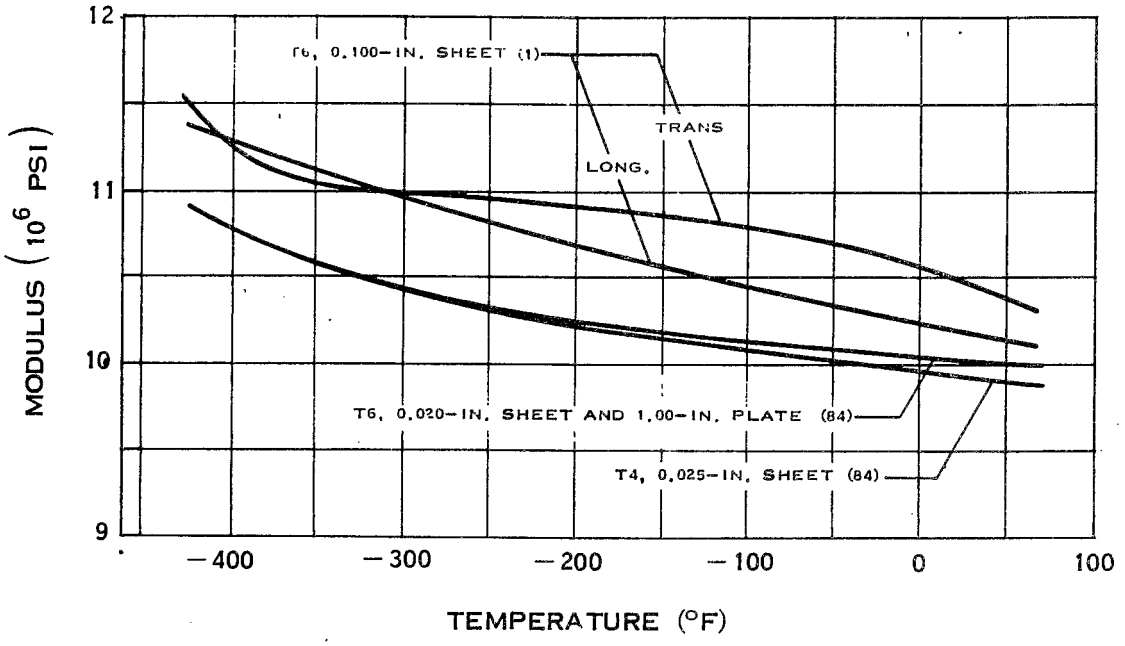

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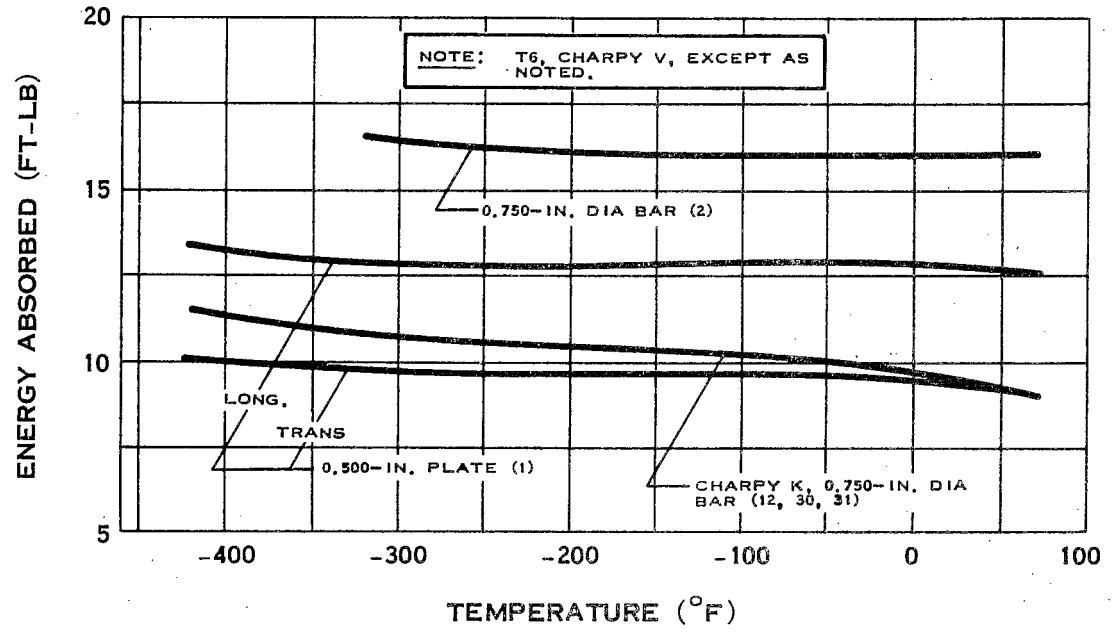

IMPACT STRENGTH OF 6061 ALUMINUM

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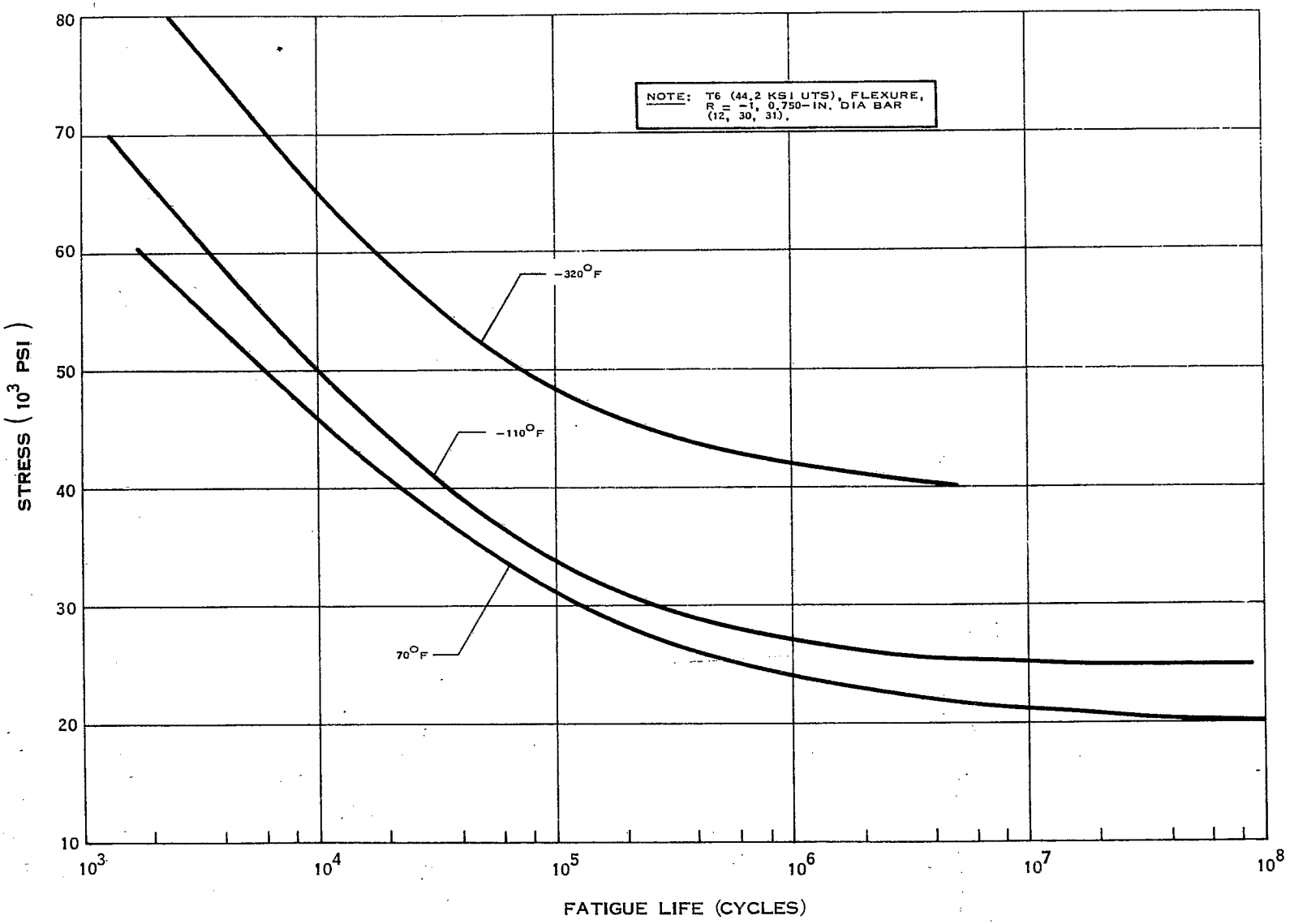
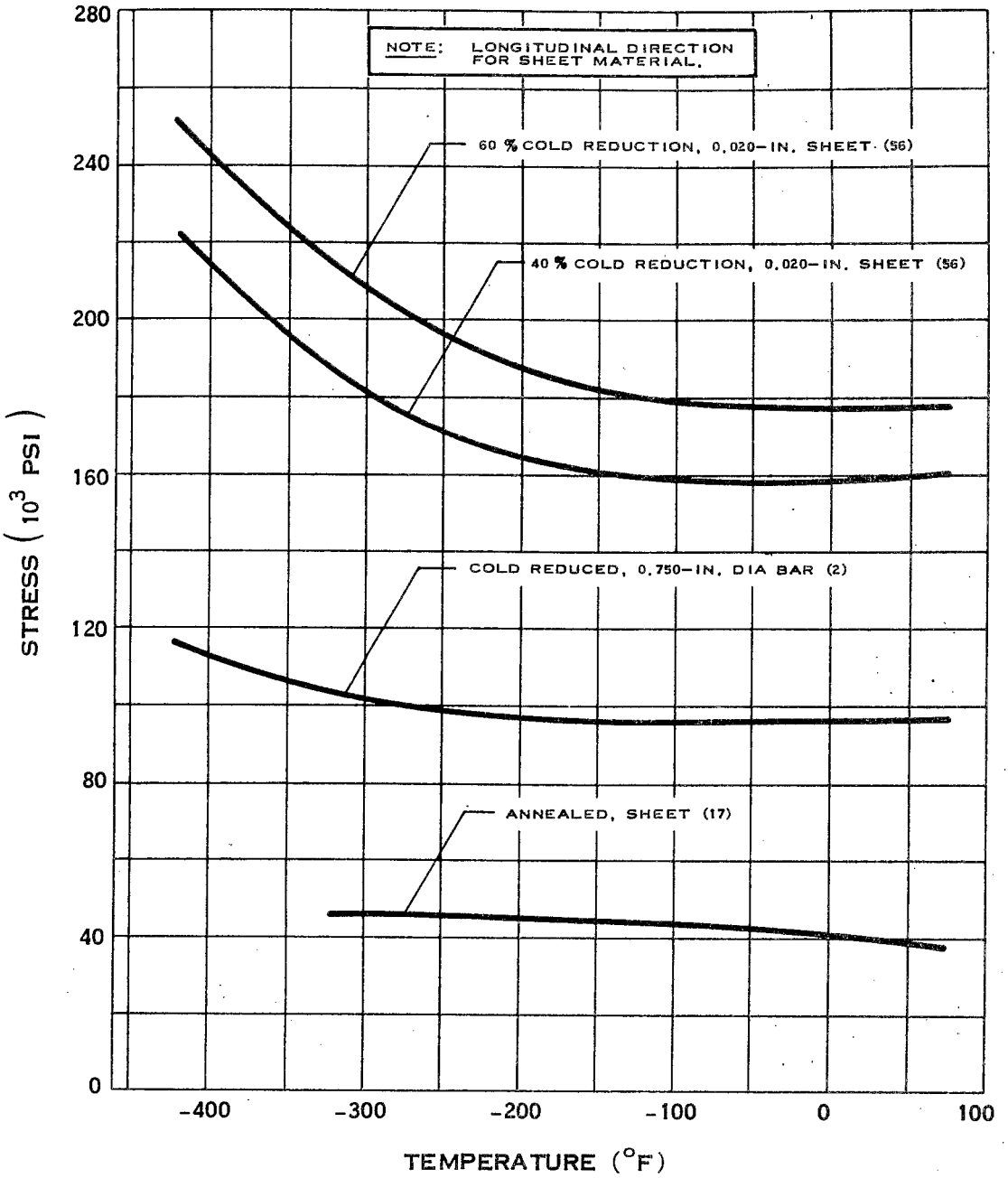


FATIGUE STRENGTH OF 6061 ALUMINUM



YIELD STRENGTH OF 302 STAINLESS STEEL

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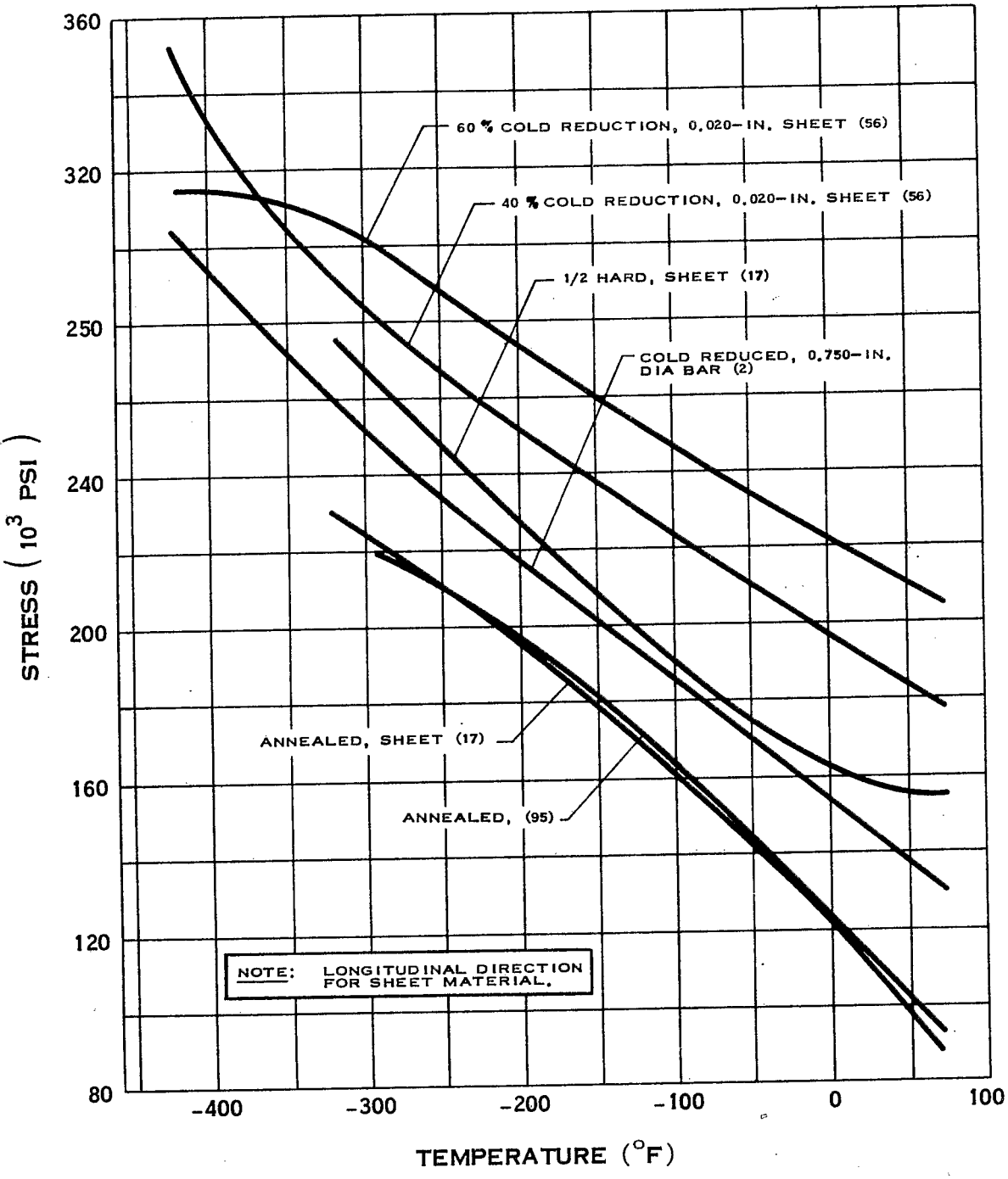

TENSILE STRENGTH OF 302 STAINLESS STEEL

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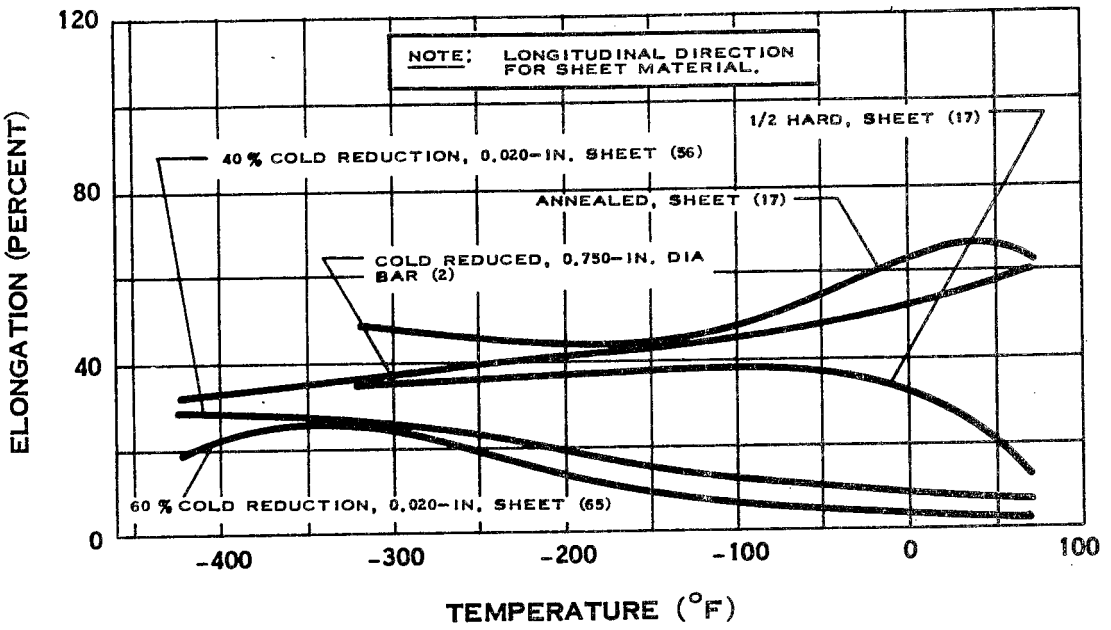
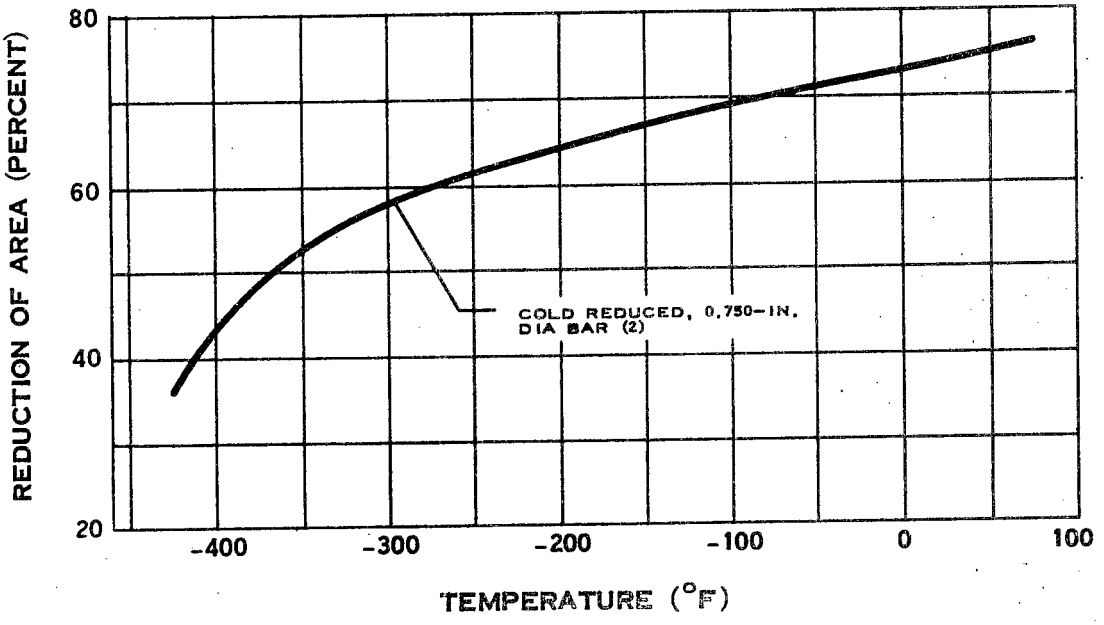


ELONGATION OF 302 STAINLESS STEEL



REDUCTION OF AREA OF 302 STAINLESS STEEL

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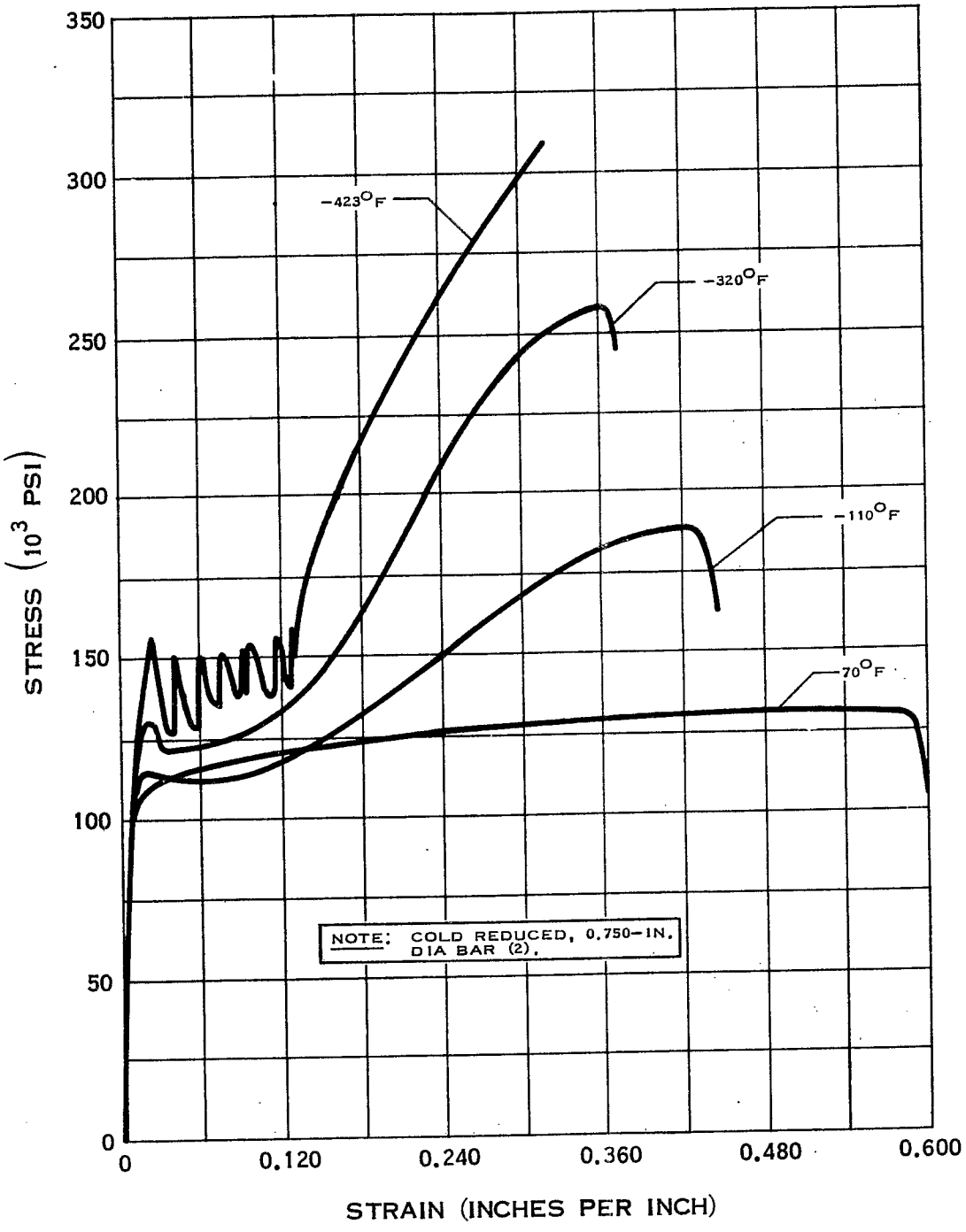

STRESS-STRAIN DIAGRAM FOR 302 STAINLESS STEEL

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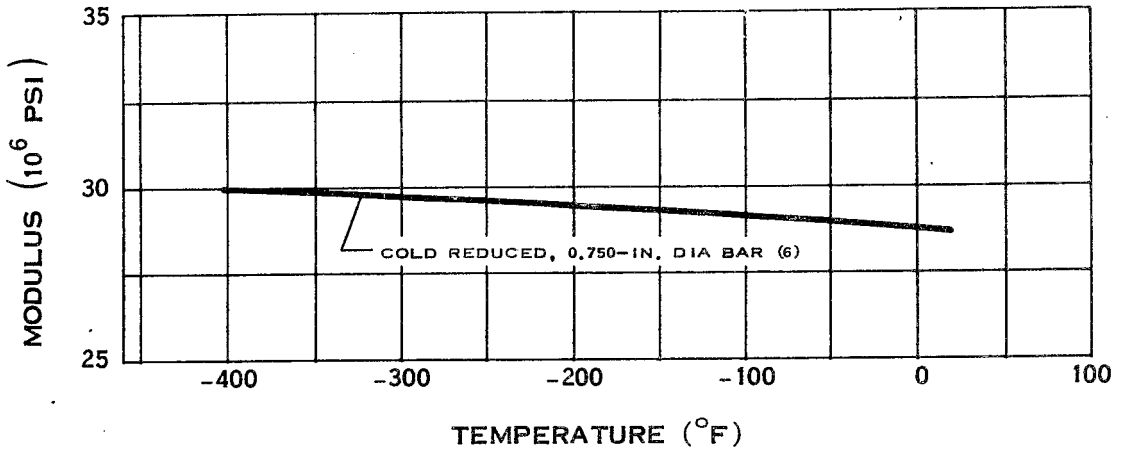
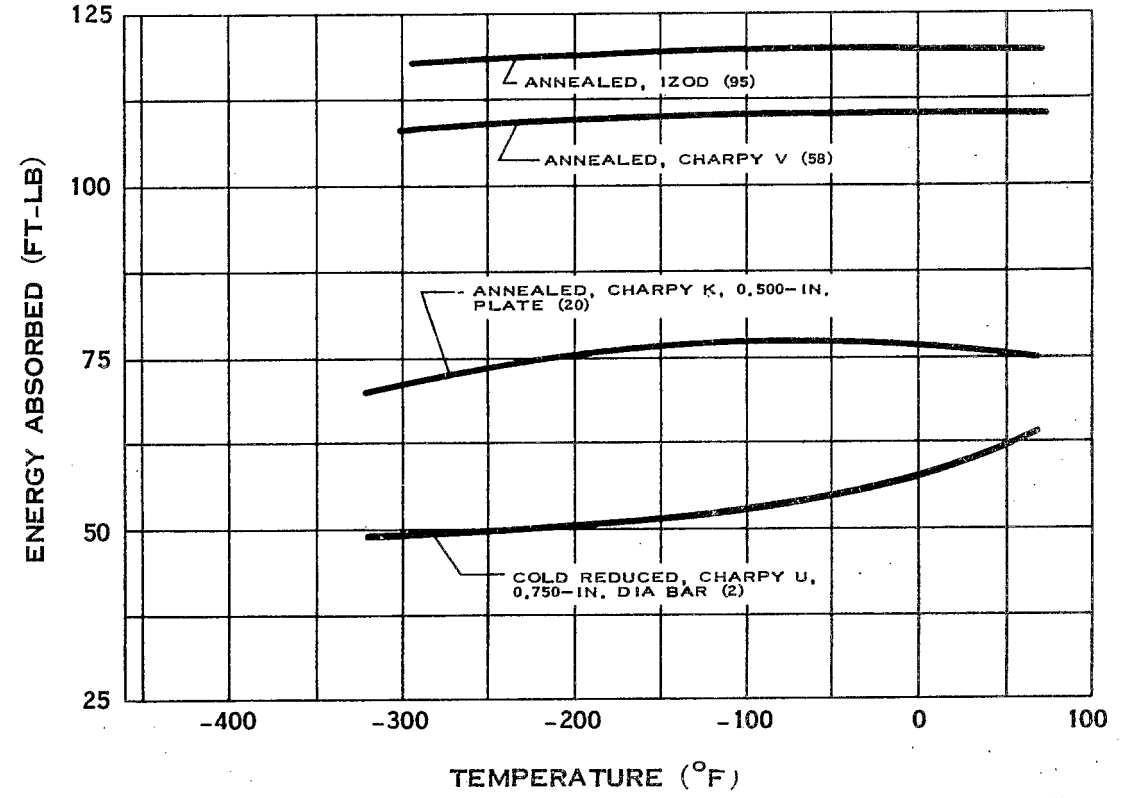


MODULUS OF ELASTICITY OF 302 STAINLESS STEEL



IMPACT STRENGTH OF 302 STAINLESS STEEL

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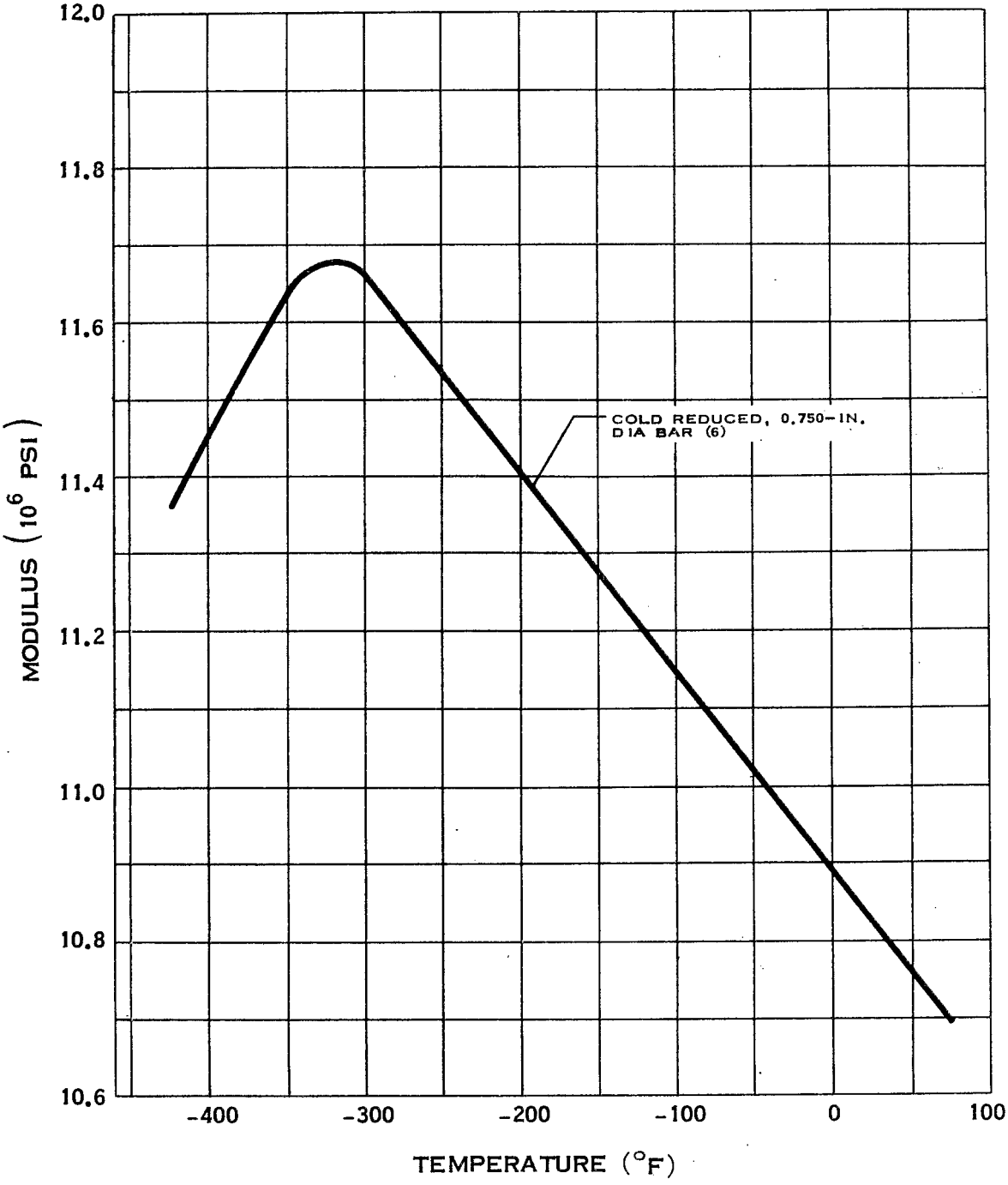

MODULUS OF RIGIDITY OF 302 STAINLESS STEEL

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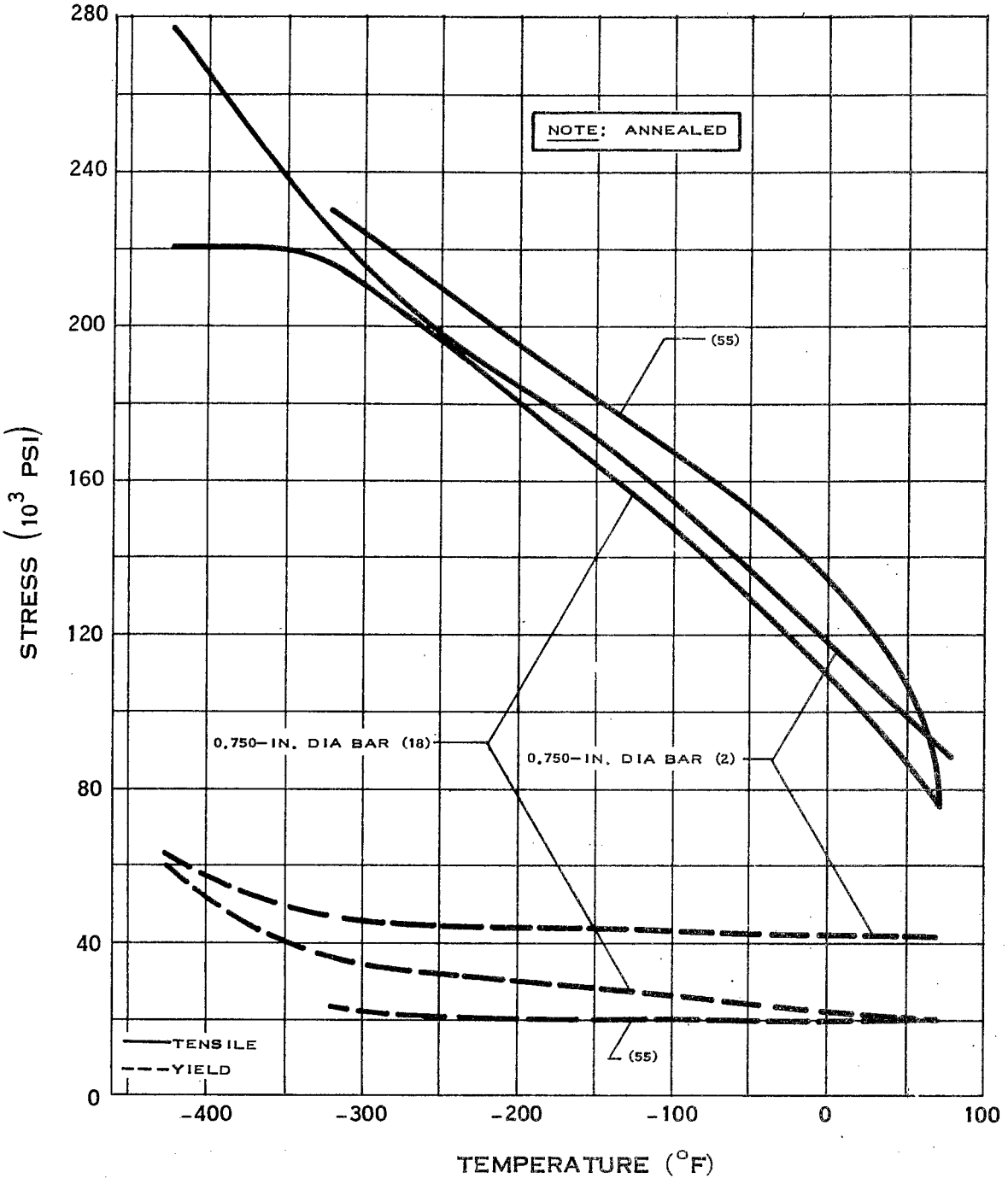

STRENGTH OF 303 STAINLESS STEEL

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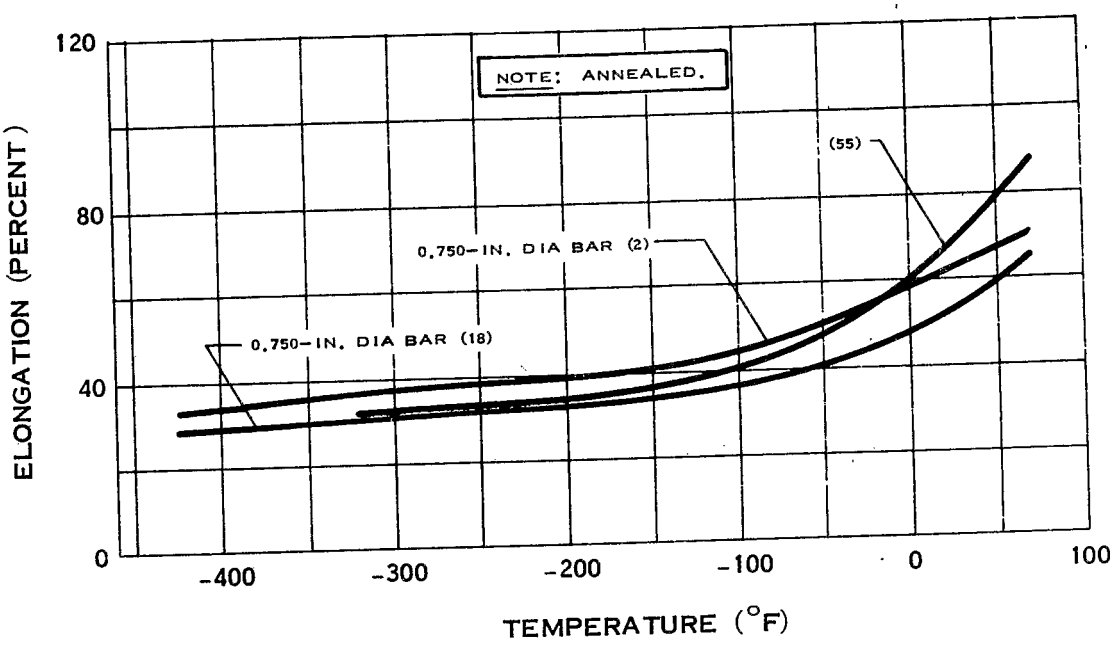
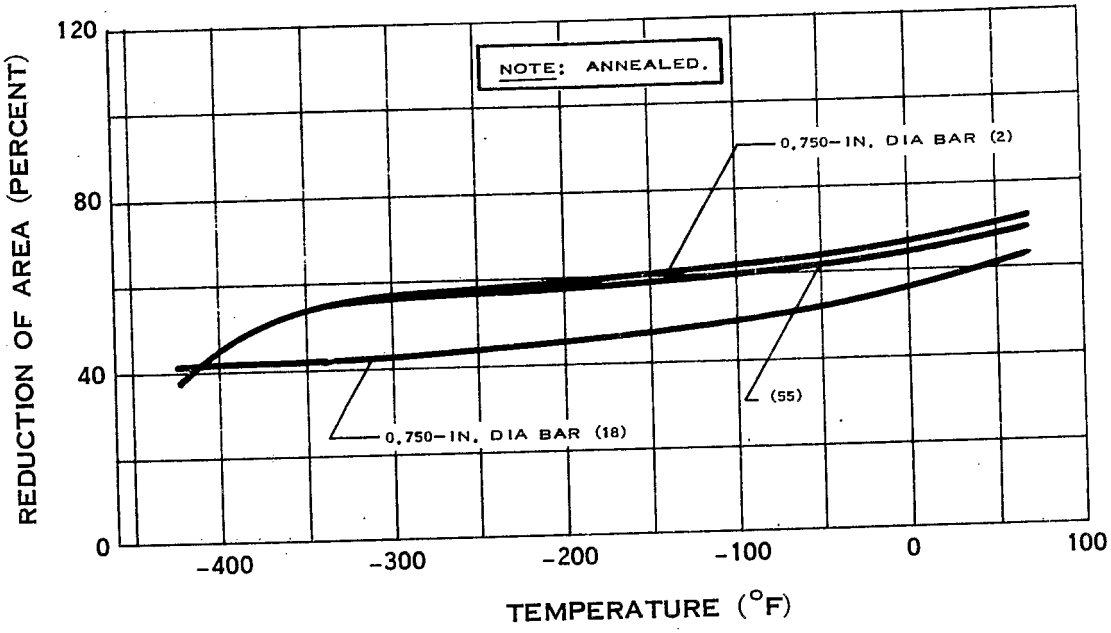
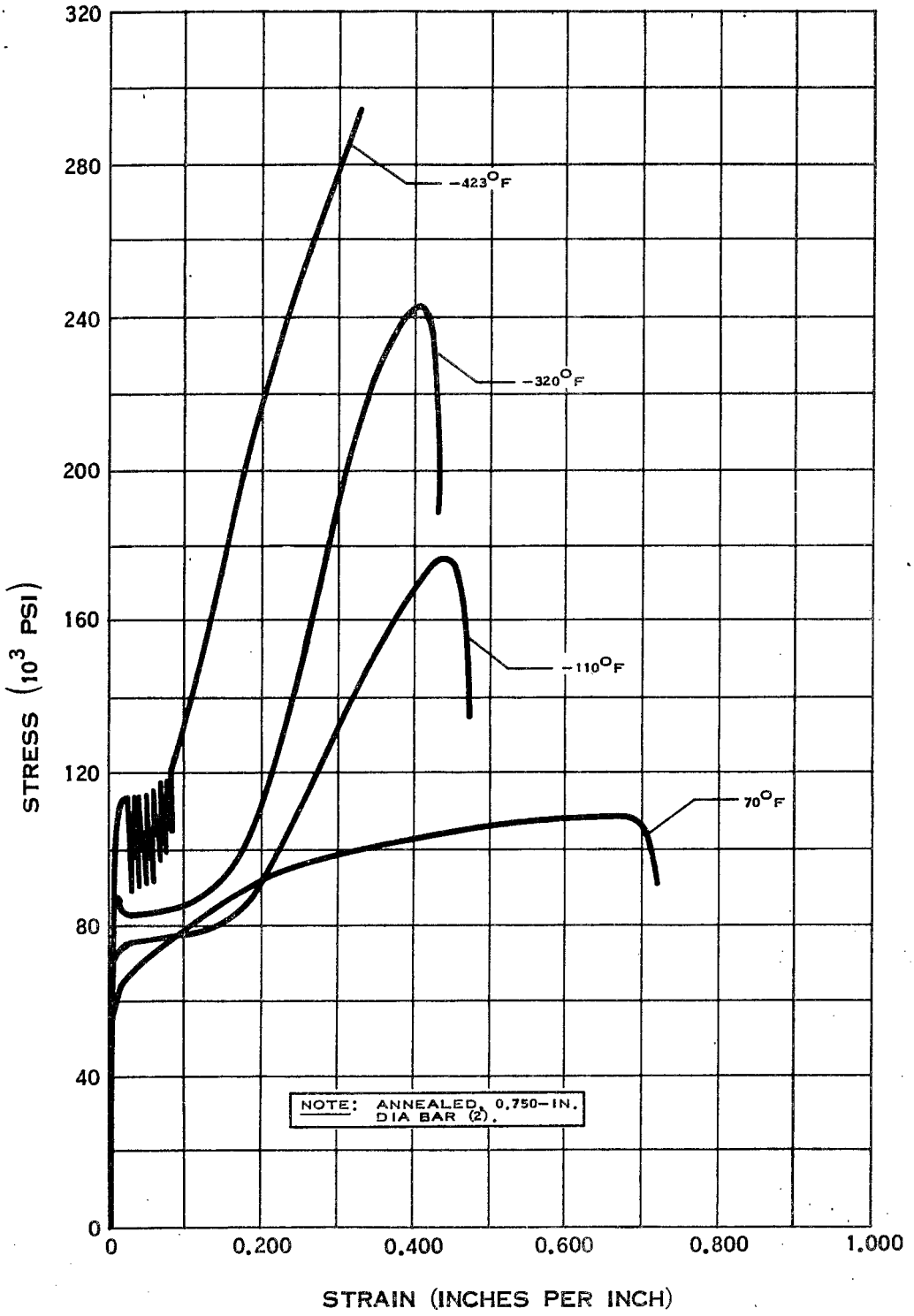


ELONGATION OF 303 STAINLESS STEEL



REDUCTION OF AREA OF 303 STAINLESS STEEL

**



STRESS-STRAIN DIAGRAM FOR 303 STAINLESS STEEL

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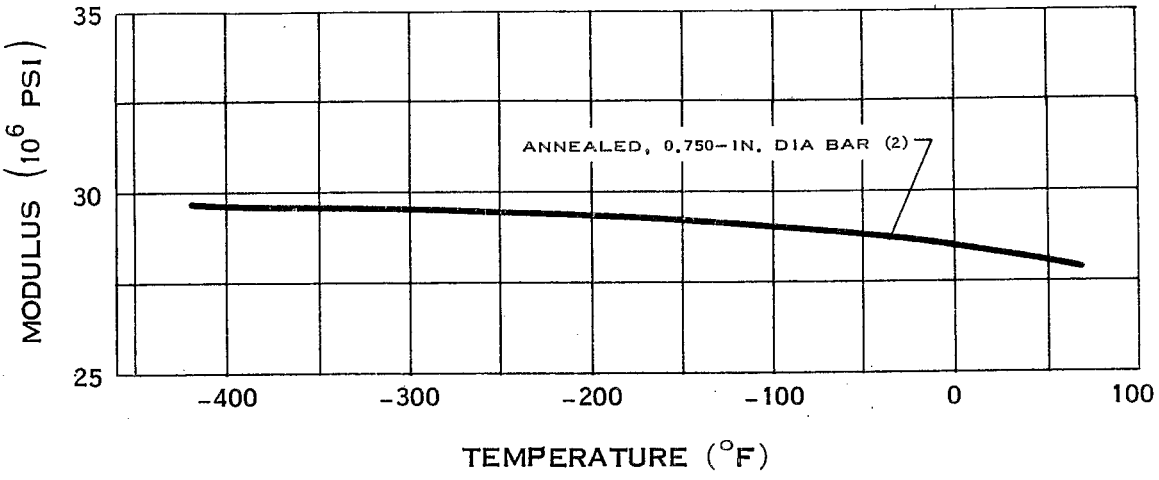
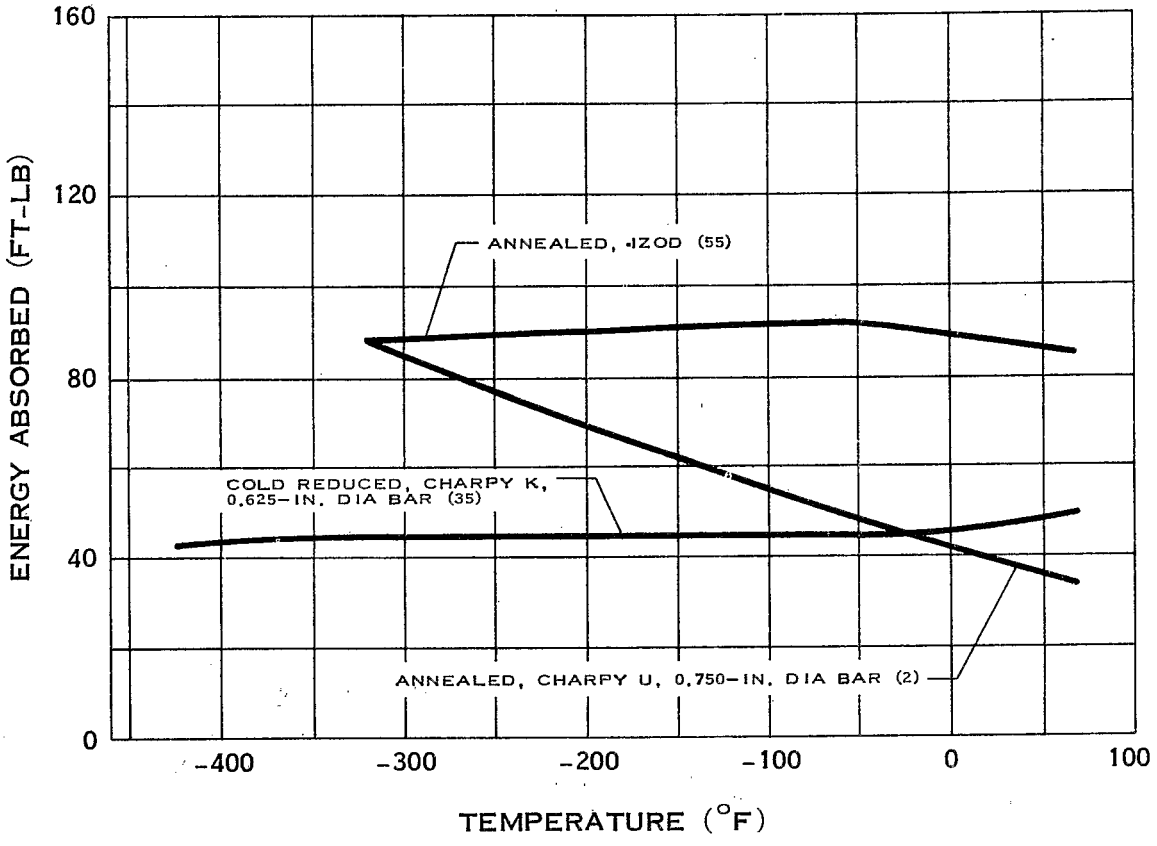


MODULUS OF ELASTICITY OF 303 STAINLESS STEEL



IMPACT STRENGTH OF 303 STAINLESS STEEL

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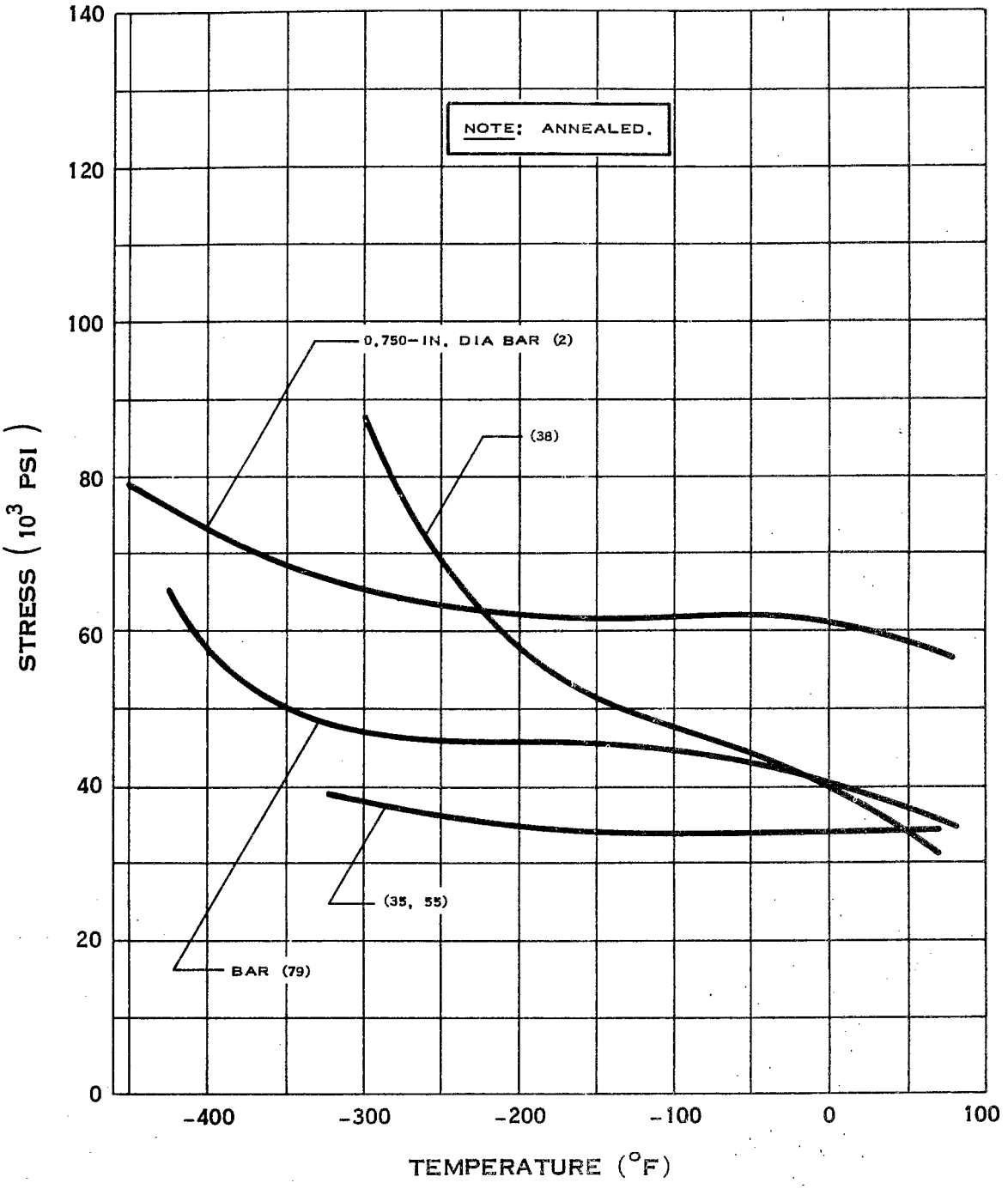

YIELD STRENGTH OF 304 STAINLESS STEEL

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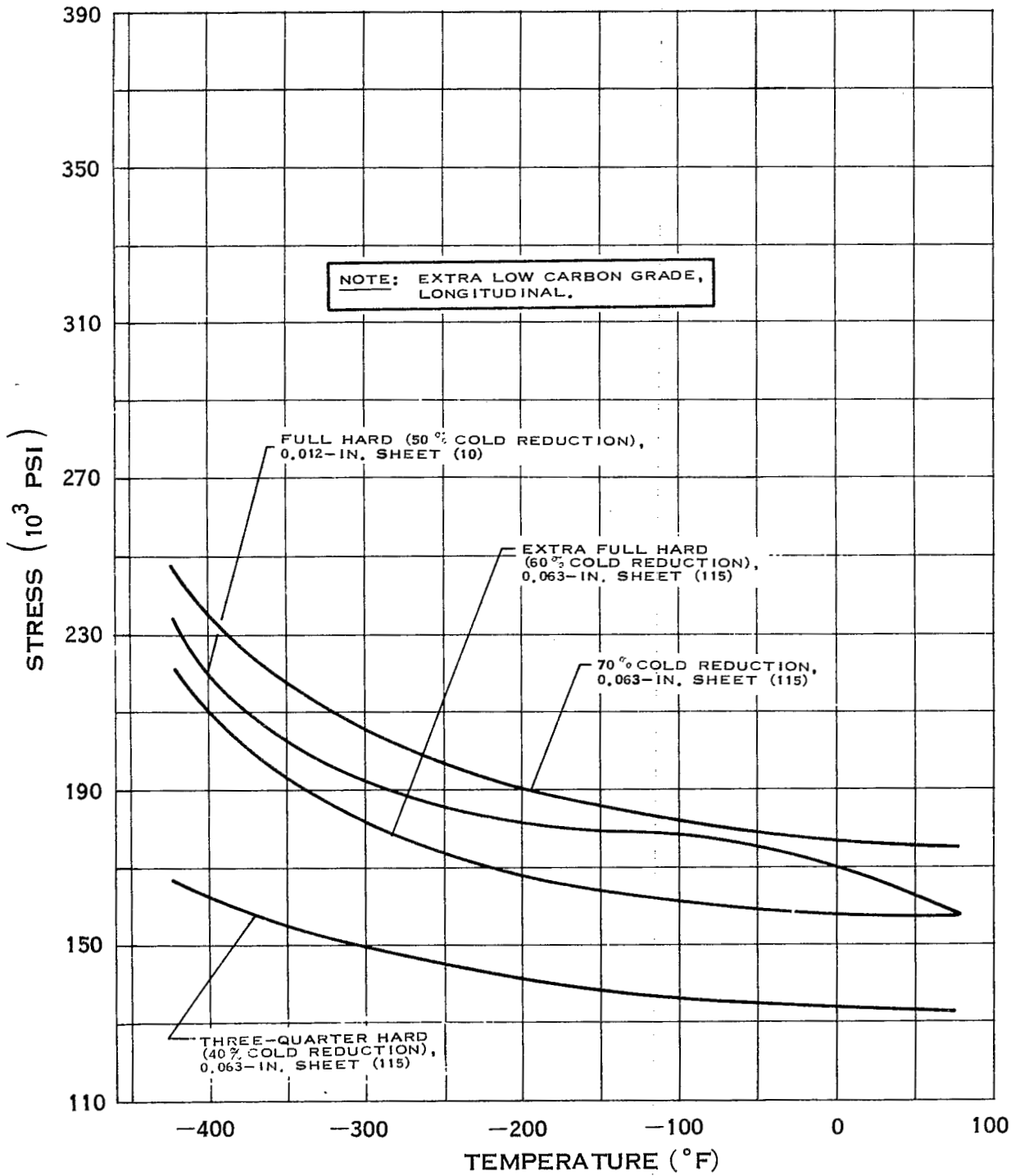

YIELD STRENGTH OF 304 STAINLESS STEEL

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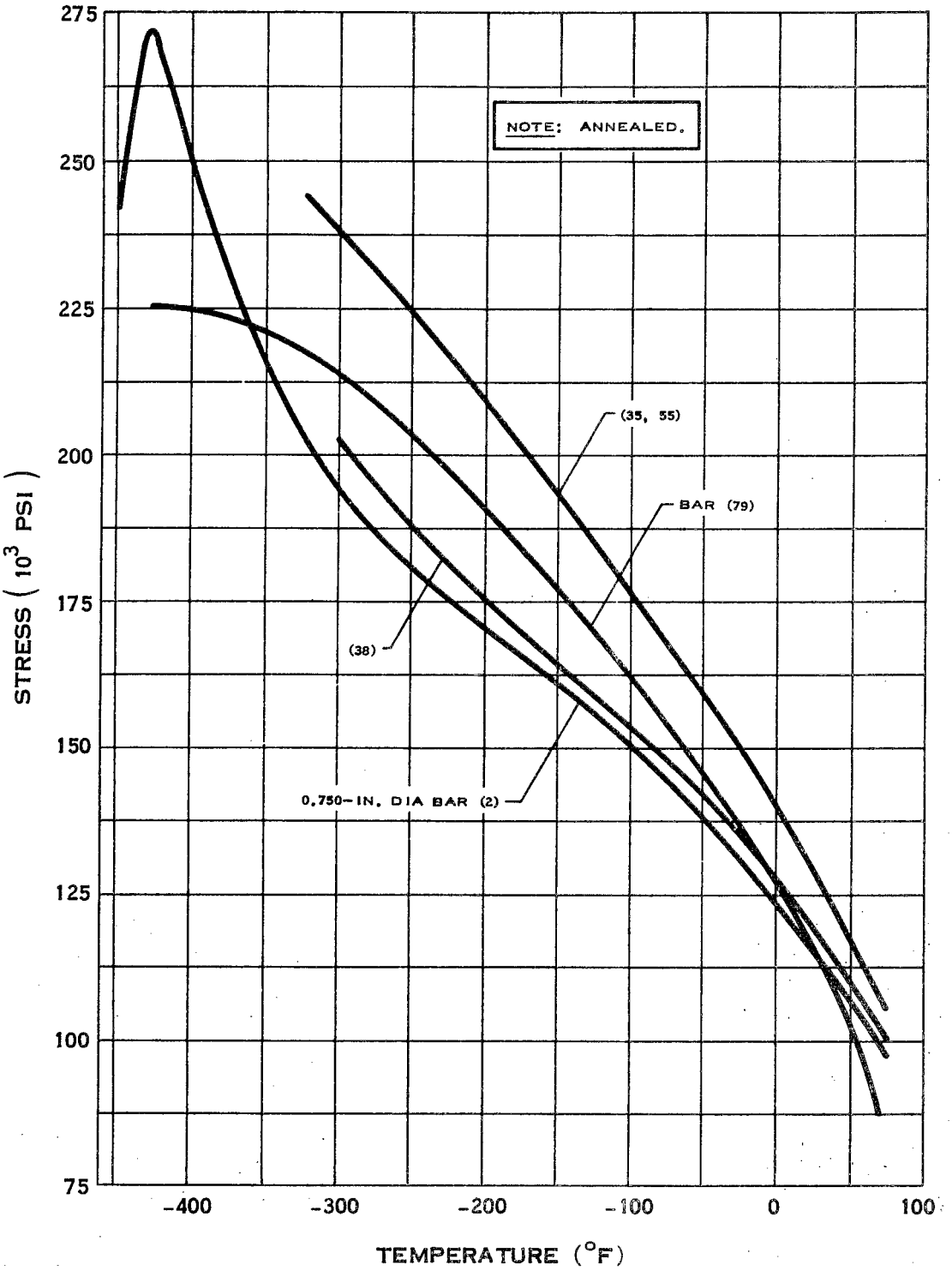
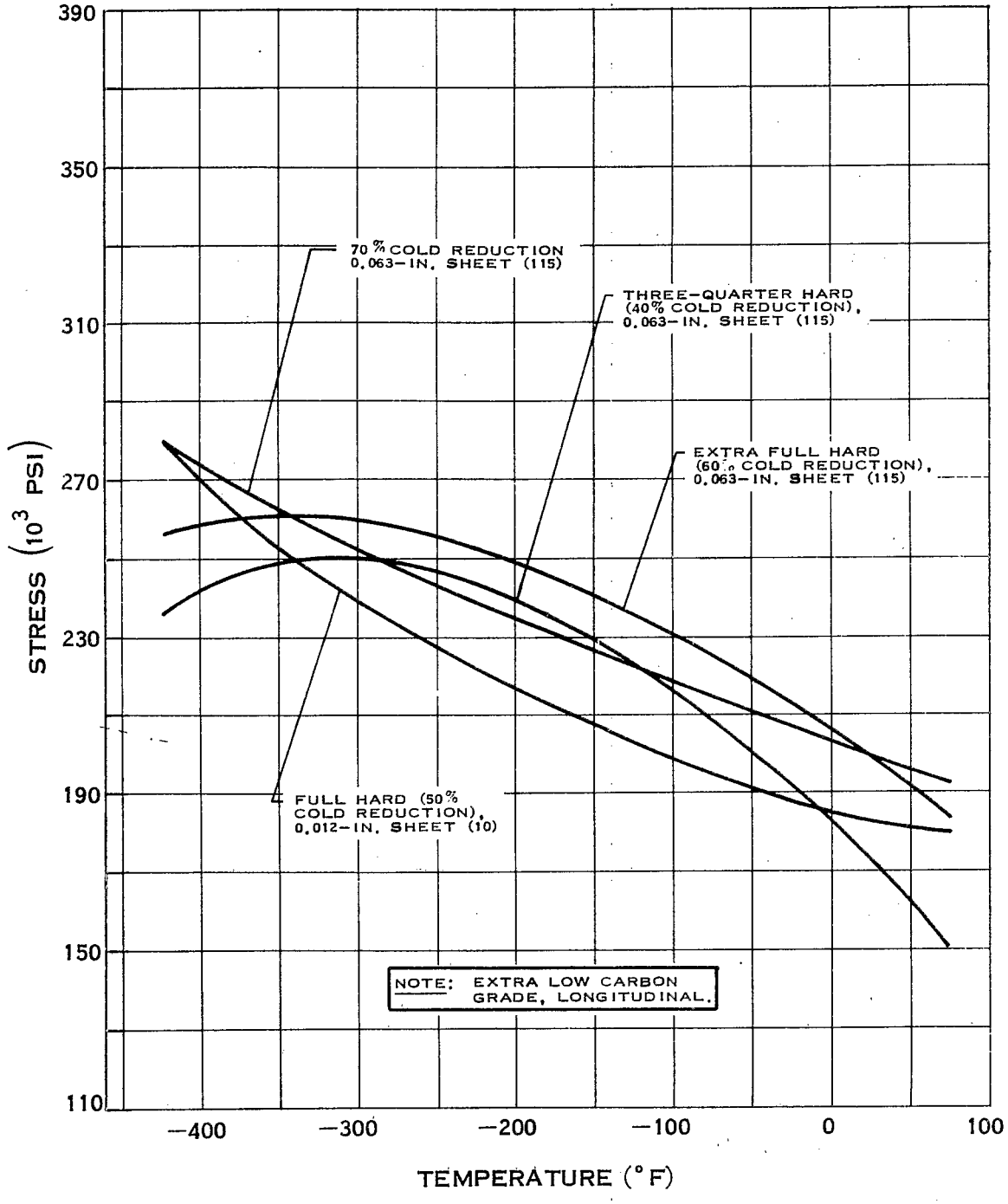
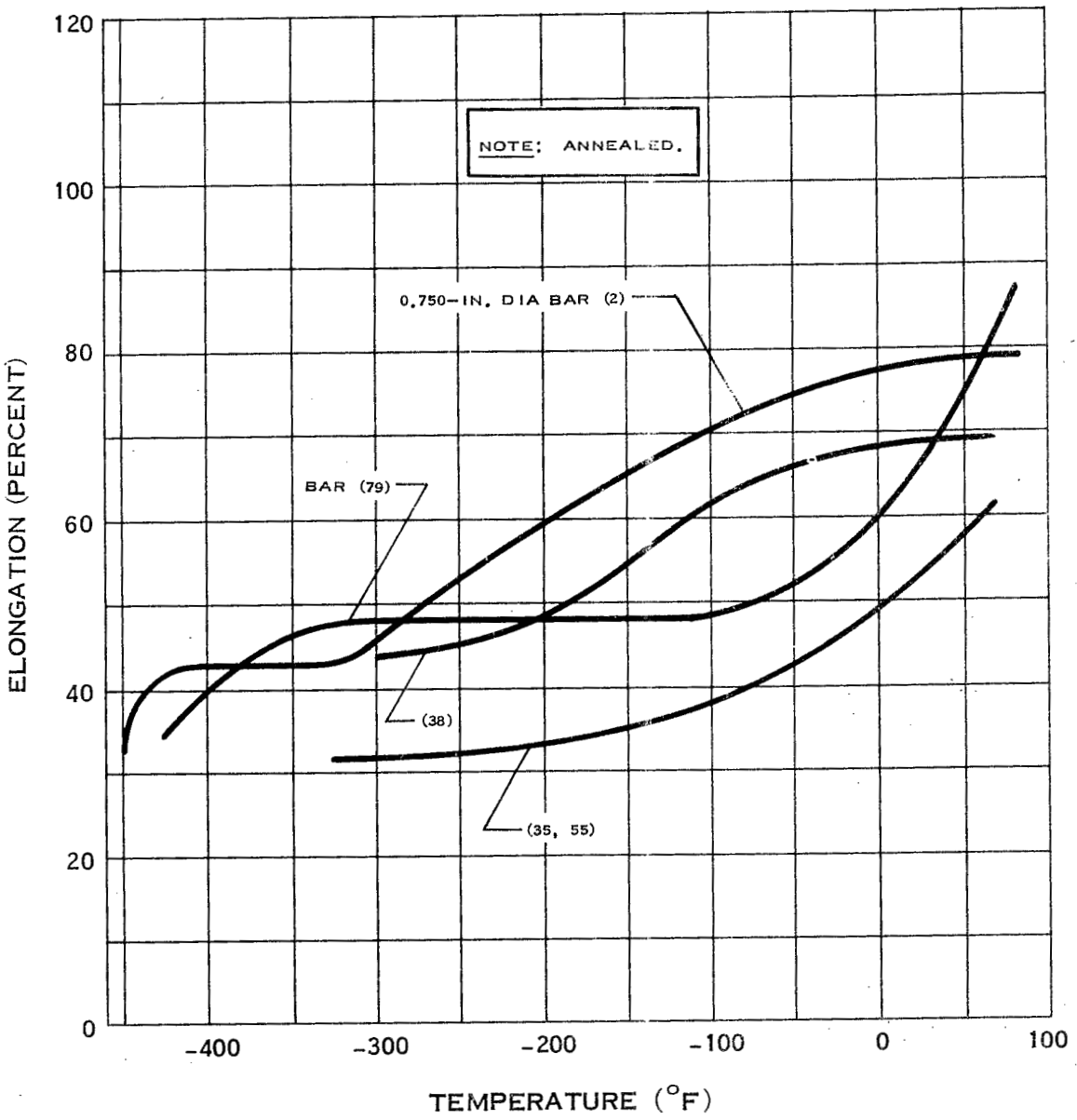


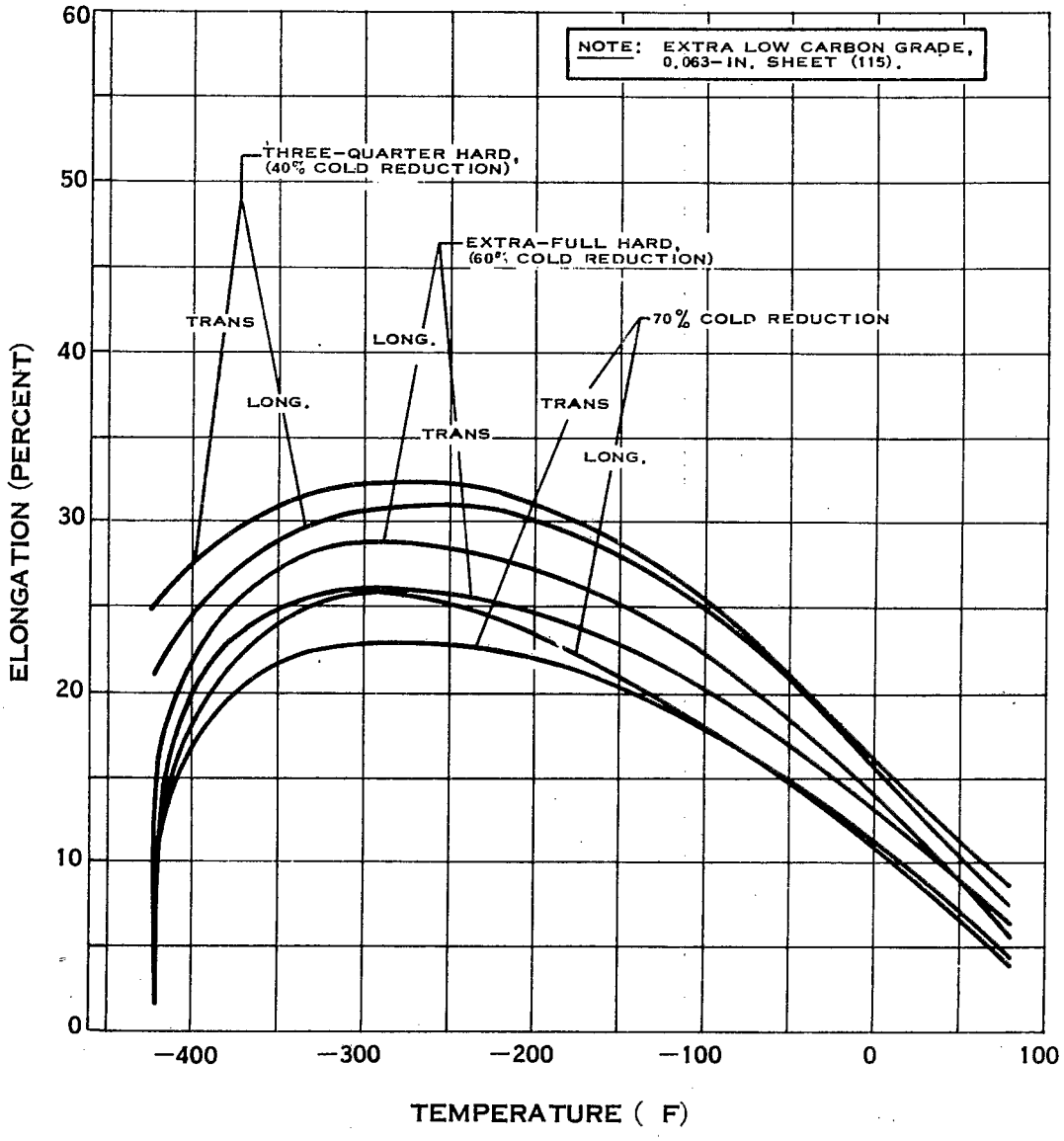
TENSILE STRENGTH OF 304 STAINLESS STEEL



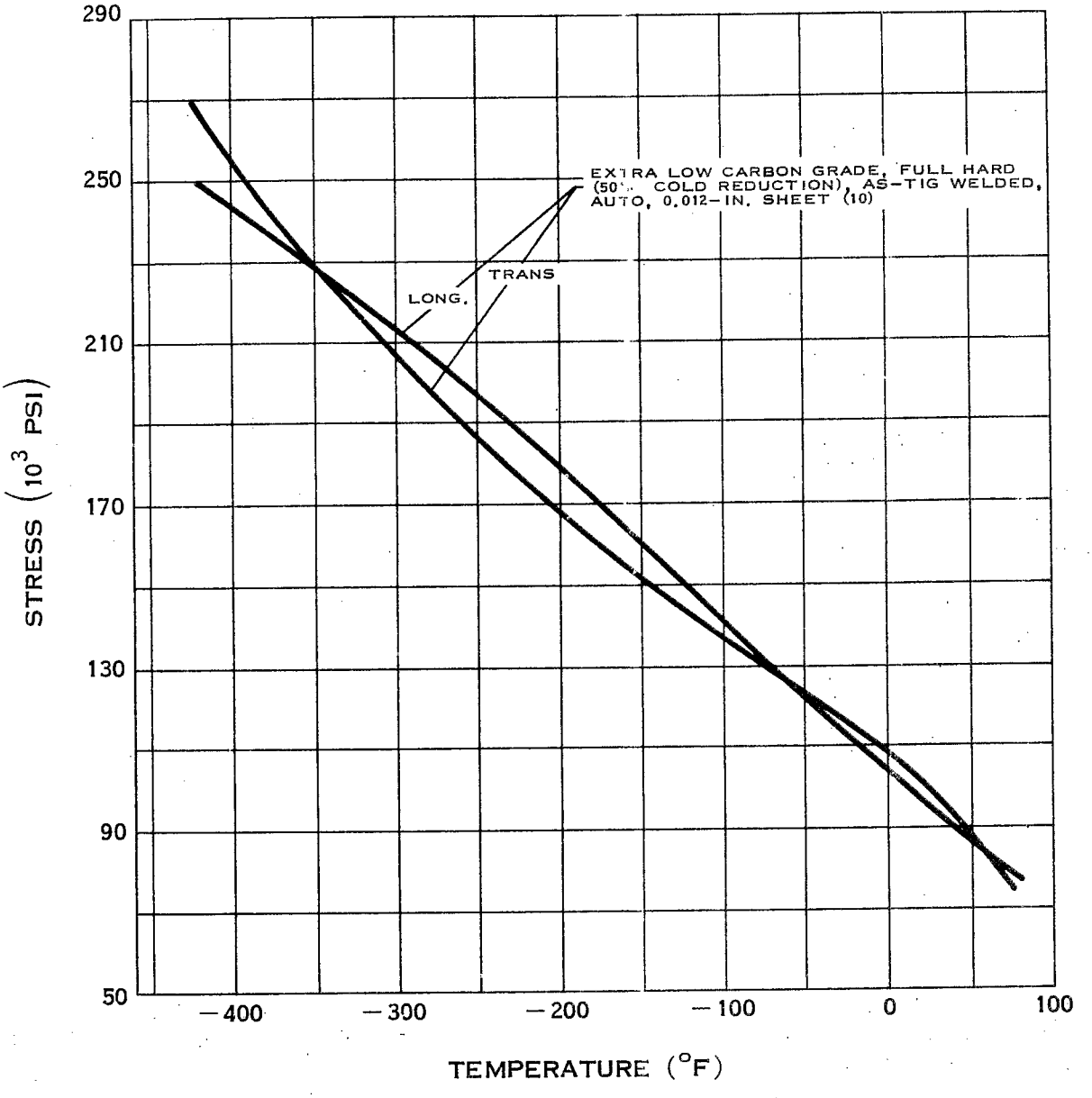
TENSILE STRENGTH OF 304 STAINLESS STEEL



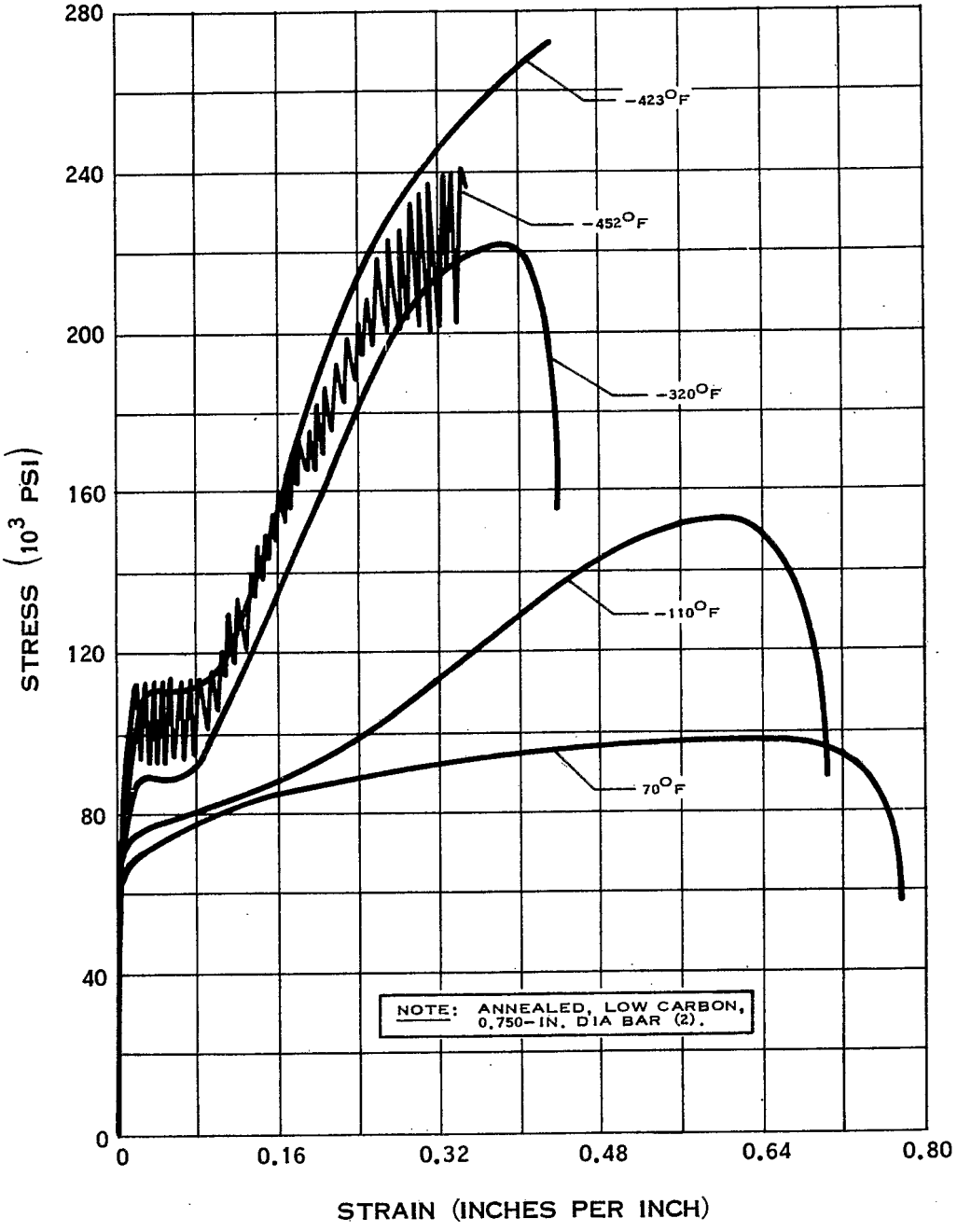
ELONGATION OF 304 STAINLESS STEEL



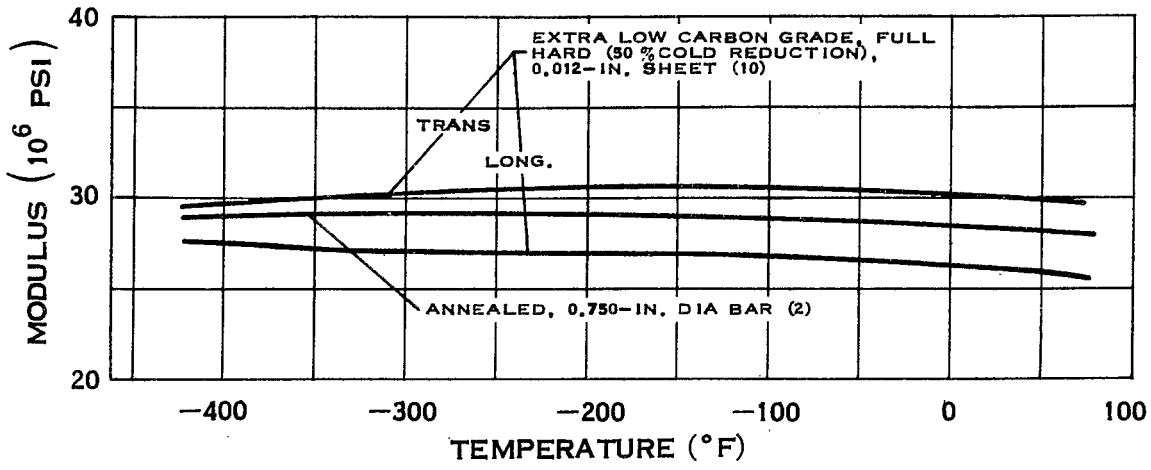
ELONGATION OF 304 STAINLESS STEEL



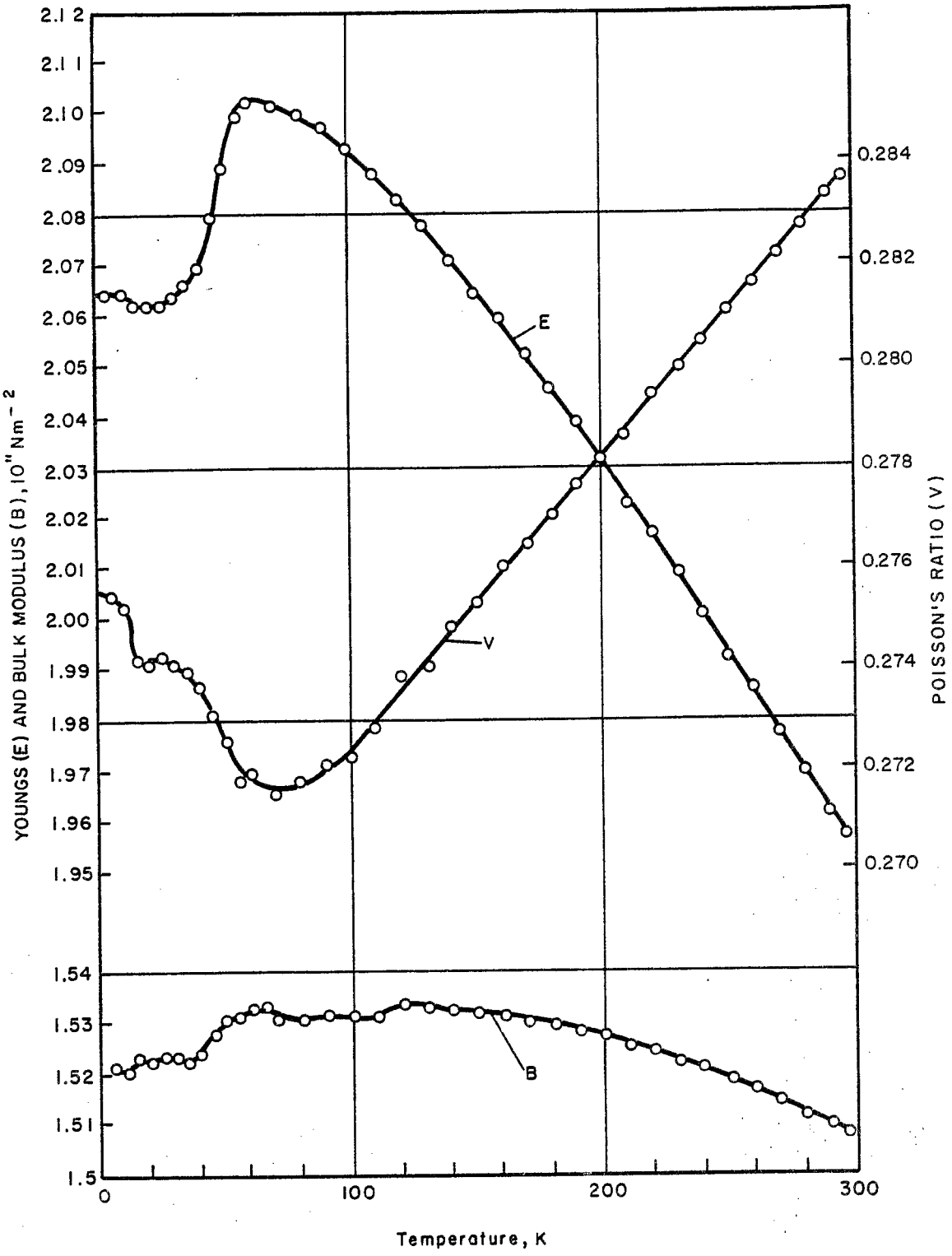
WELD TENSILE STRENGTH OF 304 STAINLESS STEEL



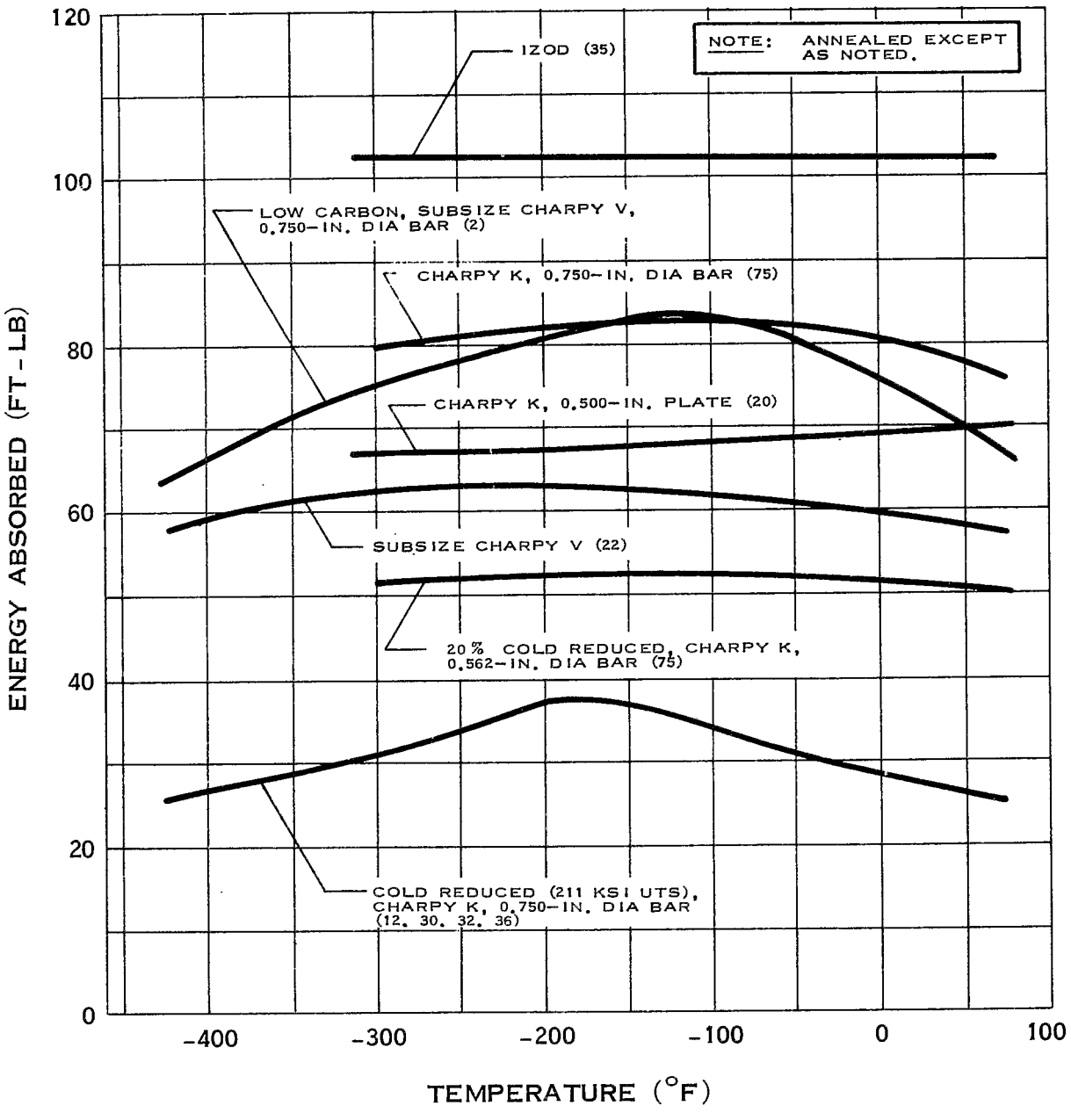
STRESS-STRAIN DIAGRAM FOR 304 STAINLESS STEEL



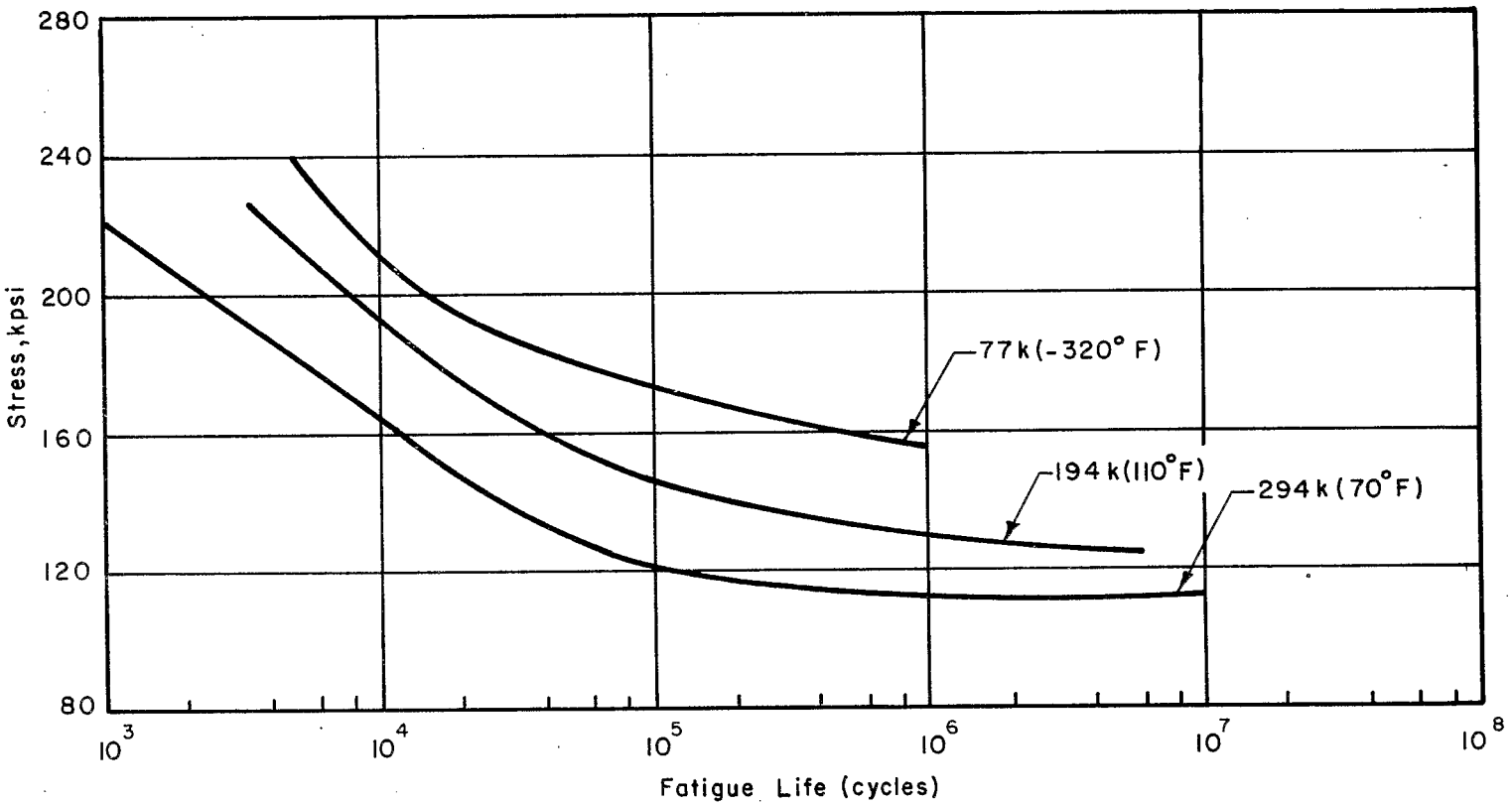
MODULUS OF ELASTICITY OF 304 STAINLESS STEEL



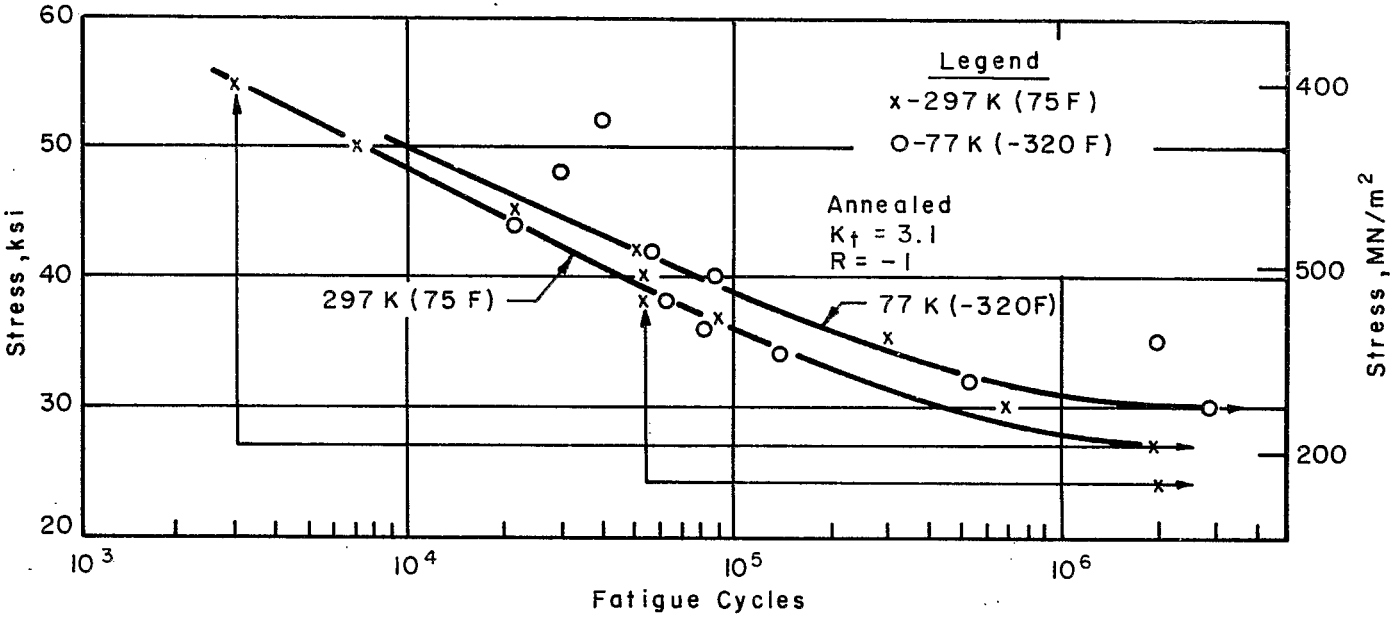
TEMPERATURE DEPENDENCE OF YOUNG'S MODULUS THE BULK MODULUS, AND POISSON'S RATIO 304 STAINLESS STEEL



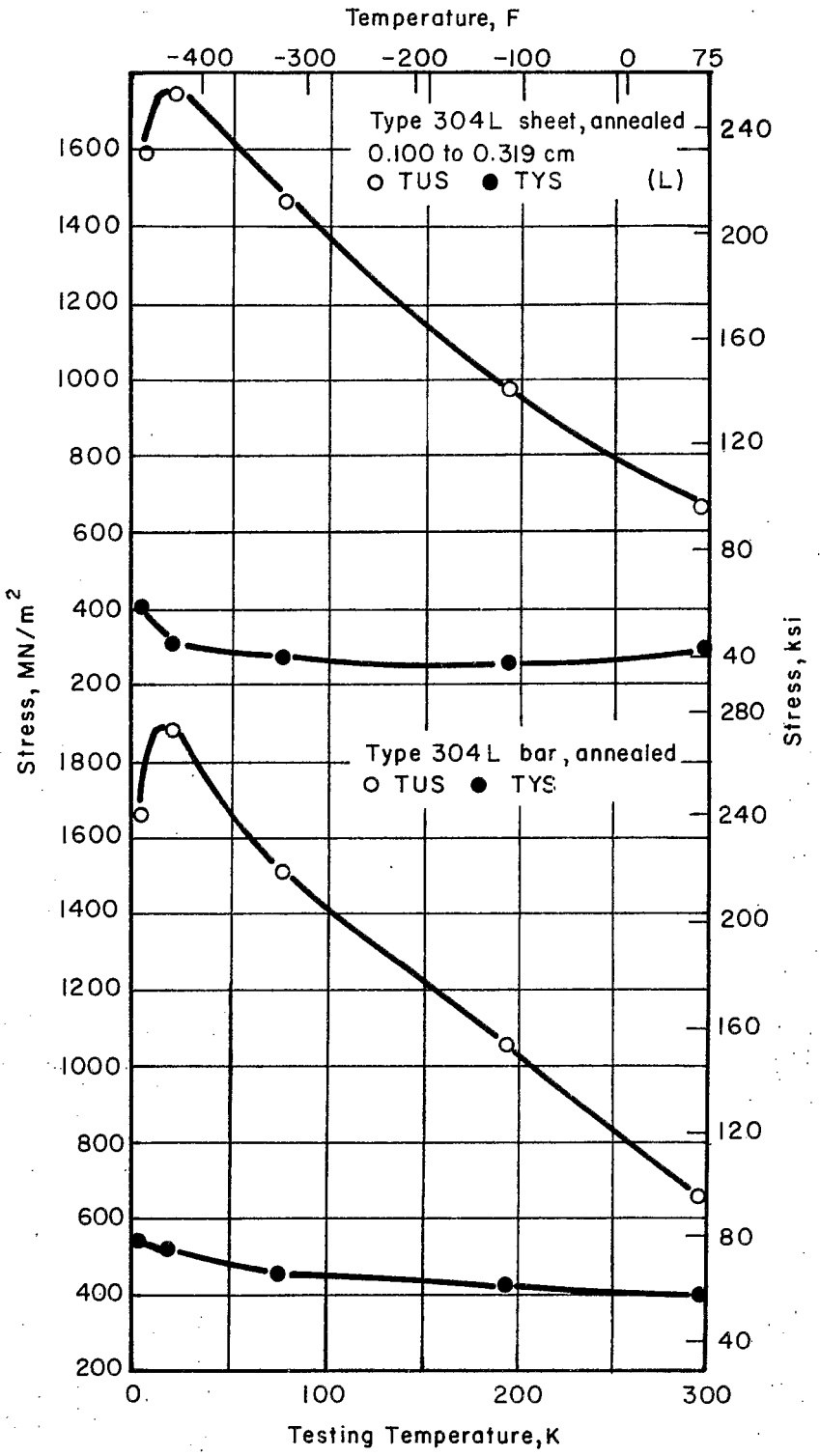
IMPACT STRENGTH OF 304 STAINLESS STEEL



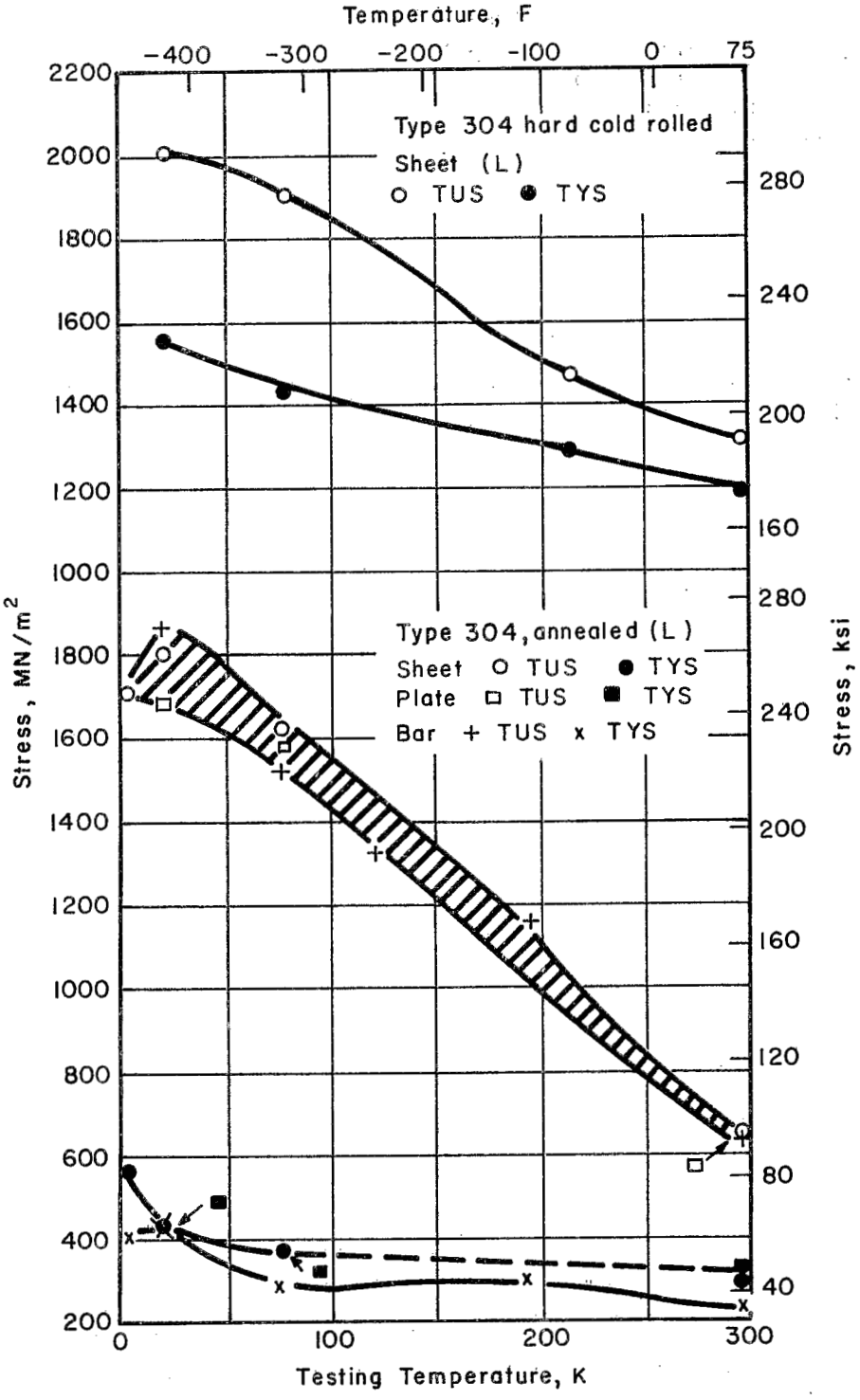
FATIGUE STRENGTH OF 304 STAINLESS STEEL



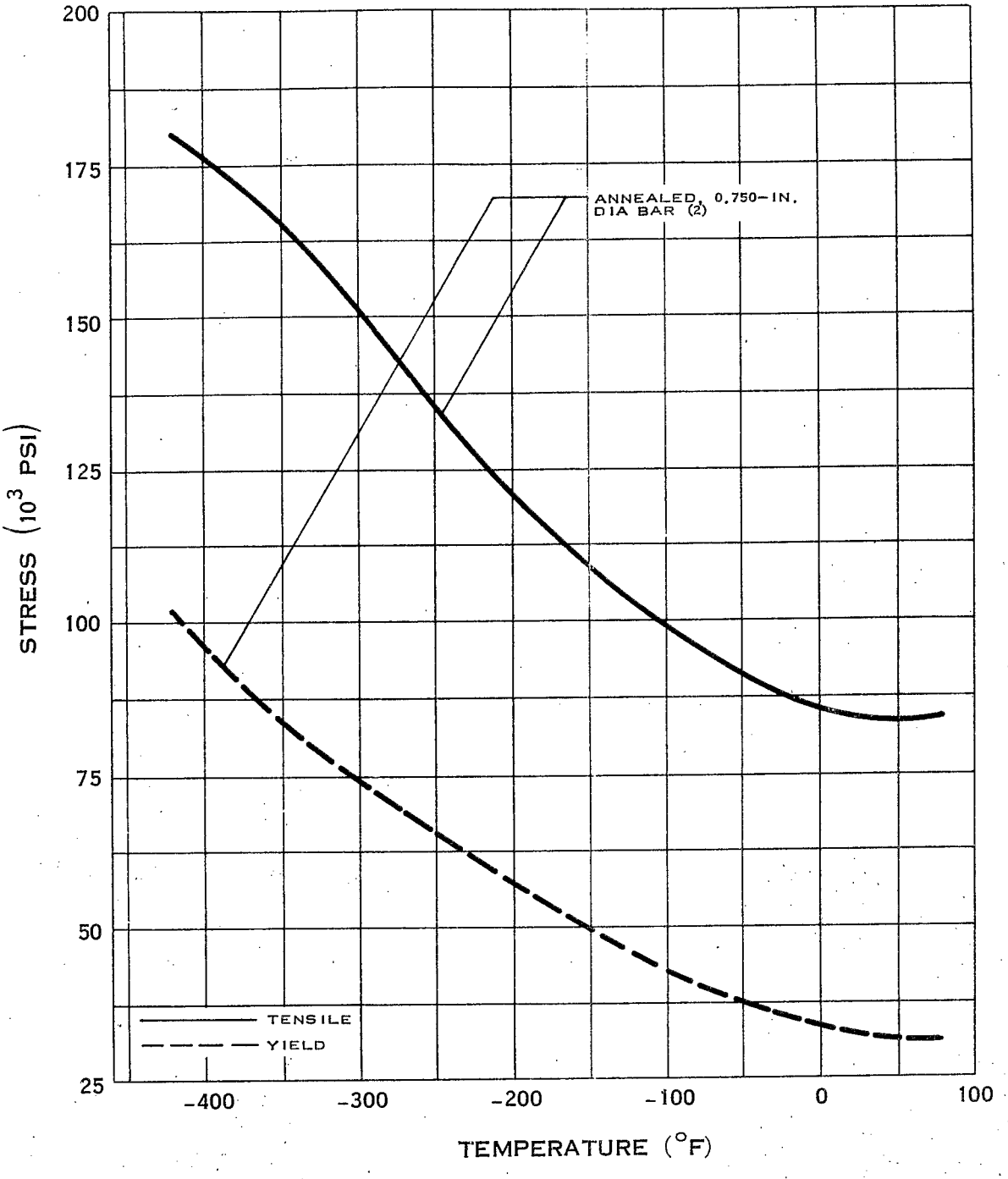
AXIAL FATIGUE LIFE CURVE FOR NOTCHED 304L STAINLESS STEEL BAR (94208A) (UP TO 2.540CM (1.000IN)DIAMETER)



EFFECT OF TEMPERATURE ON THE STRENGTH OF TYPE 304L STAINLESS STEEL



EFFECT OF TEMPERATURE ON THE STRENGTH OF TYPE 304 STAINLESS STEEL



STRENGTH OF 310 STAINLESS STEEL

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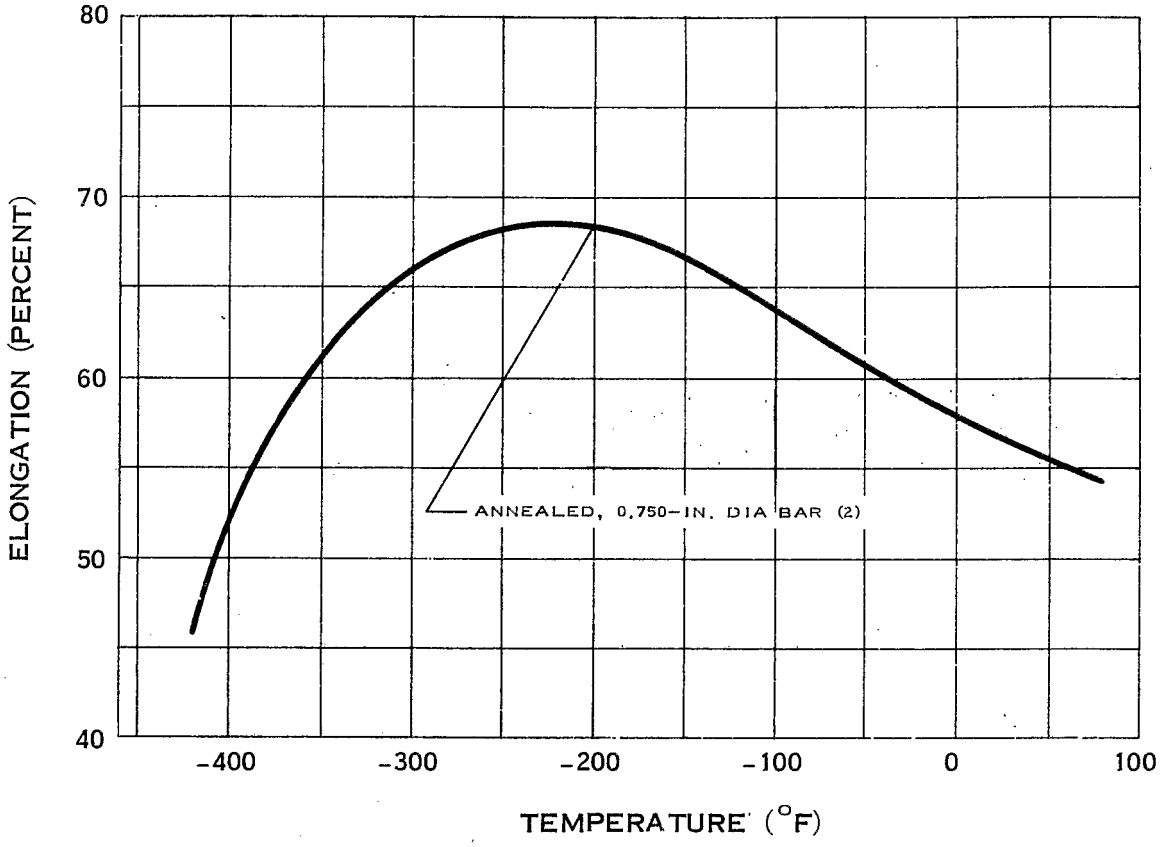
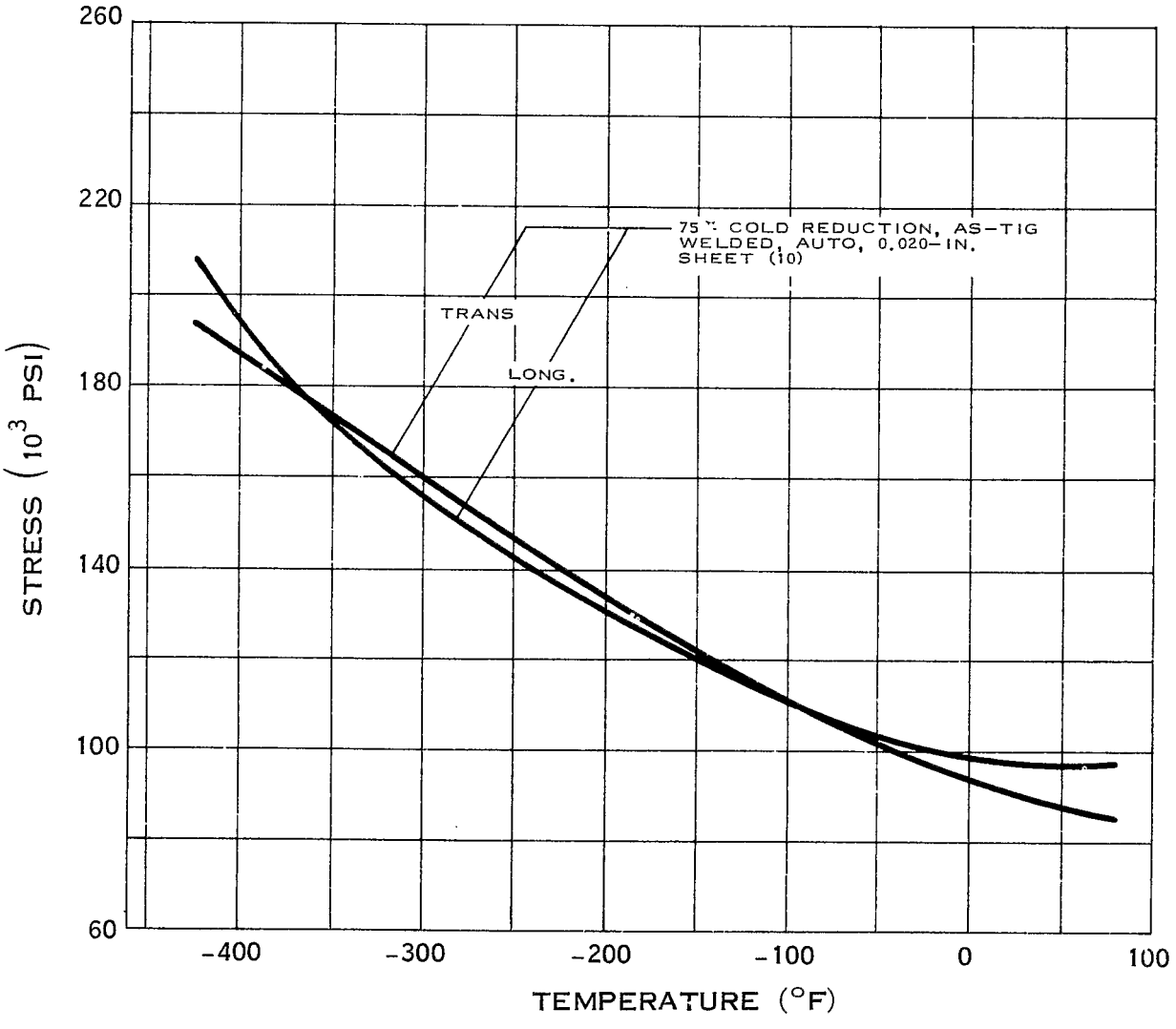


ELONGATION OF 310 STAINLESS STEEL

**



WELD TENSILE STRENGTH OF 310 STAINLESS STEEL

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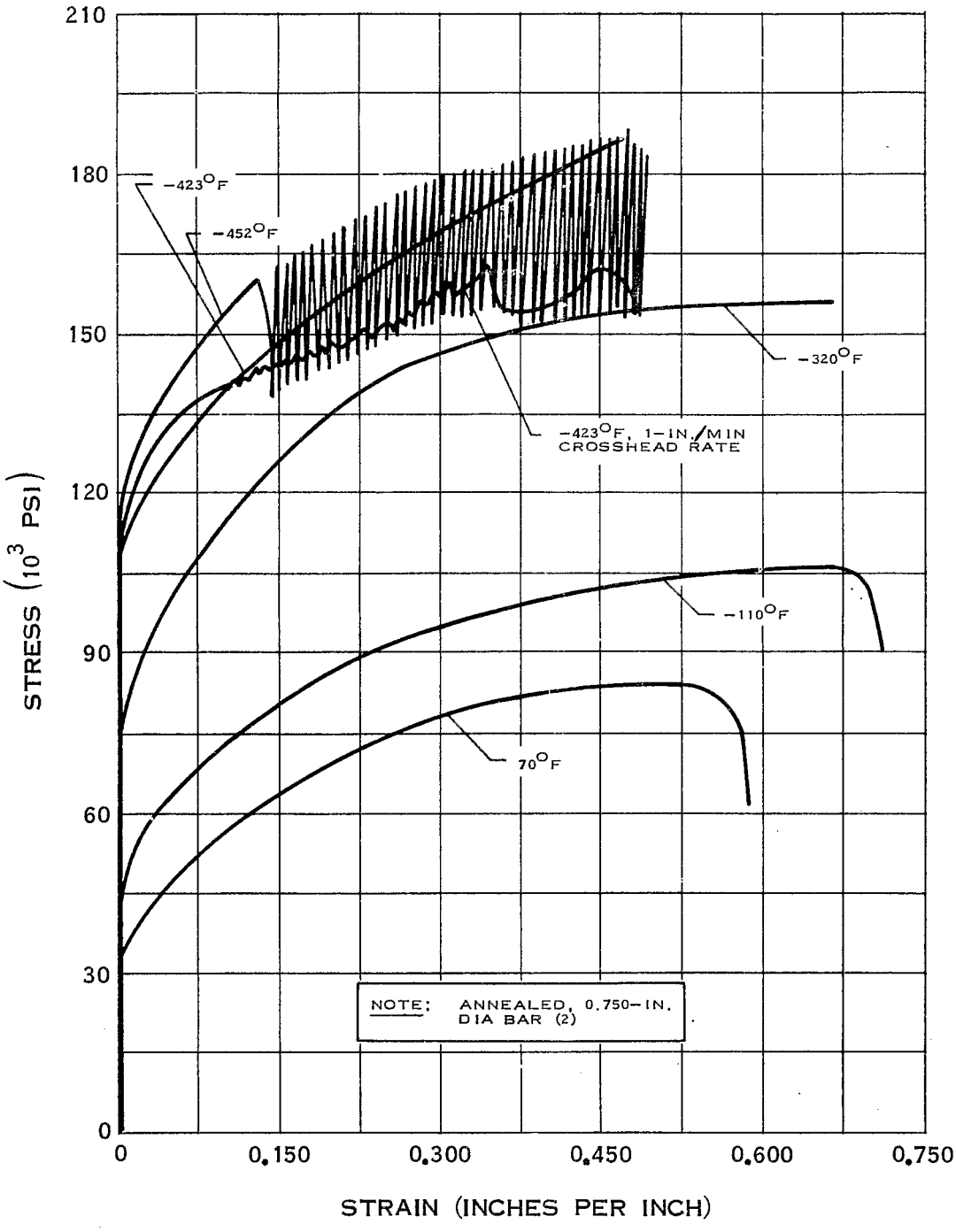

STRESS-STRAIN DIAGRAM FOR 310 STAINLESS STEEL

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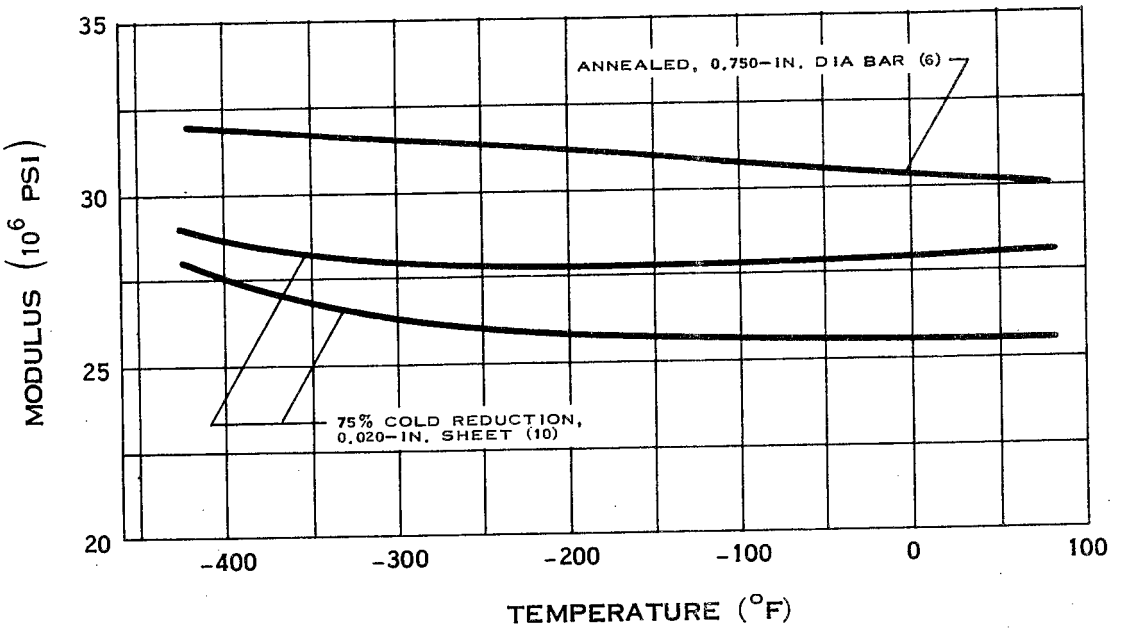
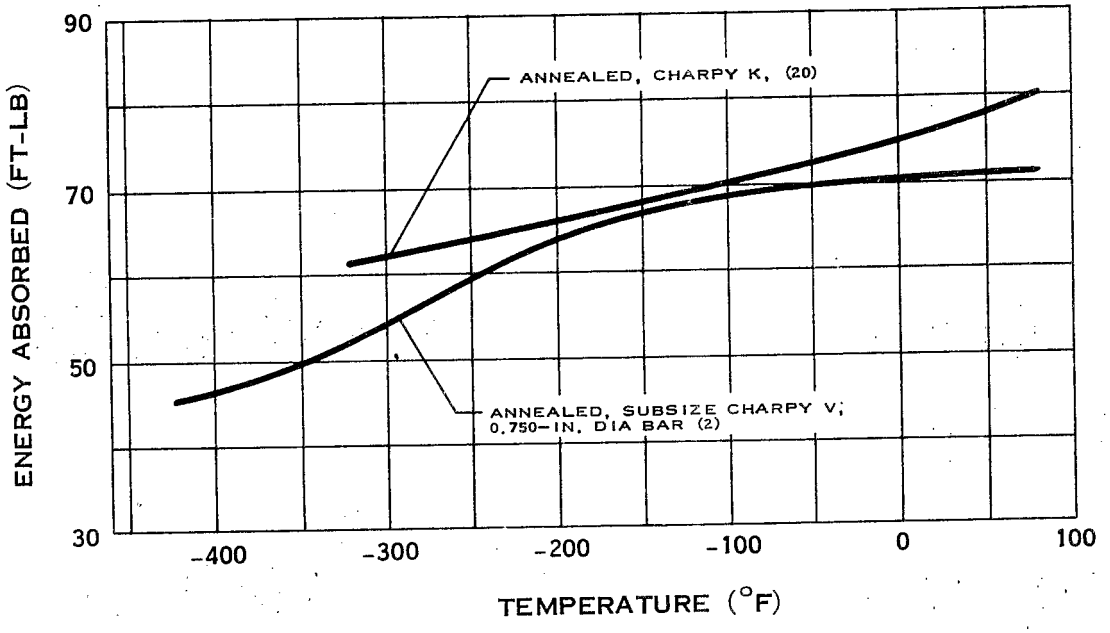


MODULUS OF ELASTICITY OF 310 STAINLESS STEEL



IMPACT STRENGTH OF 310 STAINLESS STEEL

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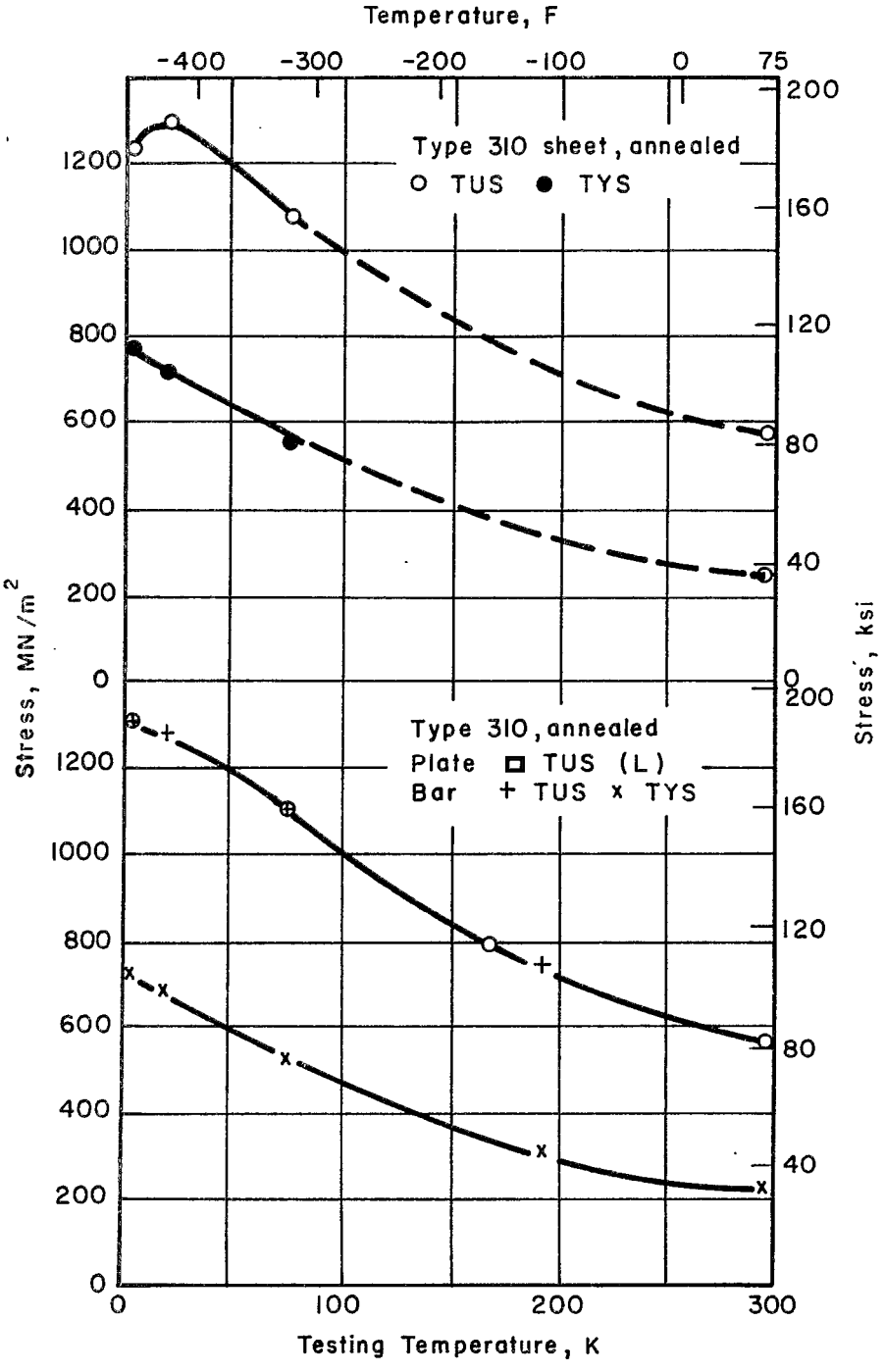
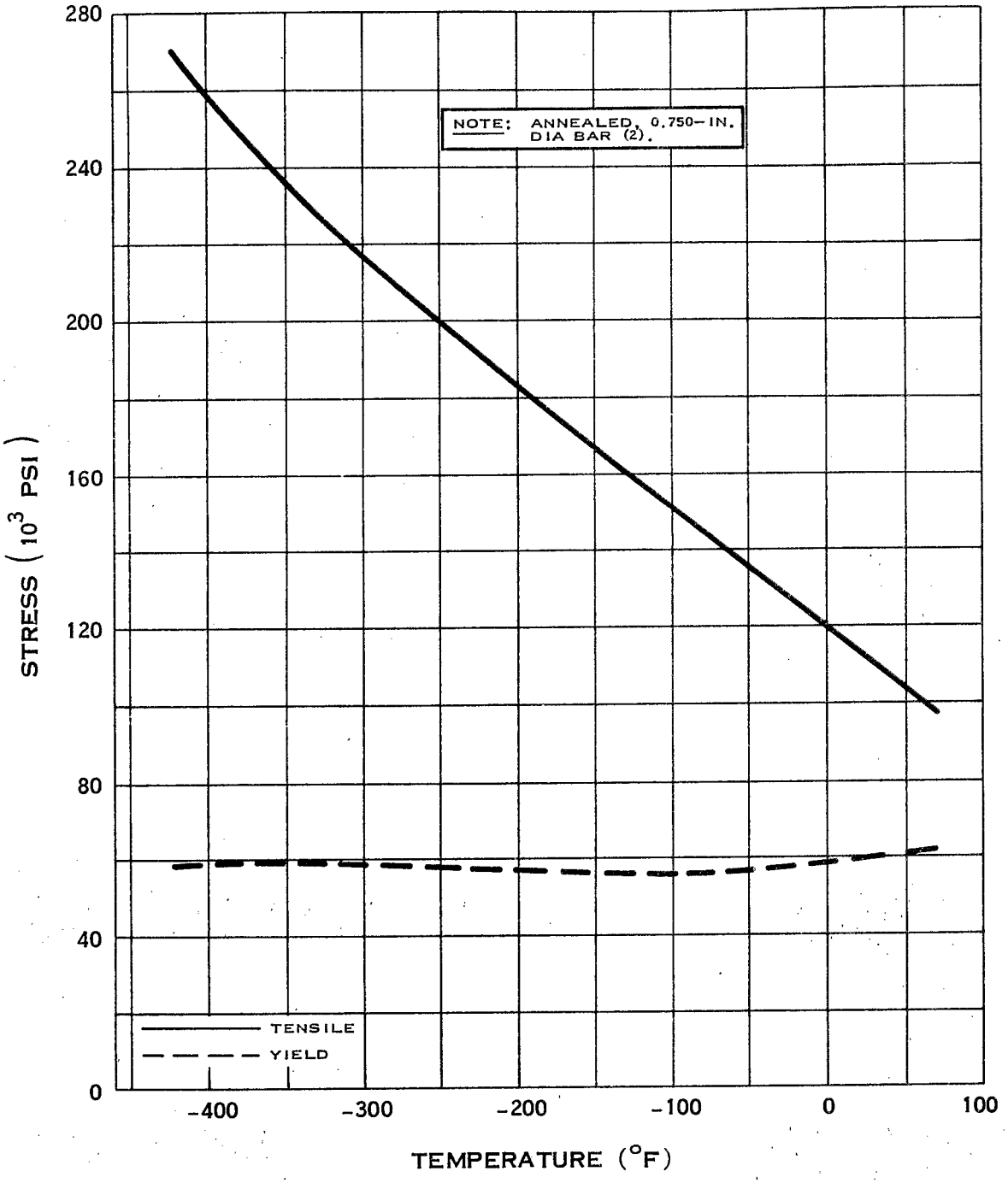


EFFORT OF TEMPERATURE ON THE STRENGTH OF TYPE 310 STAINLESS STEEL



STRENGTH OF 321 STAINLESS STEEL

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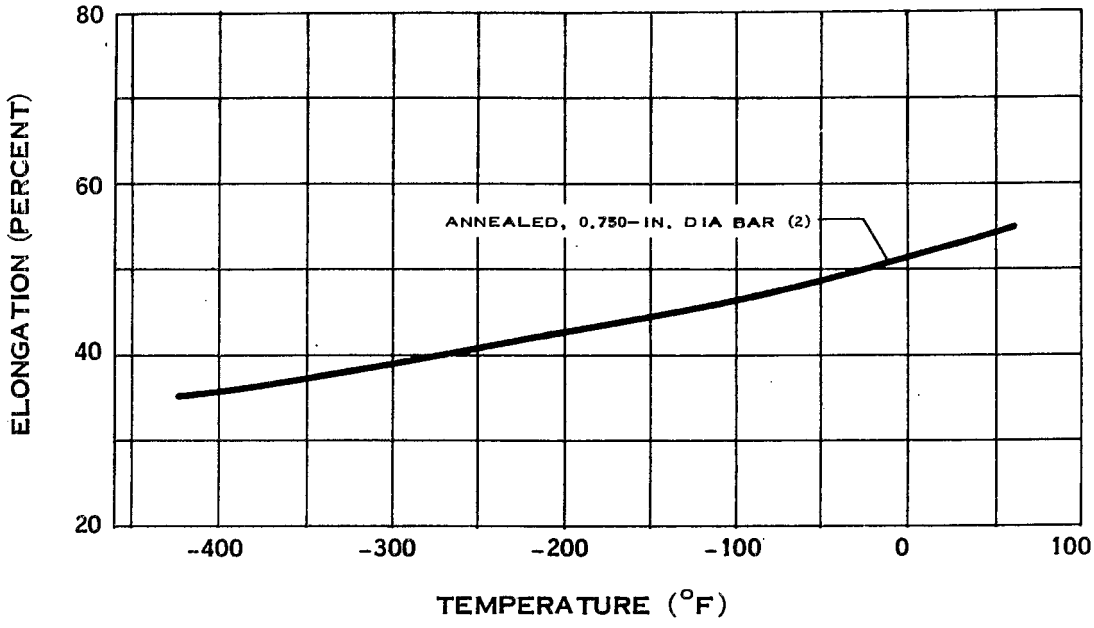
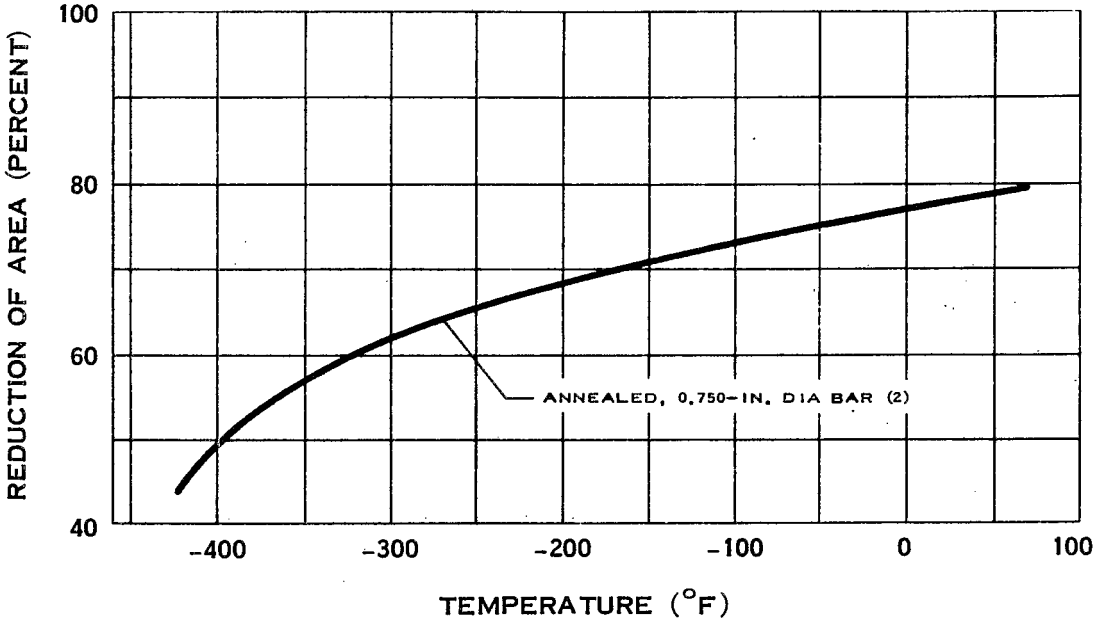
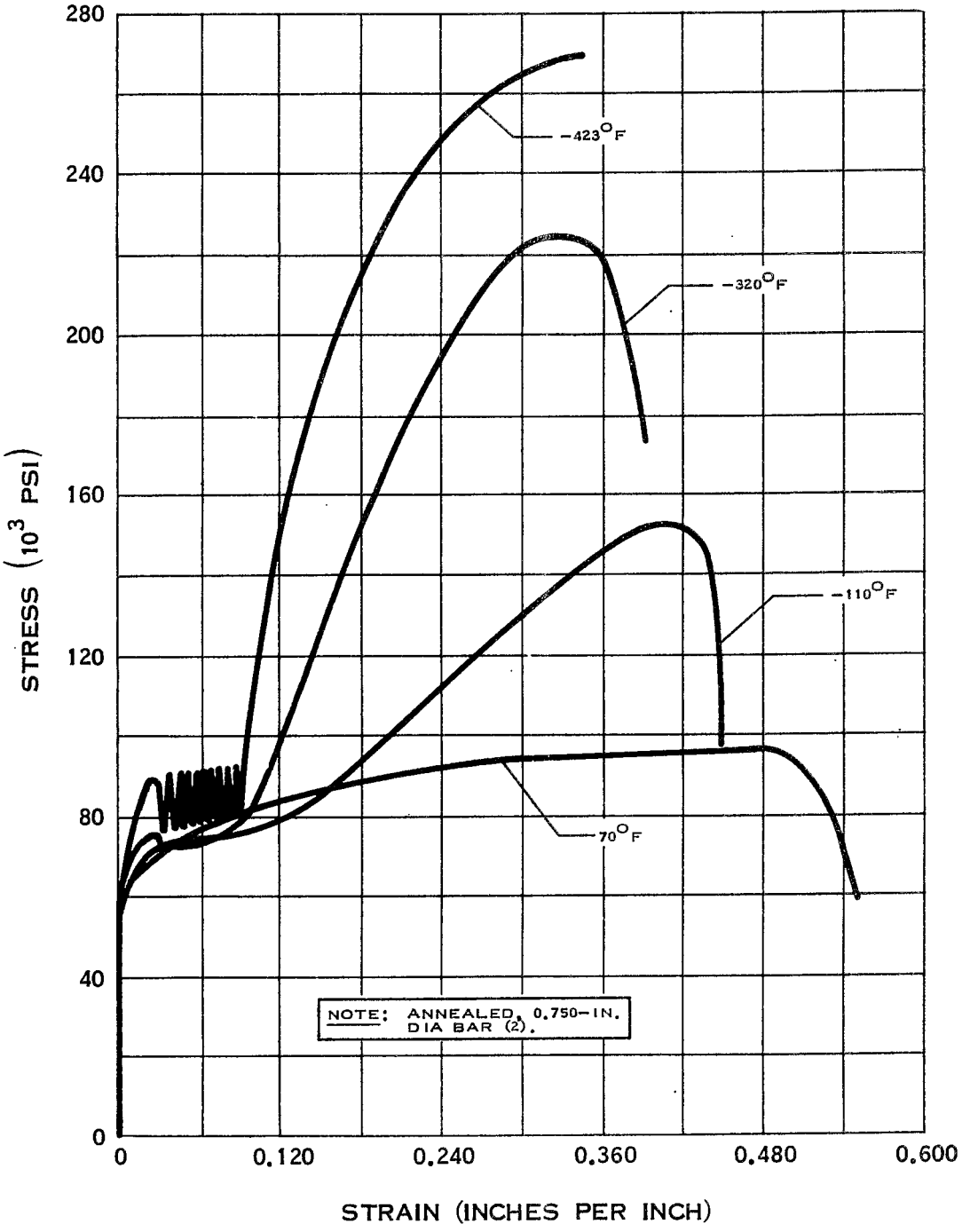


ELONGATION OF 321 STAINLESS STEEL



REDUCTION OF AREA OF 321 STAINLESS STEEL

**



STRESS-STRAIN DIAGRAM FOR 321 STAINLESS STEEL

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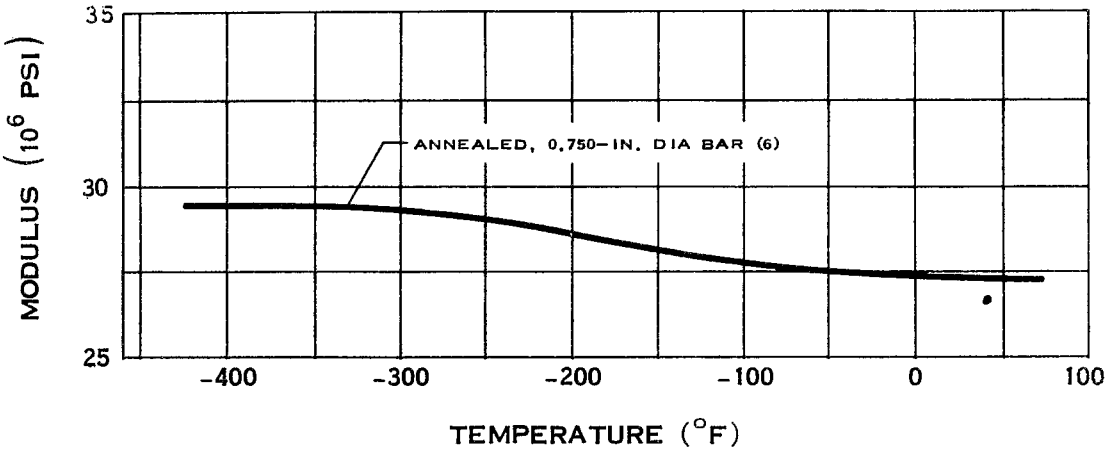
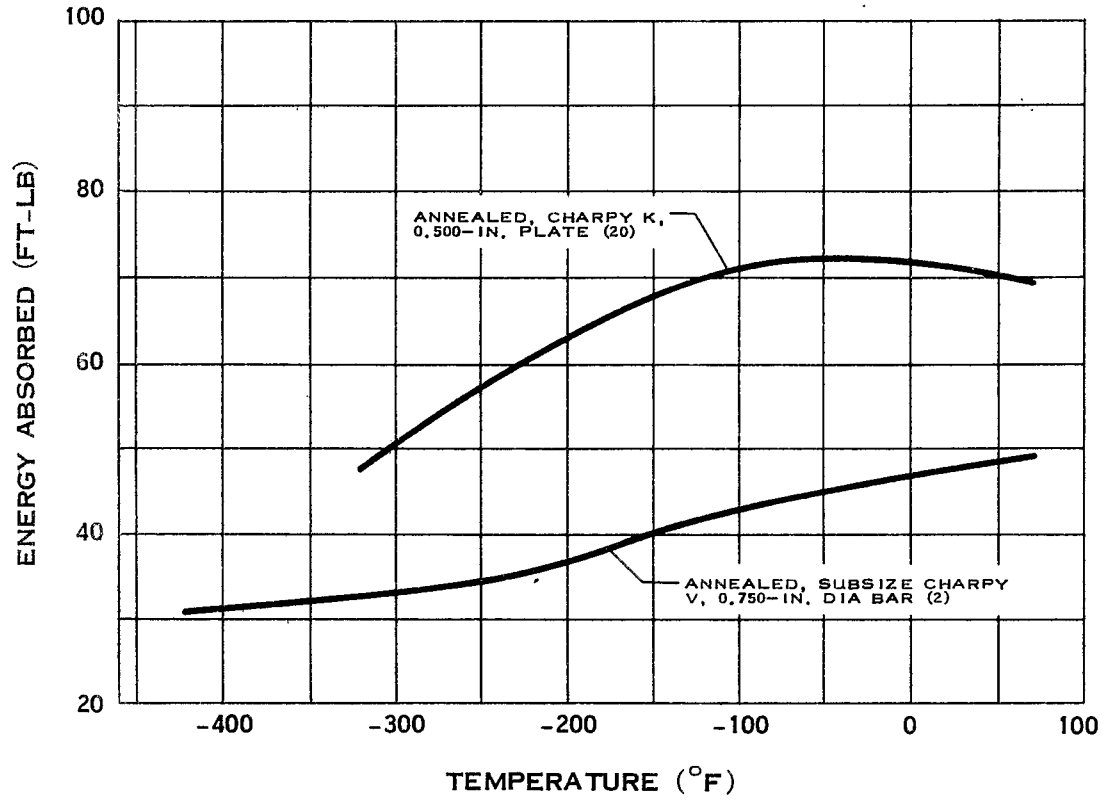
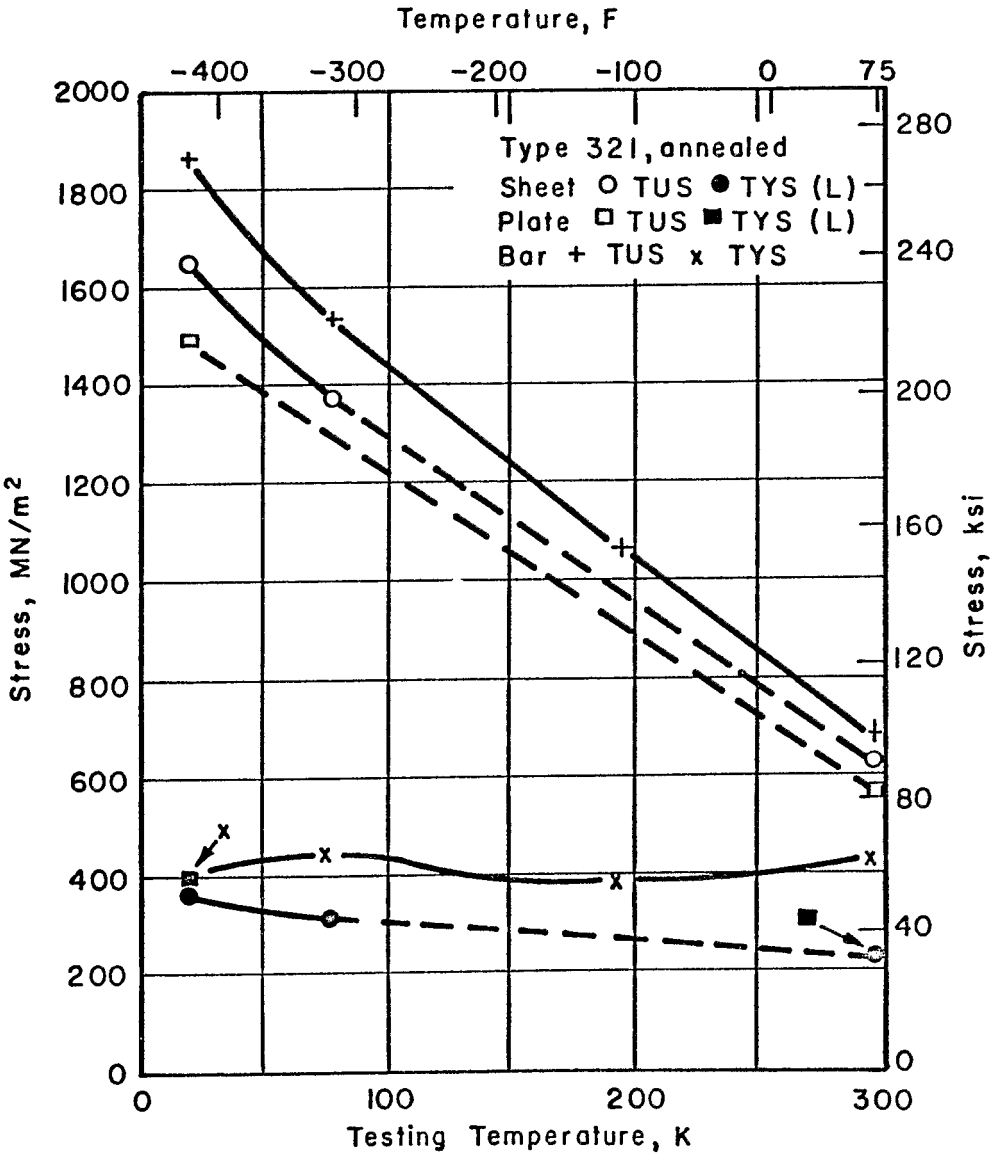


MODULUS OF ELASTICITY OF 321 STAINLESS STEEL

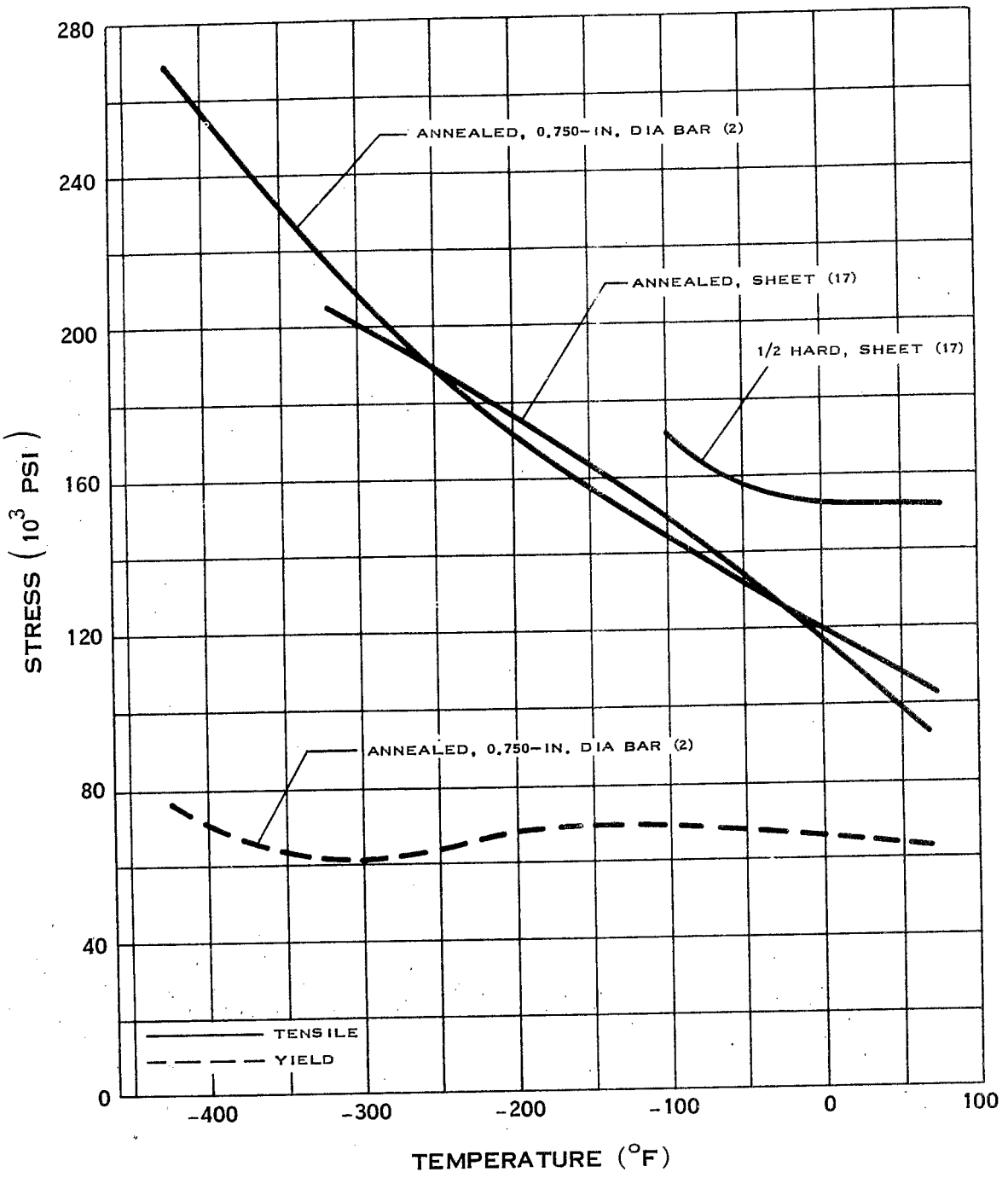


IMPACT STRENGTH OF 321 STAINLESS STEEL

**



EFFECT OF TEMPERATURE ON THE STRENGTH OF TYPE 321 STAINLESS STEEL



STRENGTH OF 347 STAINLESS STEEL

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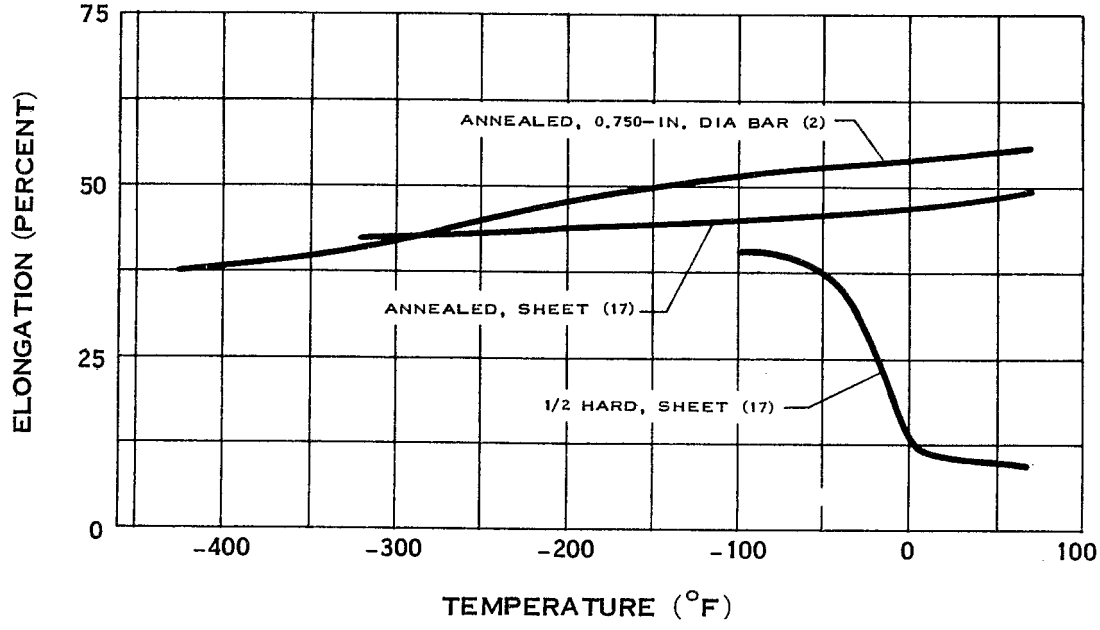
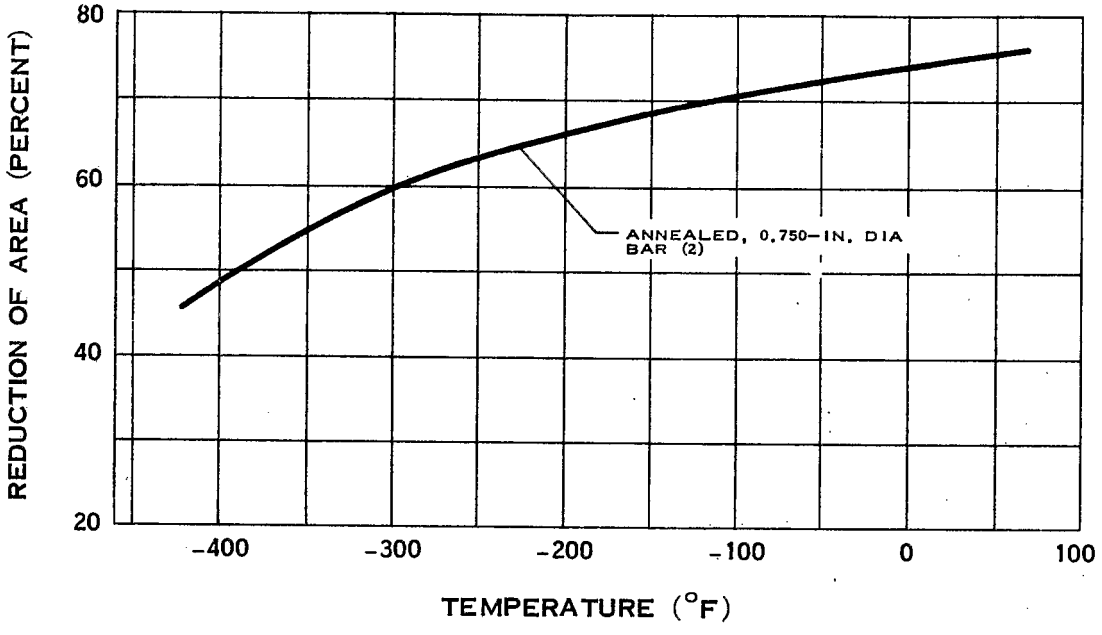
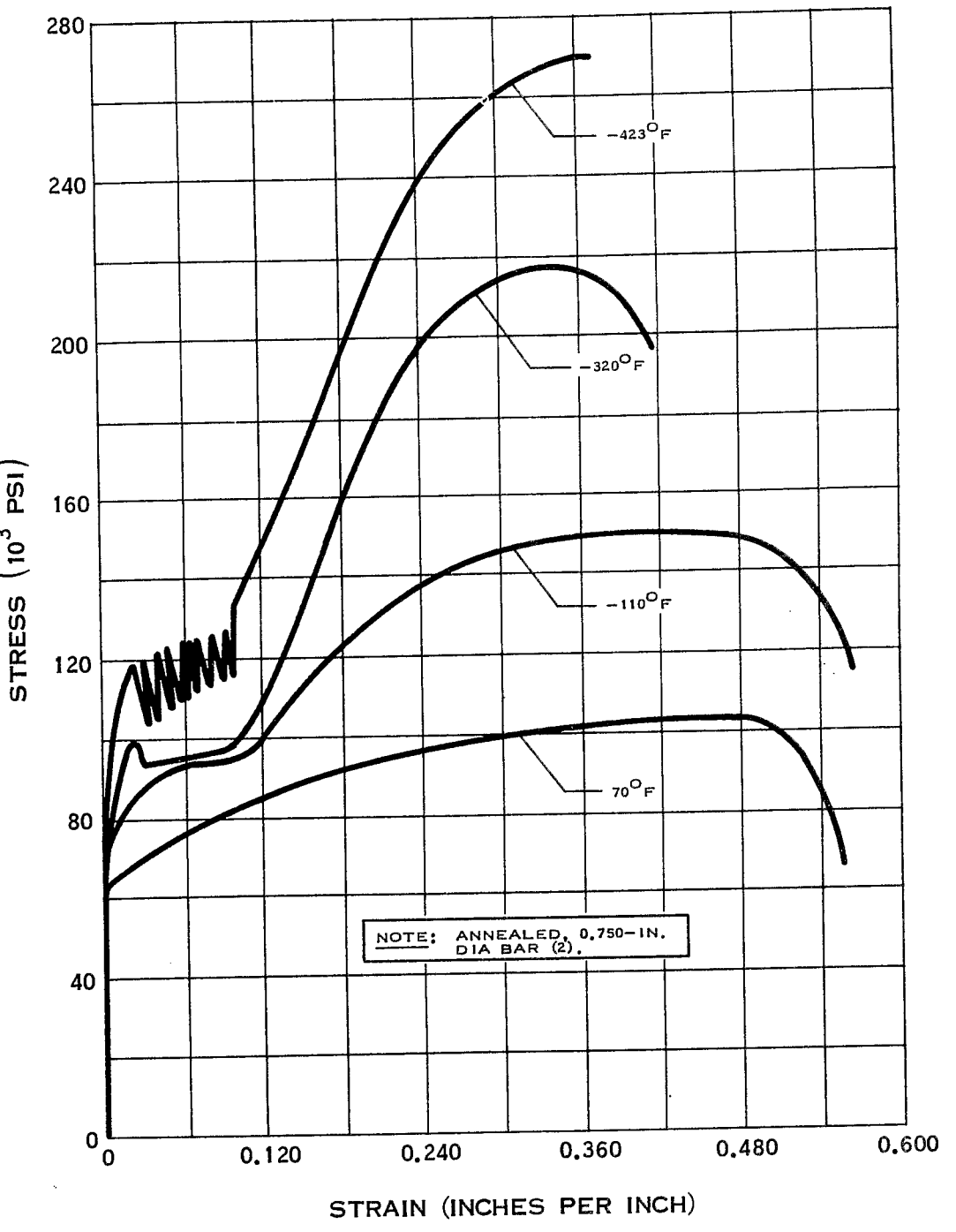


ELONGATION OF 347 STAINLESS STEEL



REDUCTION OF AREA OF 347 STAINLESS STEEL

**



STRESS-STRAIN DIAGRAM FOR 347 STAINLESS STEEL

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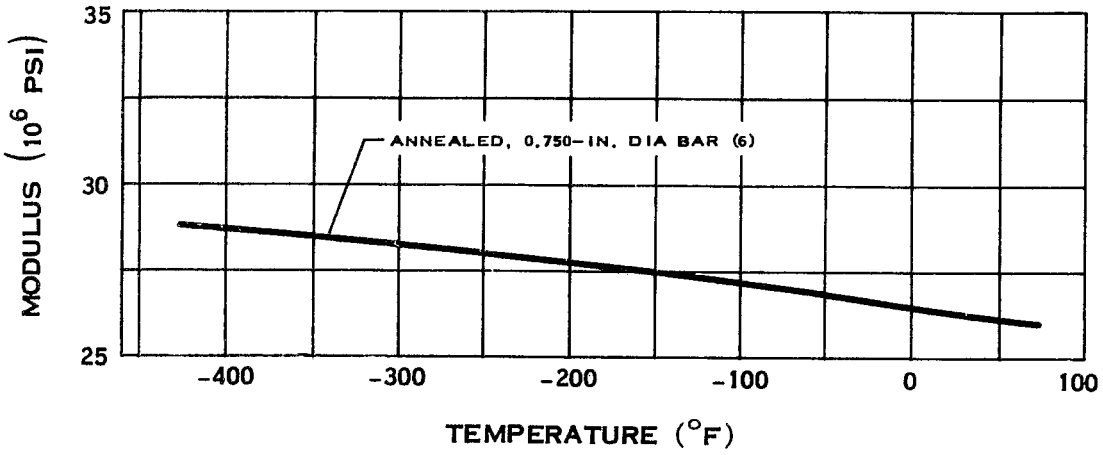
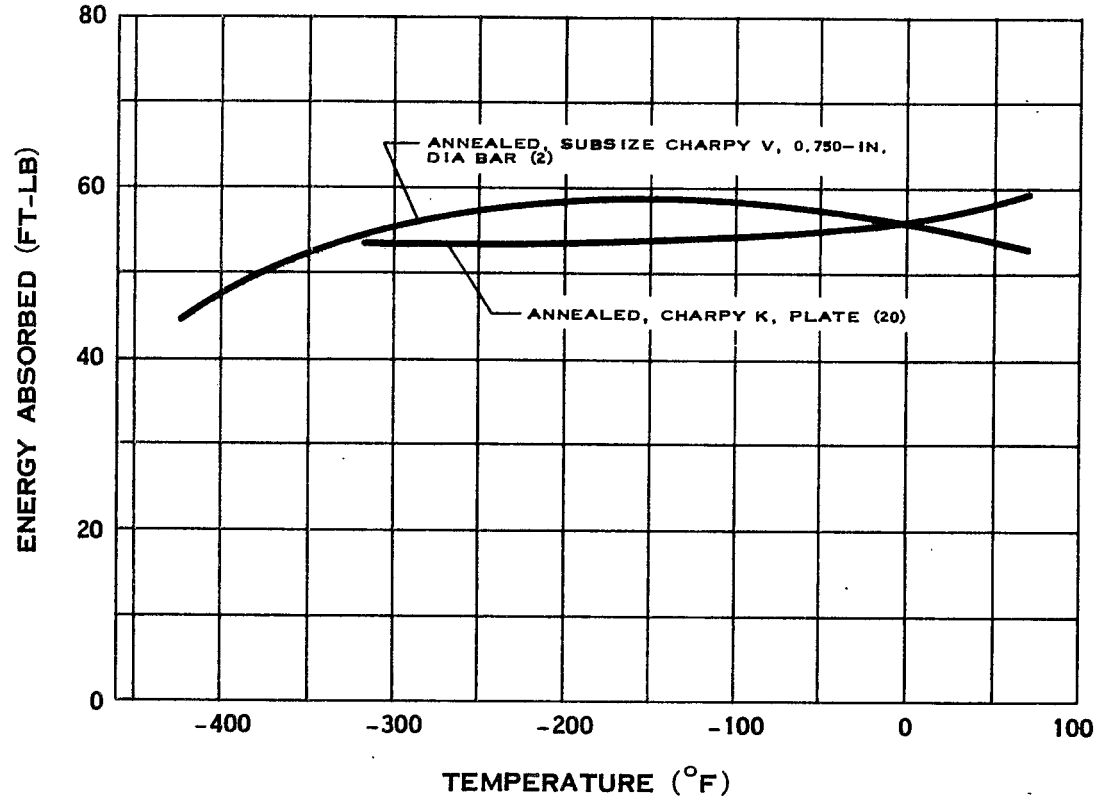


MODULUS OF ELASTICITY OF 347 STAINLESS STEEL



IMPACT STRENGTH OF 347 STAINLESS STEEL

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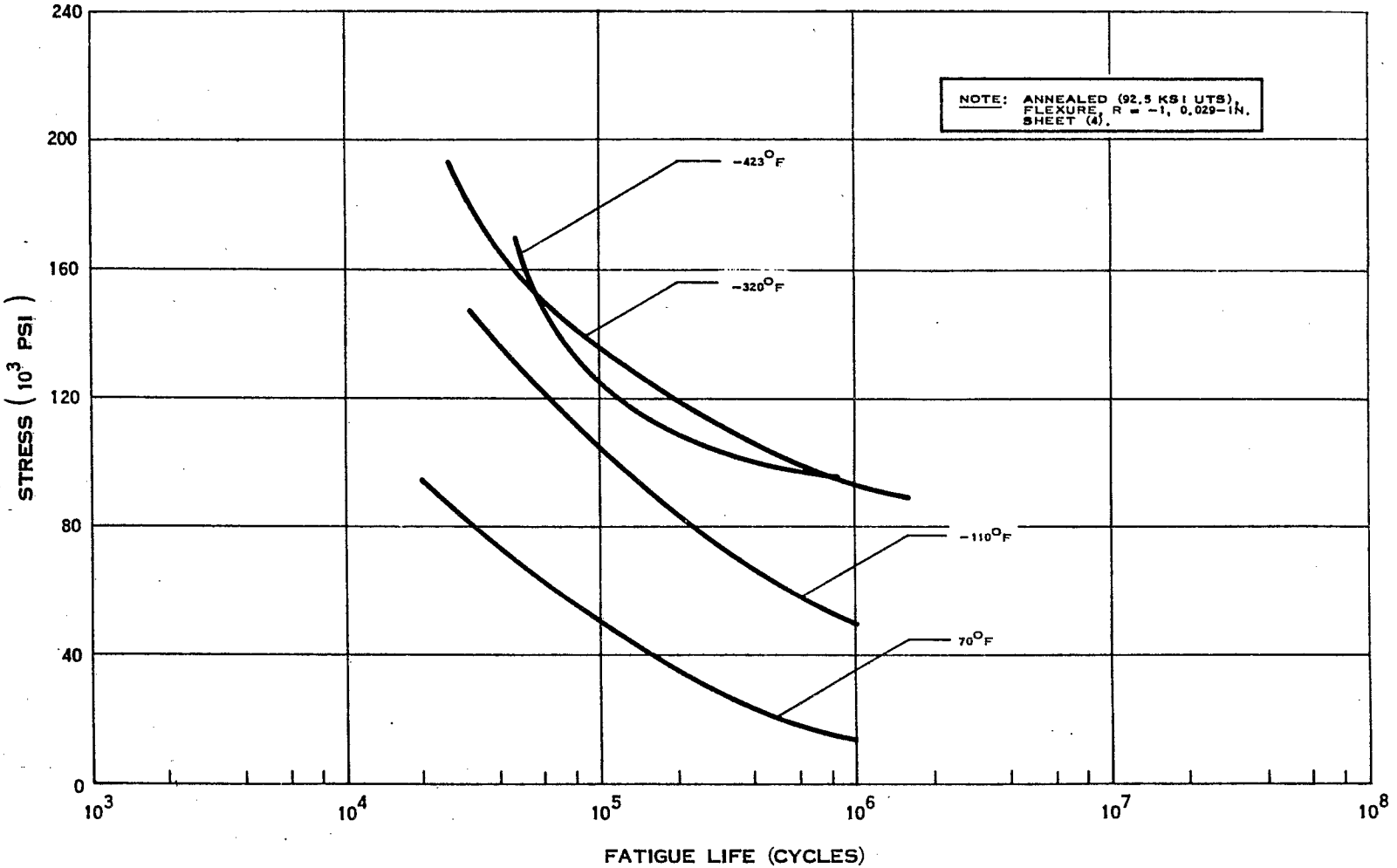
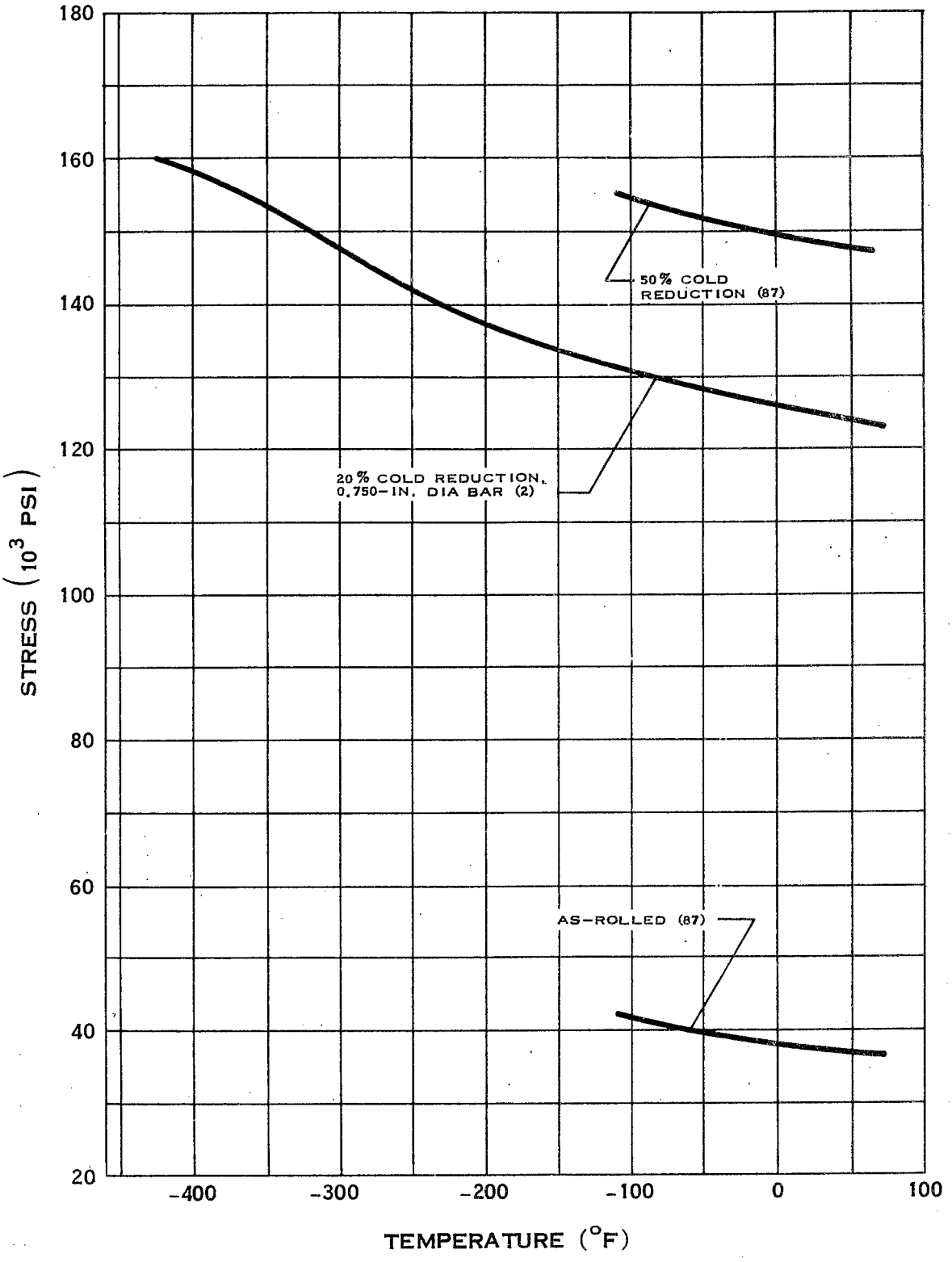
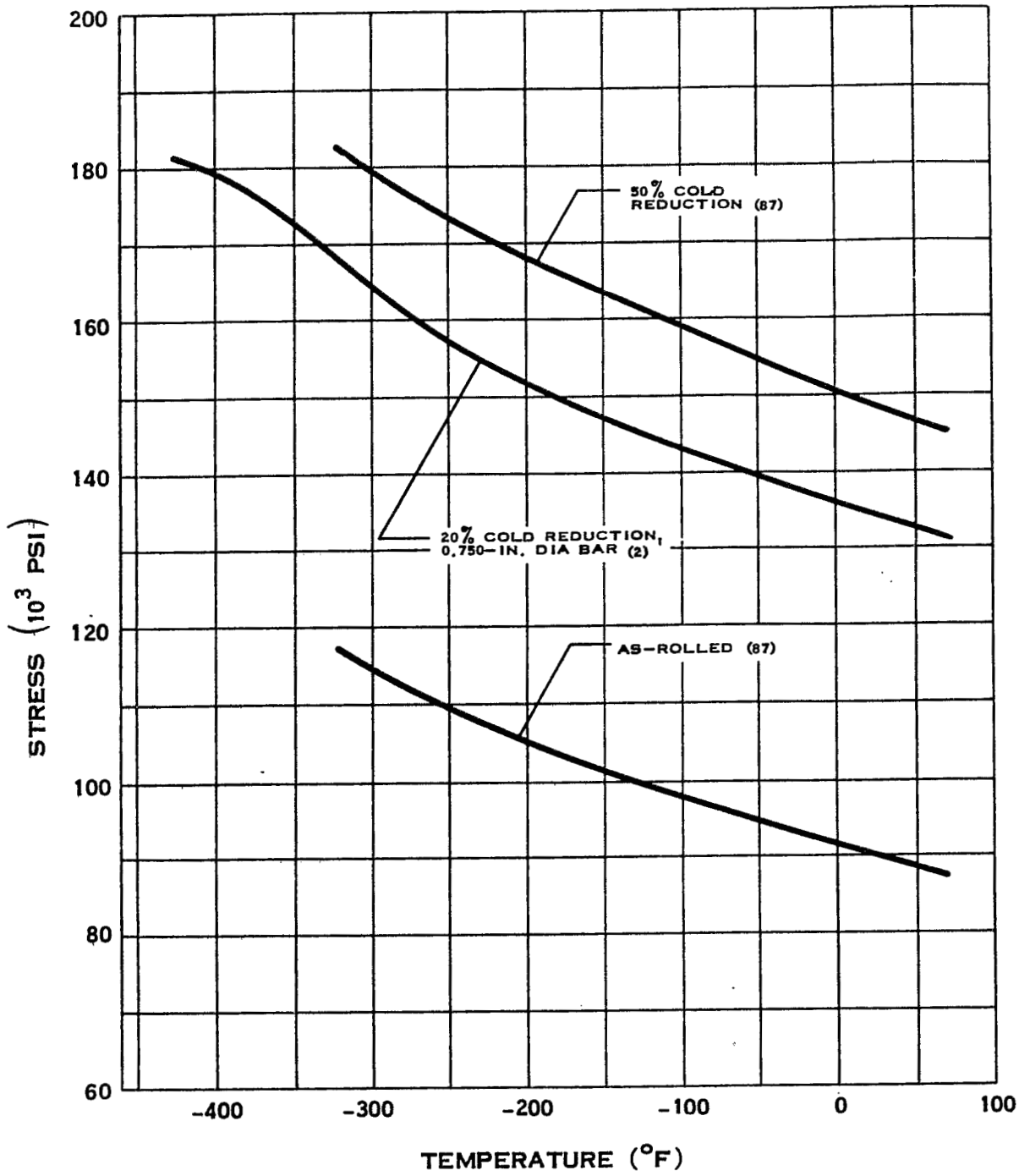


FATIGUE STRENGTH OF 347 STAINLESS STEEL



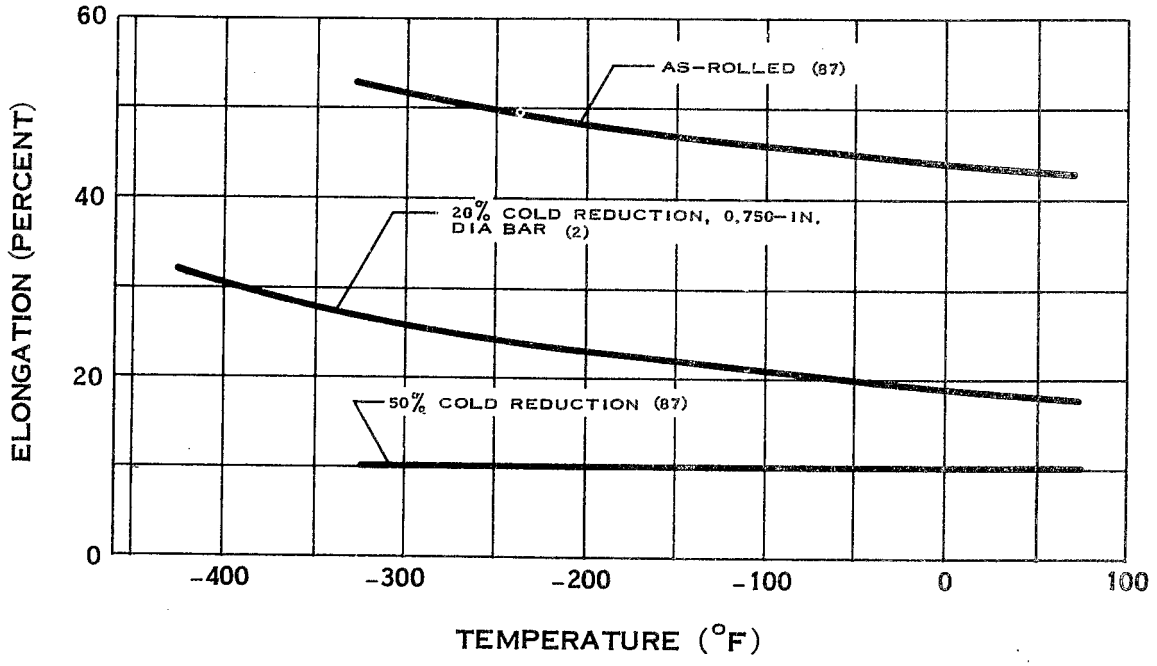
YIELD STRENGTH OF INCONEL

**

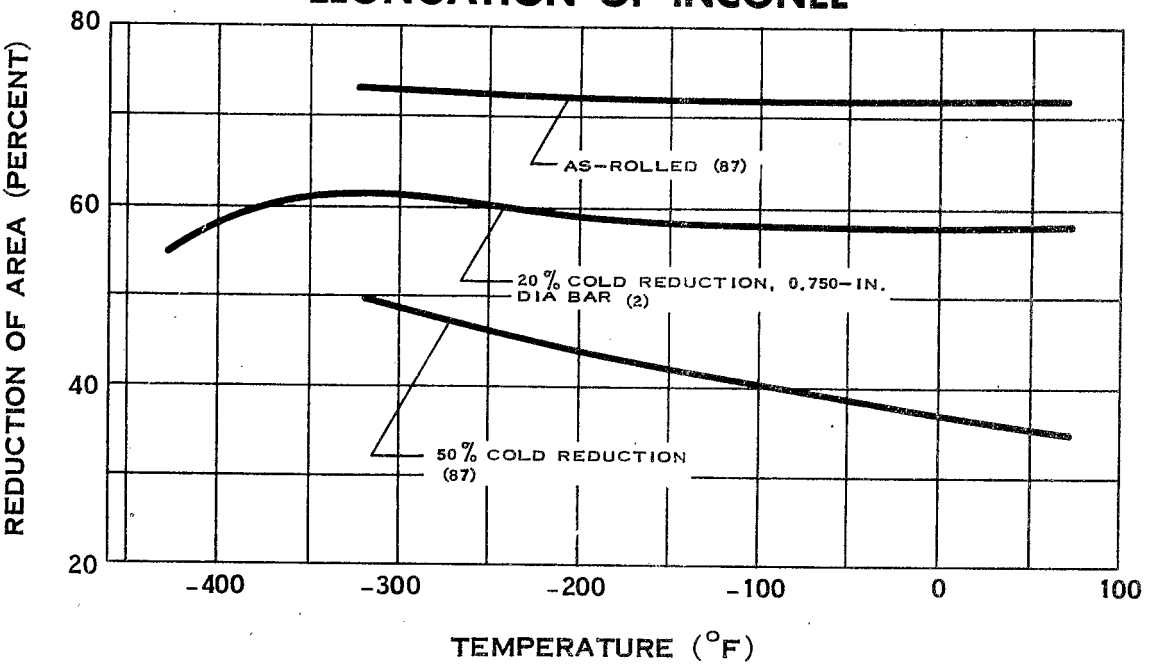


TENSILE STRENGTH OF INCONEL

**



ELONGATION OF INCONEL



REDUCTION OF AREA OF INCONEL

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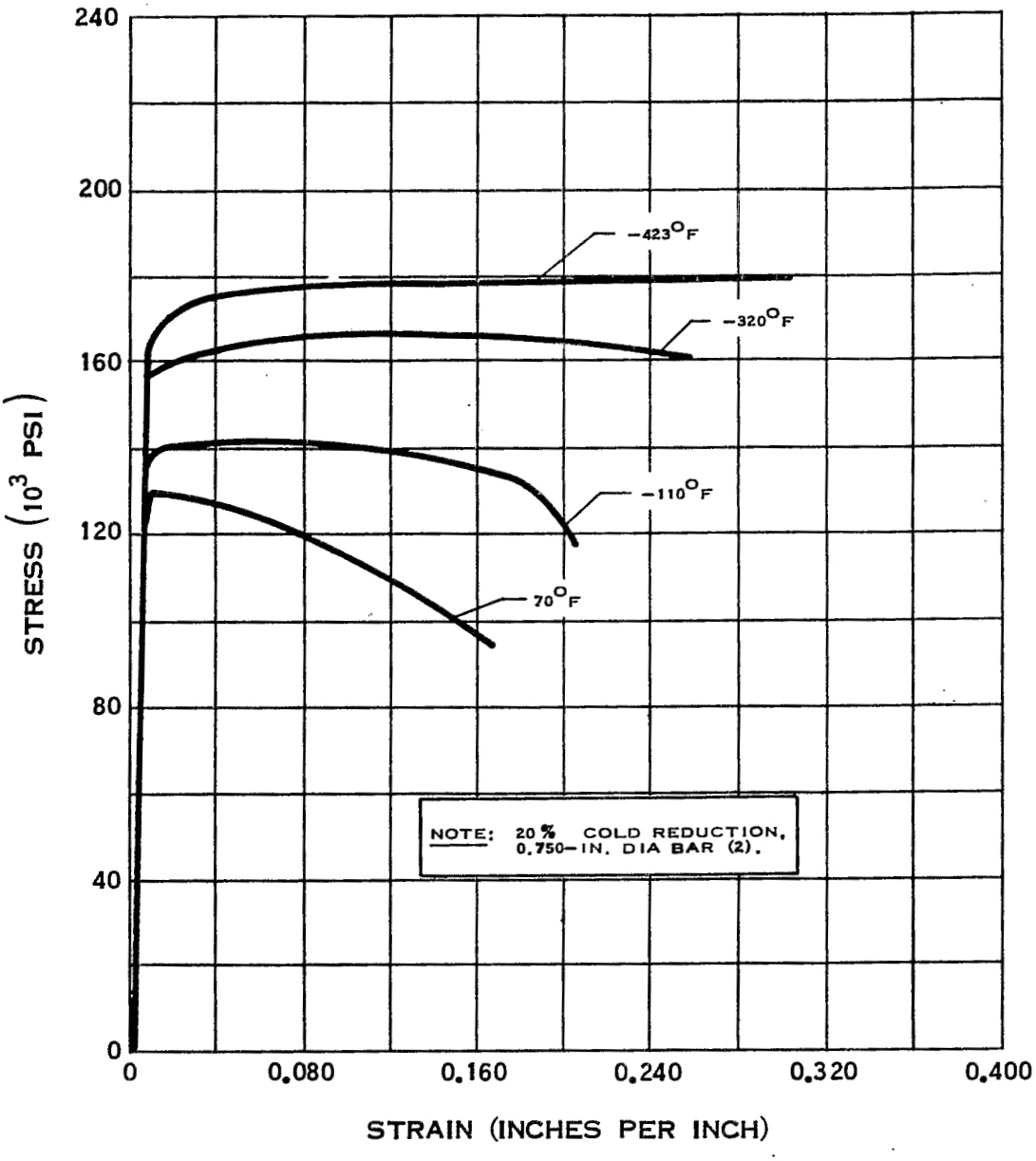

STRESS-STRAIN DIAGRAM FOR INCONEL

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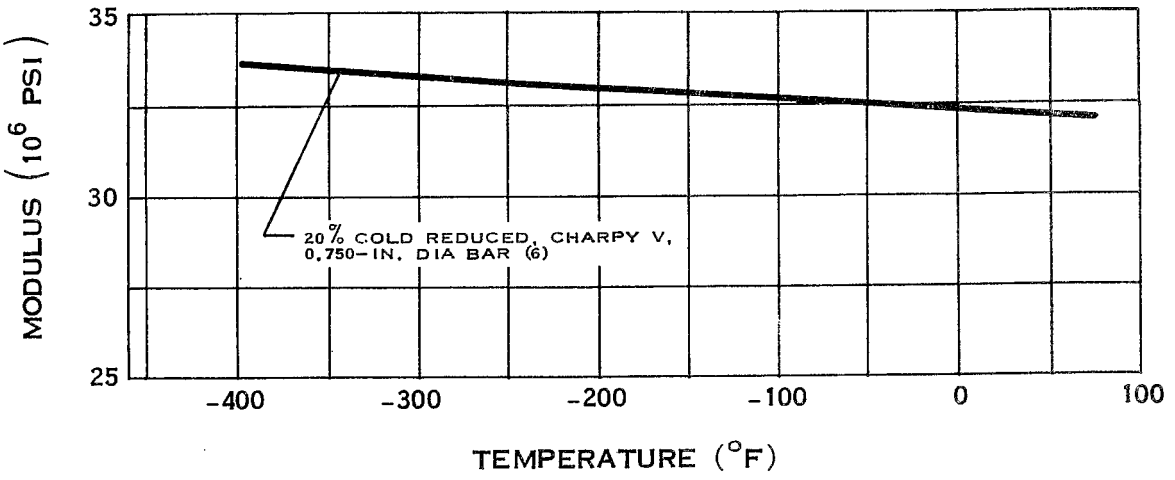
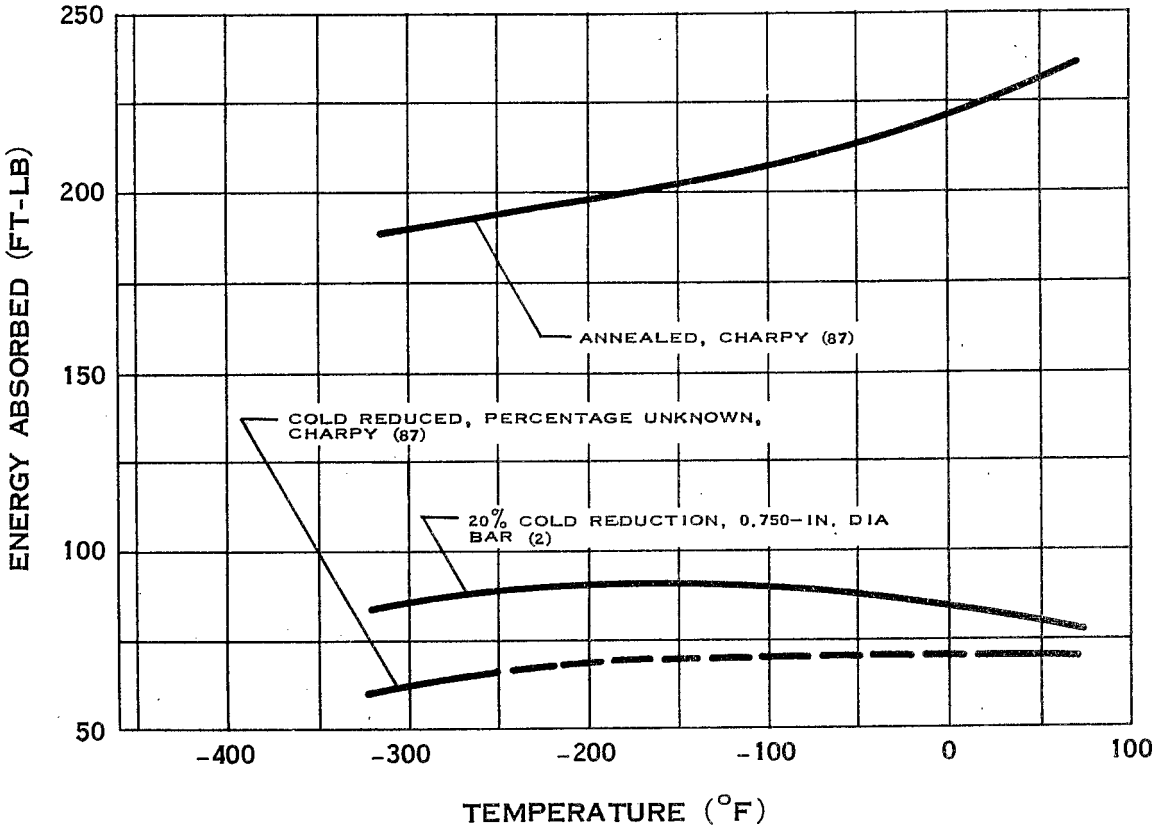


MODULUS OF ELASTICITY OF INCONEL



IMPACT STRENGTH OF INCONEL

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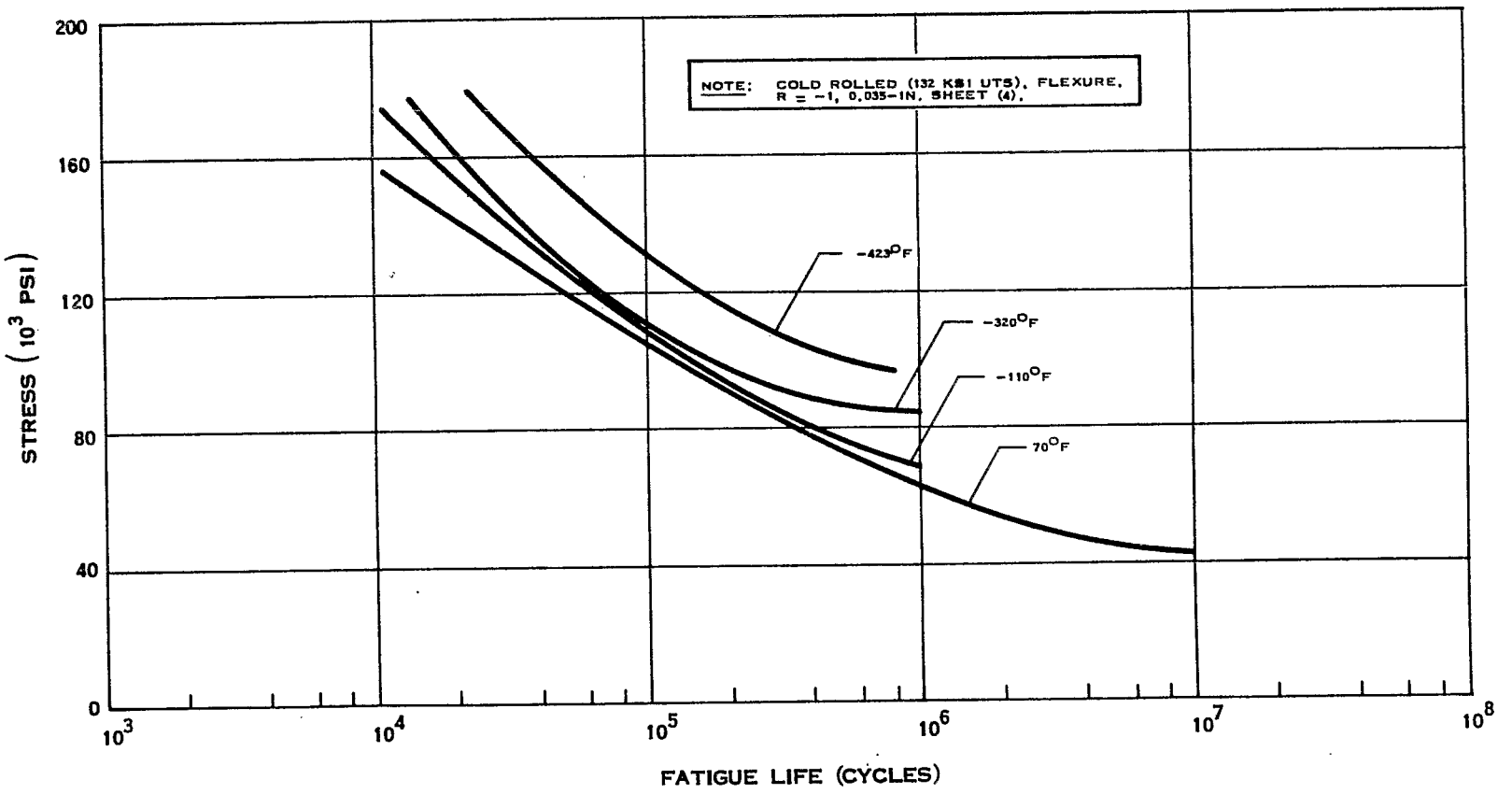
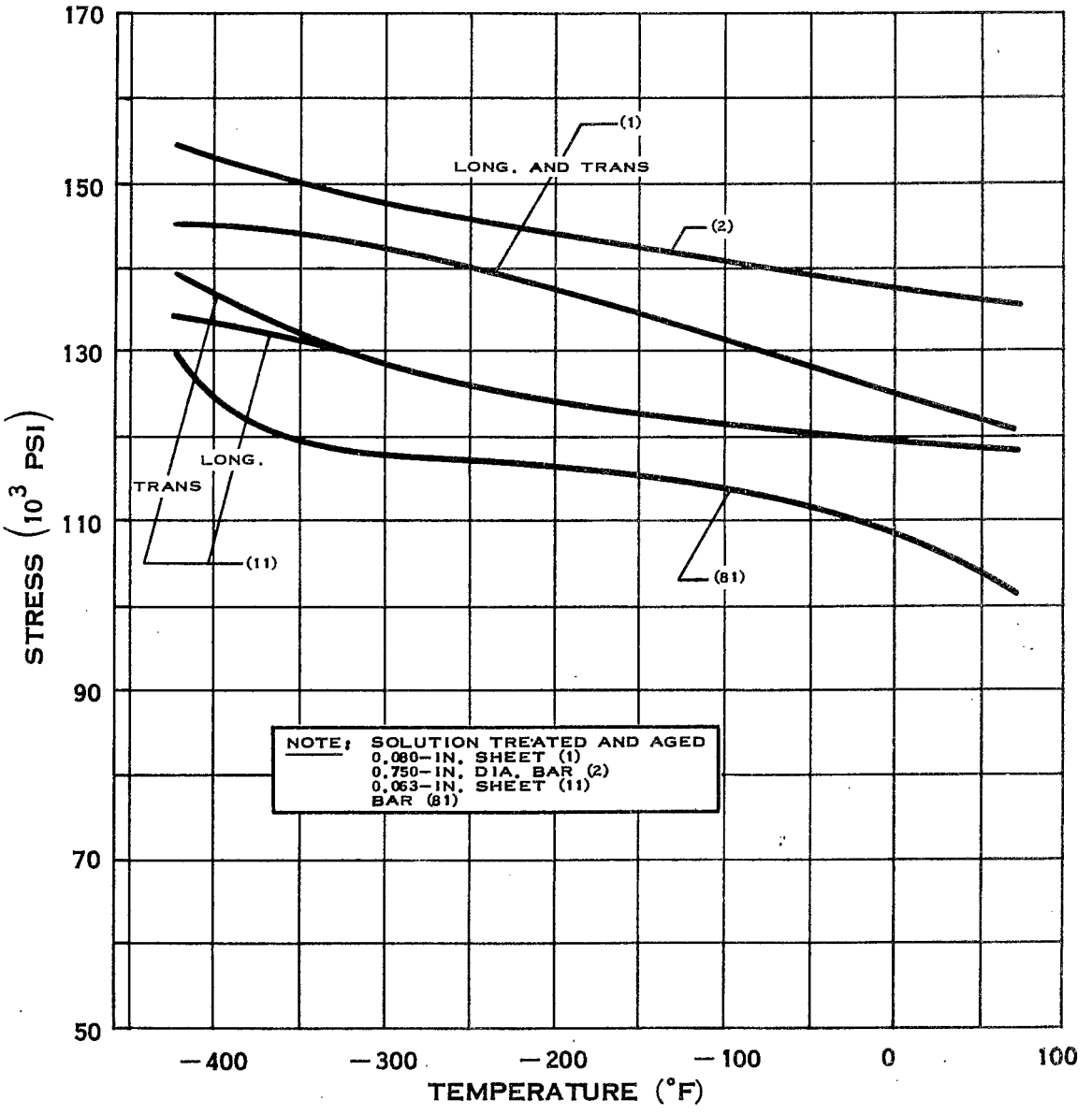


FATIGUE STRENGTH OF INCONEL



YIELD STRENGTH OF INCONEL-X

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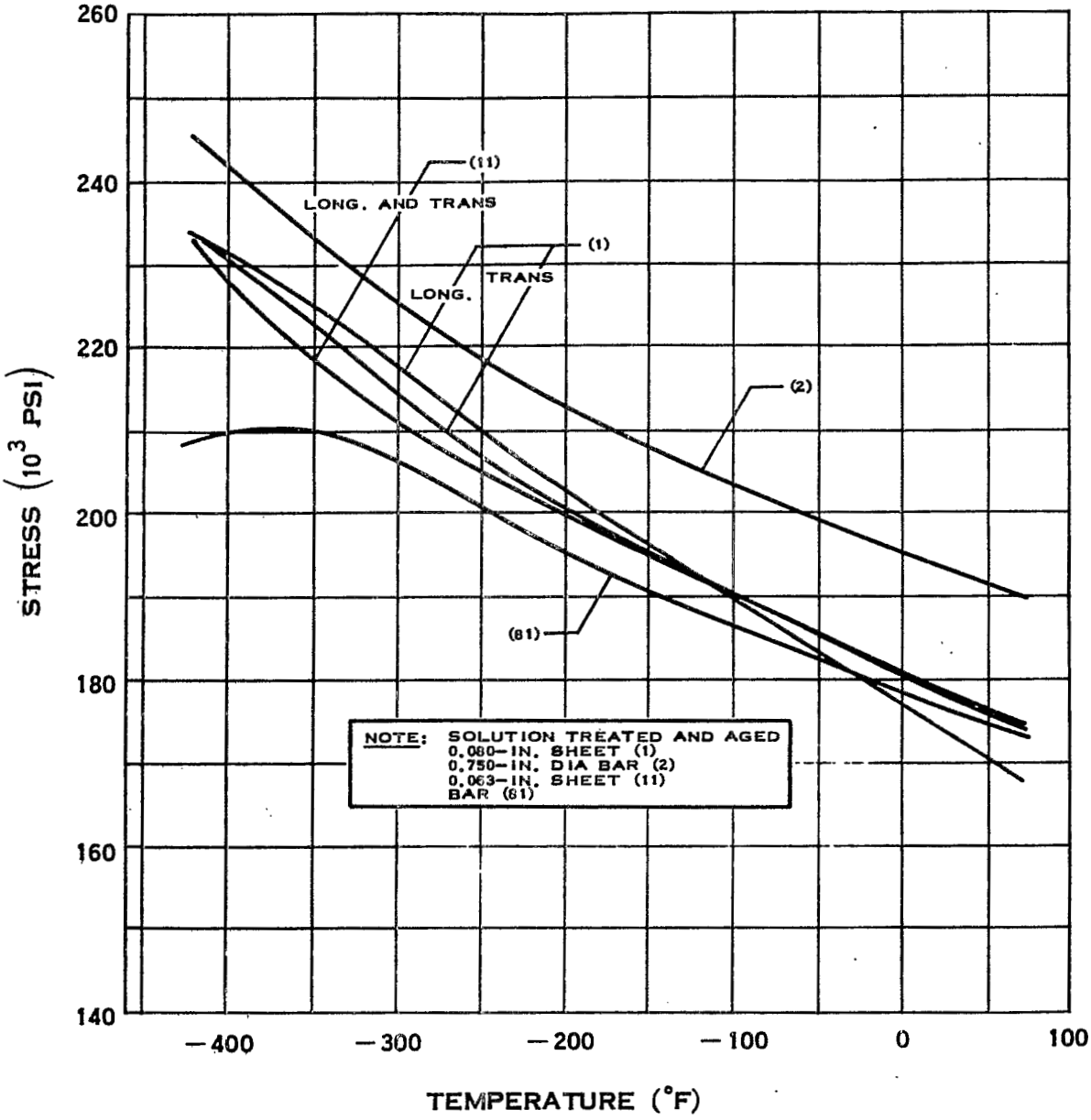

TENSILE STRENGTH OF INCONEL-X

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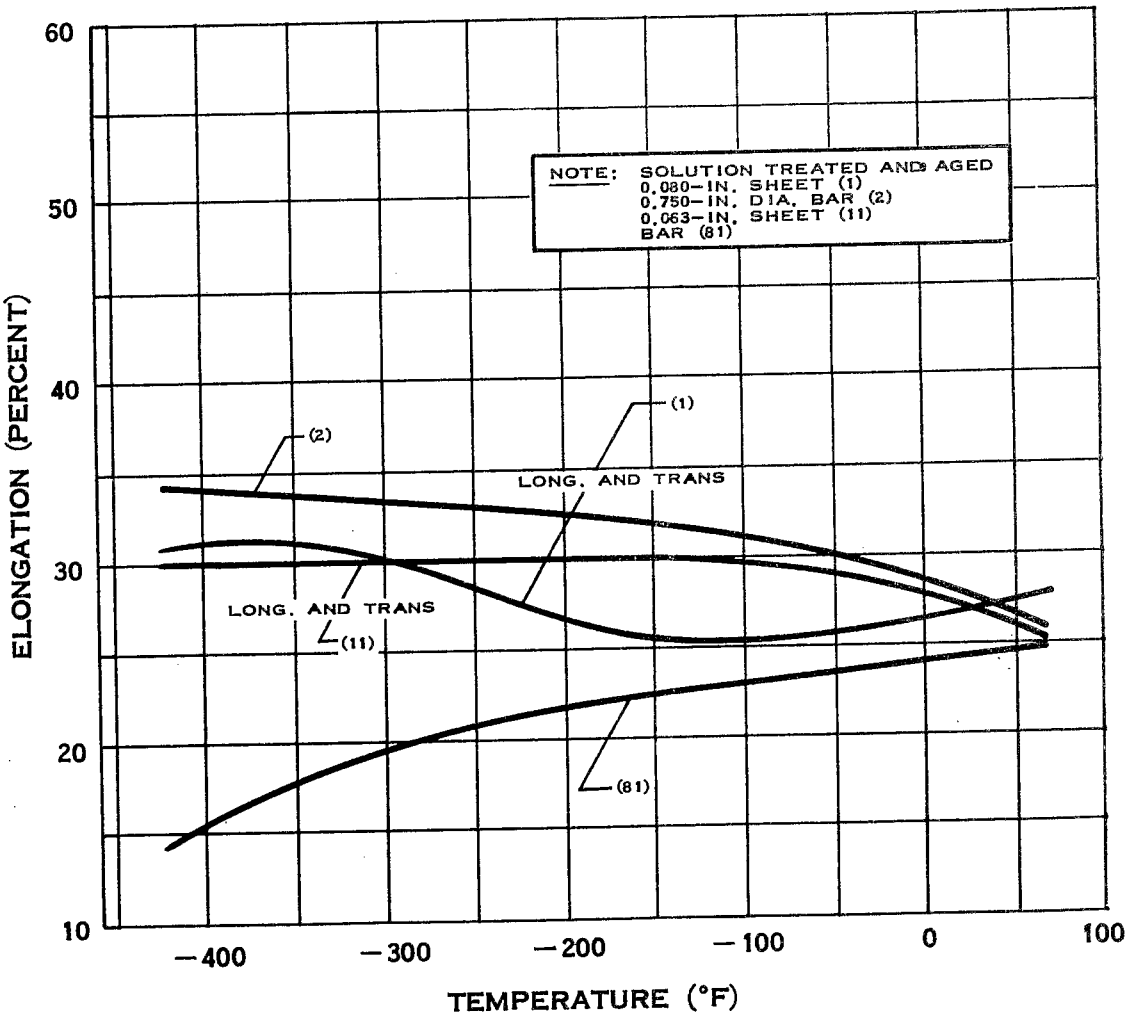

ELONGATION OF INCONEL-X

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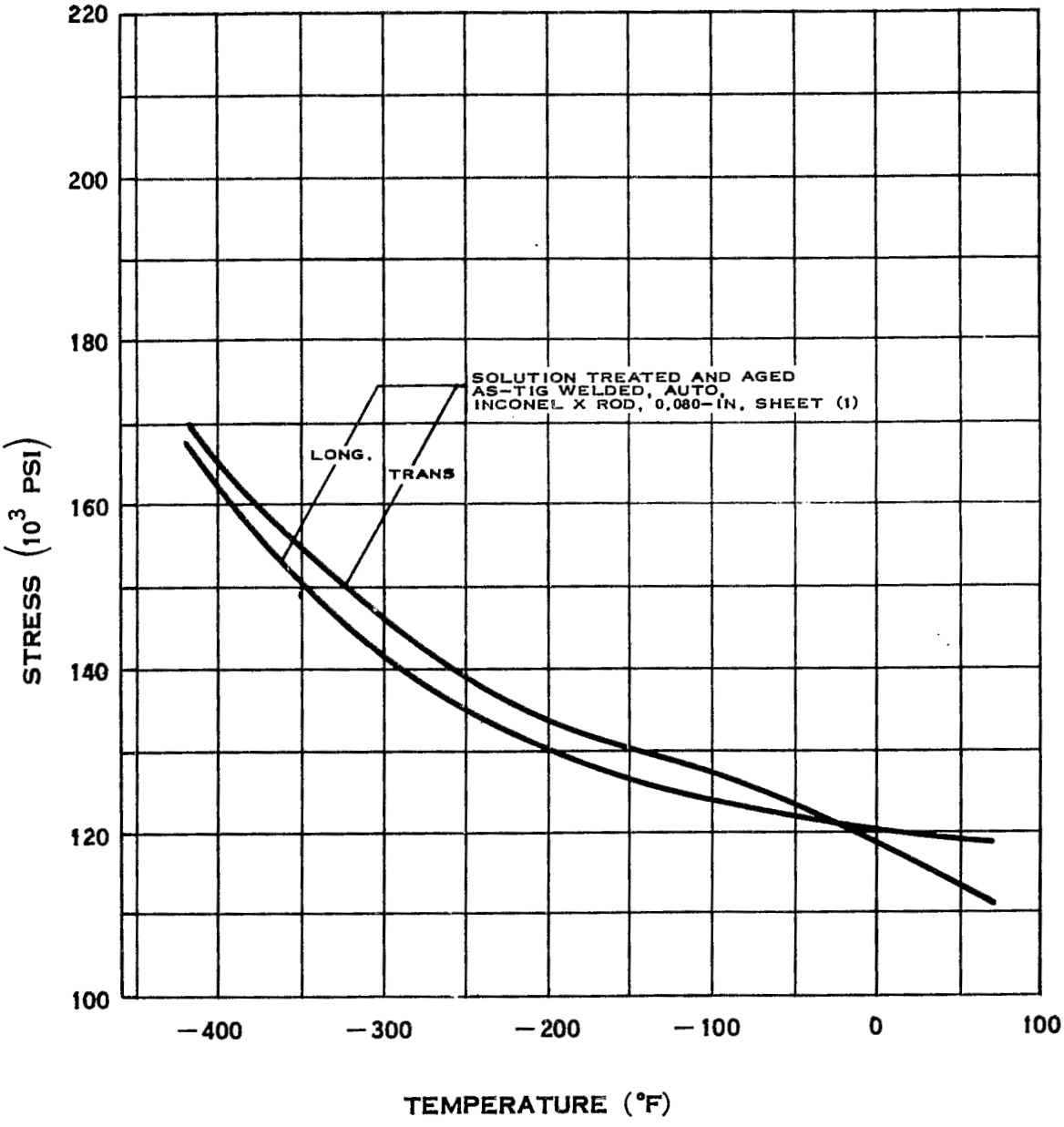
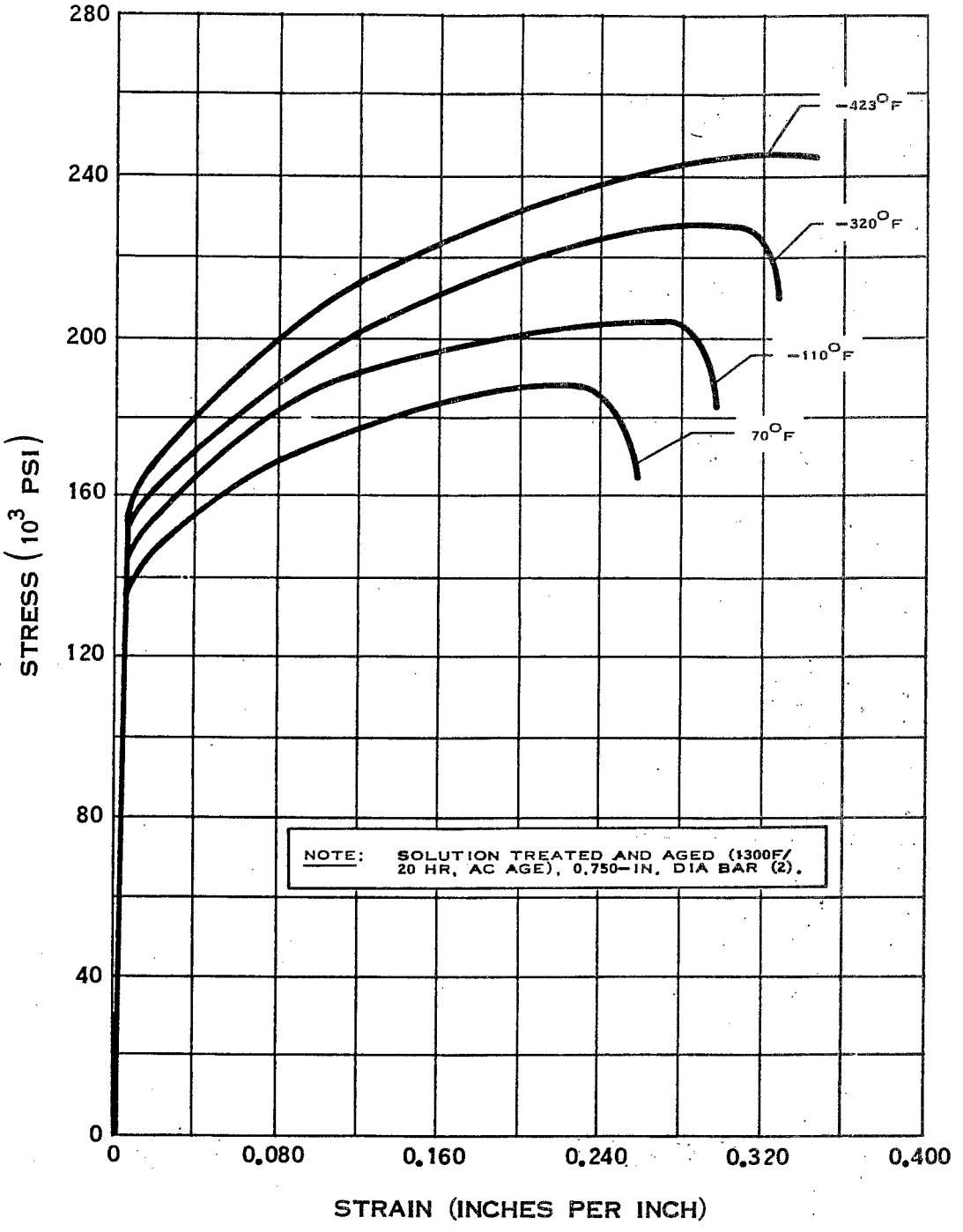
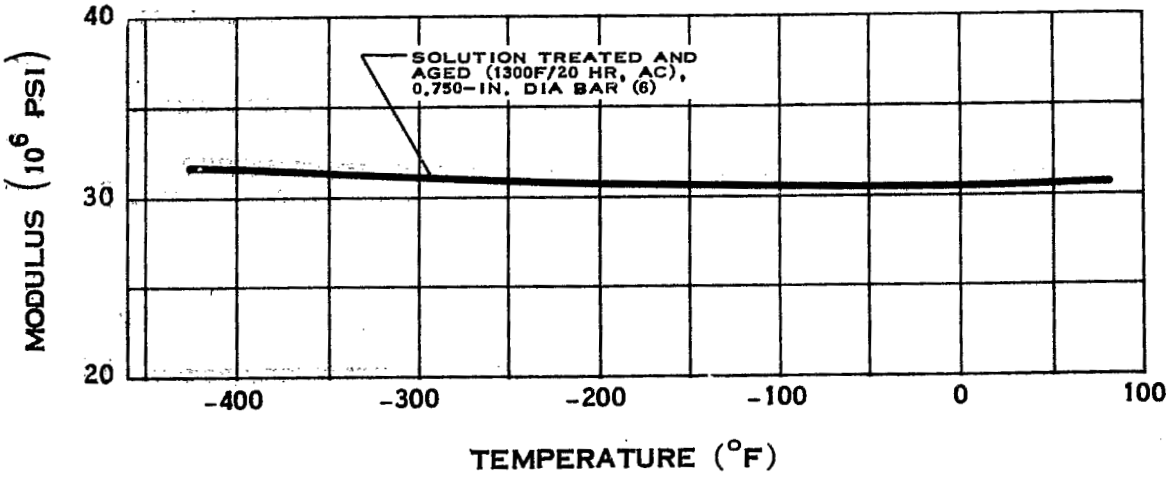


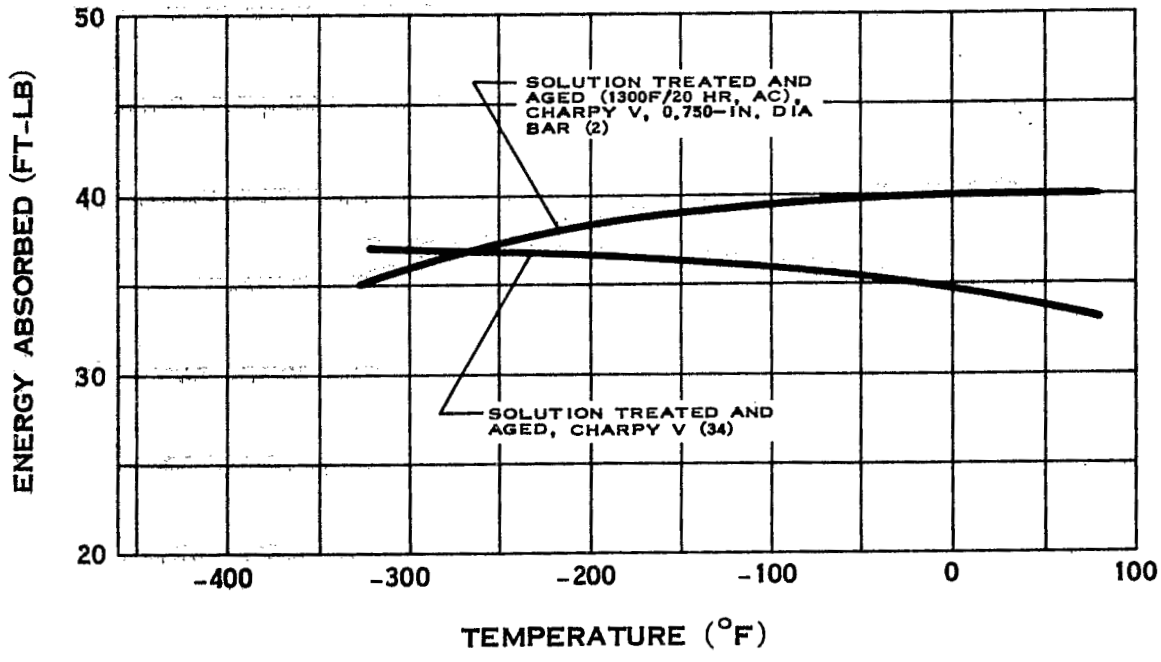
WELD TENSILE STRENGTH OF INCONEL-X



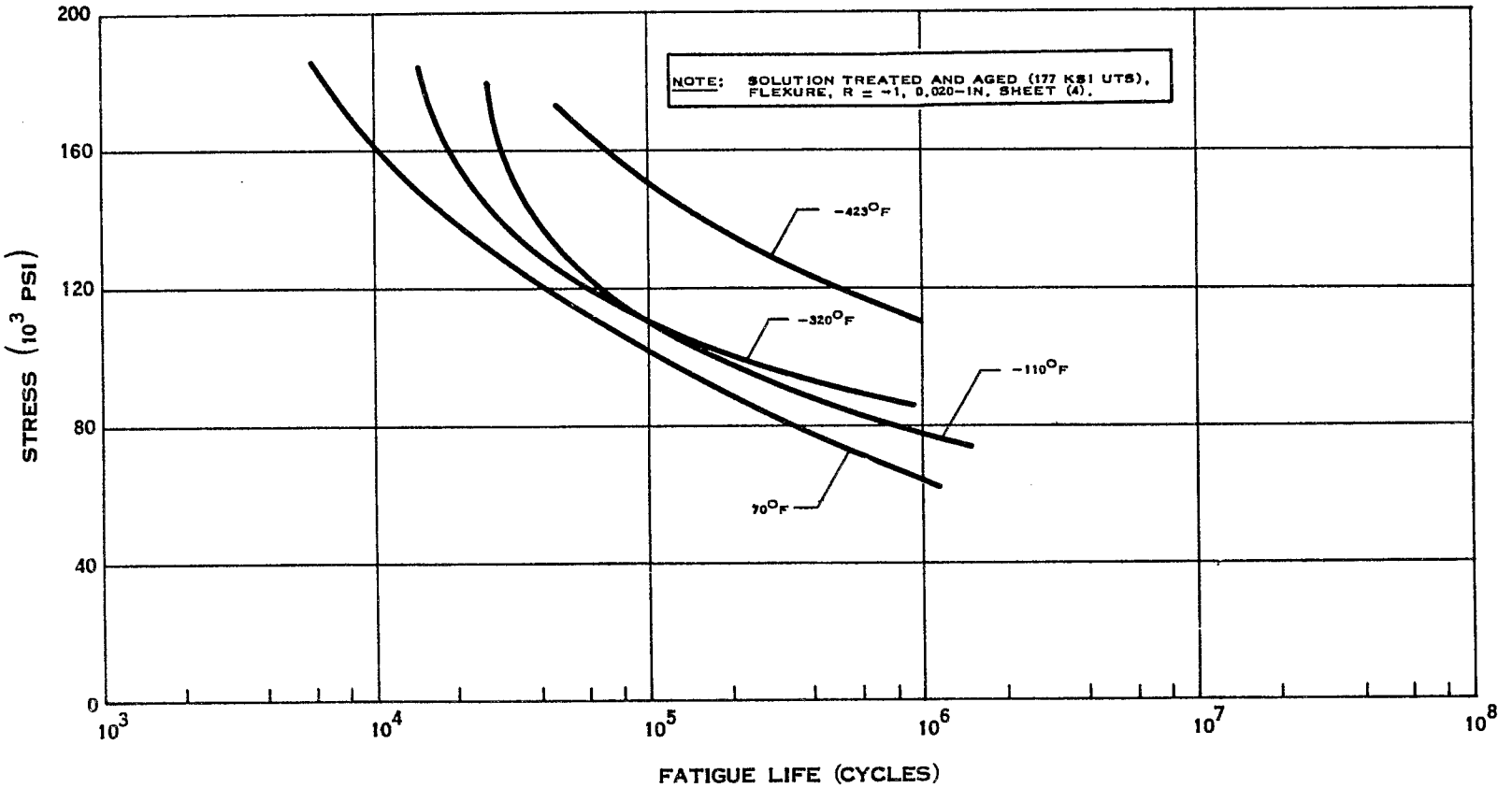
STRESS-STRAIN DIAGRAM FOR INCONEL X



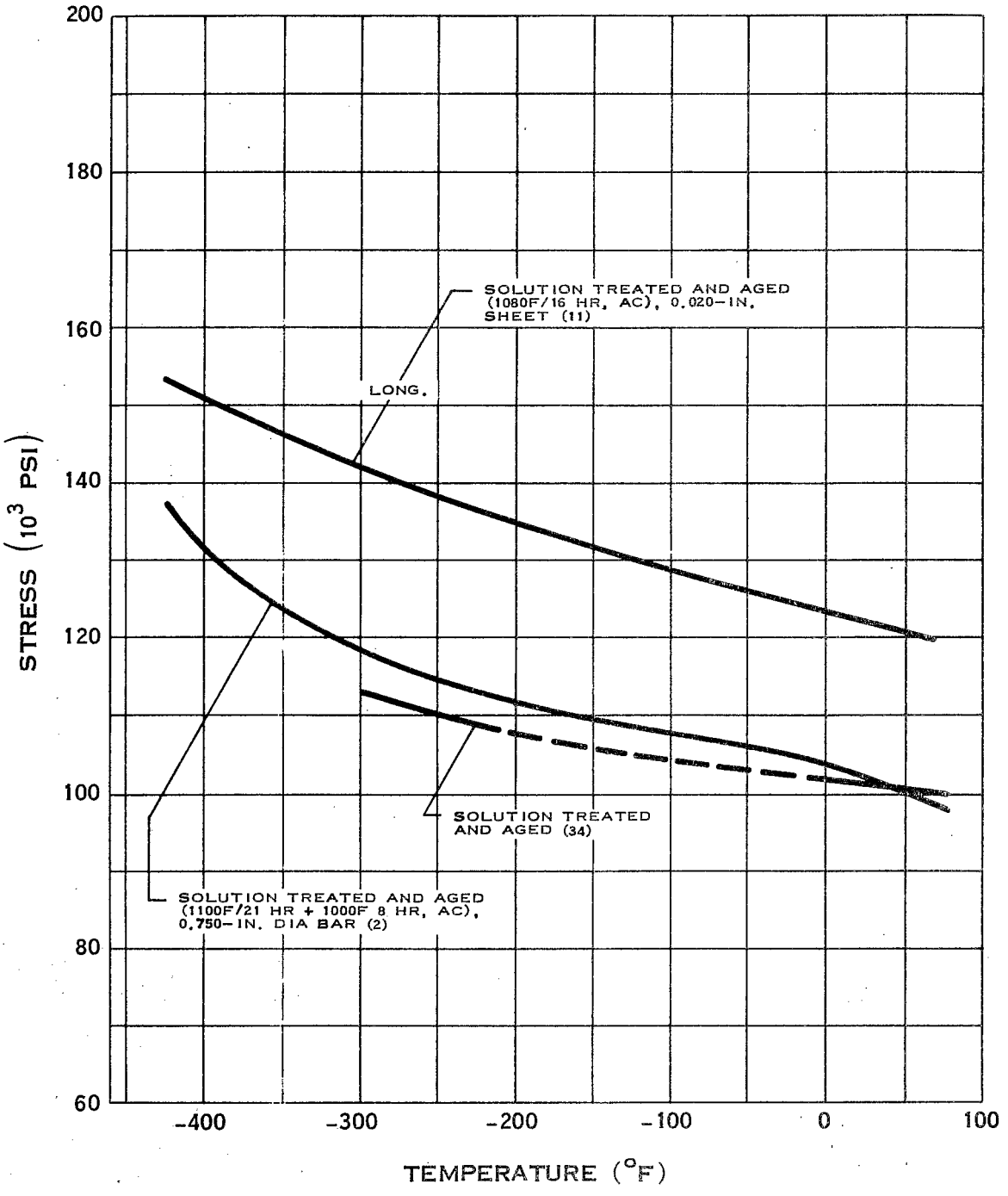
MODULUS OF ELASTICITY OF INCONEL X



IMPACT STRENGTH OF INCONEL X



FATIGUE STRENGTH OF INCONEL X



YIELD STRENGTH OF K MONEL

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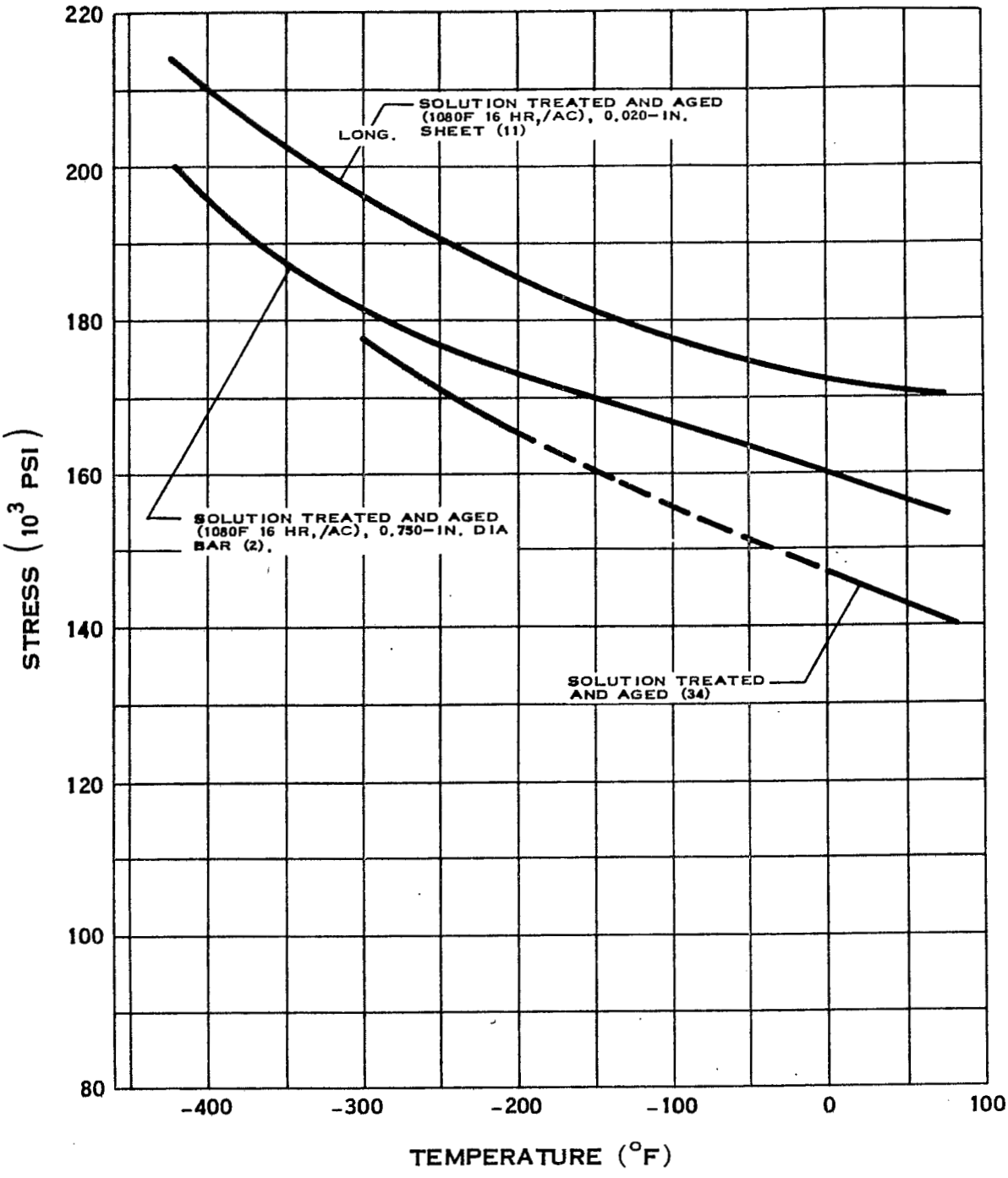

TENSILE STRENGTH OF K MONEL

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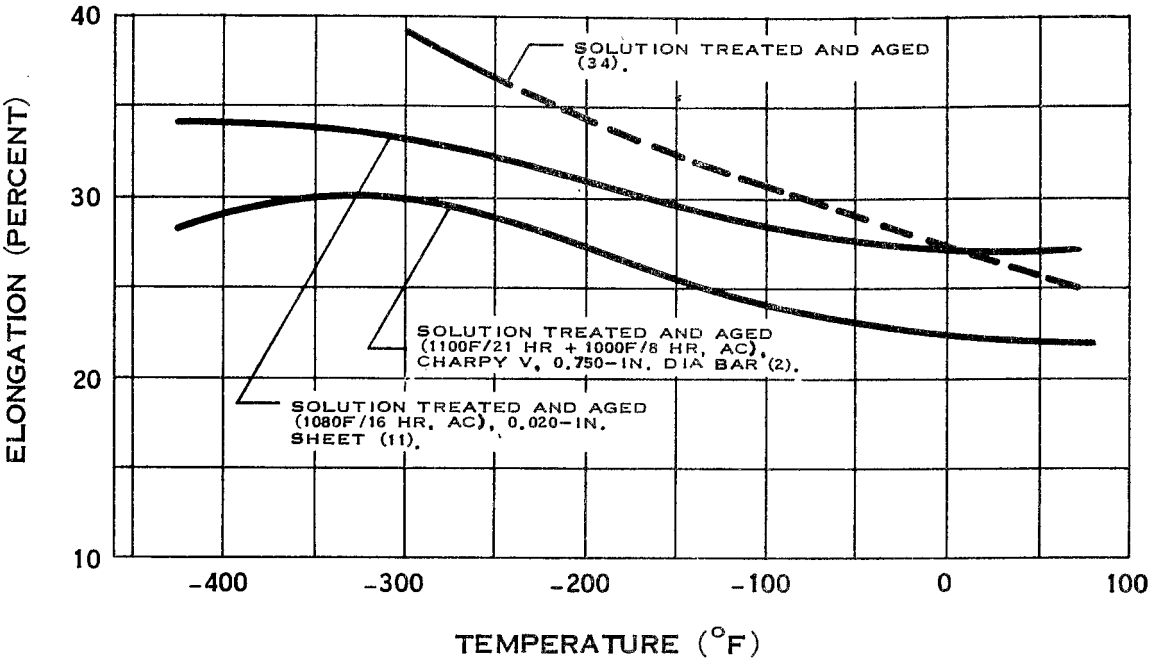
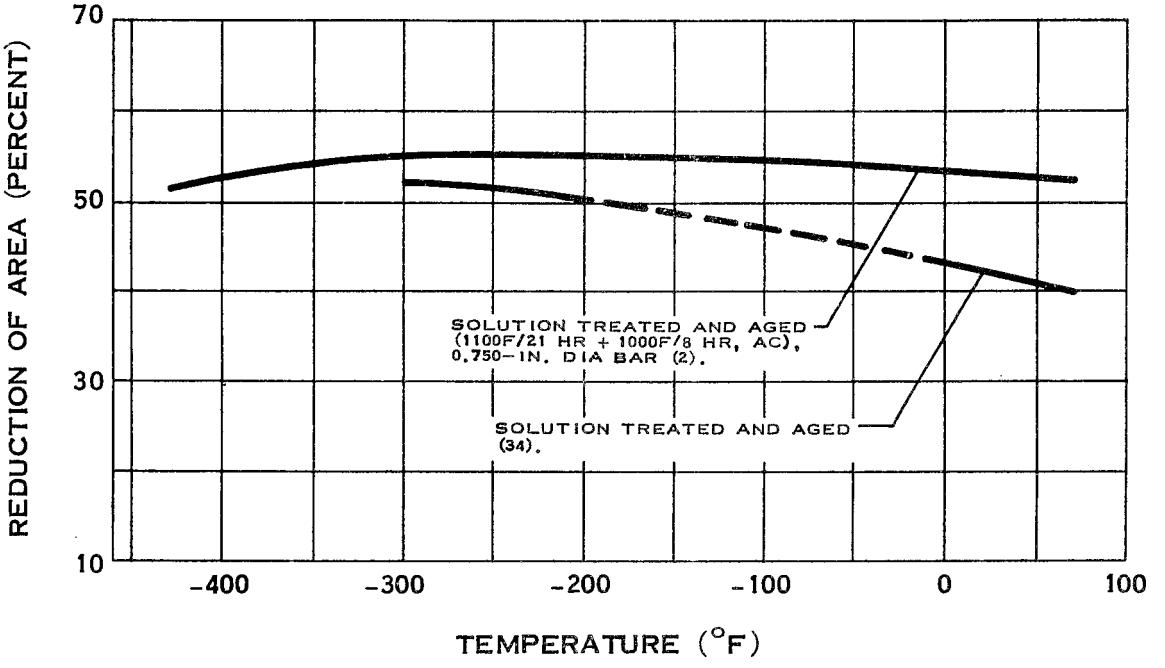
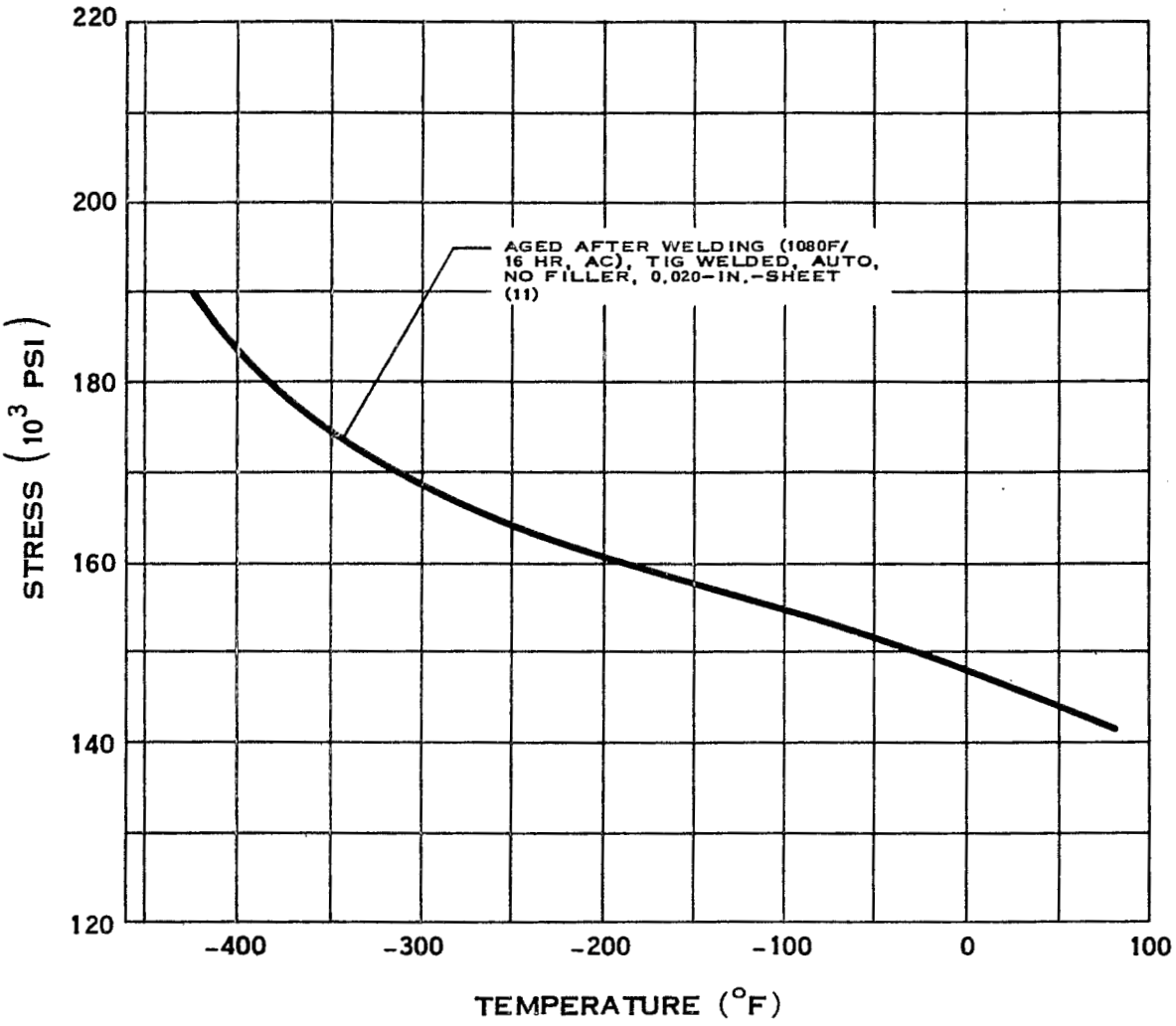


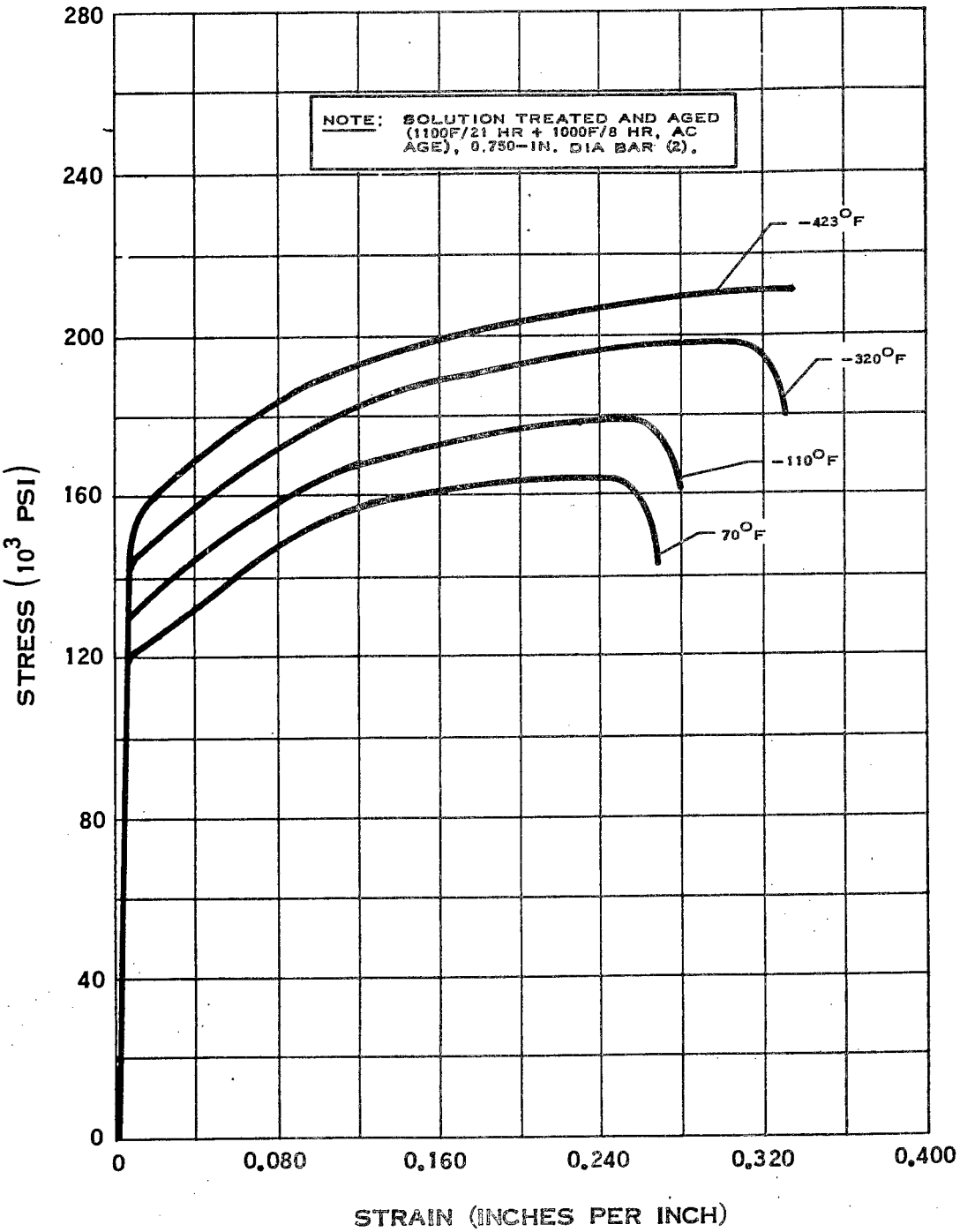
ELONGATION OF K MONEL



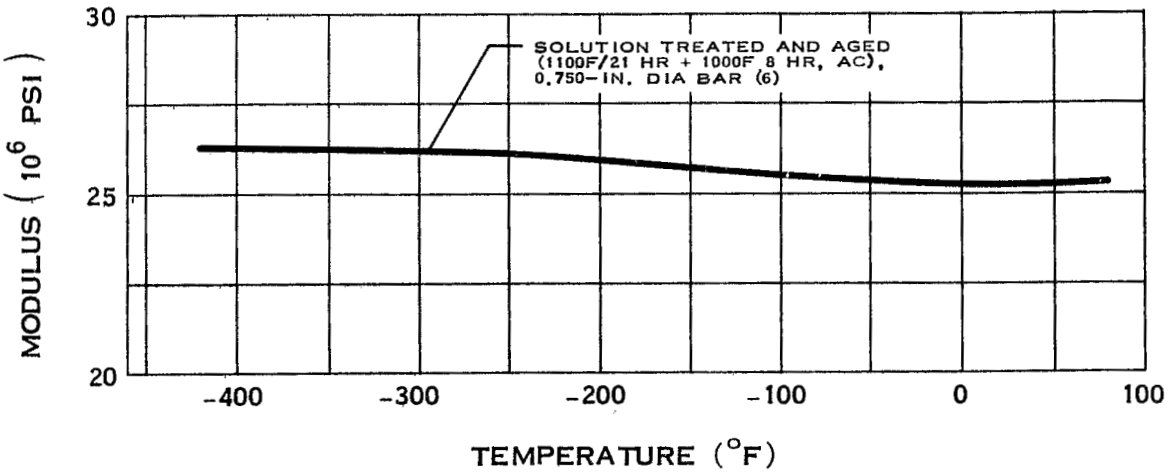
REDUCTION OF AREA OF K MONEL



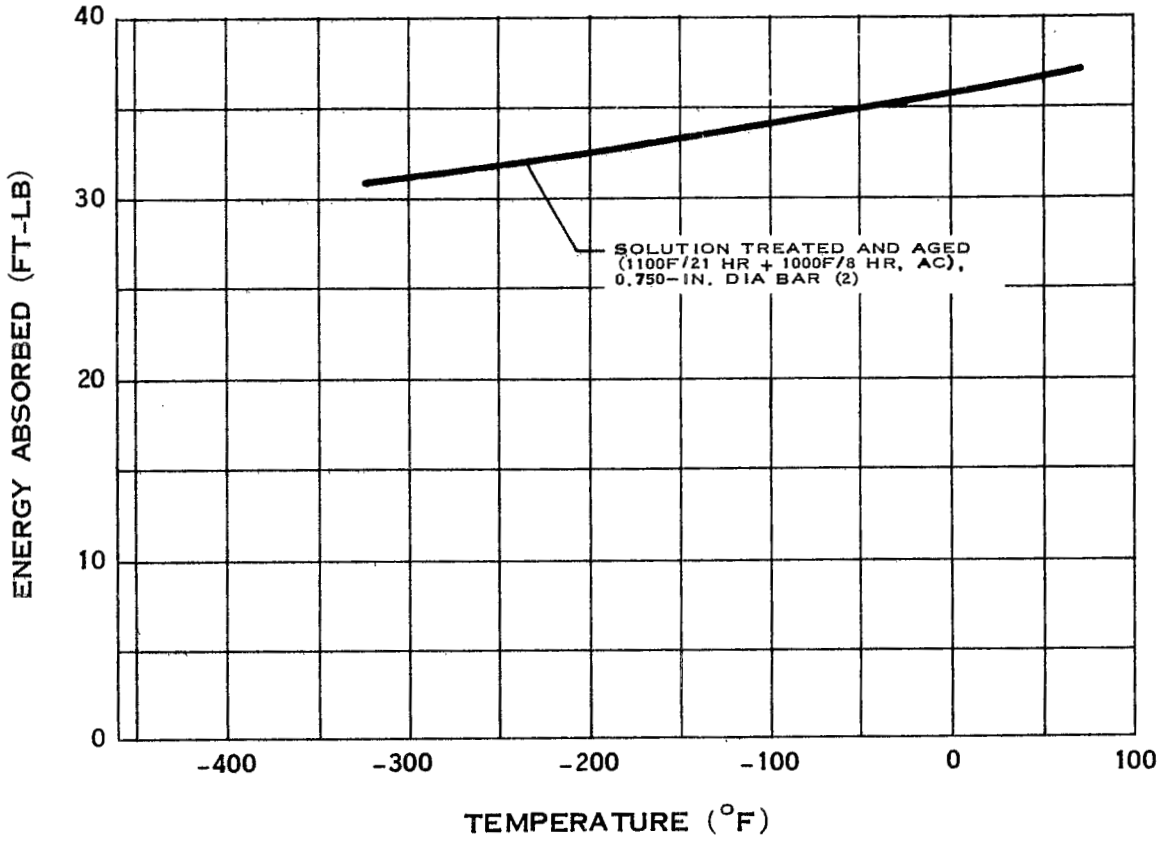
WELD TENSILE STRENGTH OF K MONEL



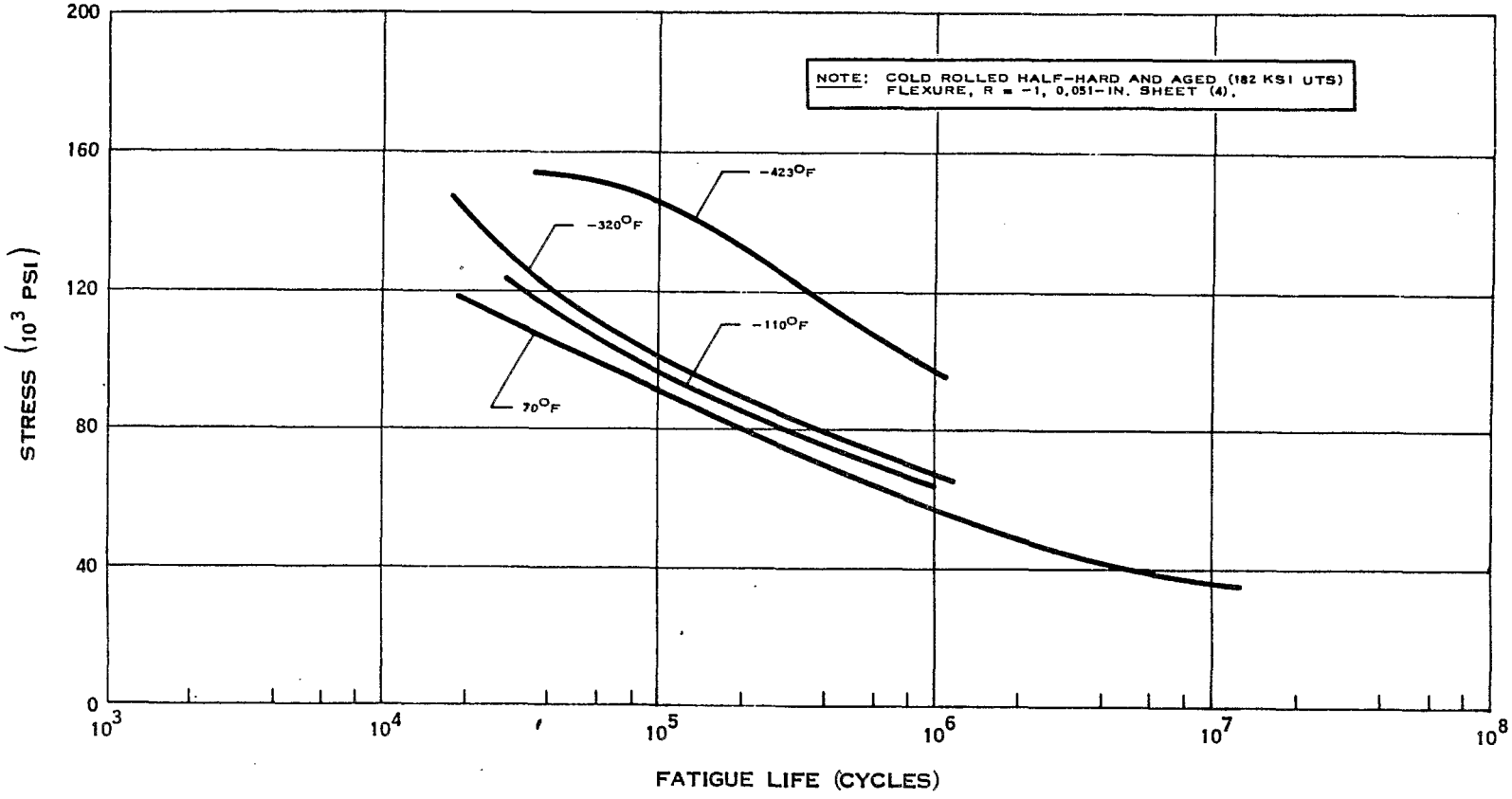
STRESS-STRAIN DIAGRAM FOR K MONEL



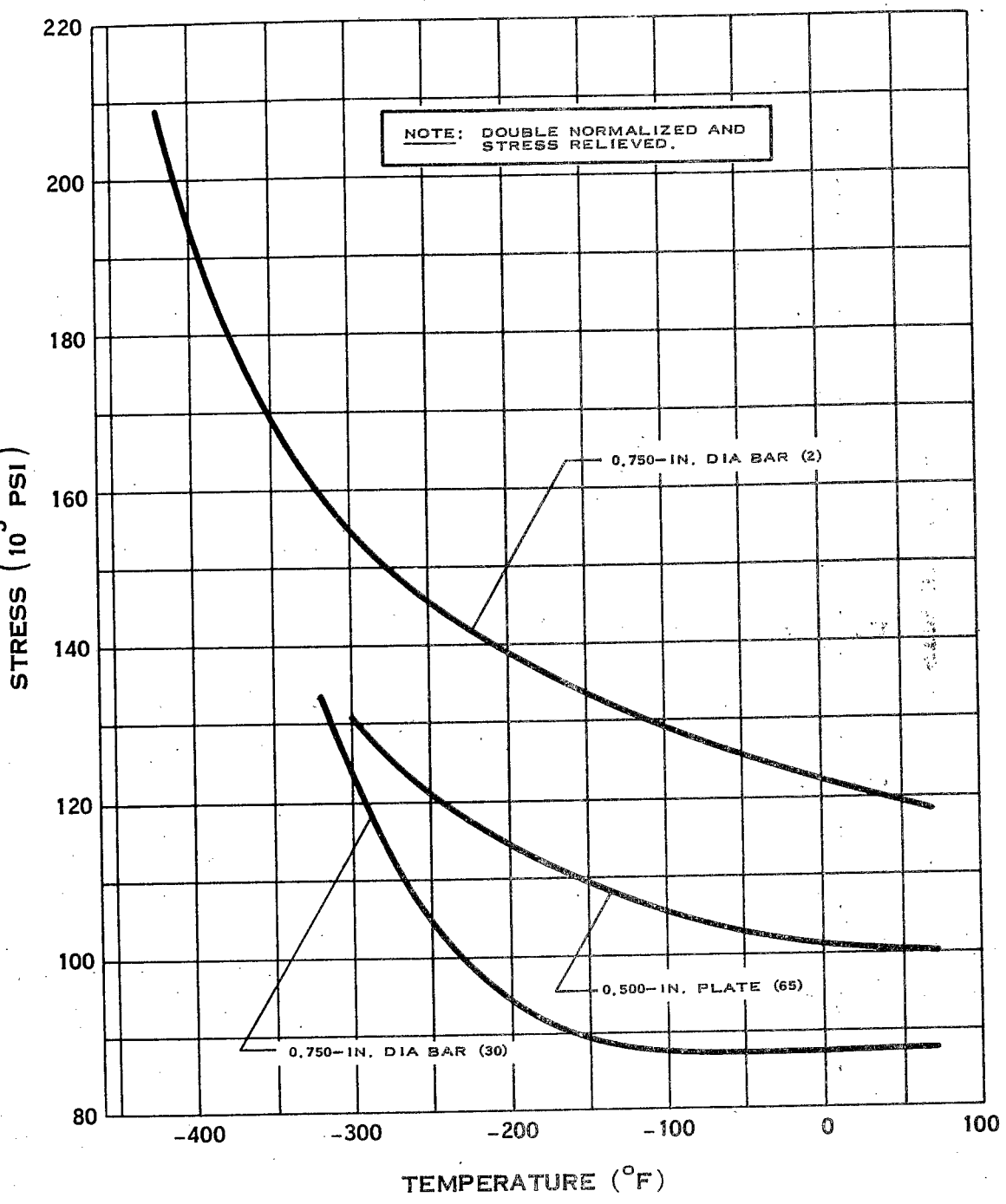
MODULUS OF ELASTICITY OF K MONEL



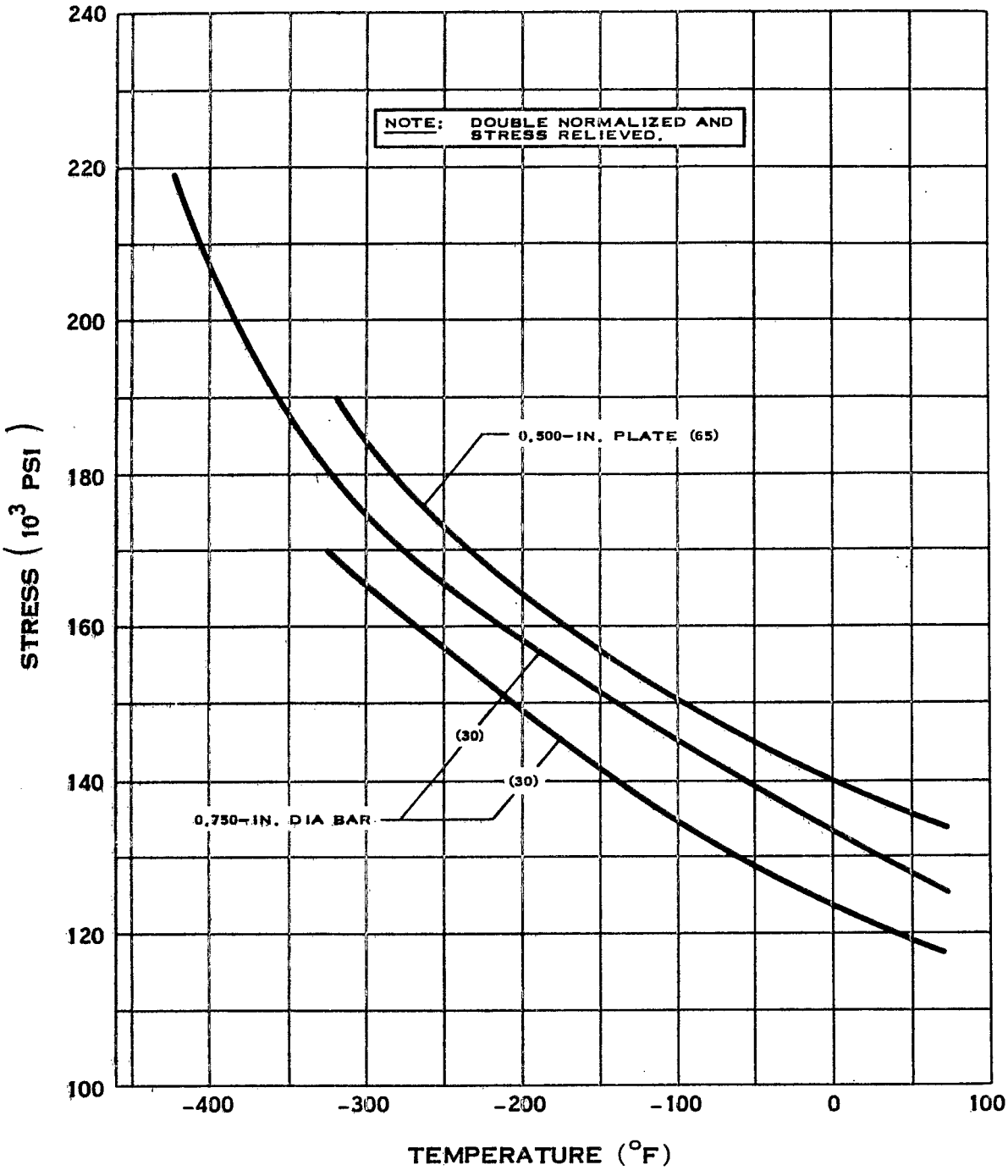
IMPACT STRENGTH OF K MONEL



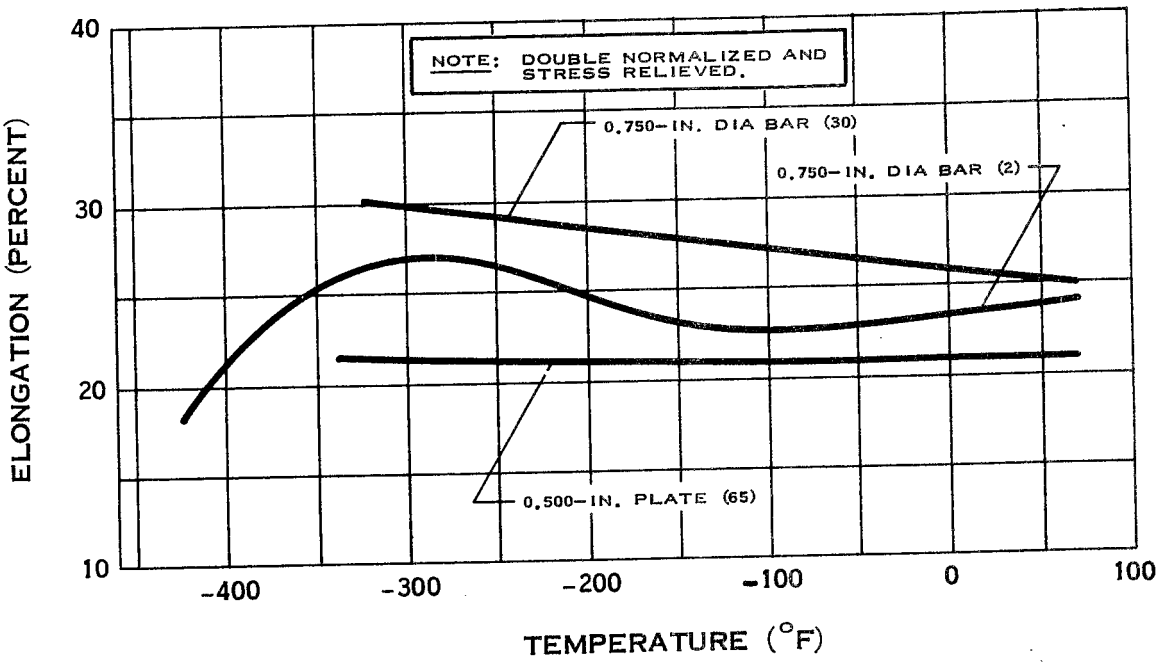
FATIGUE STRENGTH OF K MONEL



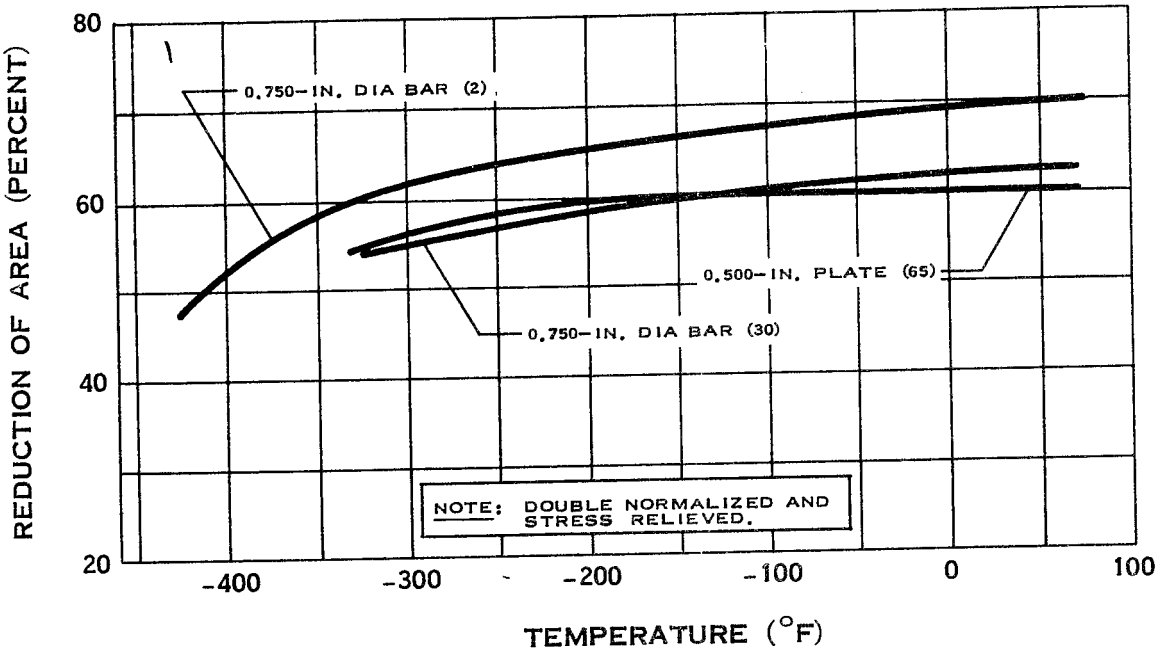
YIELD STRENGTH OF 2800 (9%Ni) STEEL



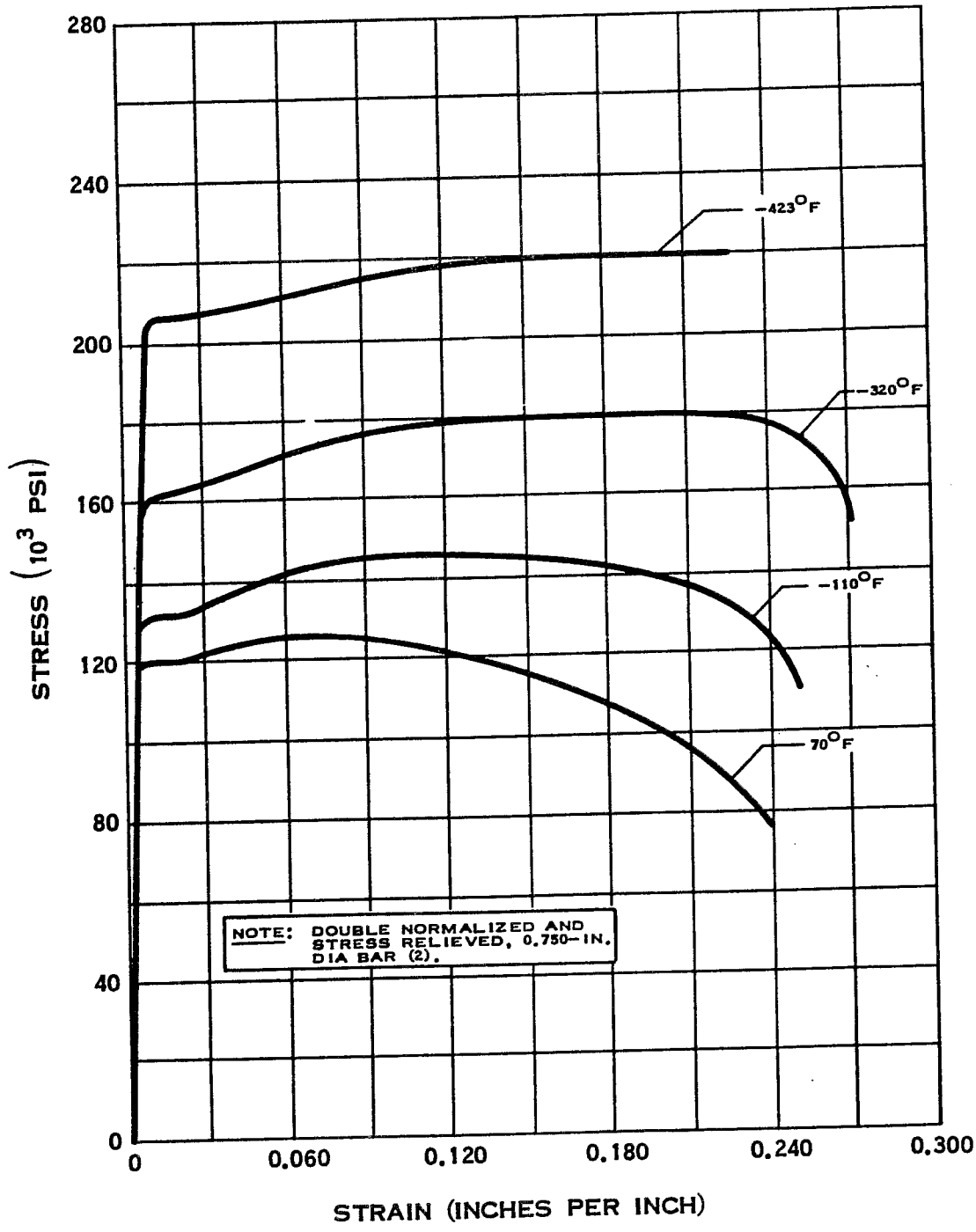
TENSILE STRENGTH OF 2800 (9% Ni) STEEL



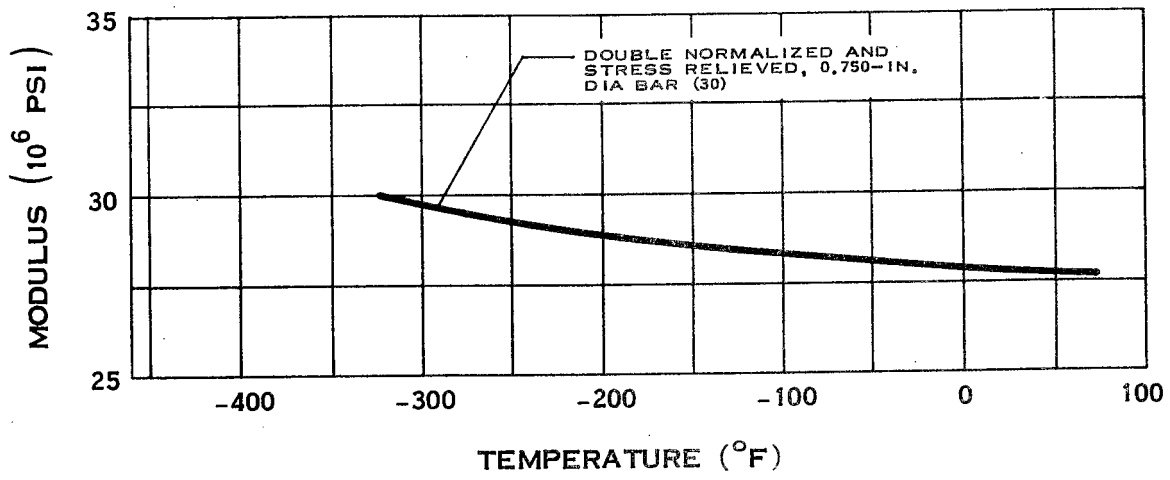
ELONGATION OF 2800 (9% Ni) STEEL



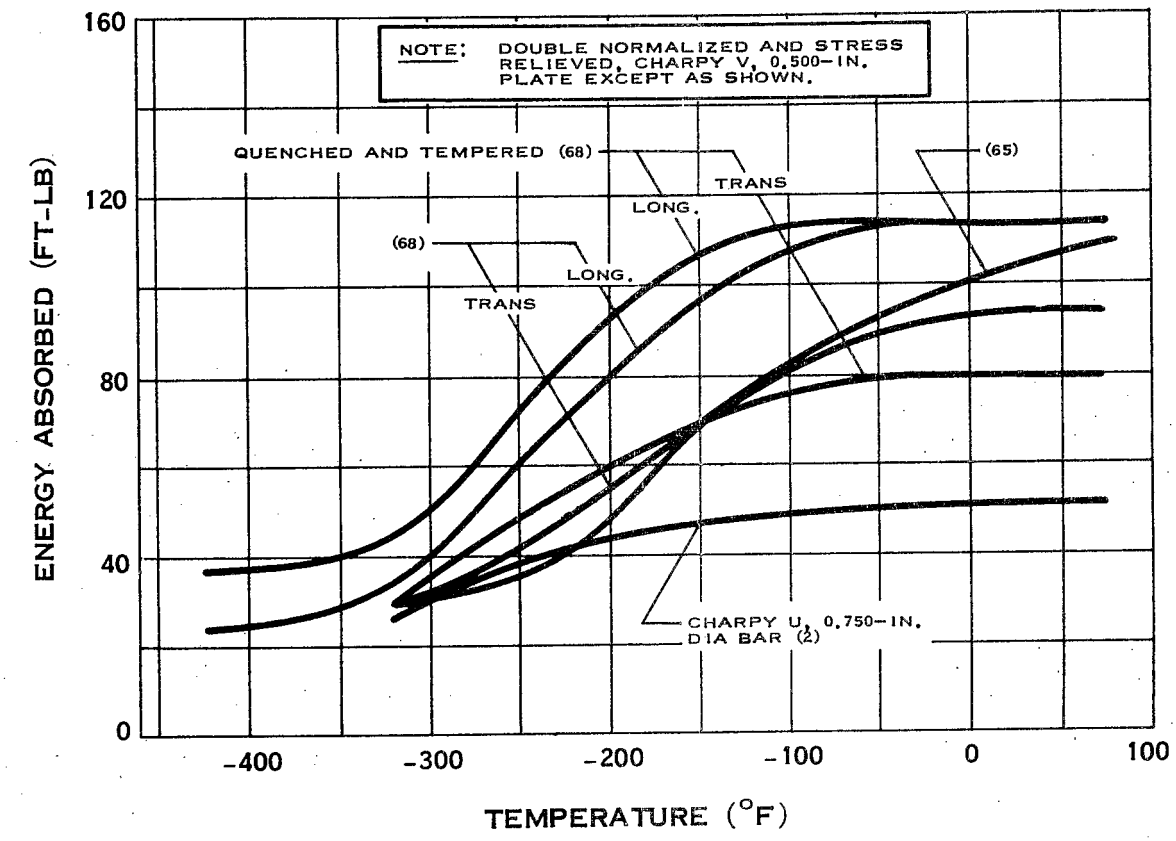
REDUCTION OF AREA OF 2800 (9% Ni) STEEL



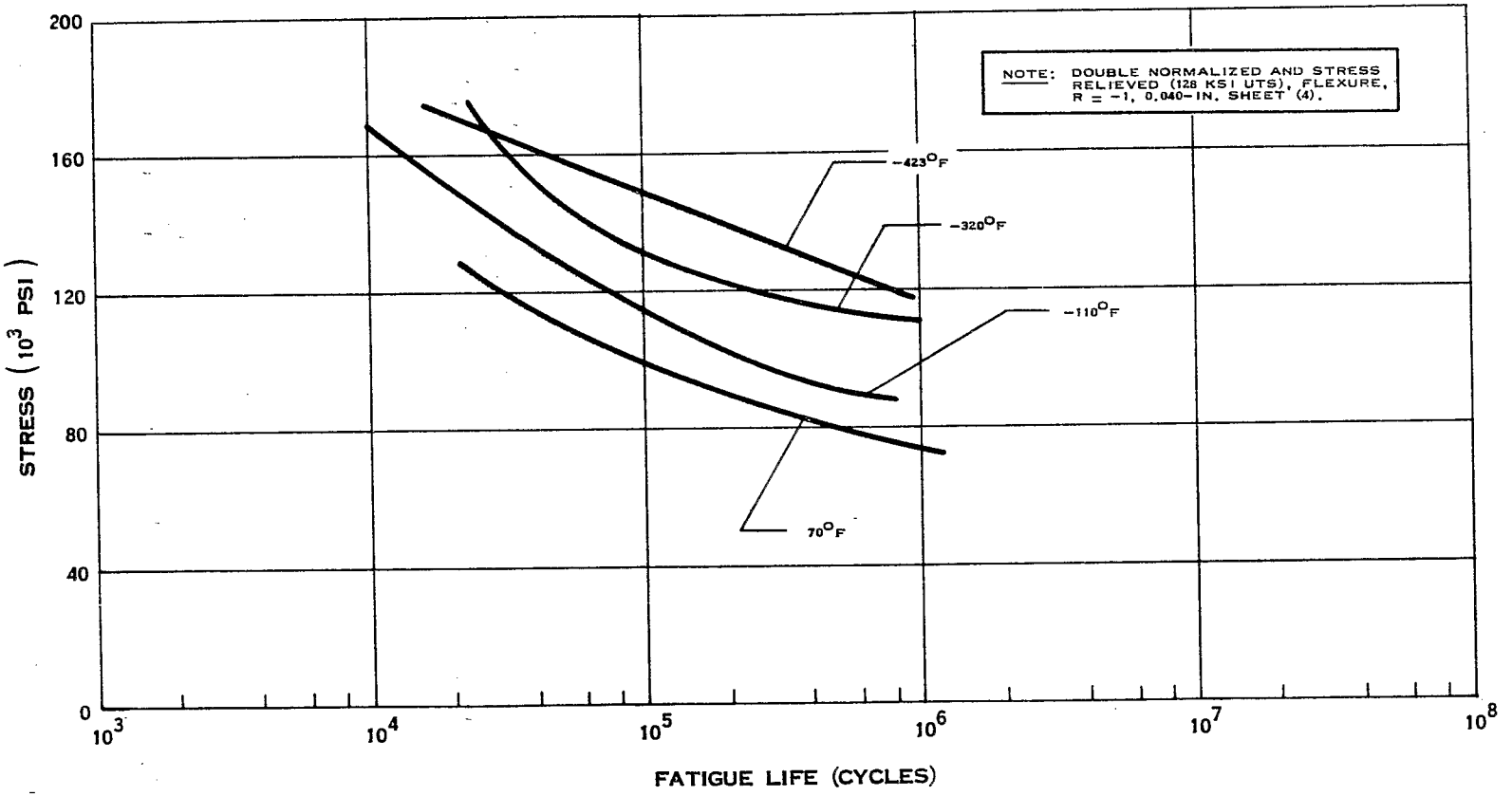
STRESS-STRAIN DIAGRAM FOR 2800 (9%Ni) STEEL



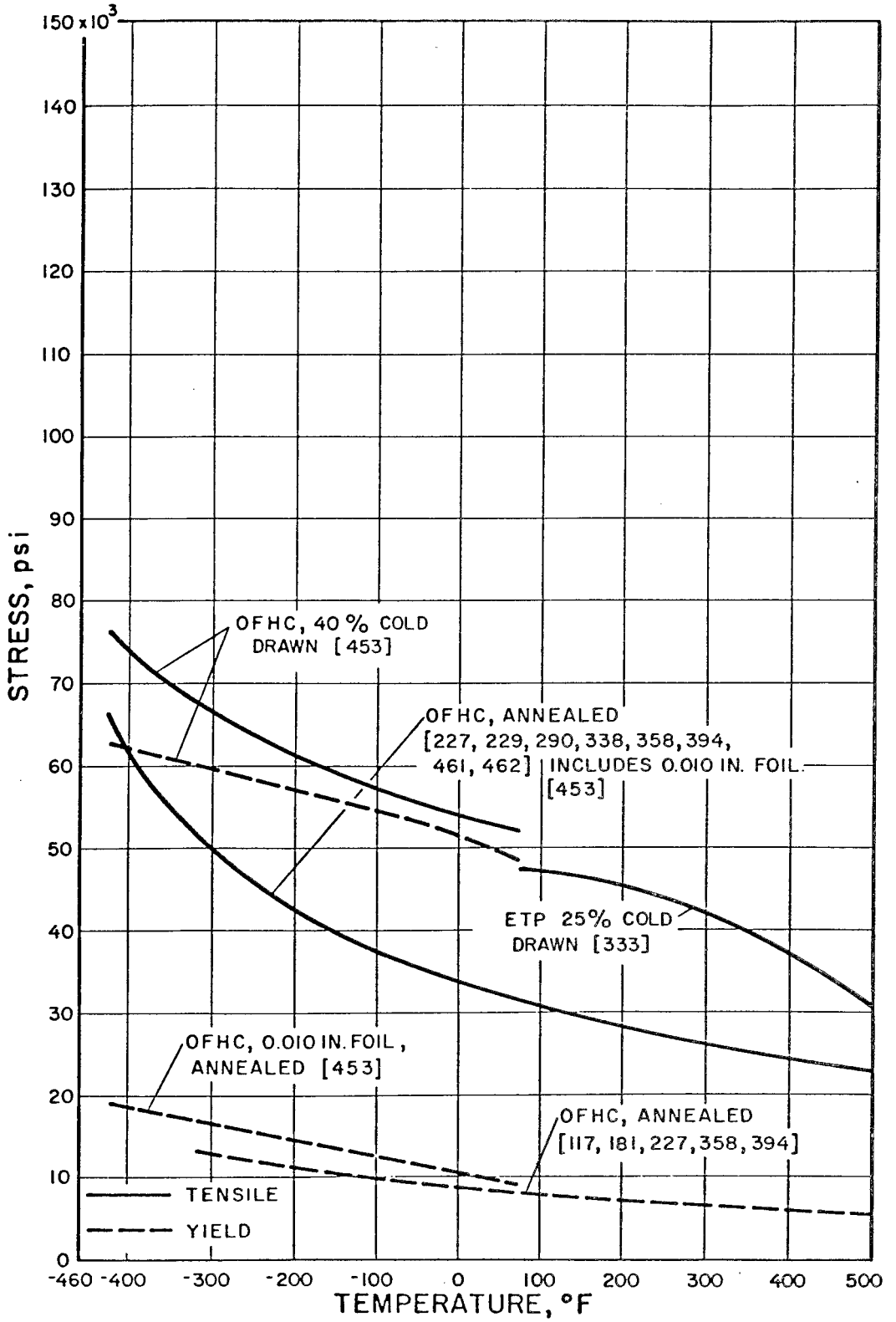
MODULUS OF ELASTICITY OF 2800 (9% Ni) STEEL



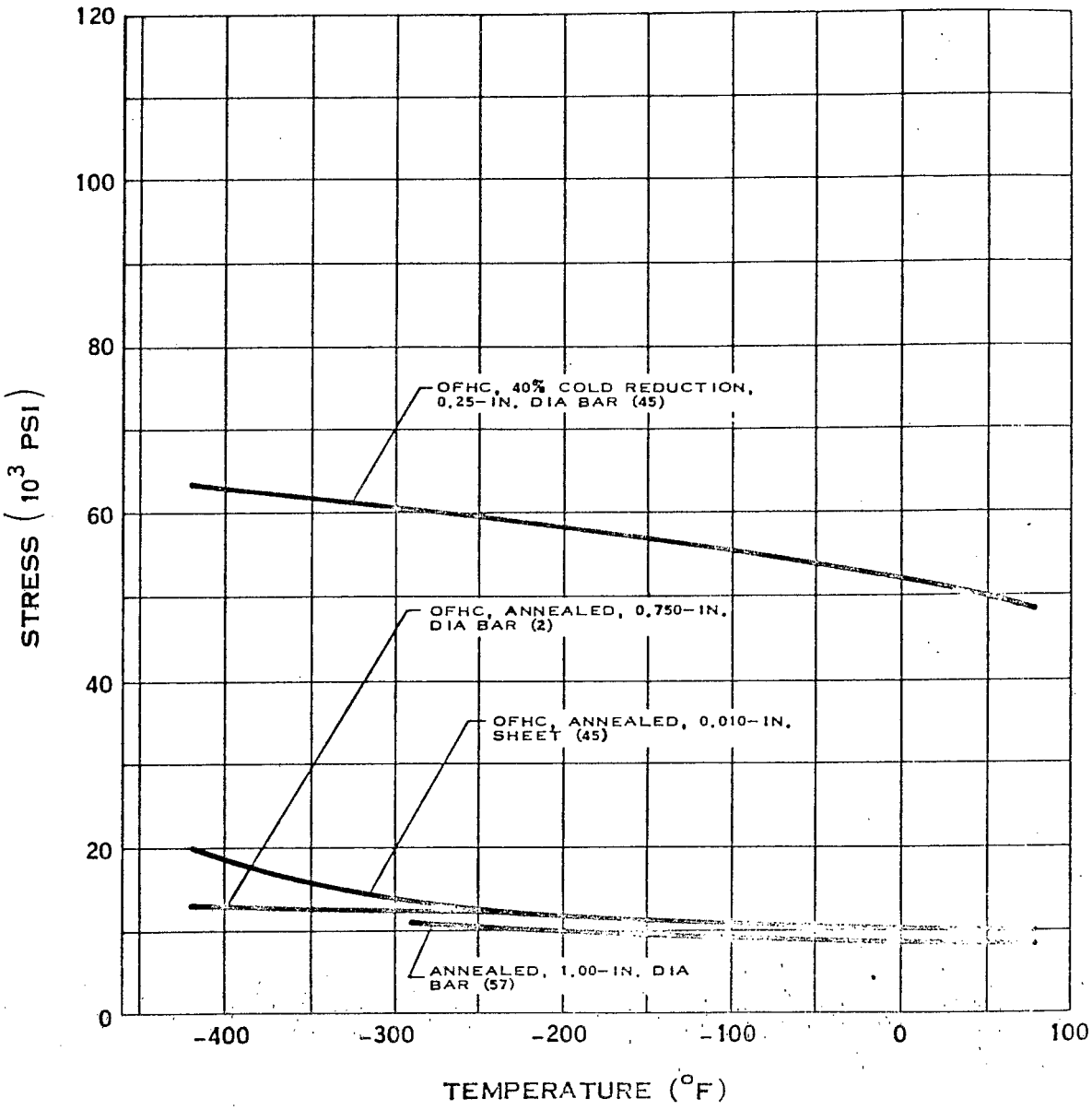
IMPACT STRENGTH OF 2800 (9% Ni) STEEL



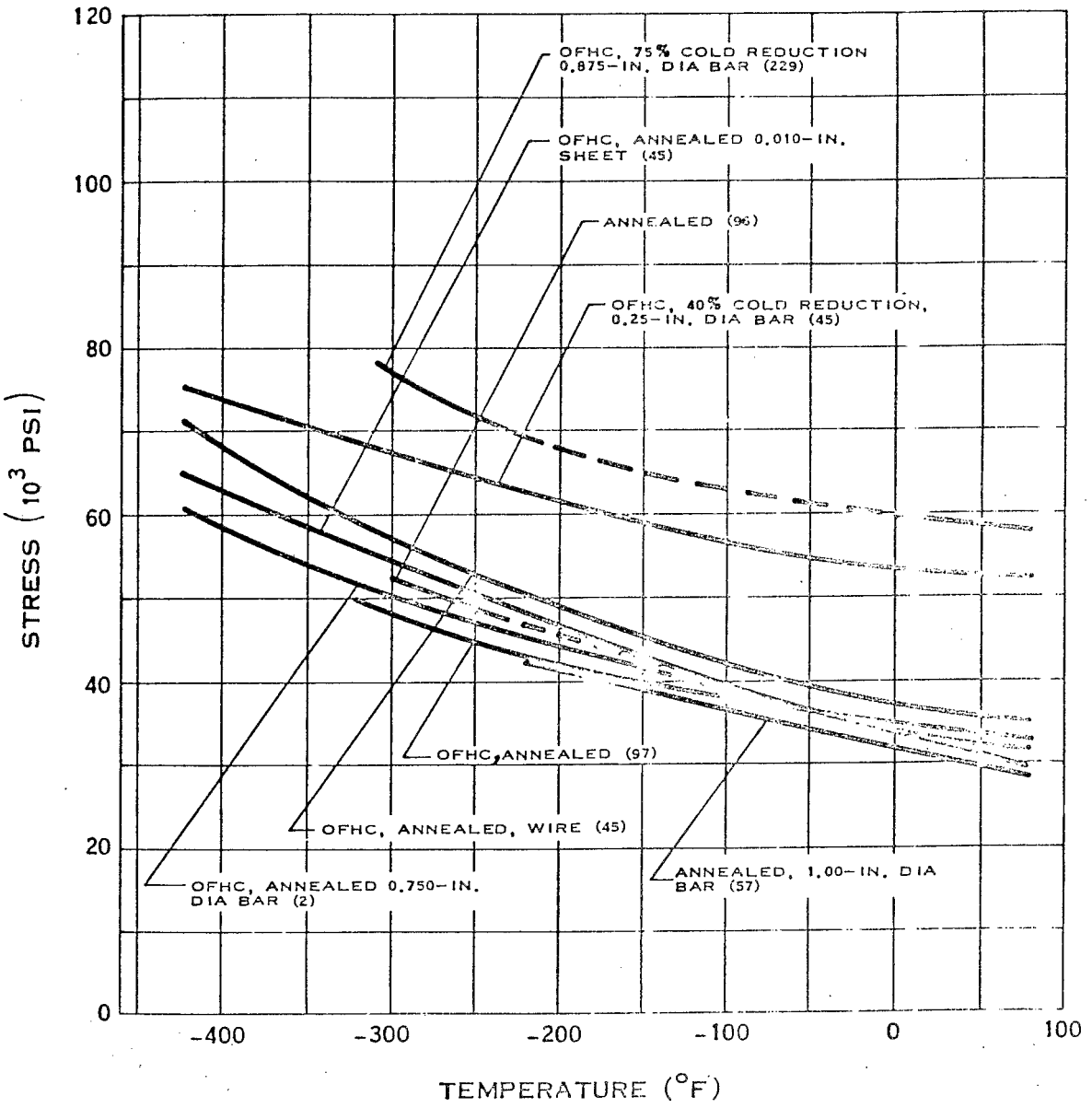
FATIGUE STRENGTH OF 2800 (9%Ni) STEEL



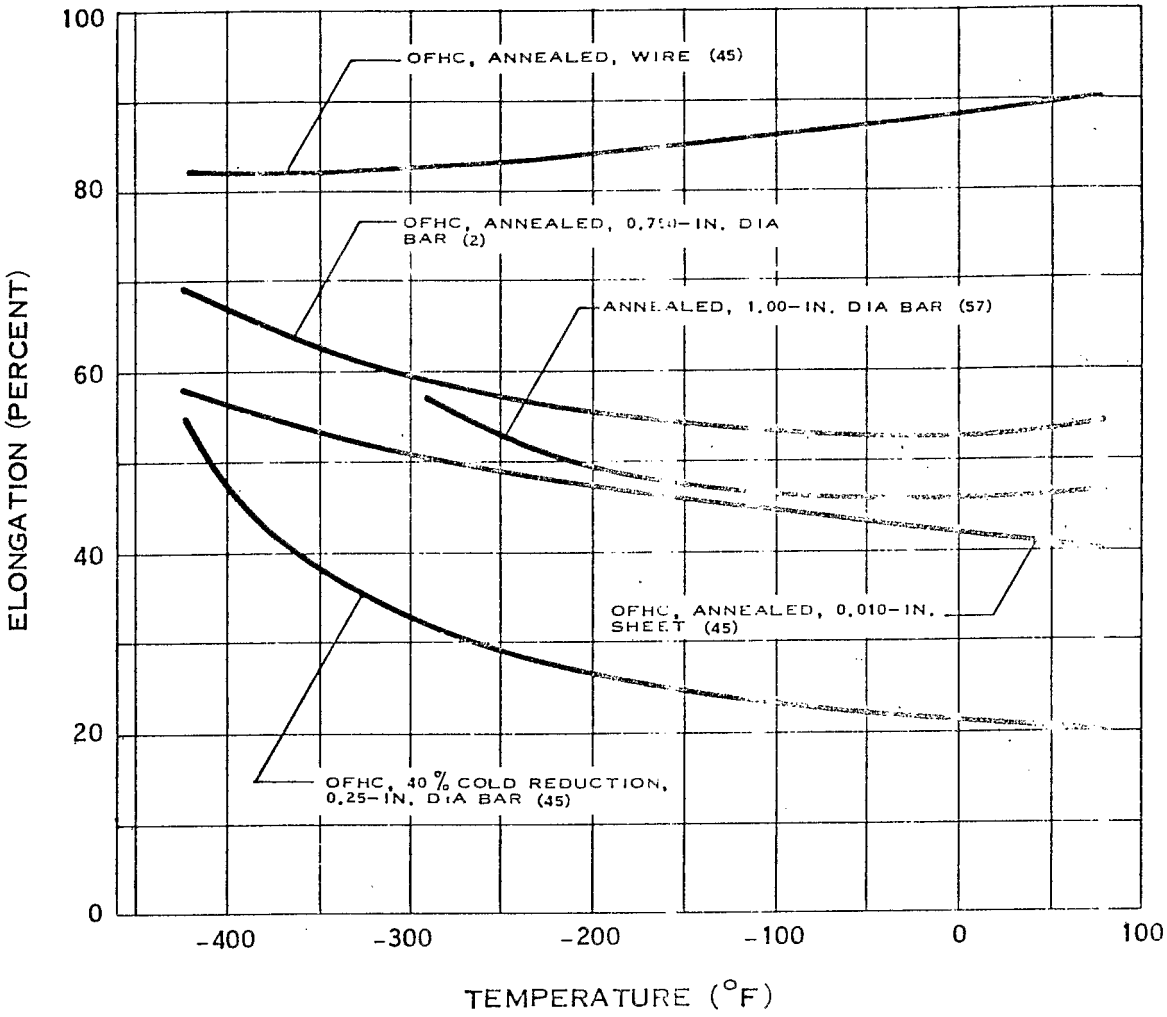
STRENGTH OF COPPER



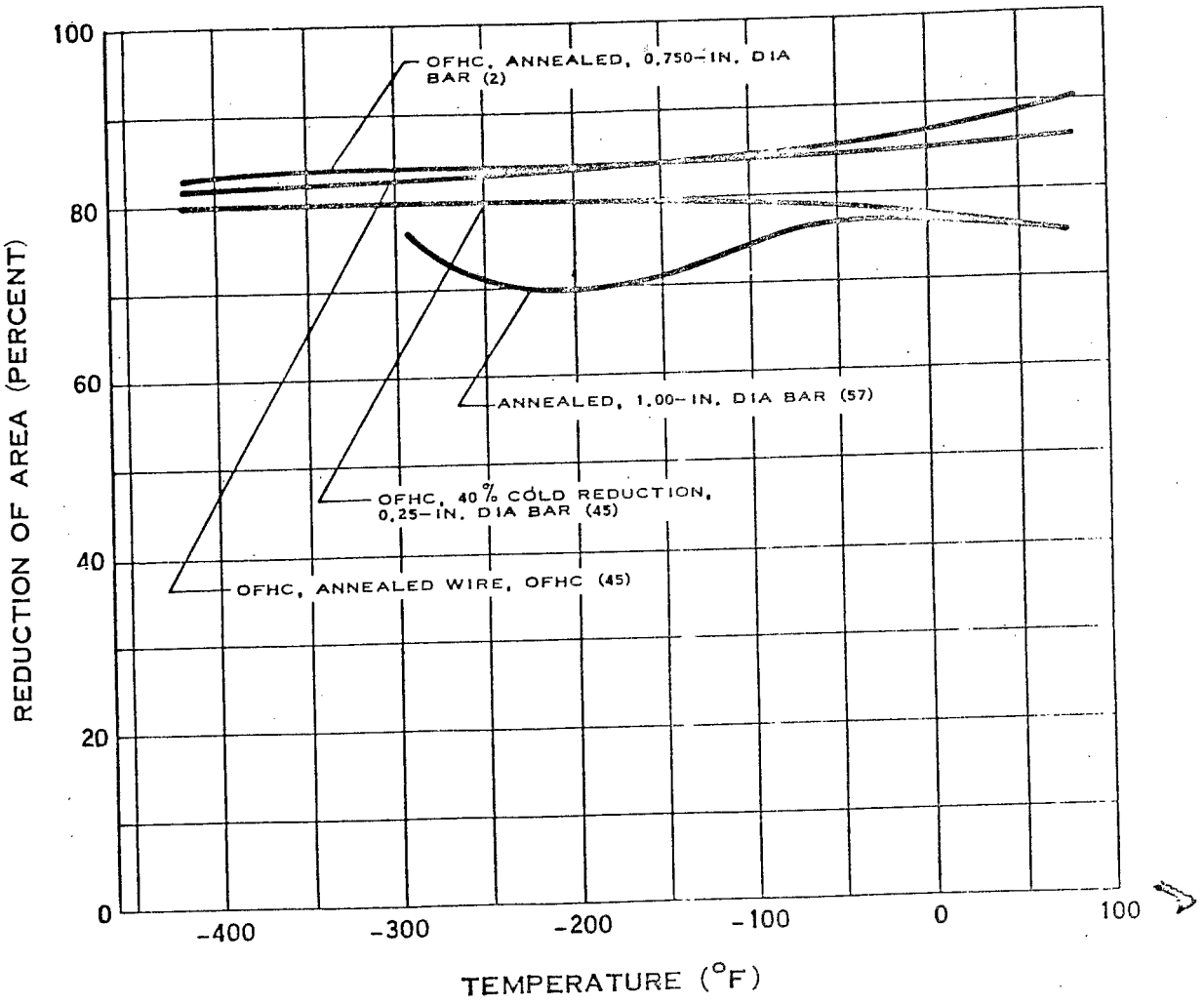
YIELD STRENGTH OF COPPER



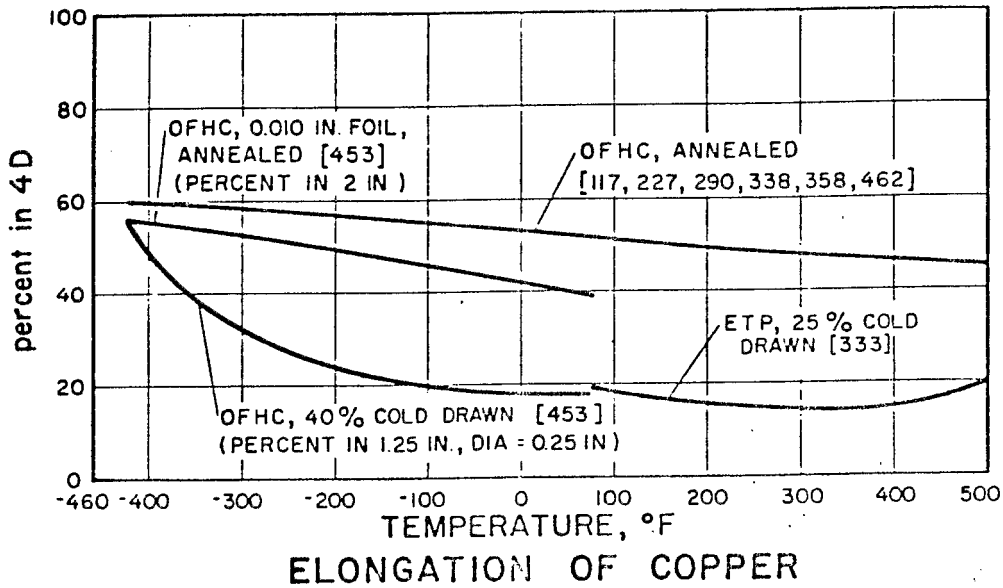
TENSILE STRENGTH OF COPPER



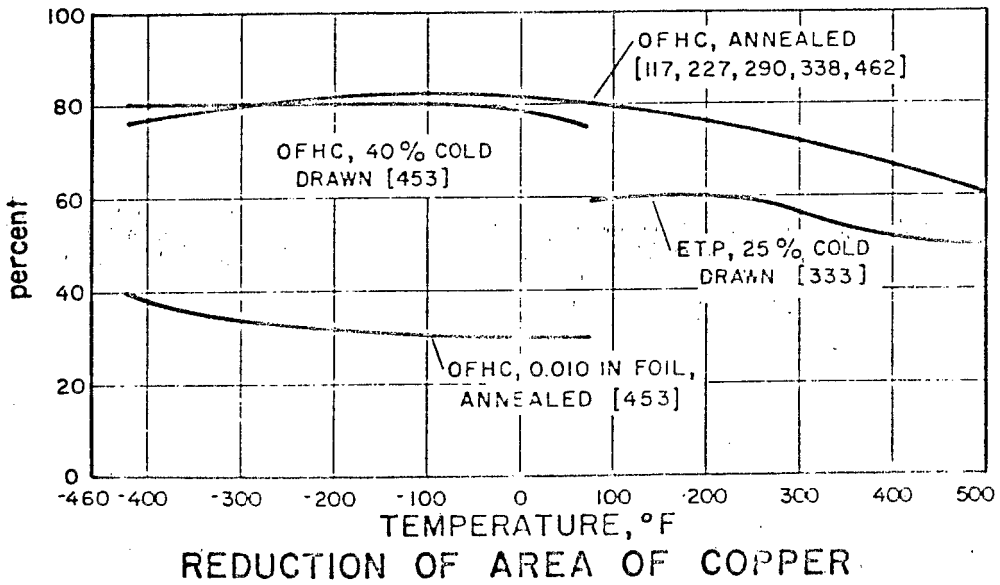
ELONGATION OF COPPER



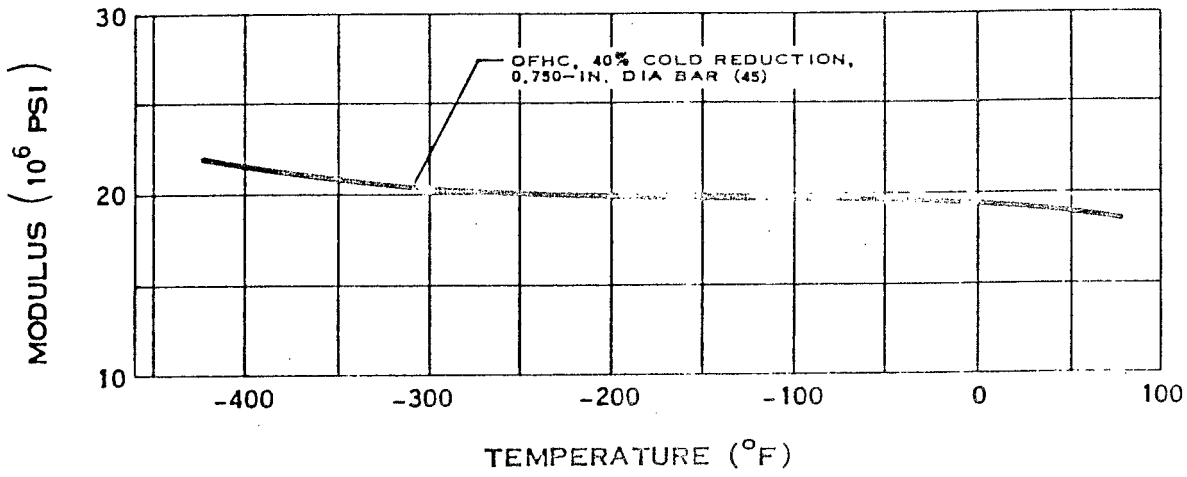
REDUCTION OF AREA OF COPPER



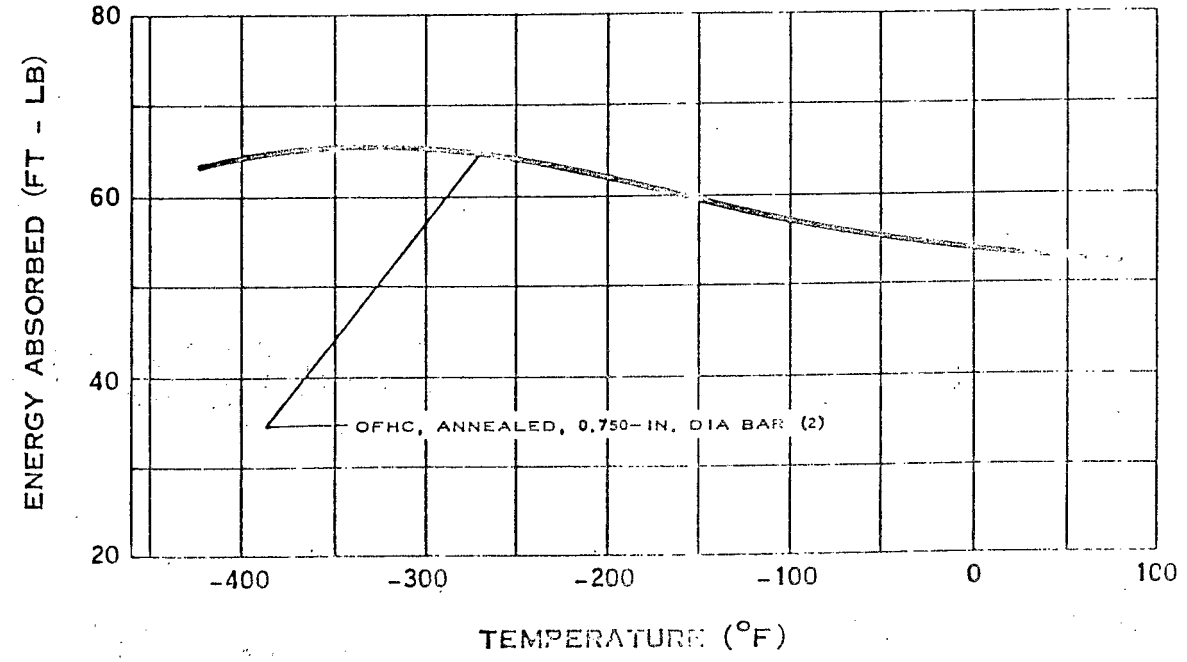
ELONGATION OF COPPER



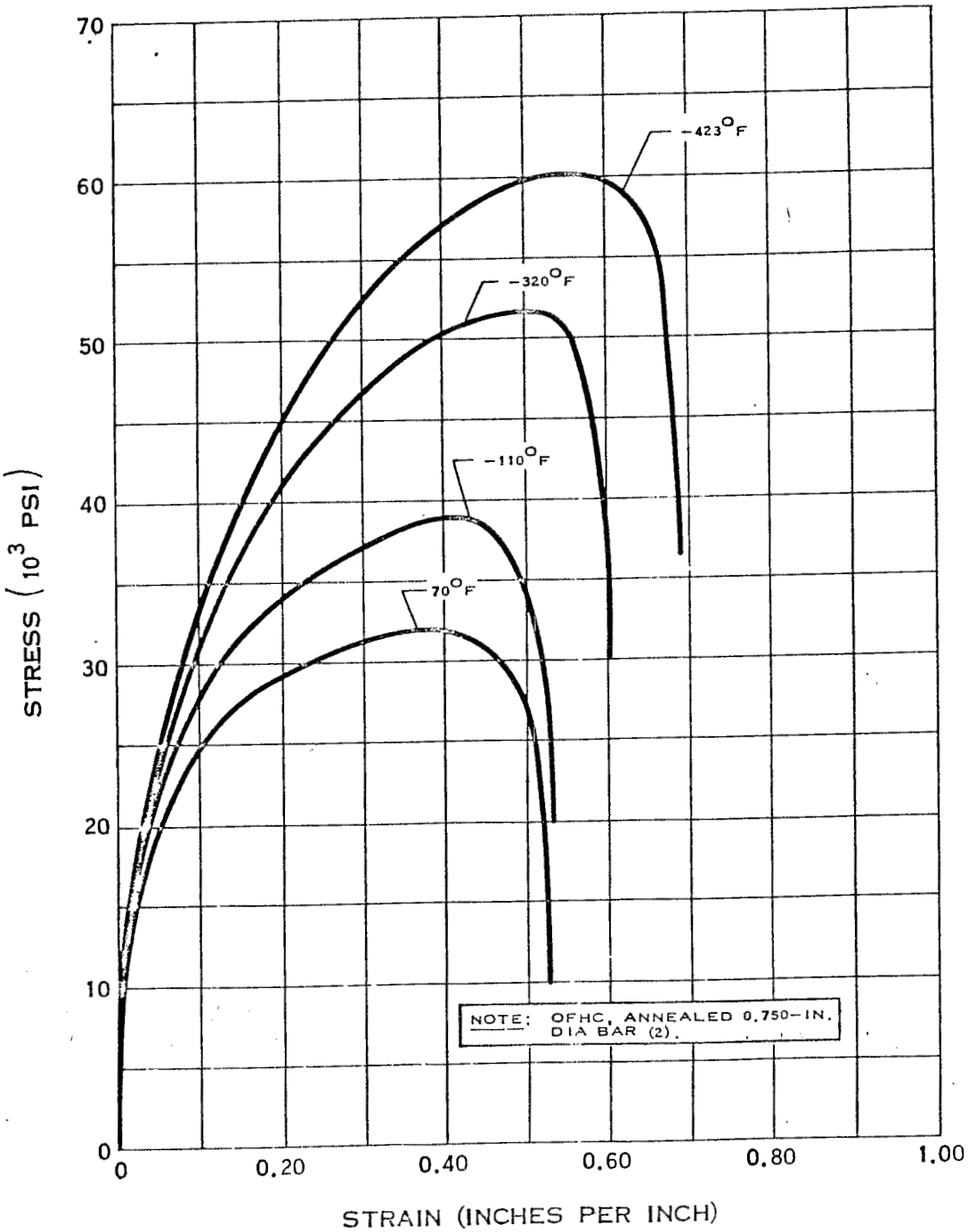
REDUCTION OF AREA OF COPPER



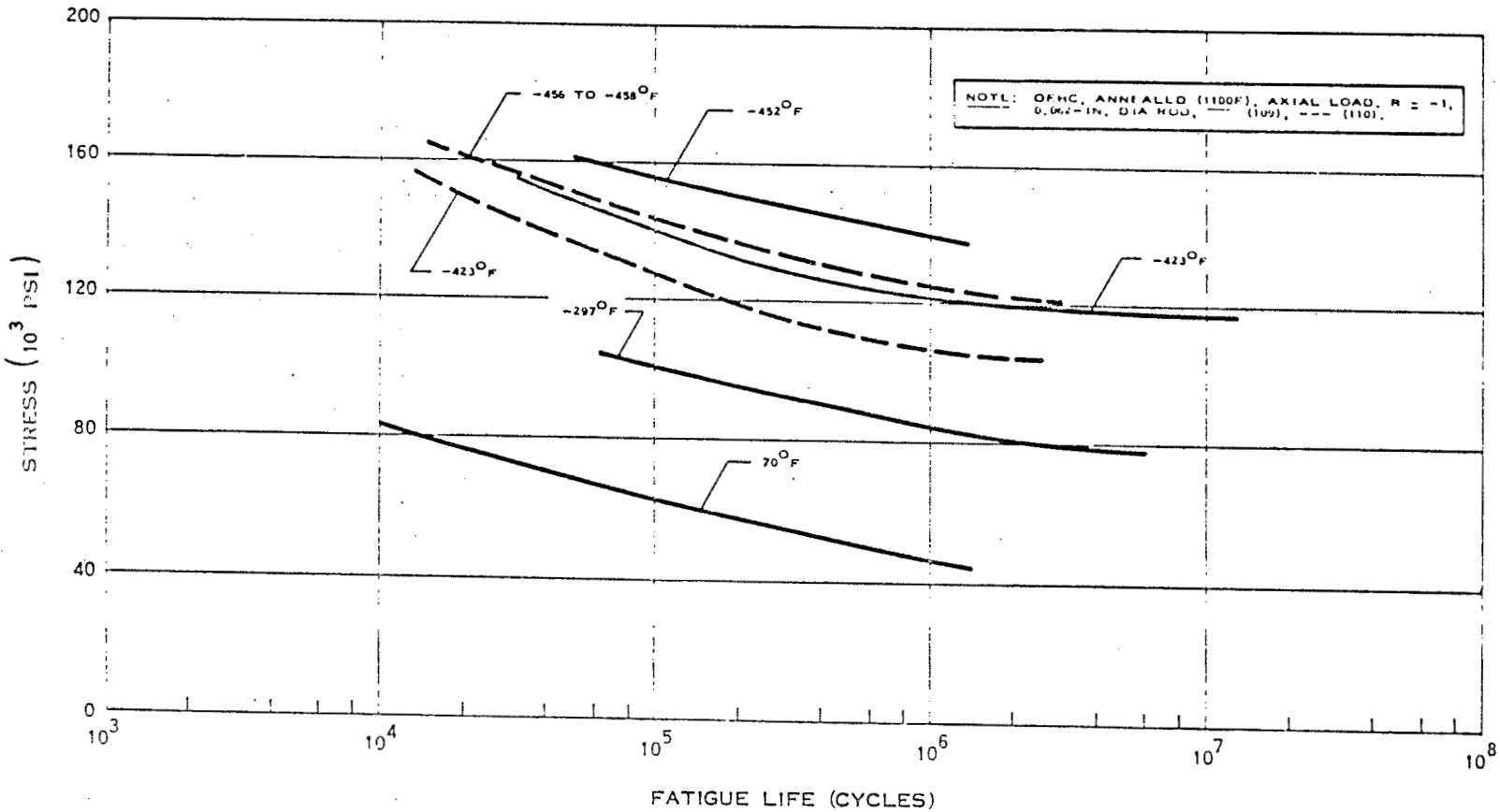
MODULUS OF ELASTICITY OF COPPER



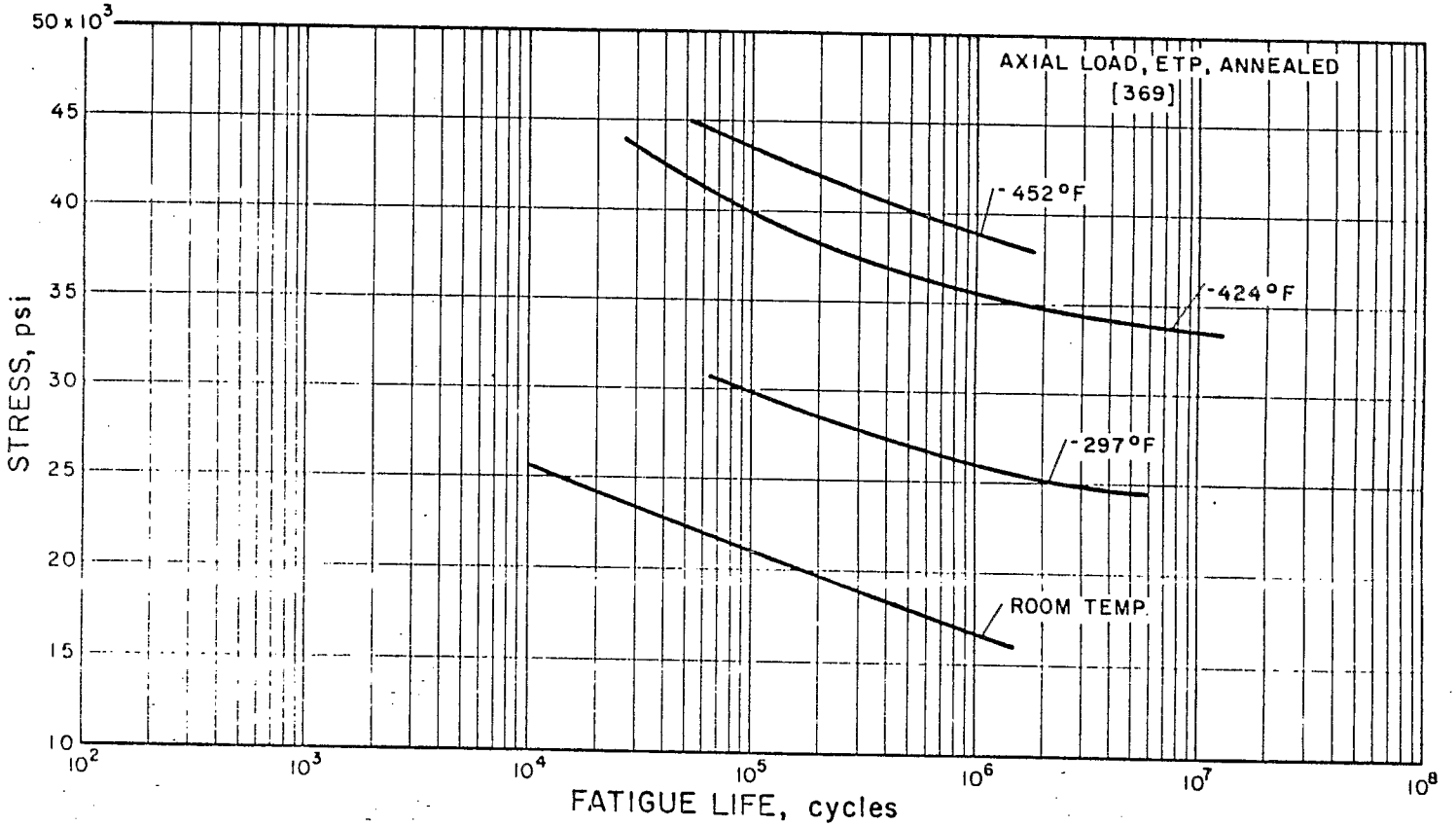
IMPACT STRENGTH OF COPPER



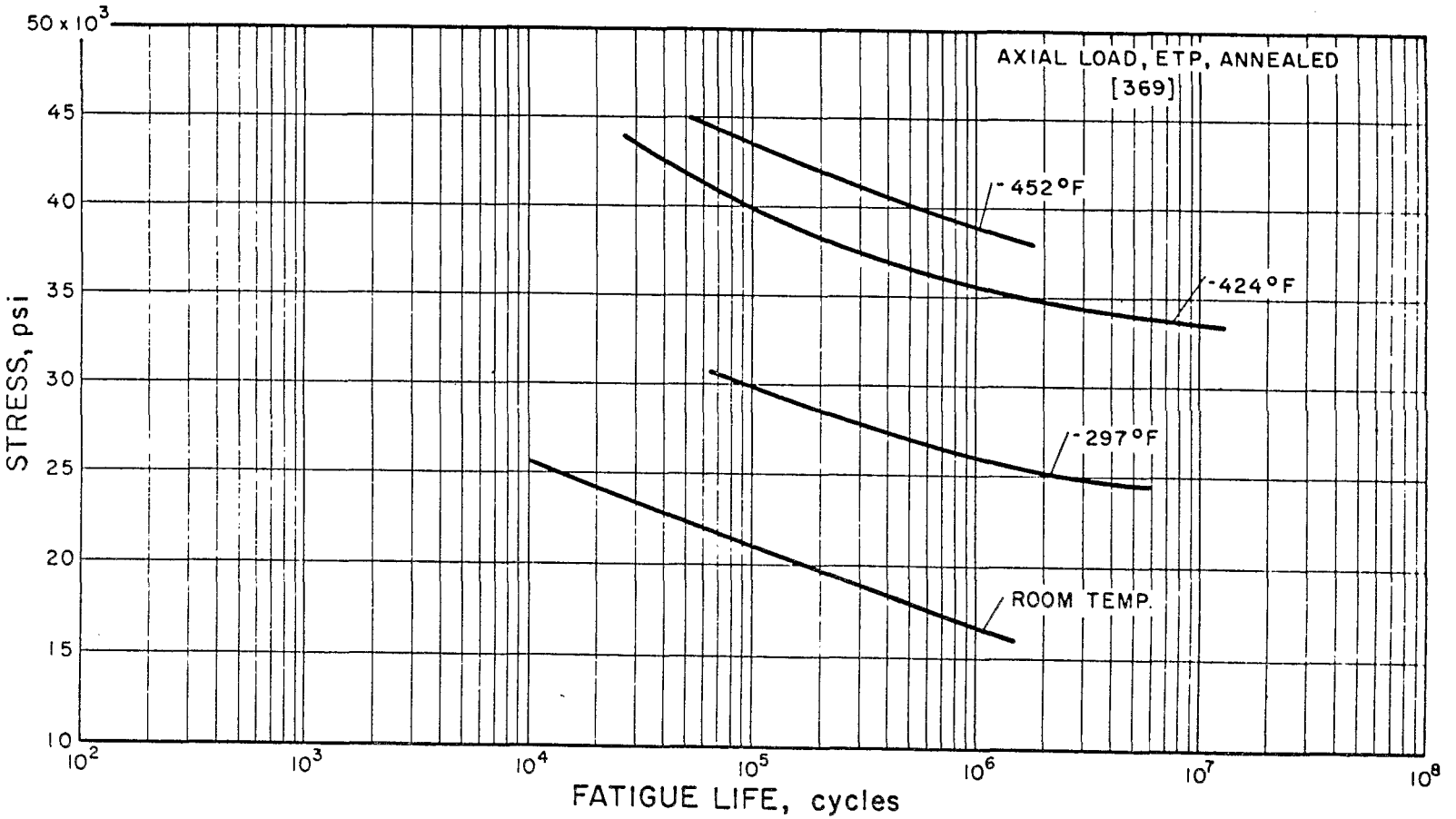
STRESS-STRAIN DIAGRAM FOR COPPER



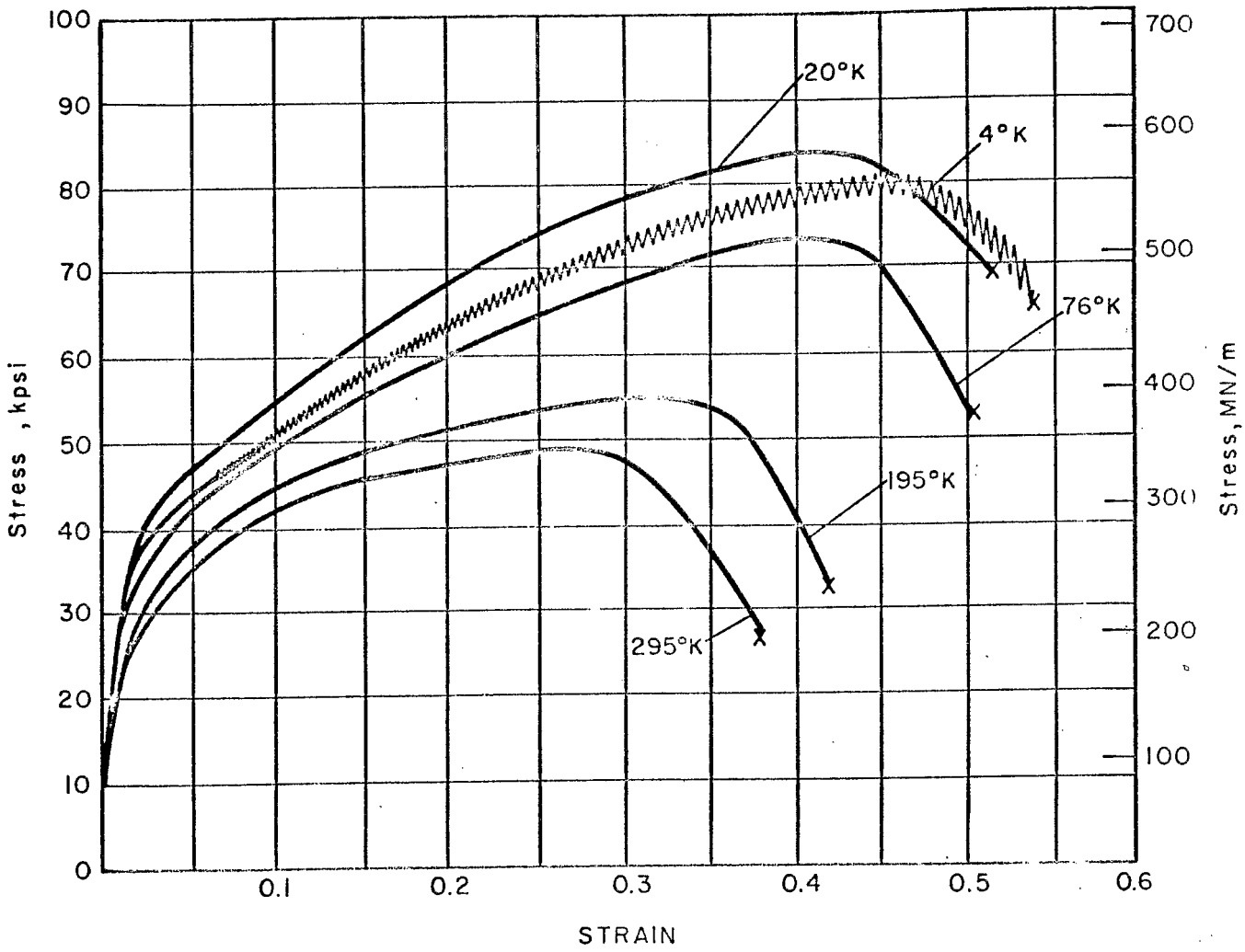
FATIGUE STRENGTH OF COPPER



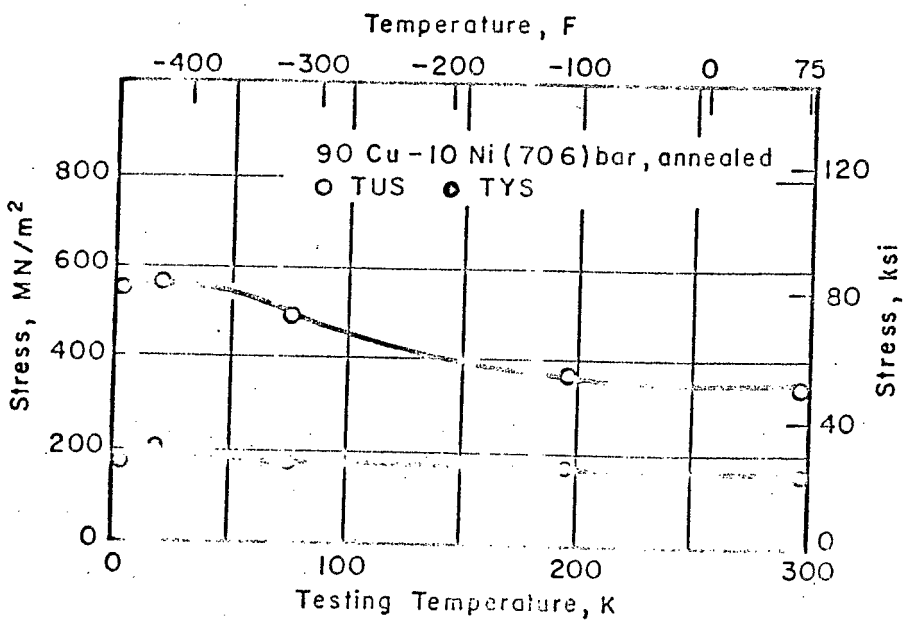
FATIGUE BEHAVIOR OF COPPER



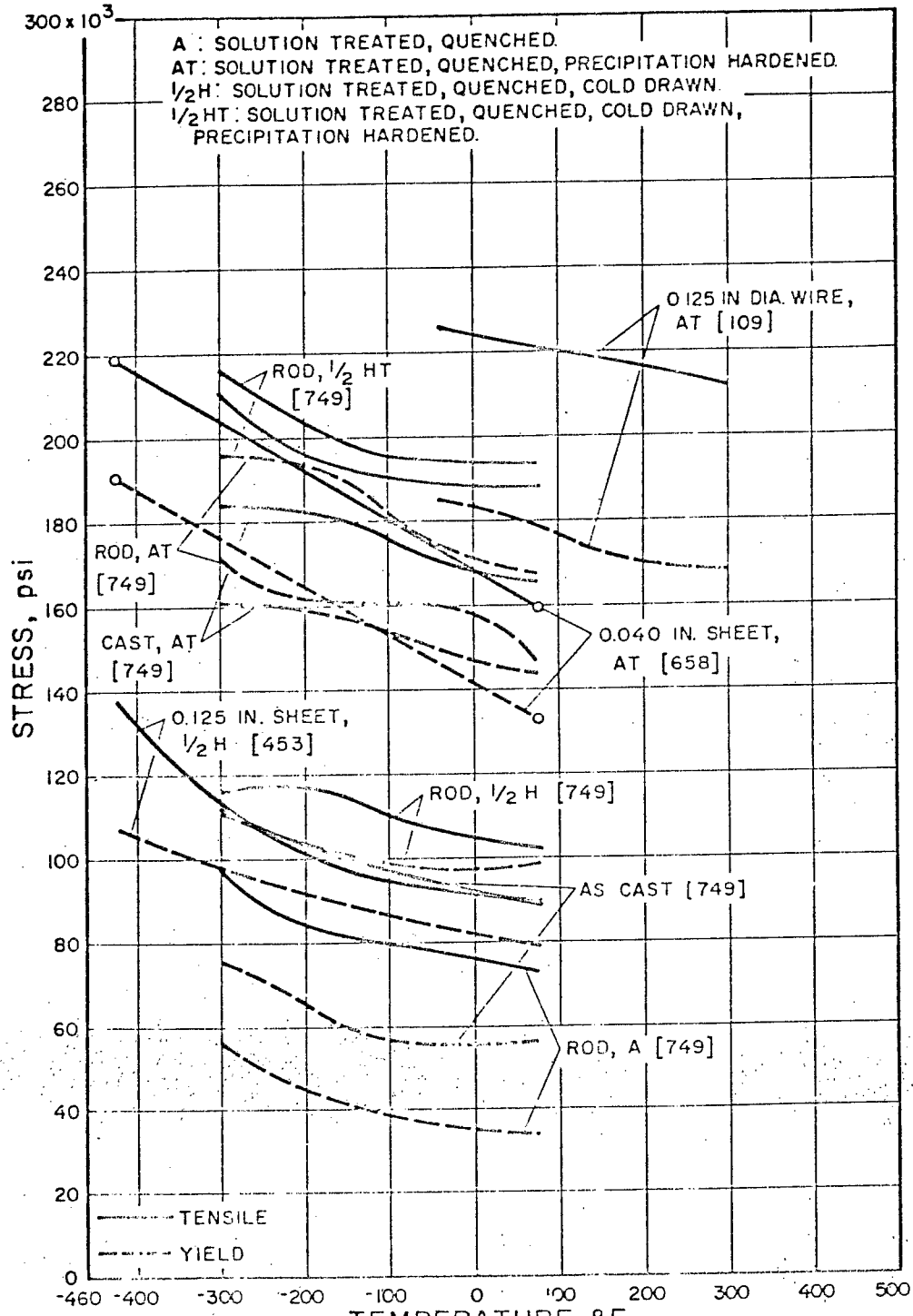
FATIGUE BEHAVIOR OF COPPER



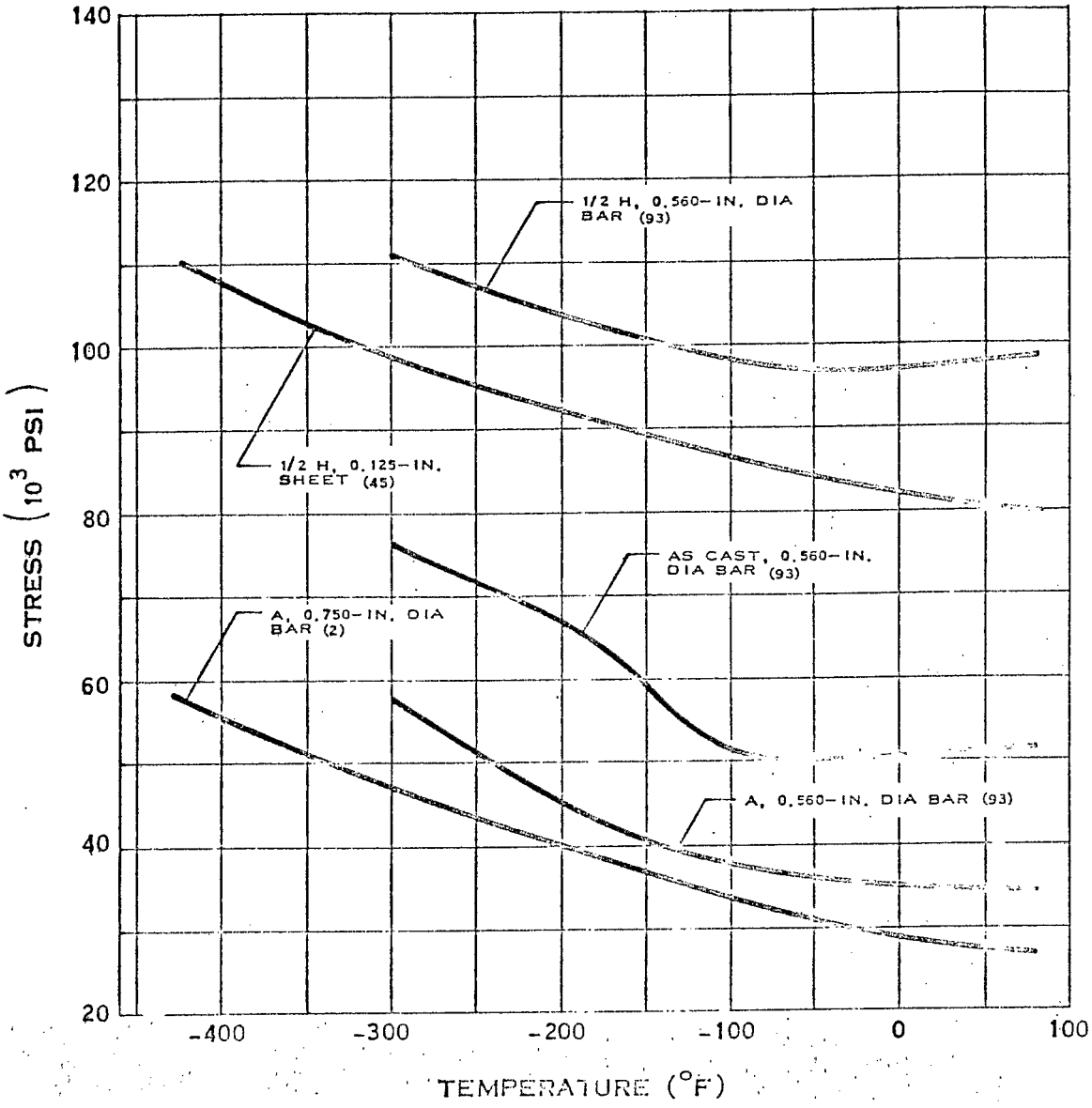
STRESS-STRAIN CURVES OF COPPER-NICKEL (CU-10 NI), ANNEALED



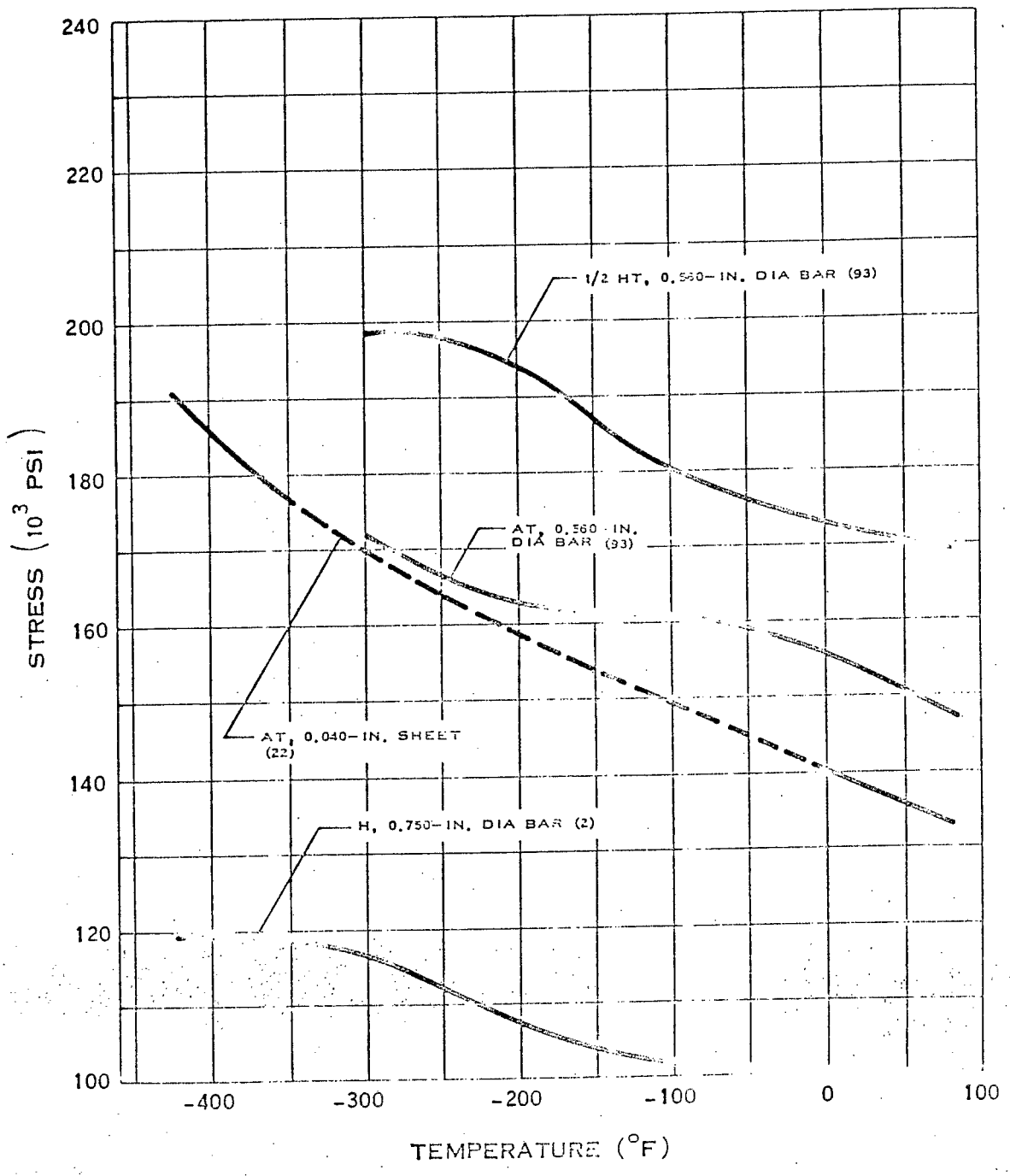
EFFECT OF TEMPERATURE ON THE STRENGTH OF 90 CU-10NI ALLOY



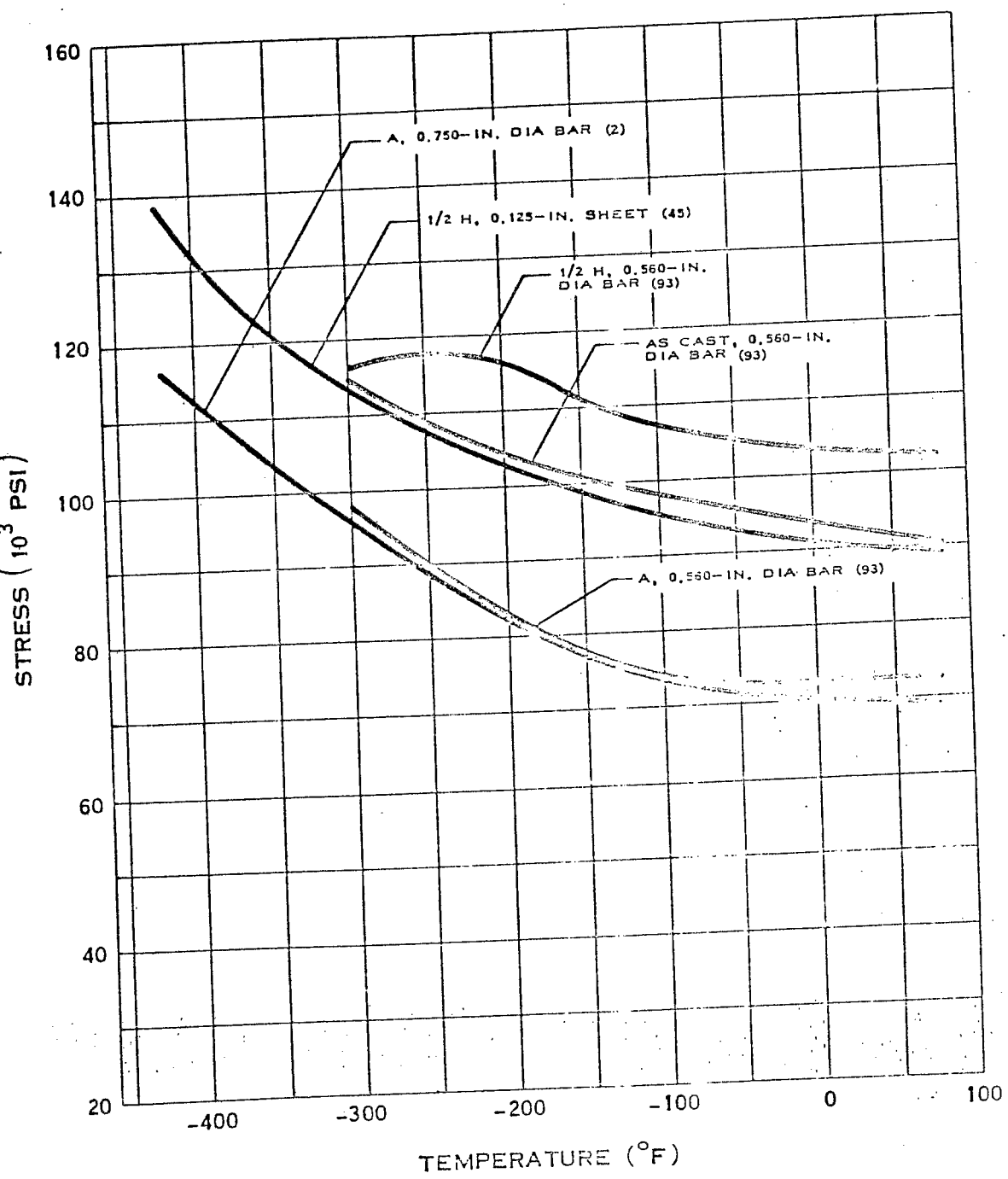
STRENGTH OF BERYLCO* 25



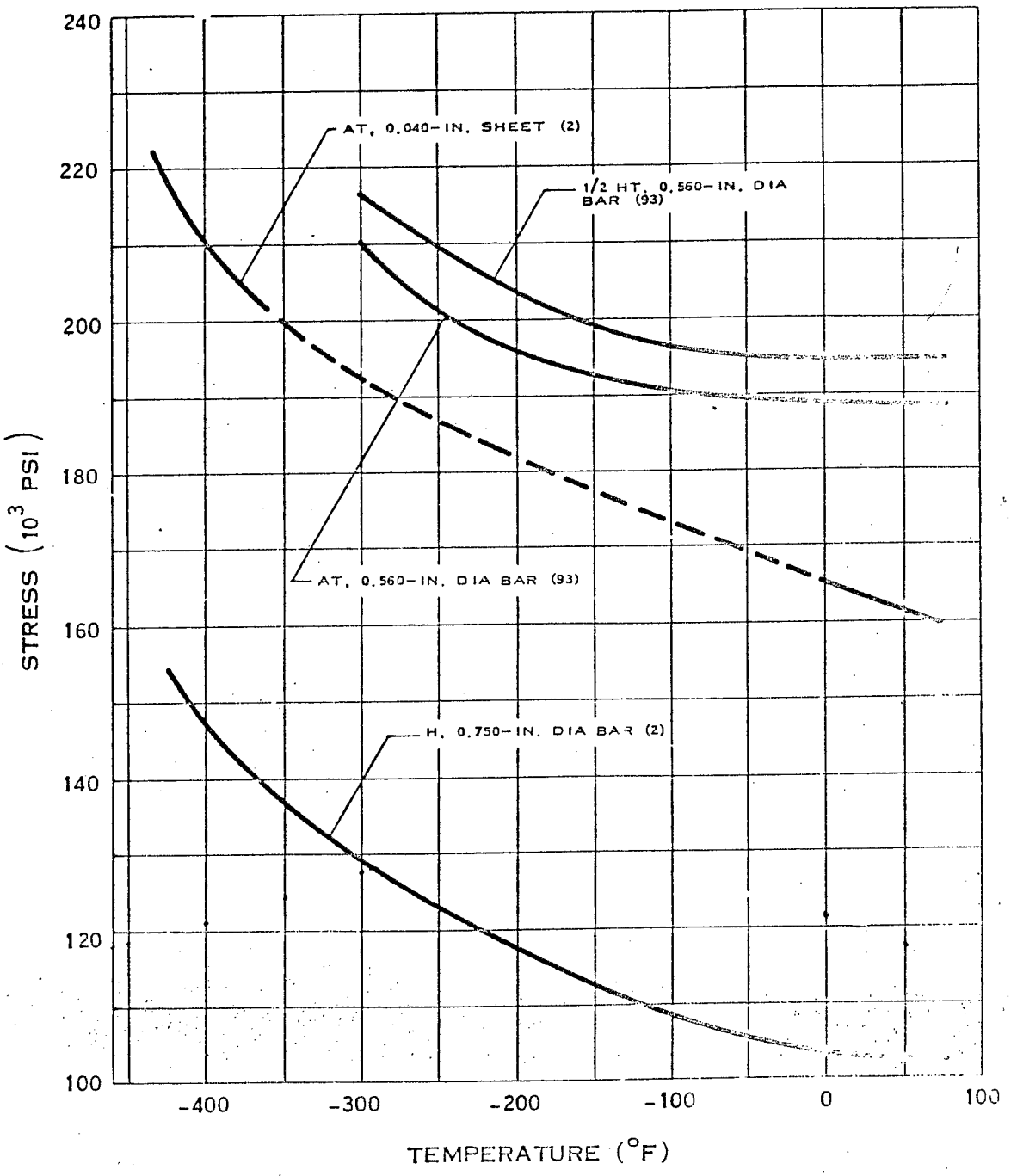
YIELD STRENGTH OF BERYLLIUM COPPER



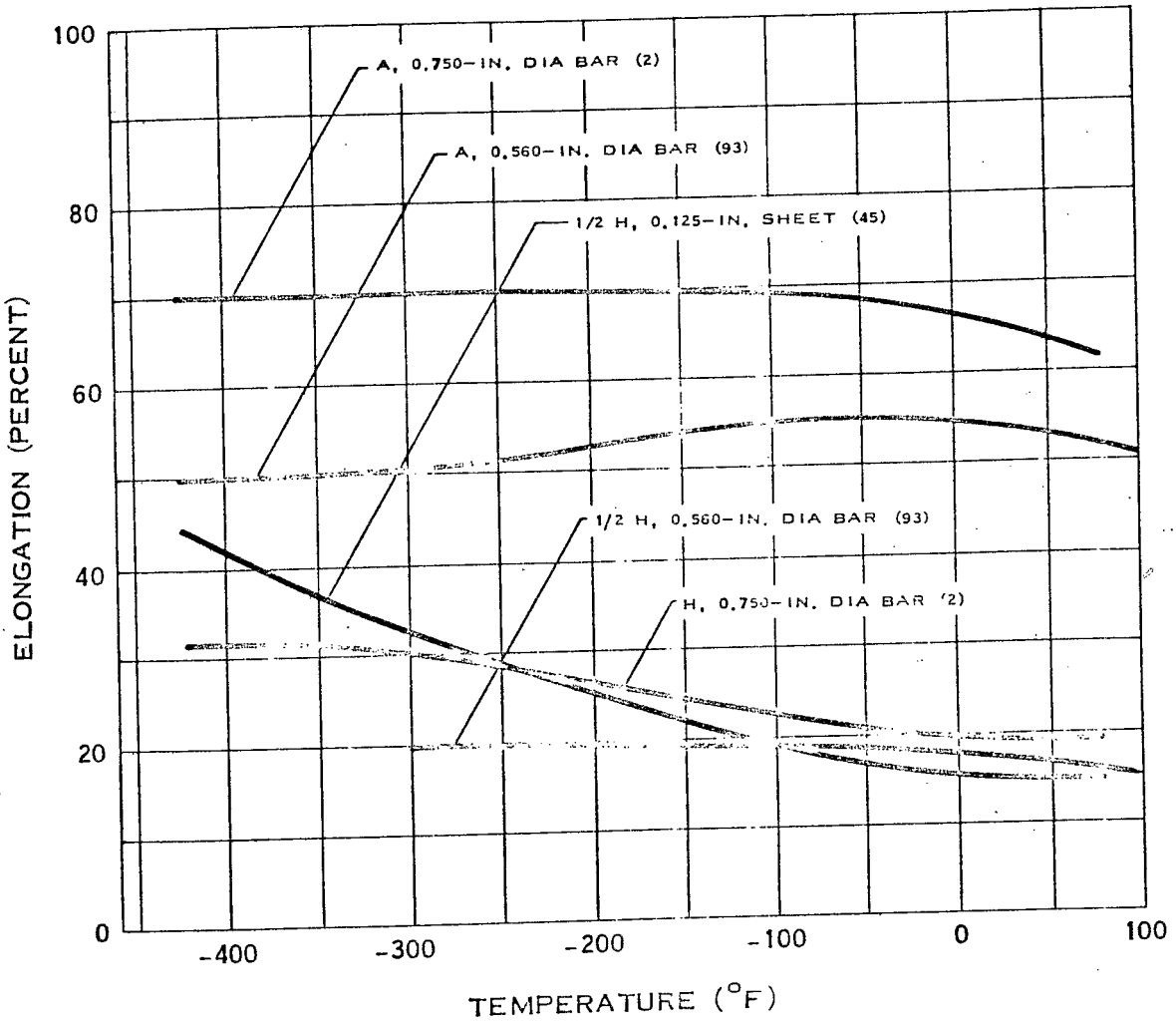
YIELD STRENGTH OF BERYLLIUM COPPER



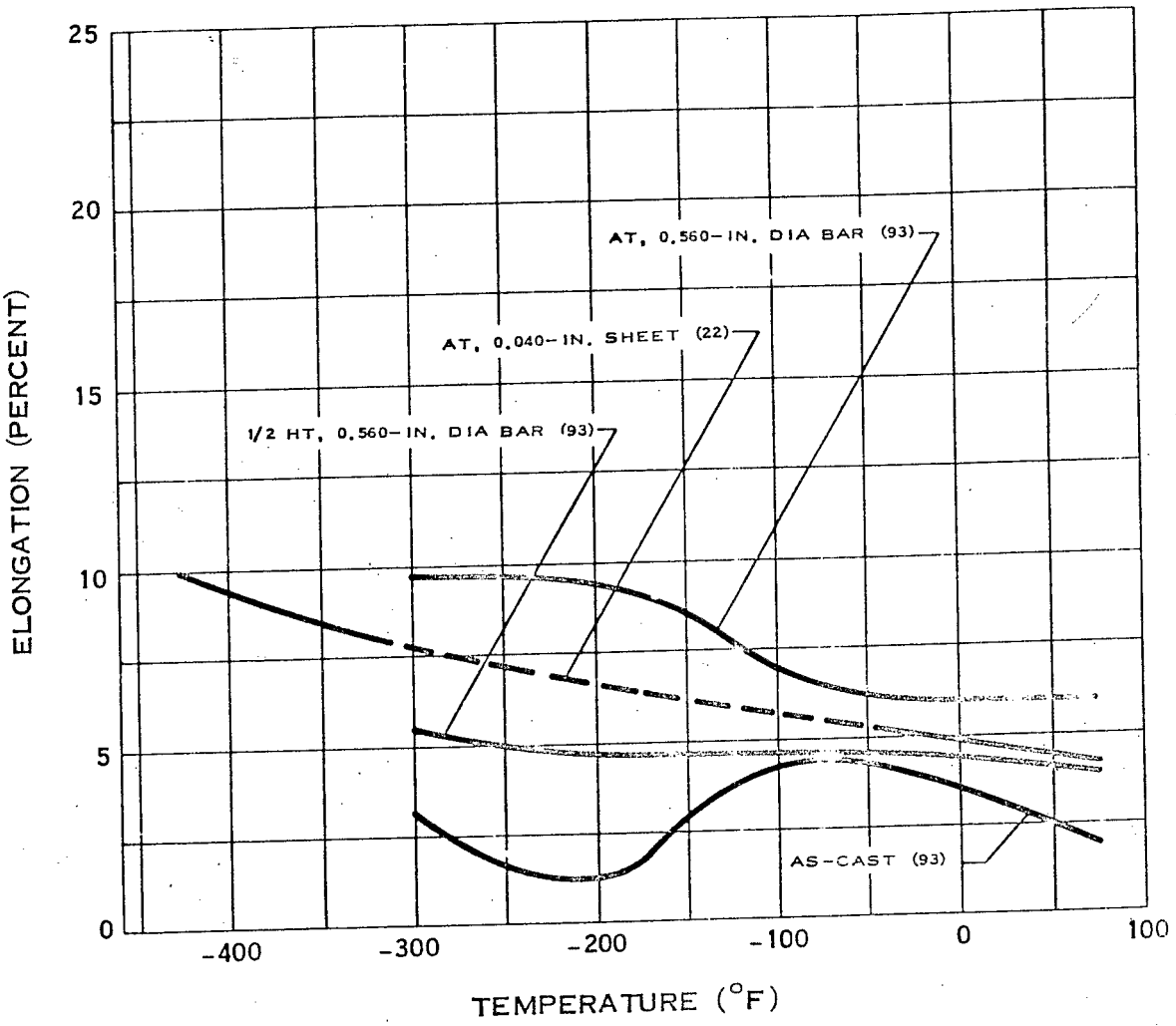
TENSILE STRENGTH OF BERYLLIUM COPPER



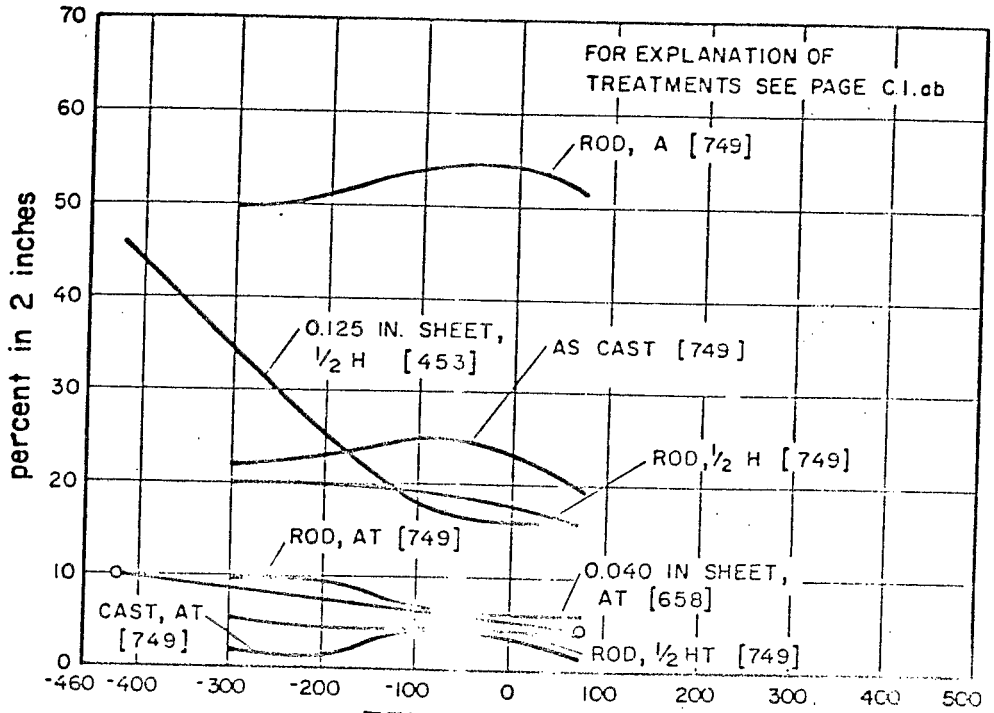
TENSILE STRENGTH OF BERYLLIUM COPPER



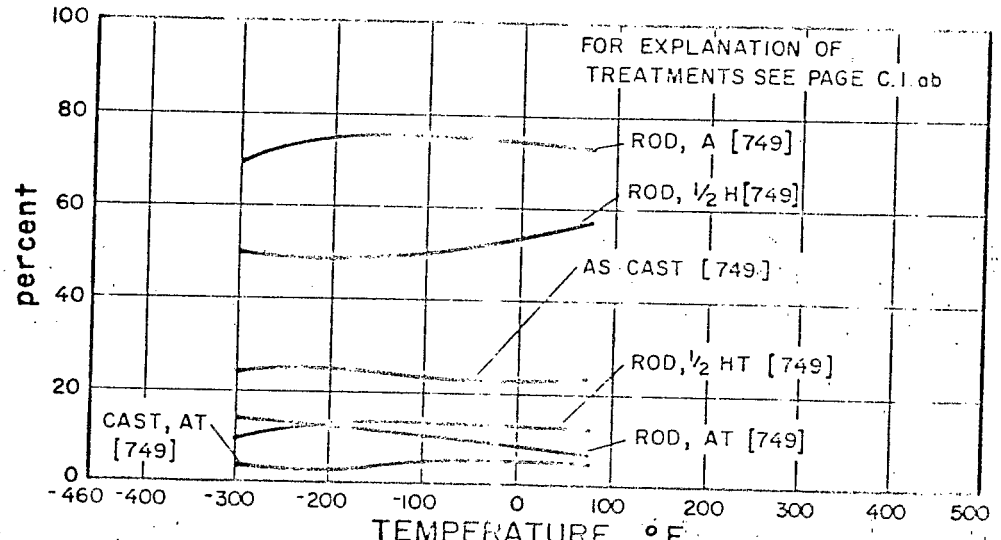
ELONGATION OF BERYLLIUM COPPER



ELONGATION OF BERYLLIUM COPPER

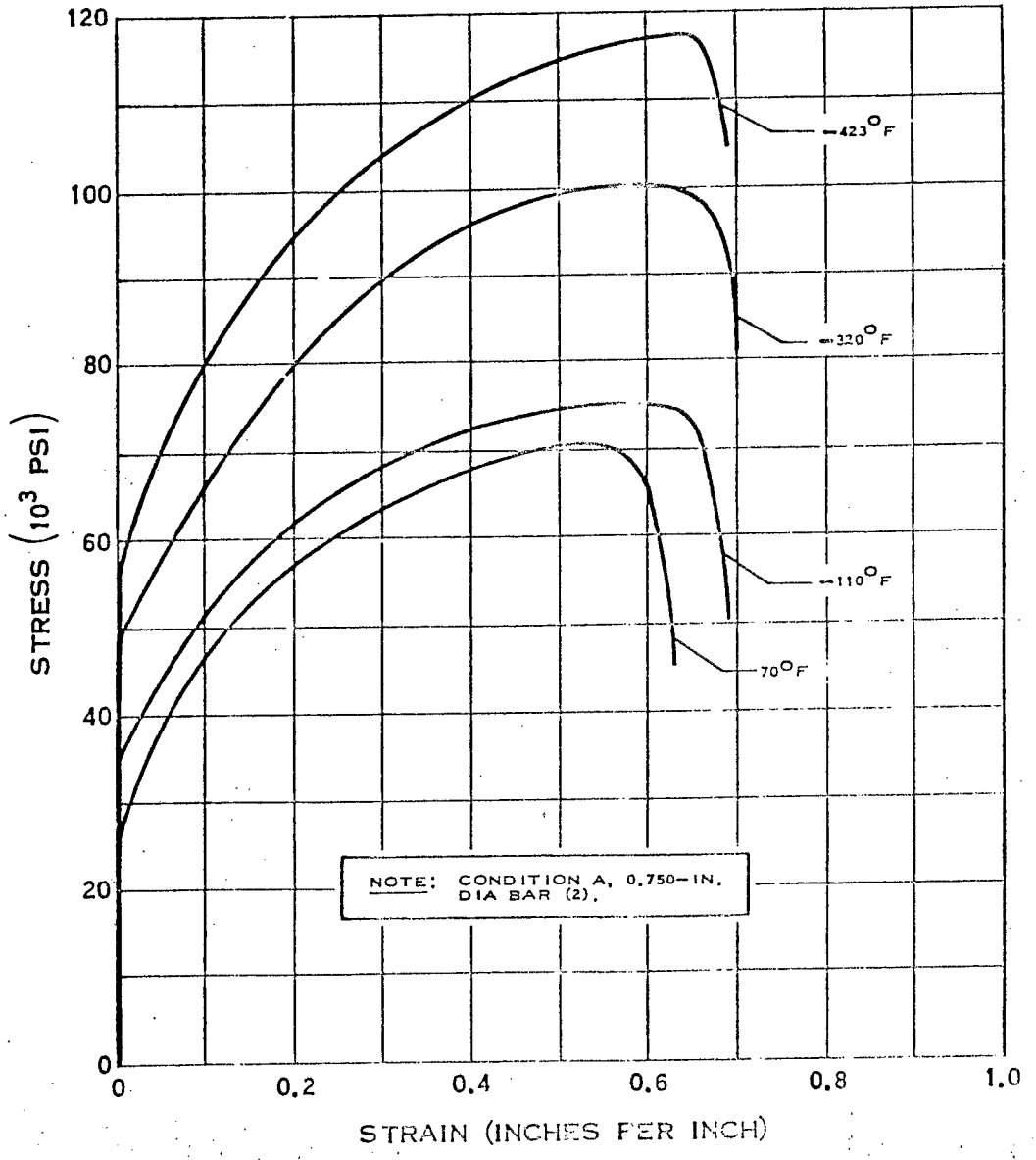


ELONGATION OF BERYLCO* 25

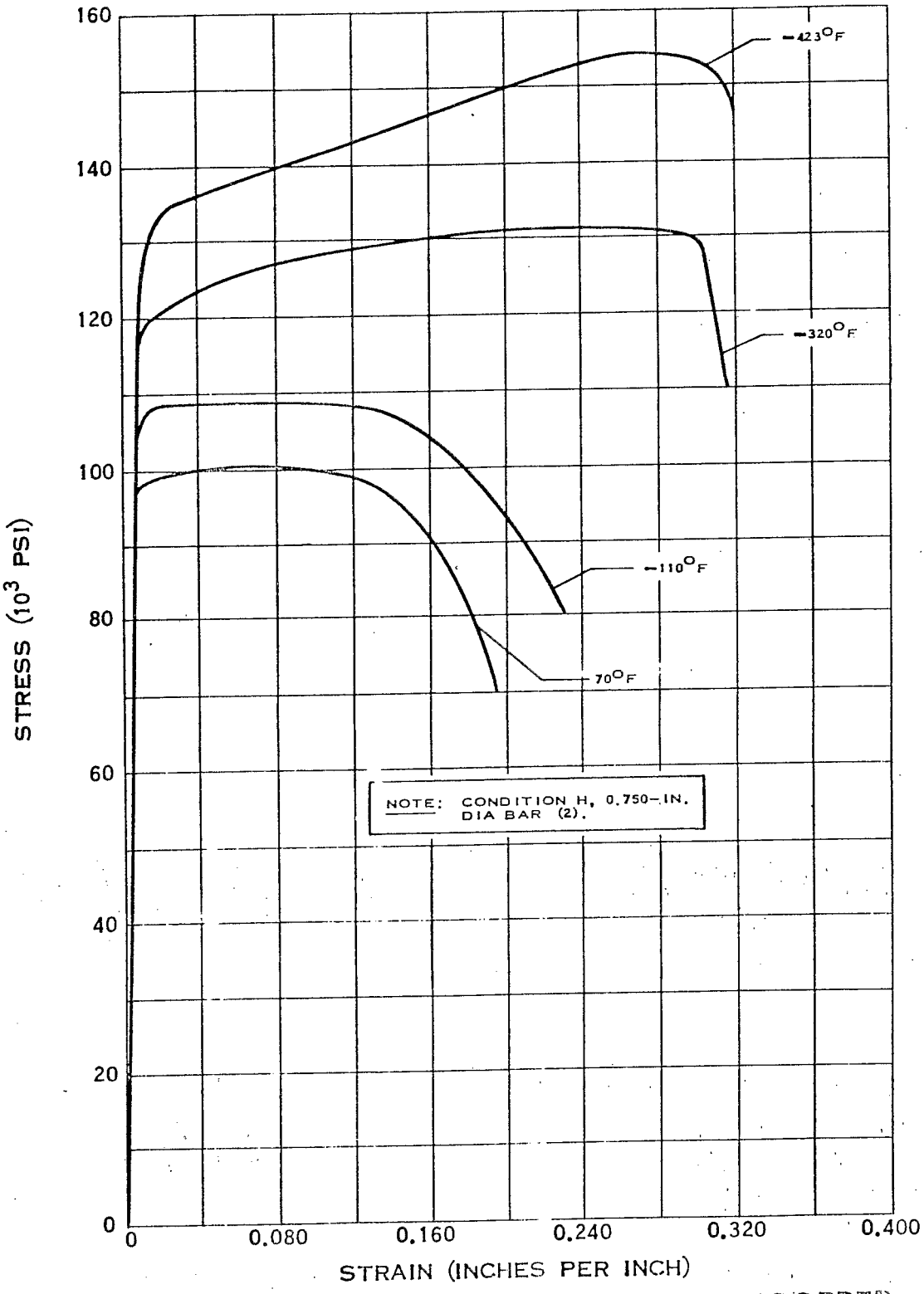


REDUCTION OF AREA OF BERYLCO* 25

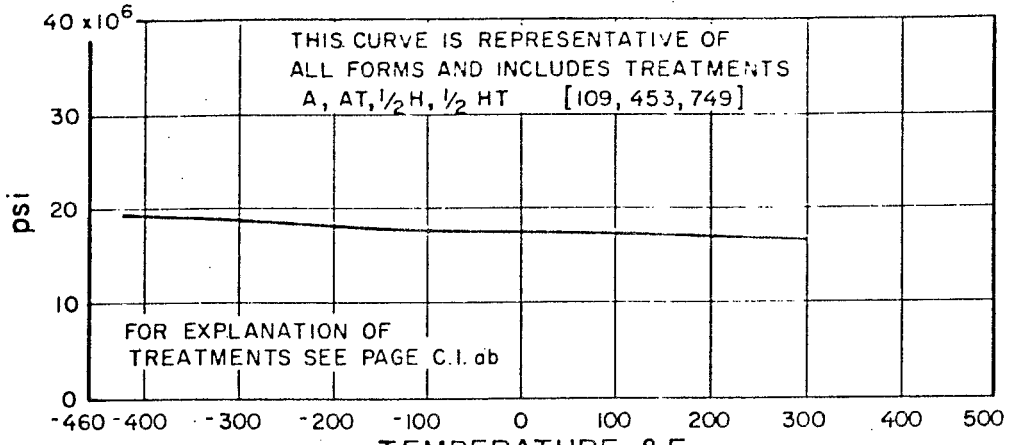
* THE BERYLLIUM CORPORATION OF AMERICA



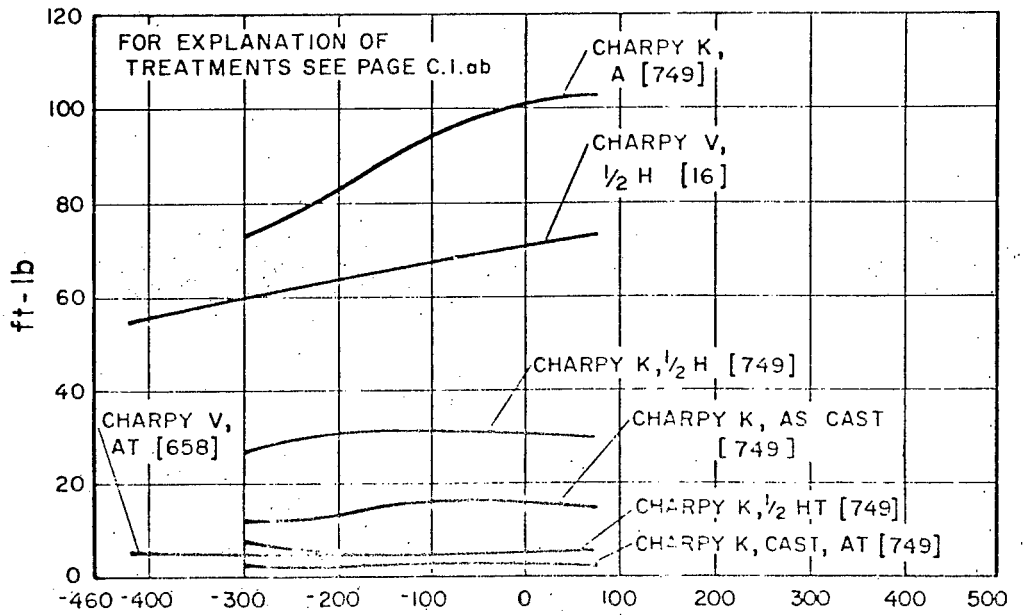
STRESS-STRAIN DIAGRAM FOR BERYLLIUM COPPER



STRESS-STRAIN DIAGRAM FOR BERYLLIUM COPPER

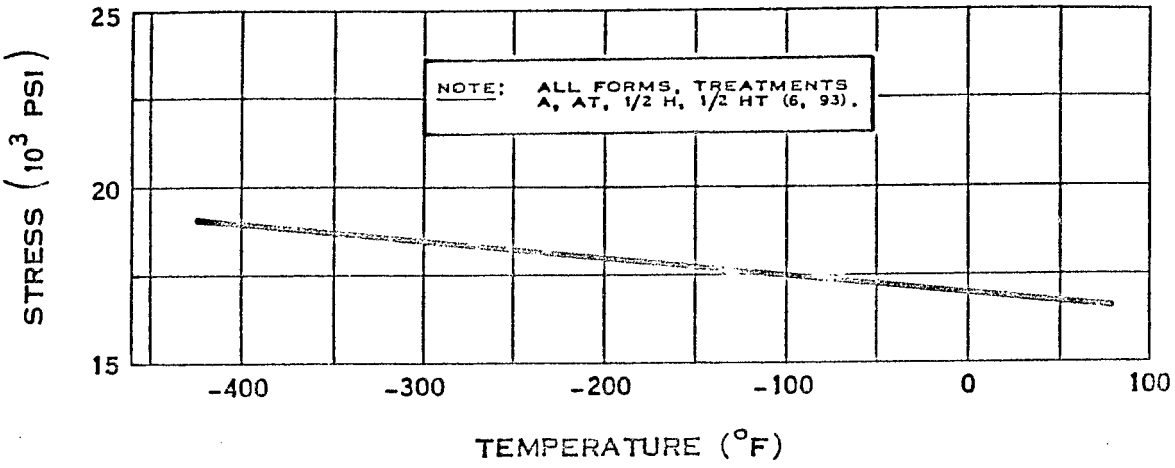


MODULUS OF ELASTICITY OF BERYLCO* 25

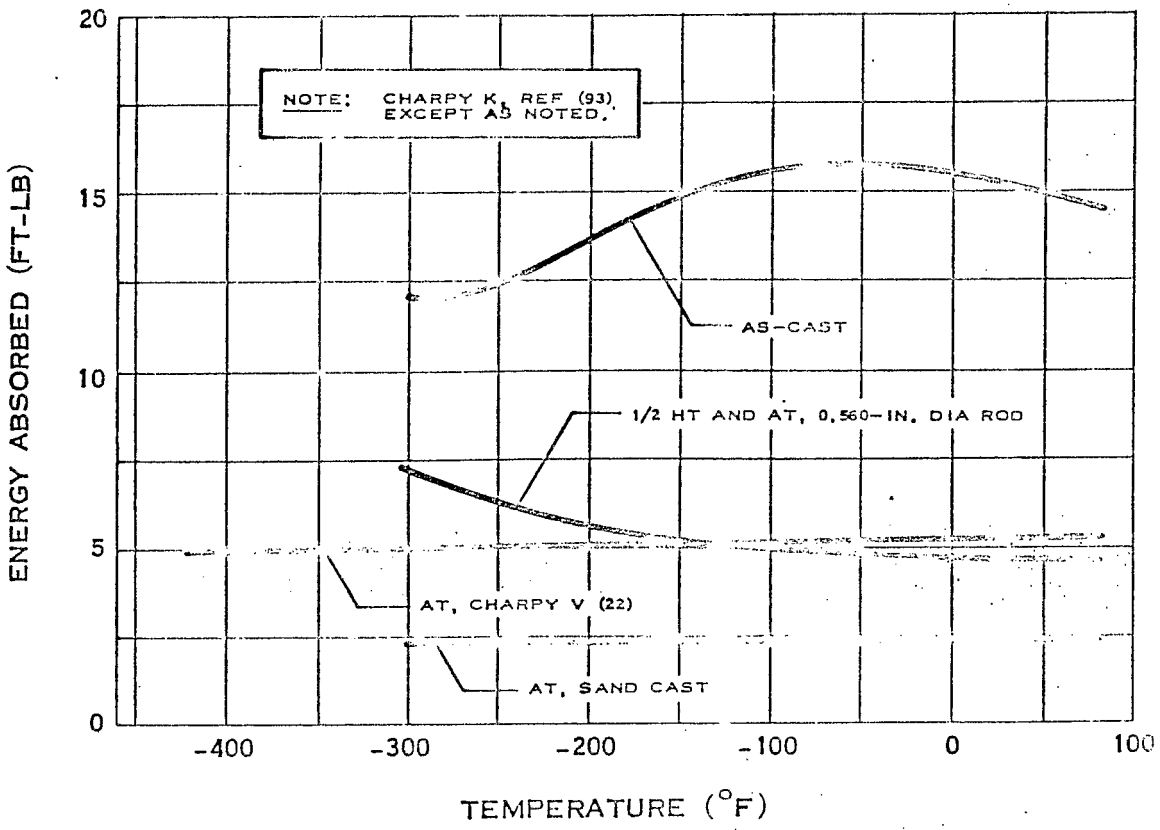


IMPACT ENERGY OF BERYLCO* 25

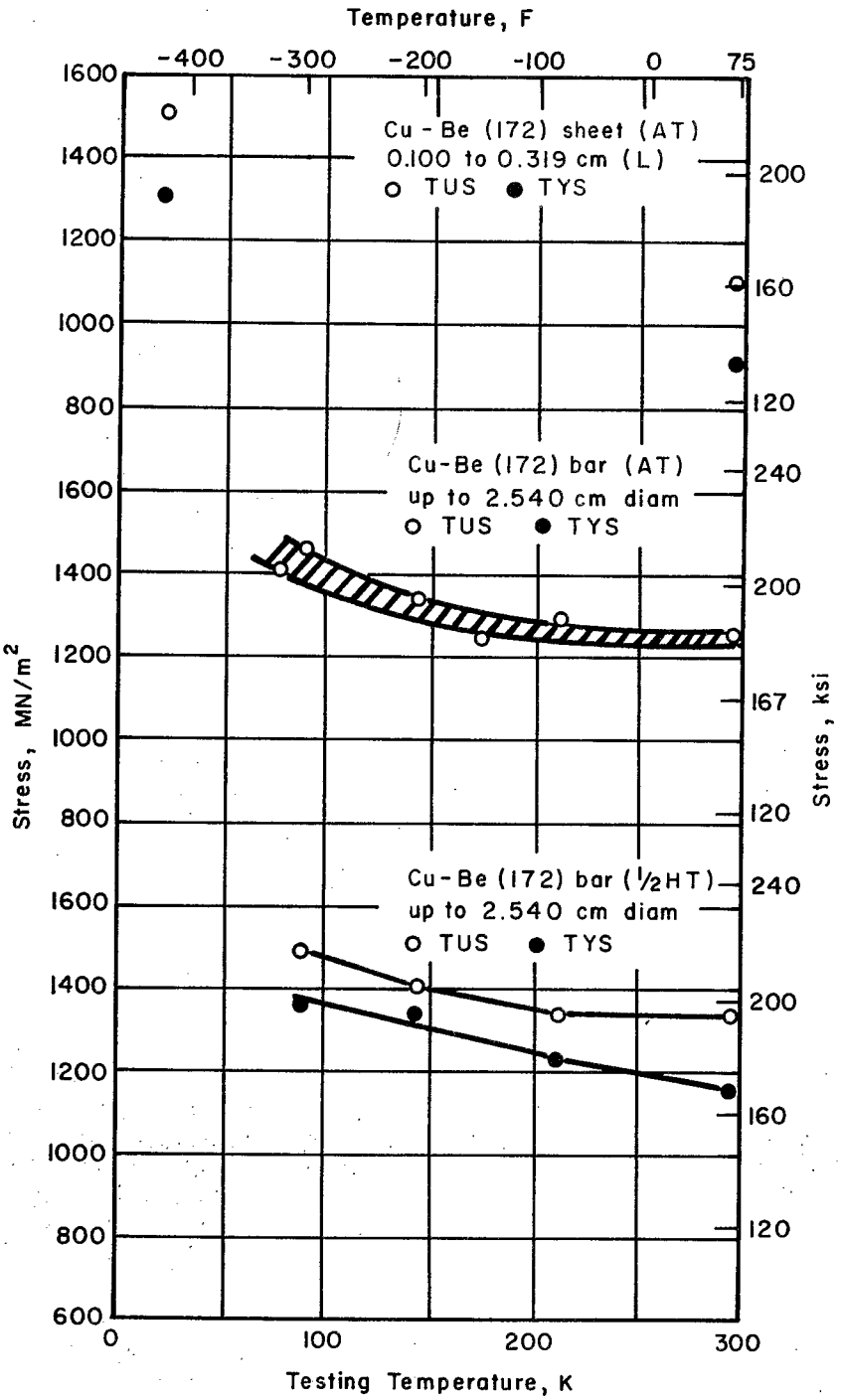
* THE BERYLLIUM CORPORATION OF AMERICA



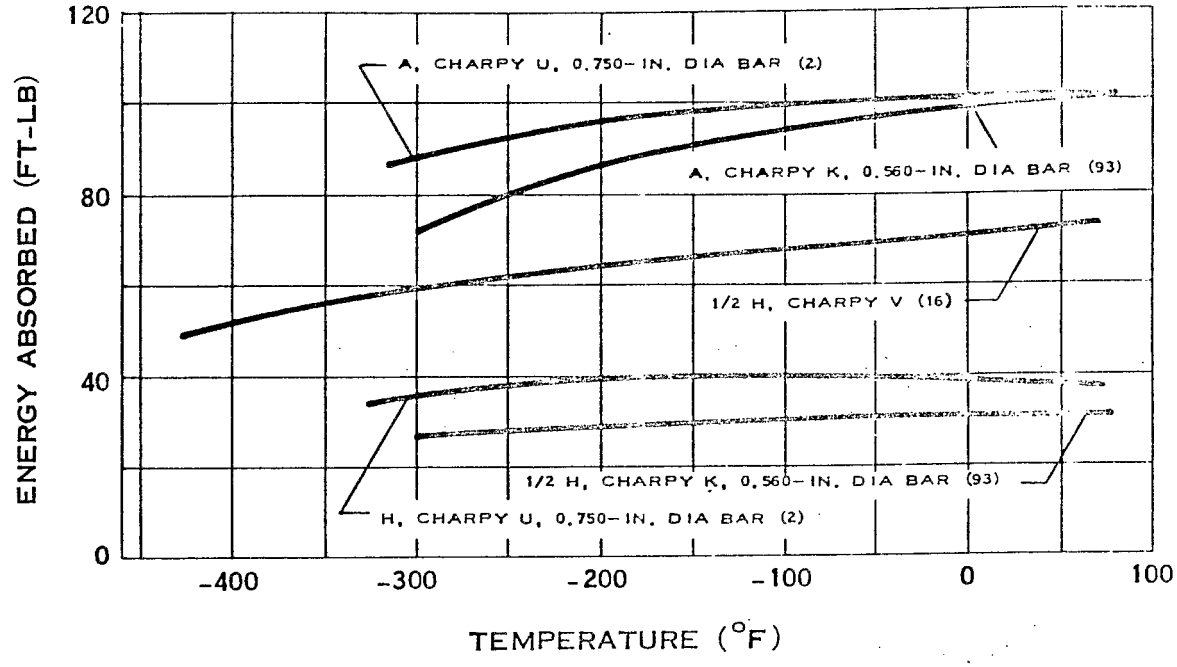
MODULUS OF ELASTICITY OF BERYLLIUM COPPER



IMPACT STRENGTH OF BERYLLIUM COPPER



EFFECT OF TEMPERATURE ON THE STRENGTH OF CU-2 BE ALLOY



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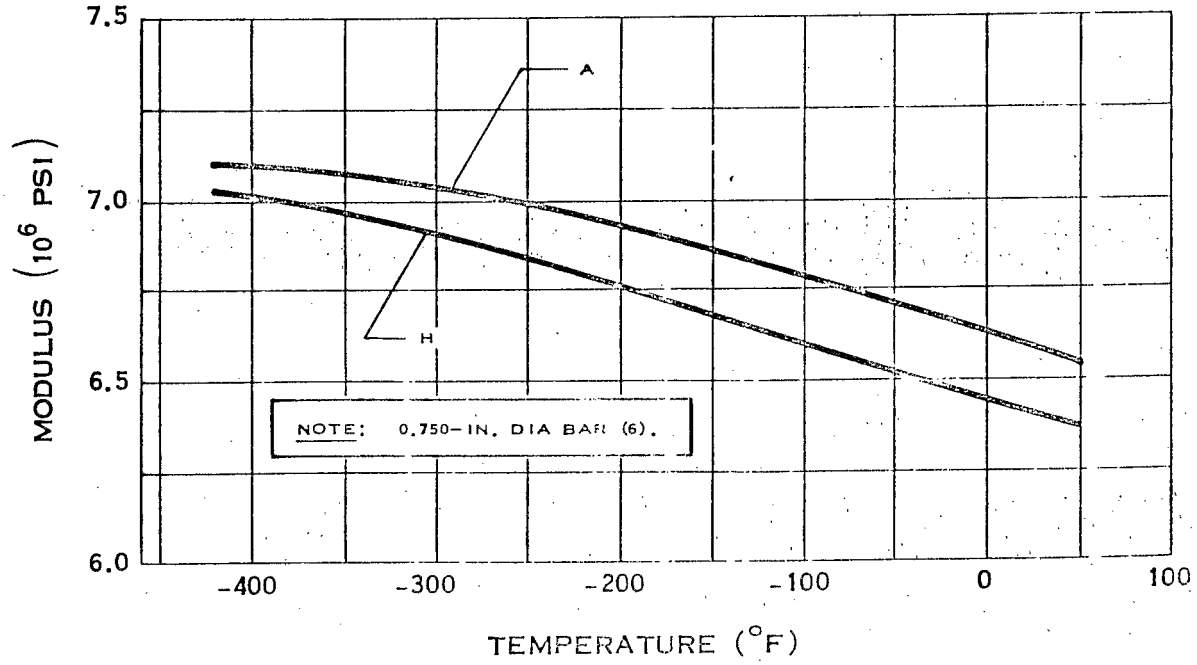
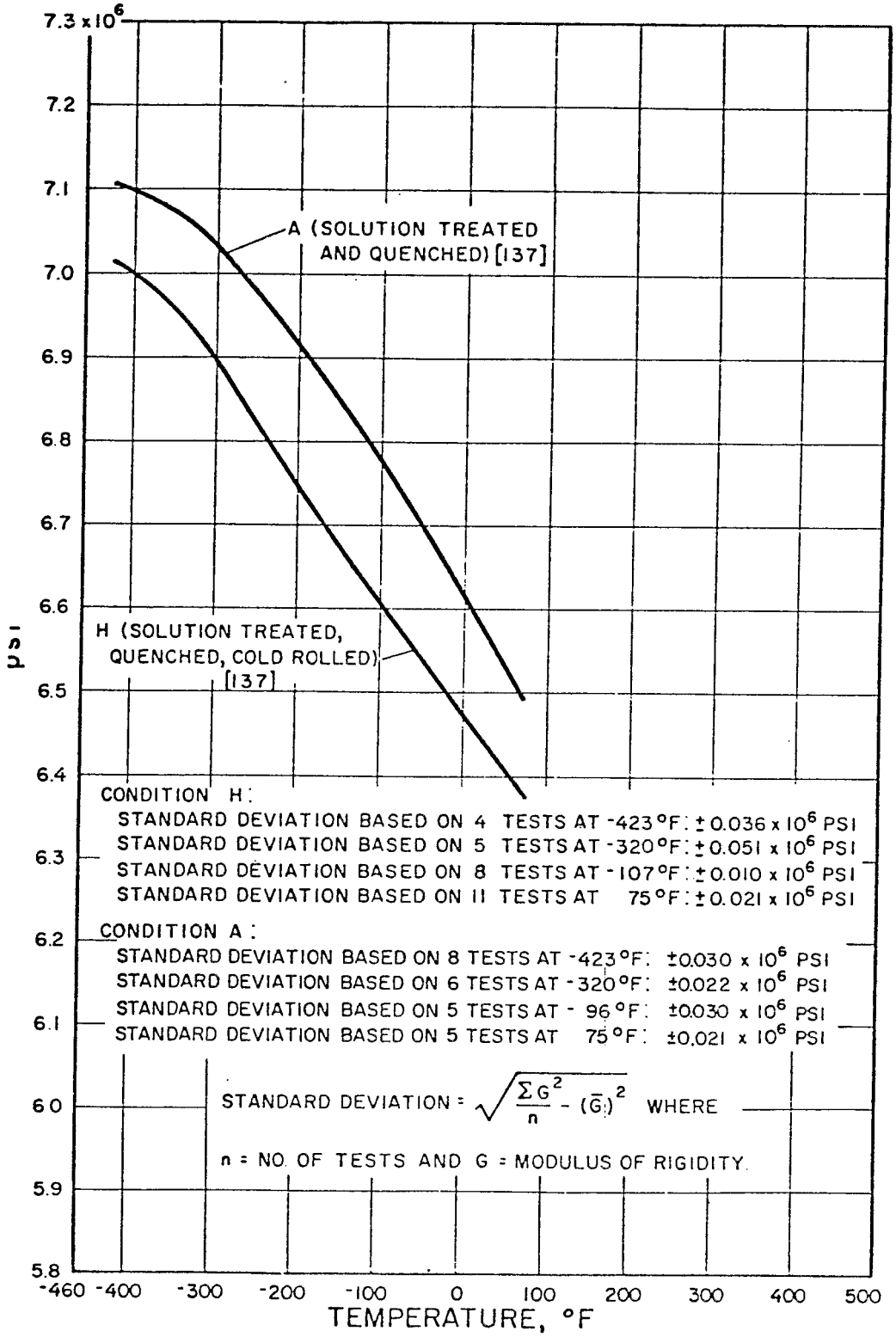
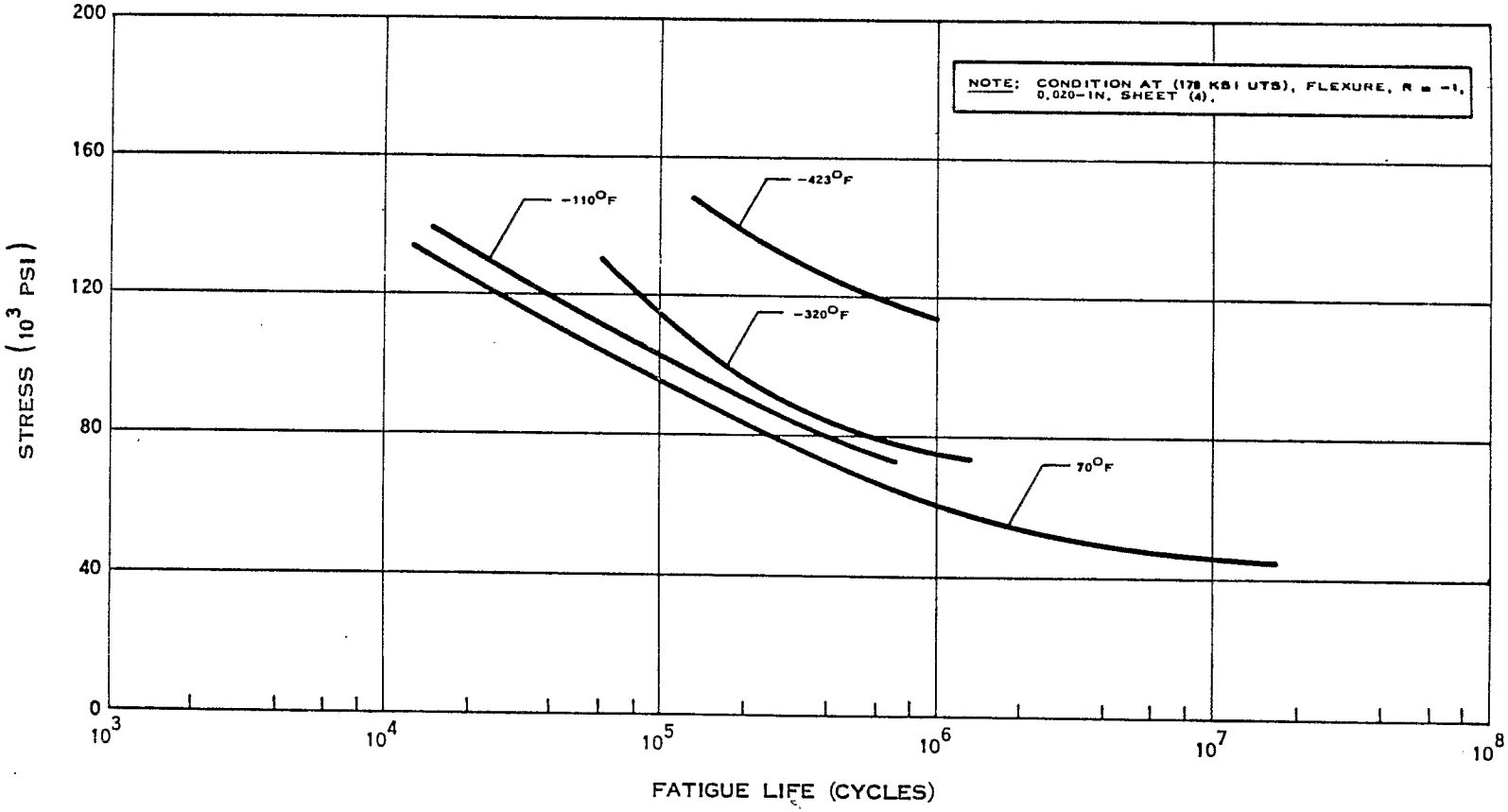


MODULUS OF RIGIDITY OF BERYLLIUM COPPER

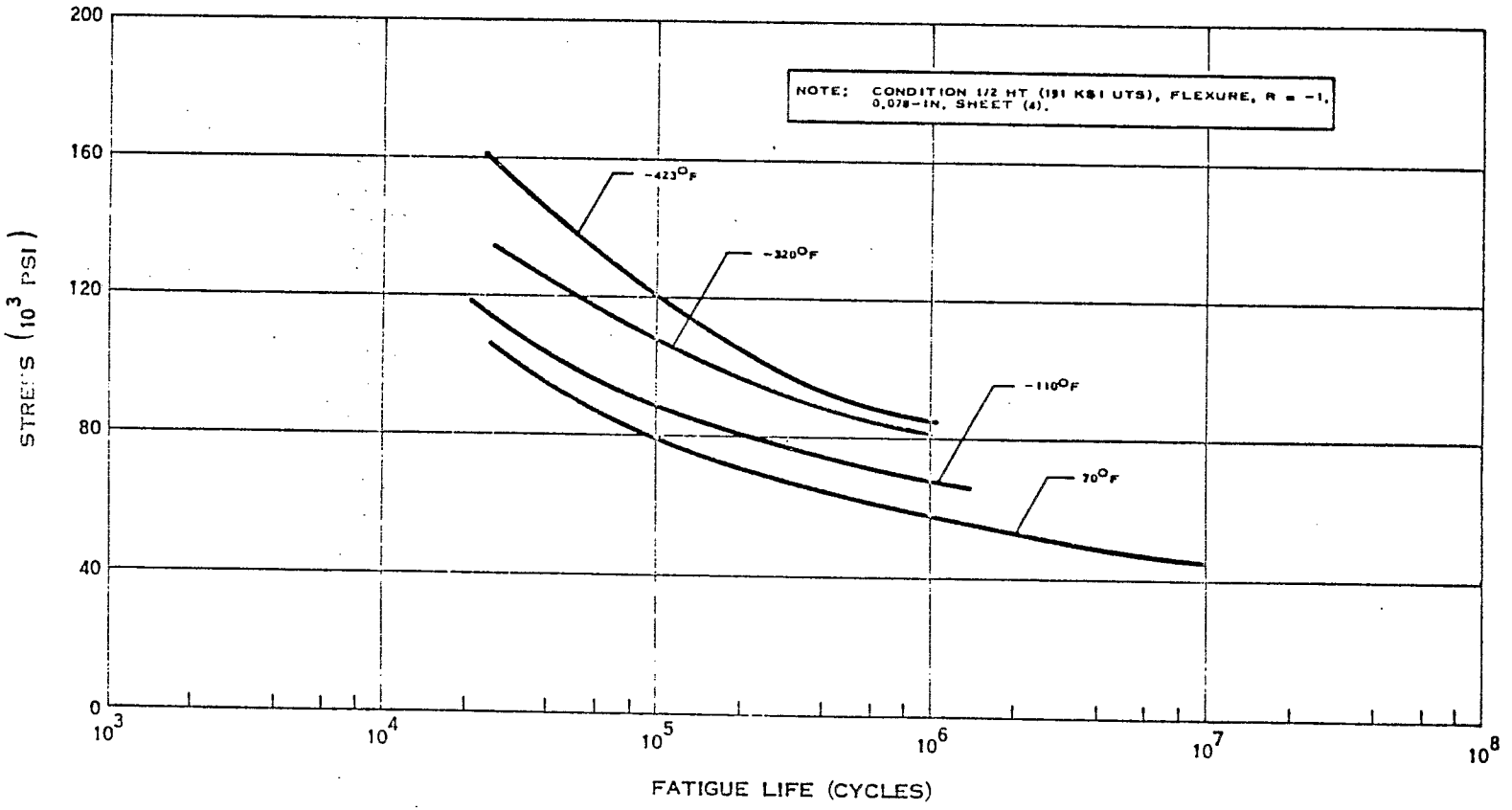


MODULUS OF RIGIDITY OF BERYLCO * 25

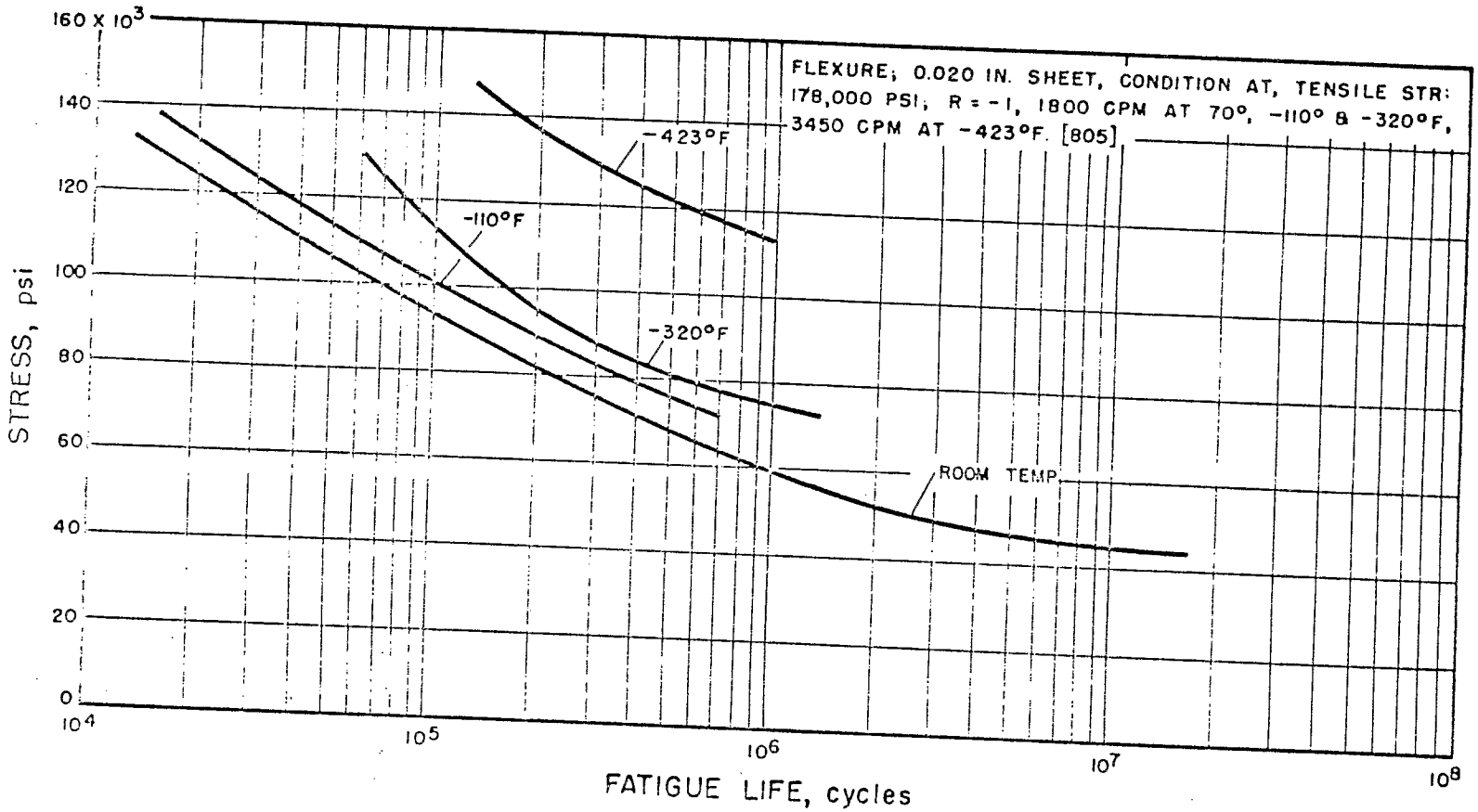
* THE BERYLLIUM CORPORATION OF AMERICA



FATIGUE STRENGTH OF BERYLLIUM COPPER

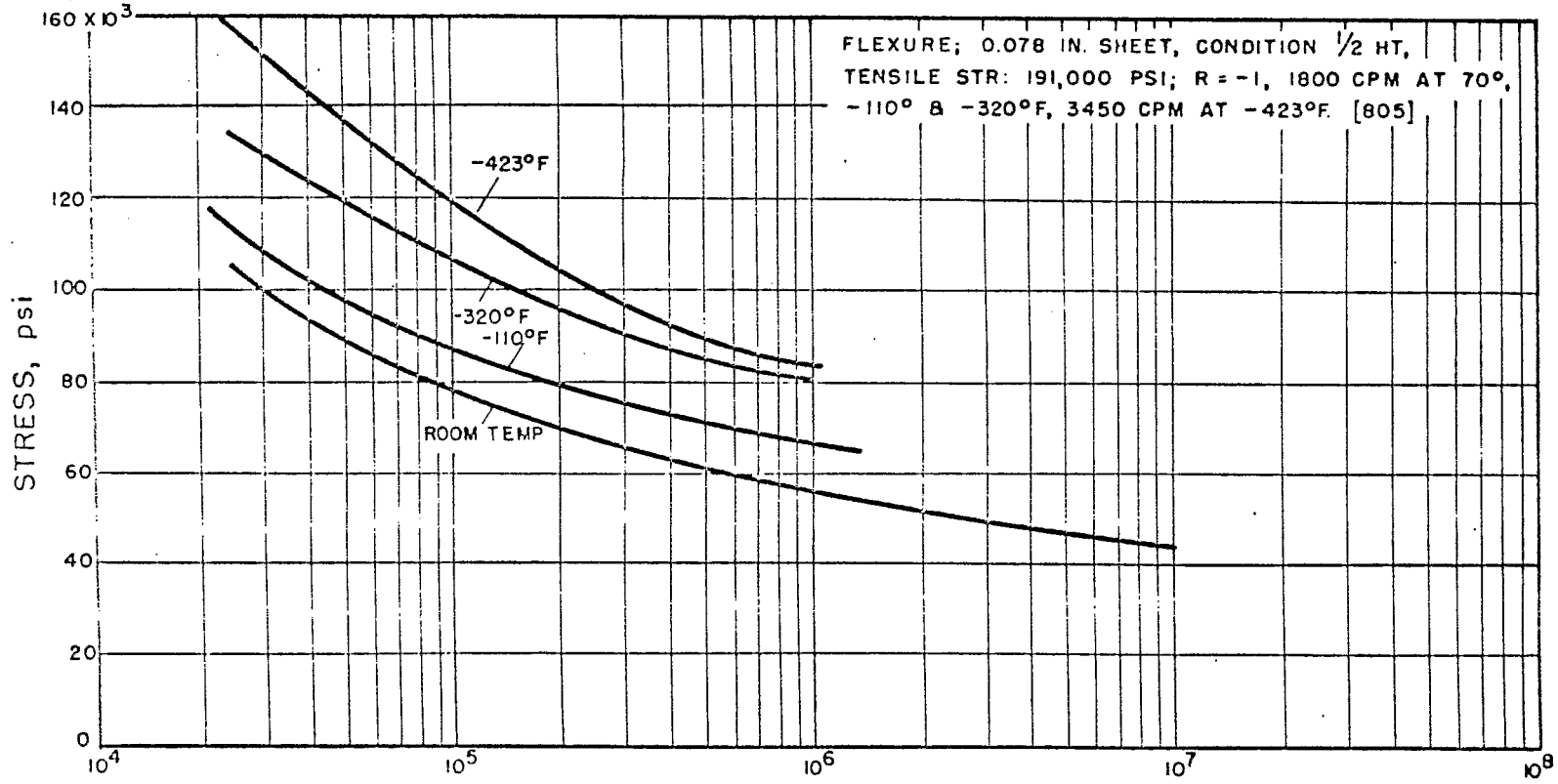


FATIGUE STRENGTH OF BERYLLIUM COPPER



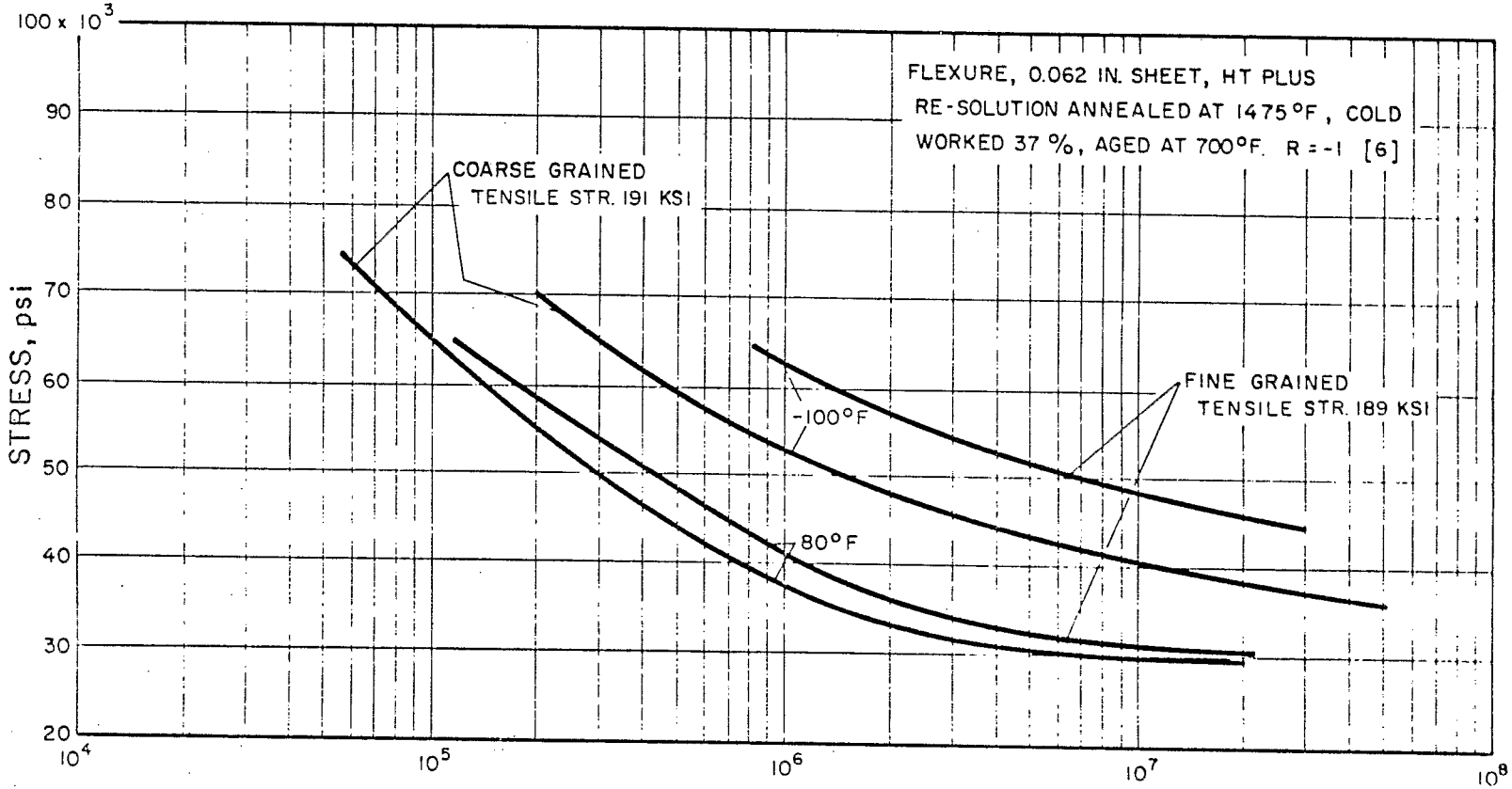
FATIGUE BEHAVIOR OF BERYLCO* 25

*THE BERYLLIUM CORPORATION OF AMERICA



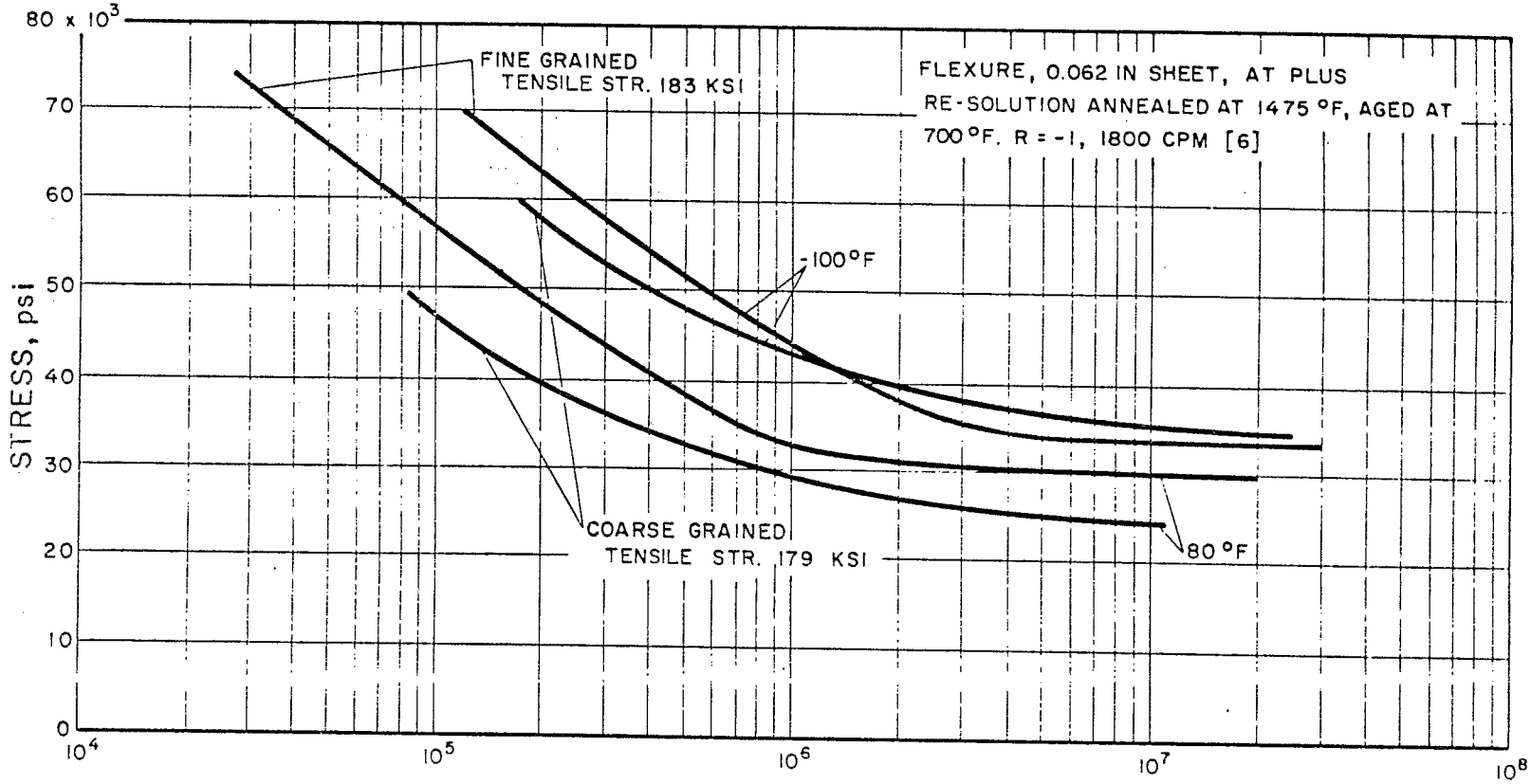
FATIGUE BEHAVIOR OF BERYLCO* 25

*THE BERYLLIUM CORPORATION OF AMERICA



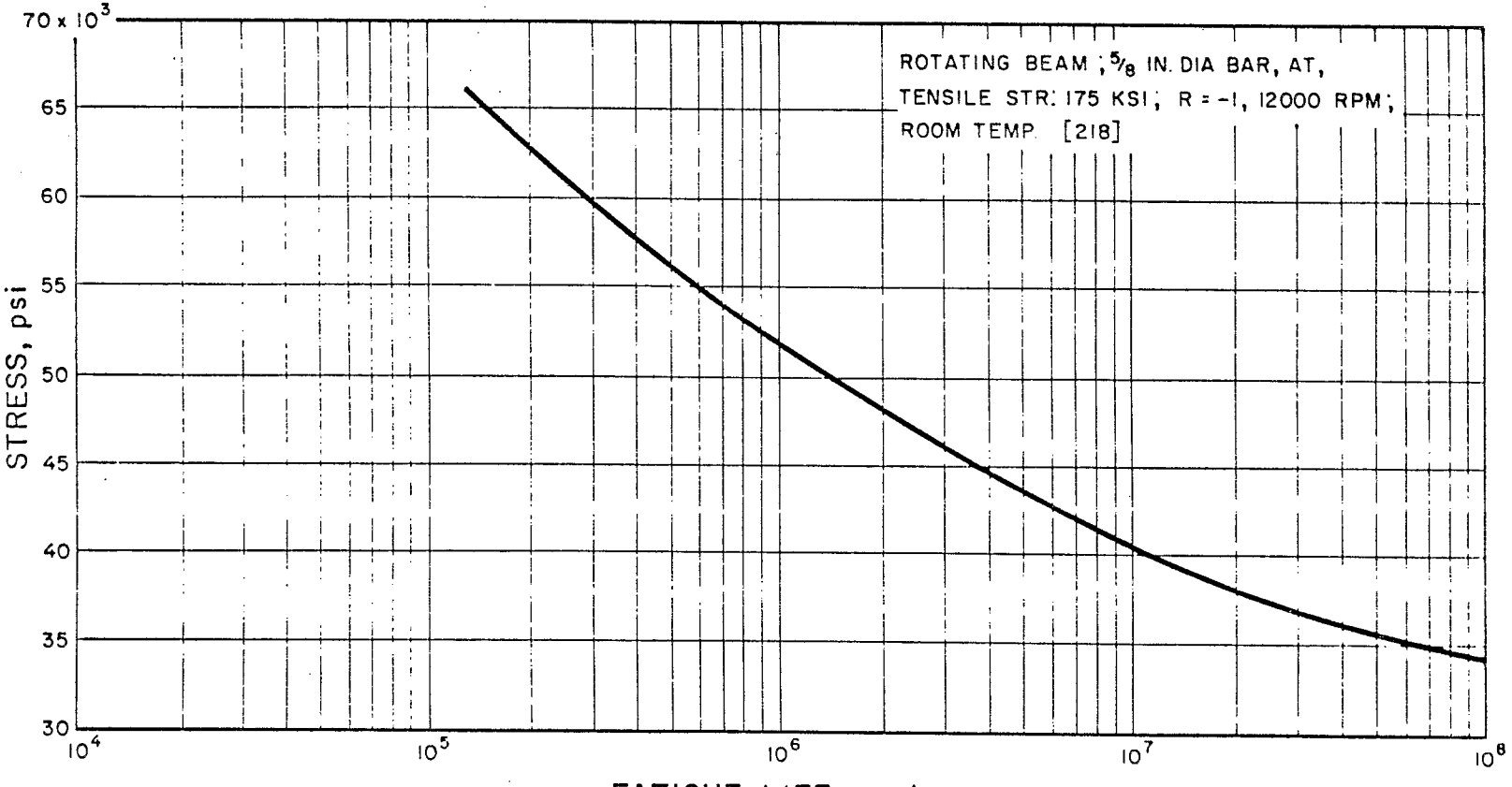
FATIGUE BEHAVIOR OF BERYLCO*25

*THE BERYLLIUM CORPORATION OF AMERICA



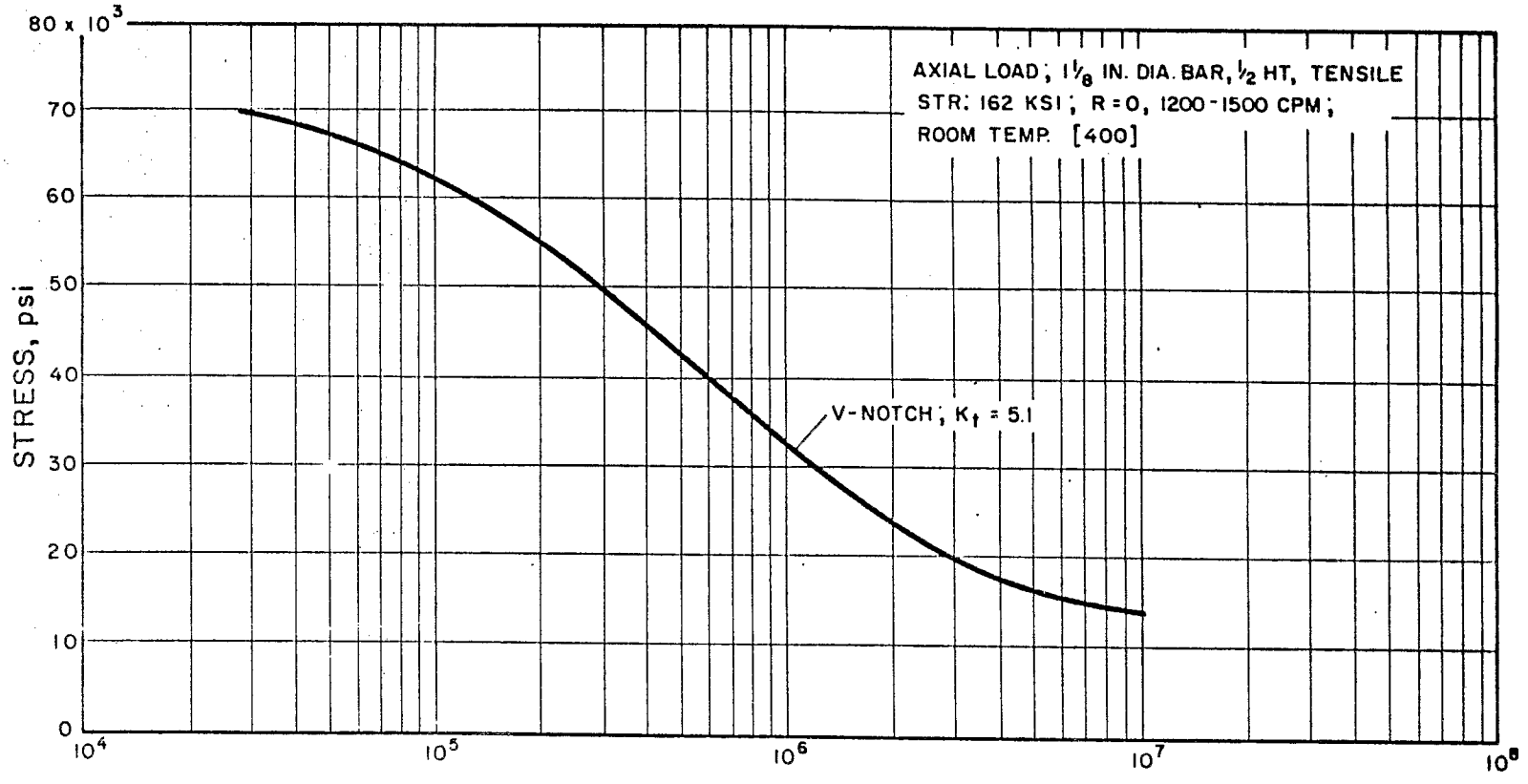
FATIGUE BEHAVIOR OF BERYLCO*25

* THE BERYLLIUM CORPORATION OF AMERICA



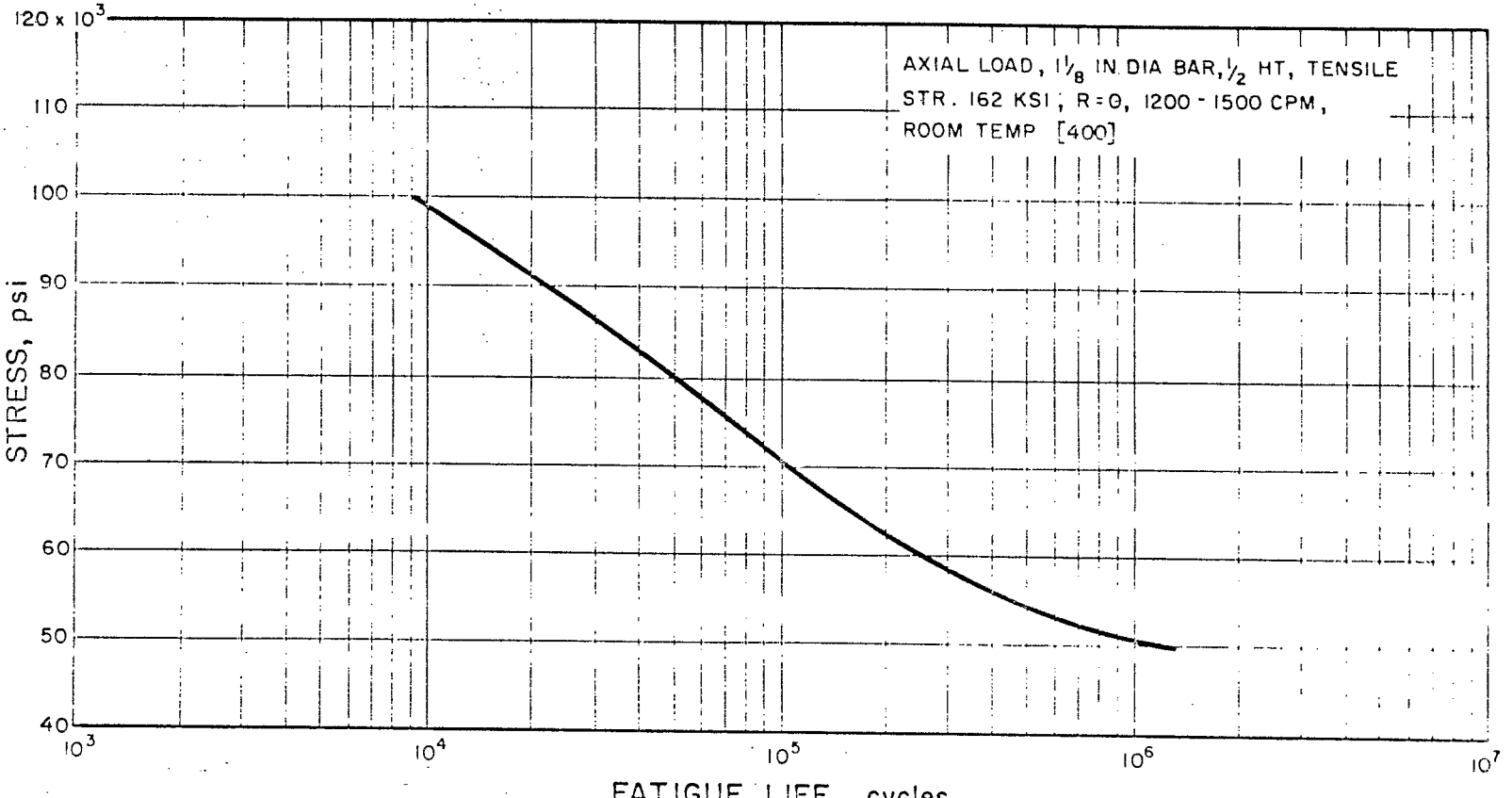
FATIGUE BEHAVIOR OF BERYLCO*25

* THE BERYLLIUM CORPORATION OF AMERICA



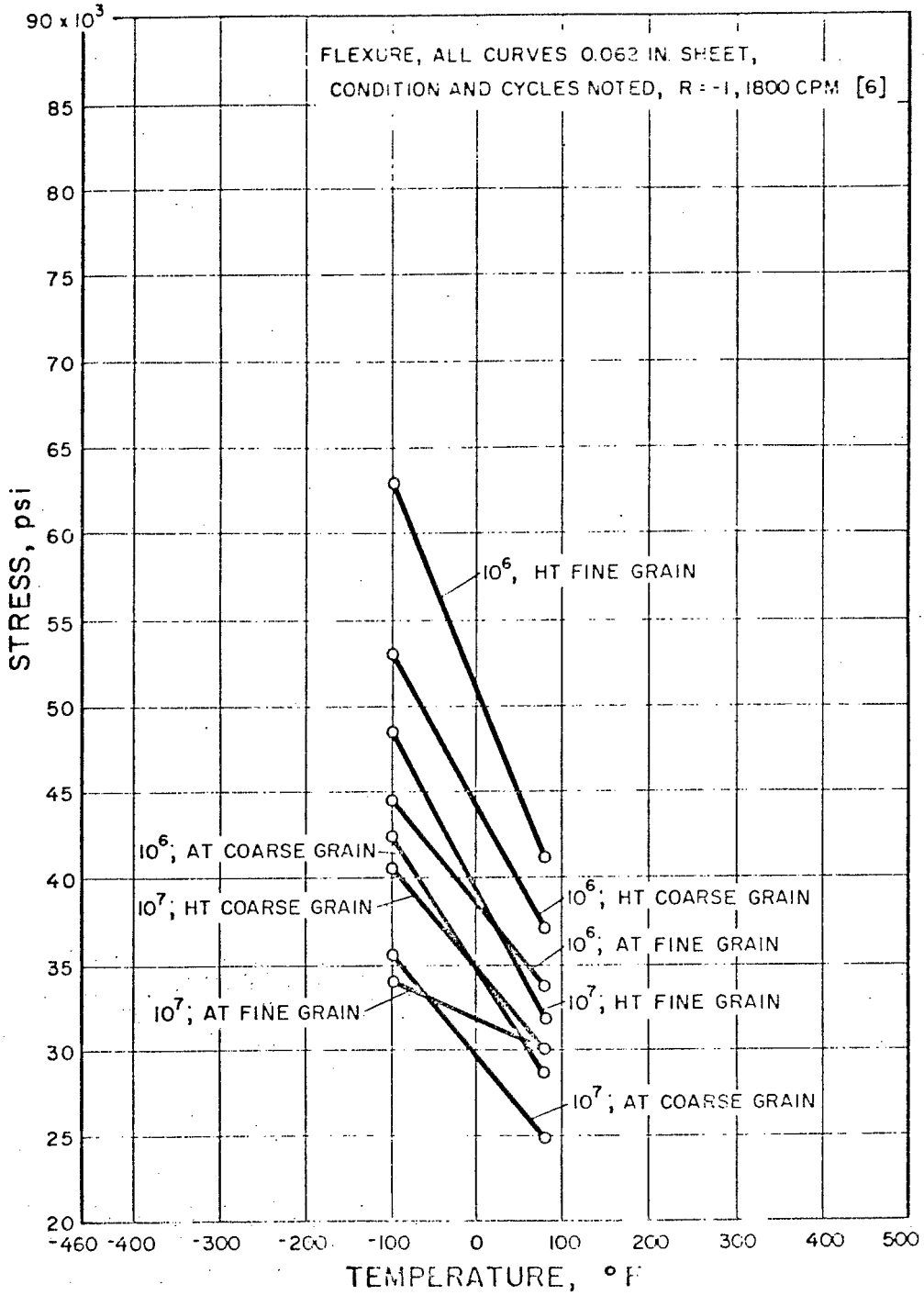
FATIGUE BEHAVIOR OF BERYLCO*25

*THE BERYLLIUM CORPORATION OF AMERICA



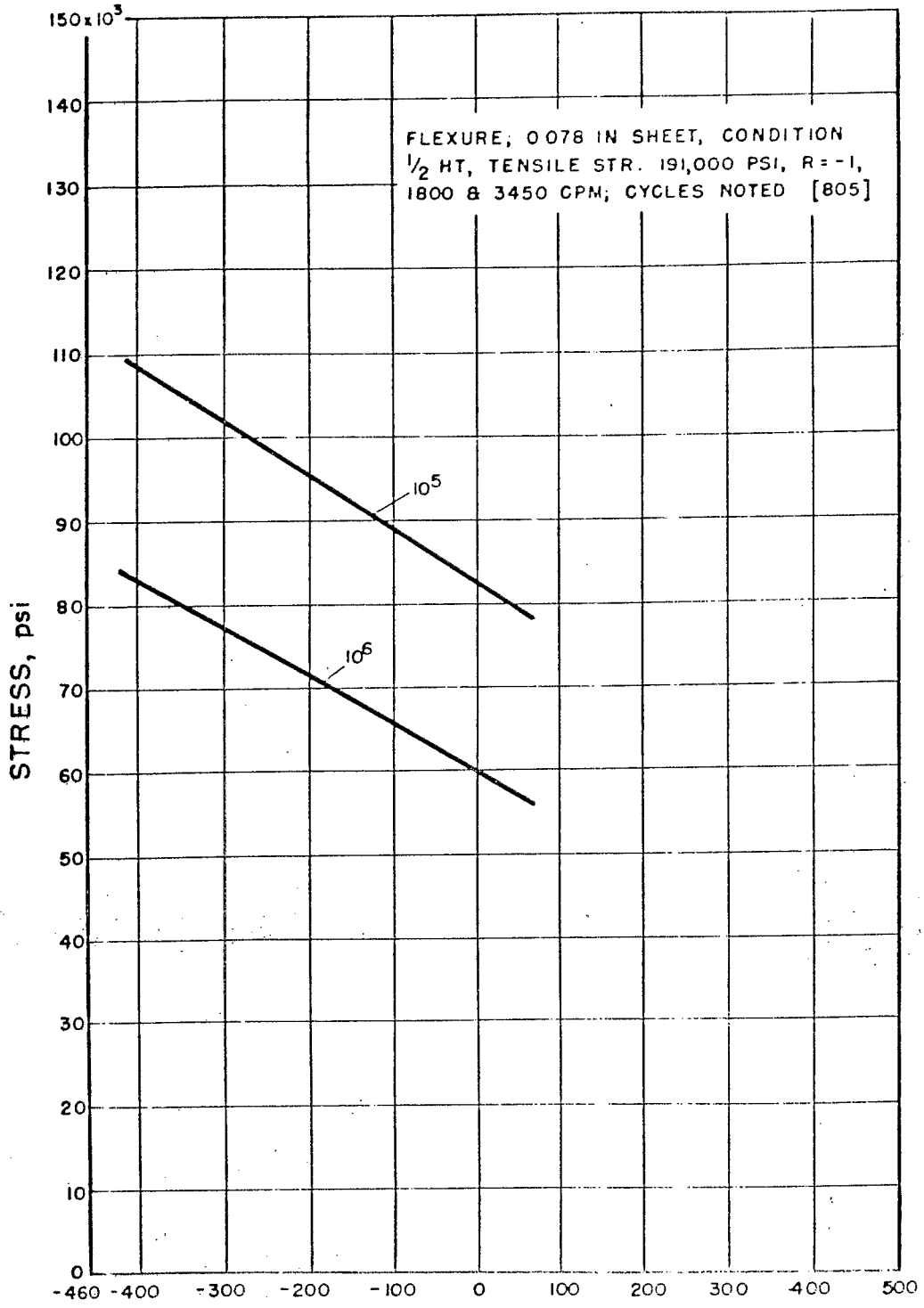
FATIGUE BEHAVIOR OF BERYLCO* 25

*THE BERYLLIUM CORPORATION OF AMERICA



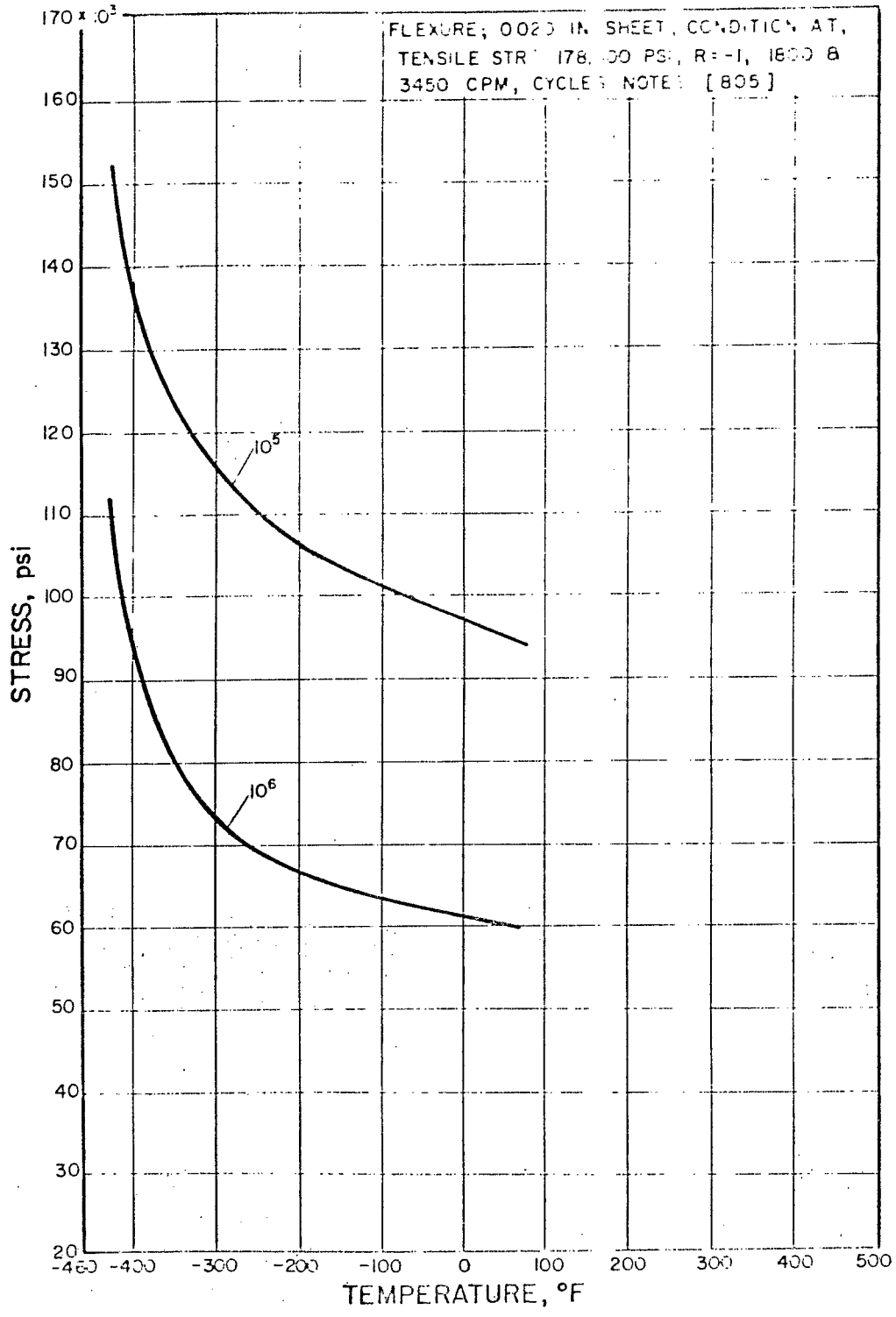
FATIGUE STRENGTH OF BERYLCO* 25

*THE BERYLLIUM CORPORATION OF AMERICA



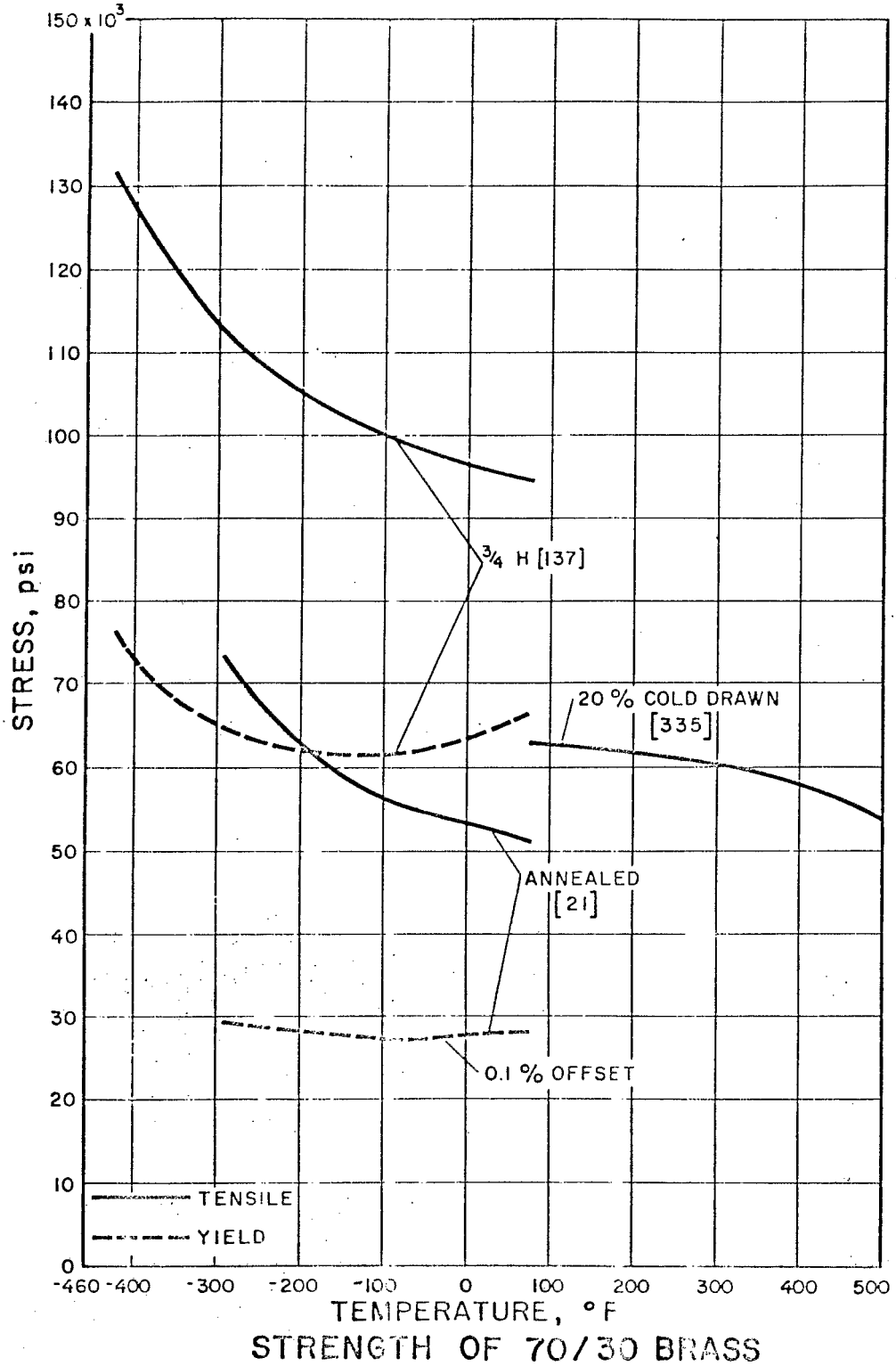
FATIGUE STRENGTH OF BERYLCO* 25

*THE BERYLLIUM CORPORATION OF AMERICA

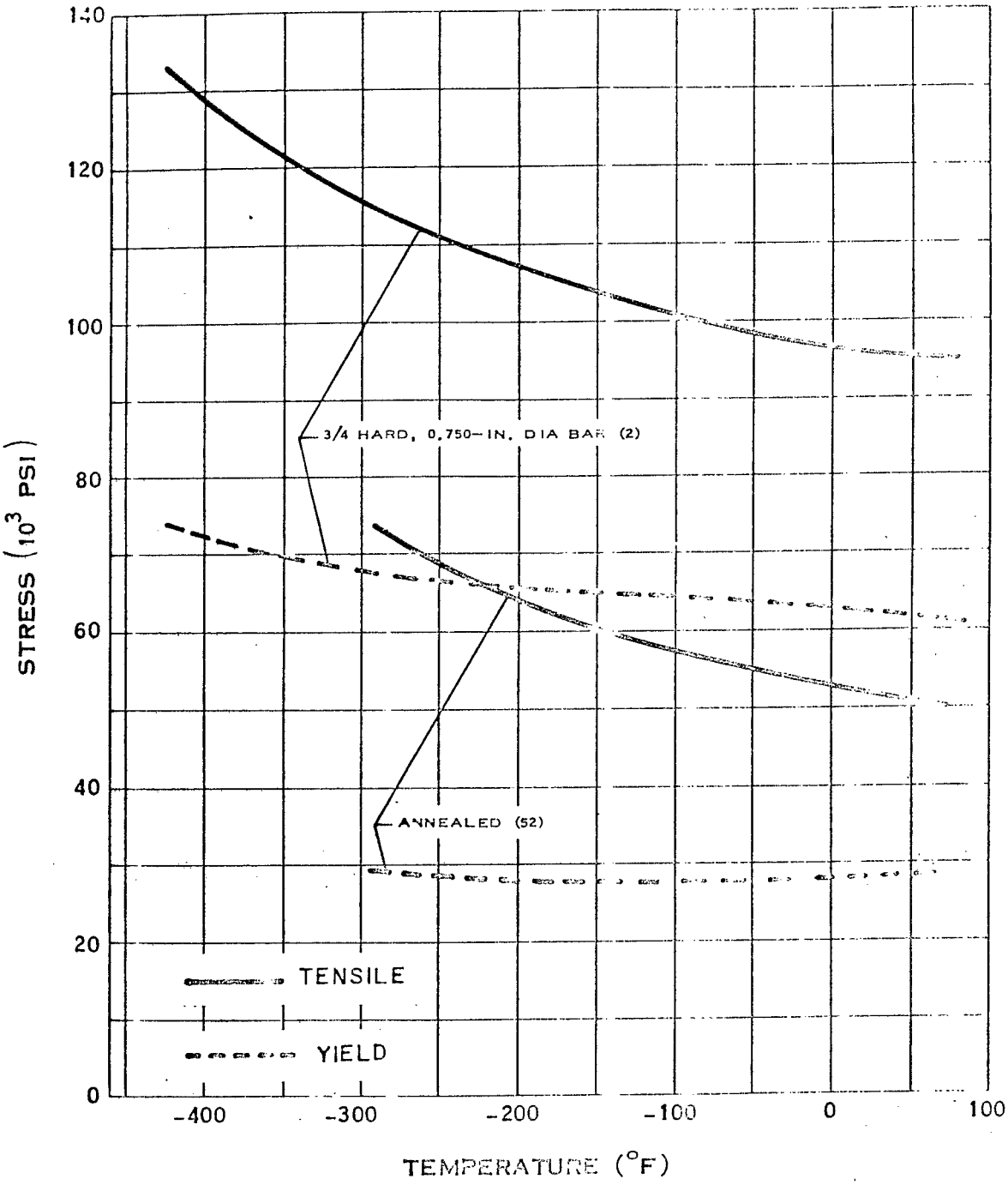


FATIGUE STRENGTH OF BERYLCO* 25

*THE BERYLLIUM CORPORATION OF AMERICA



STRENGTH OF 70/30 BRASS



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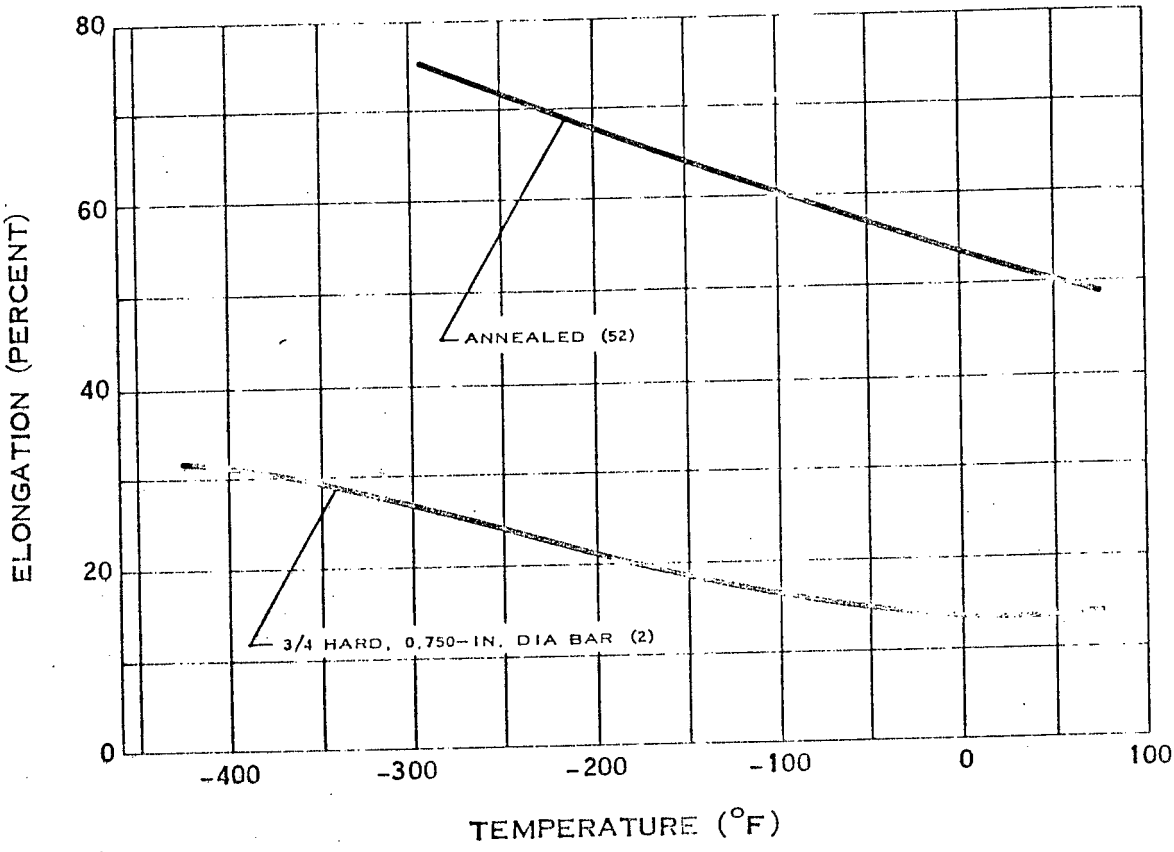
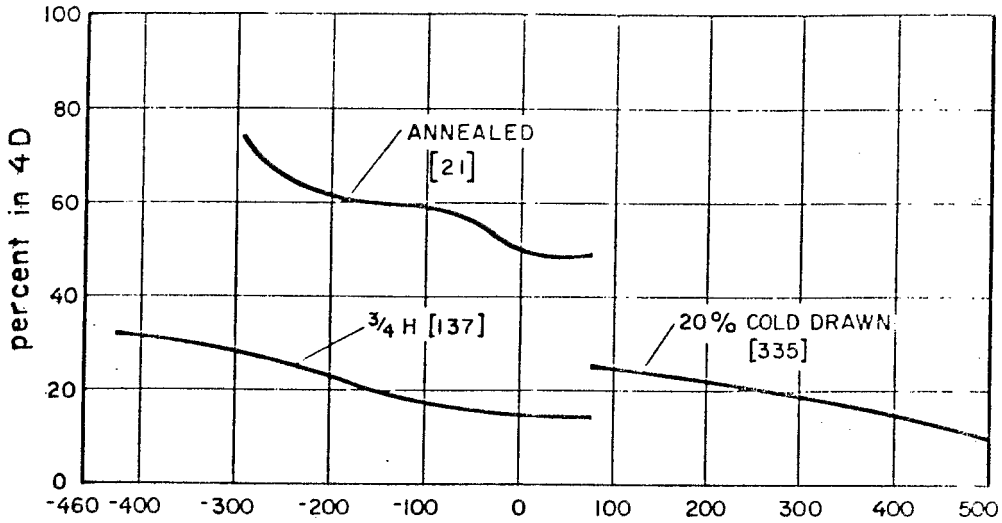
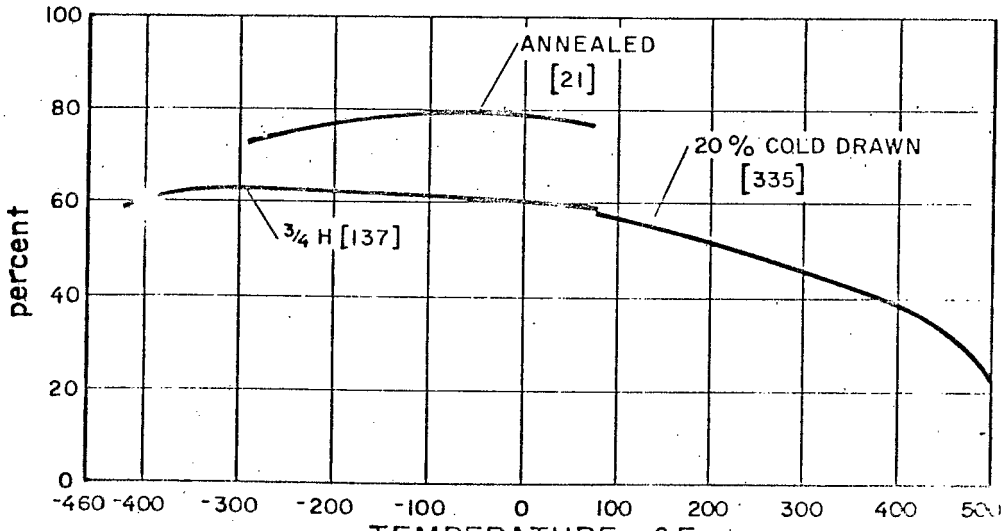


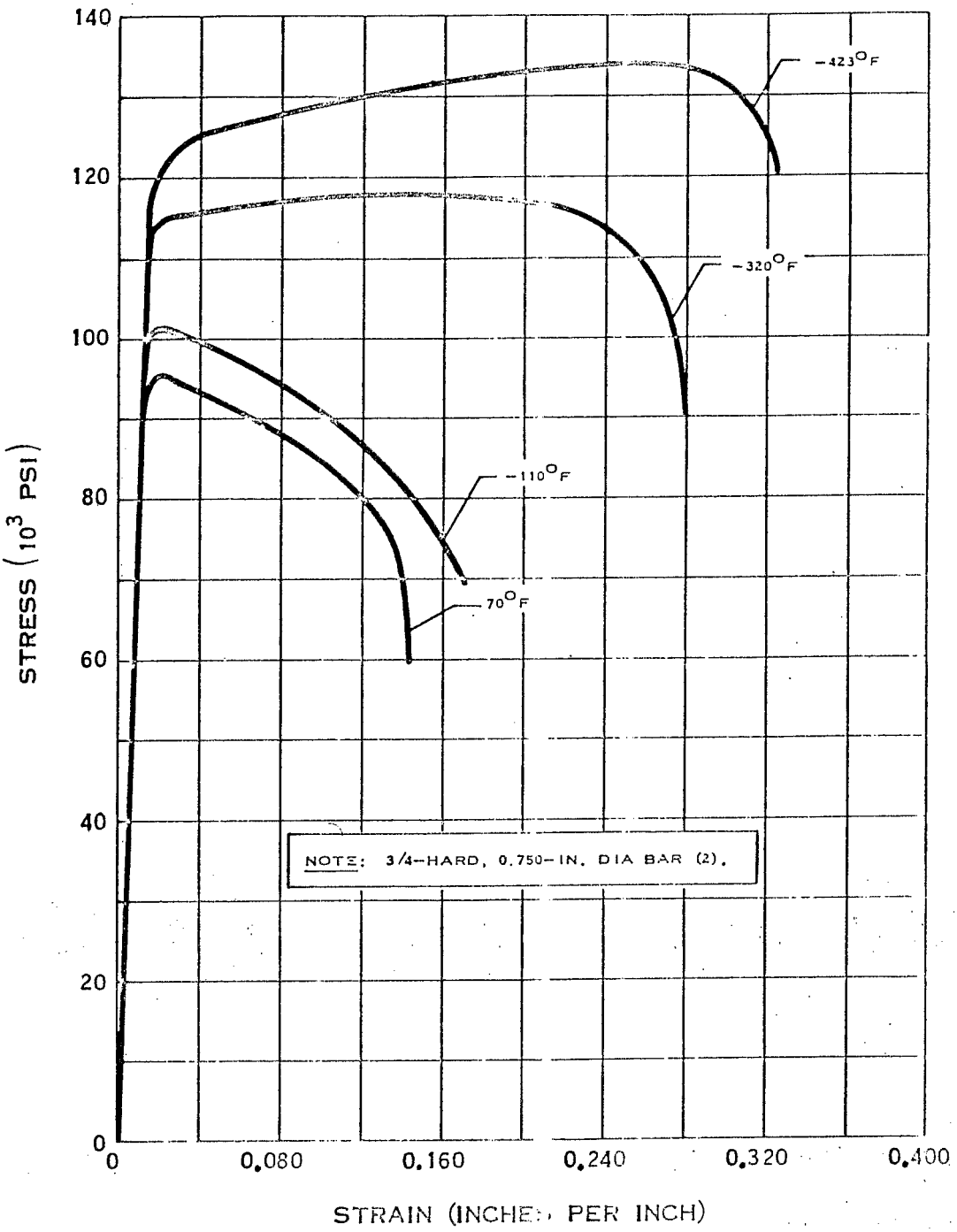
ELONGATION OF 70/30 BRASS



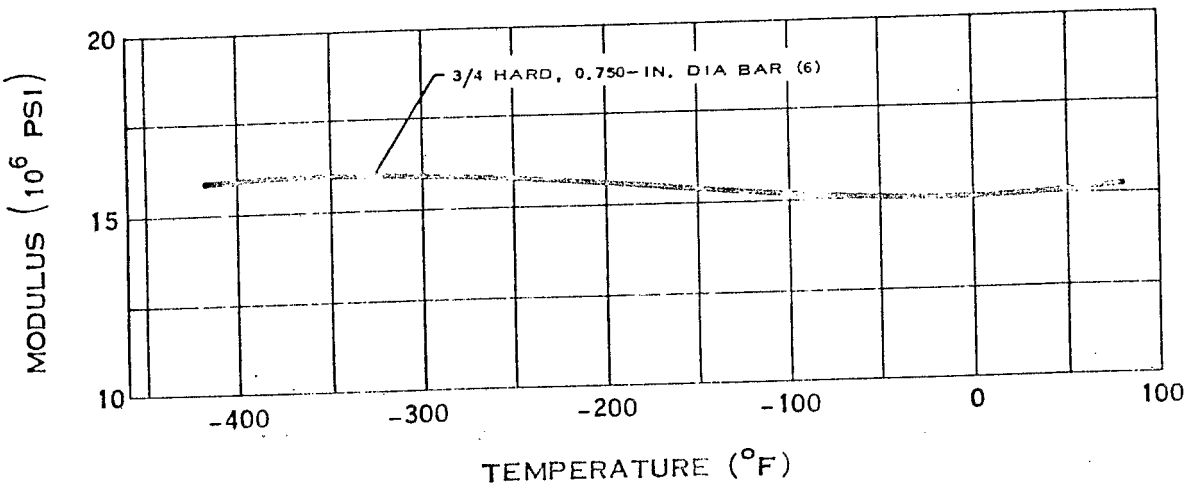
ELONGATION OF 70/30 BRASS



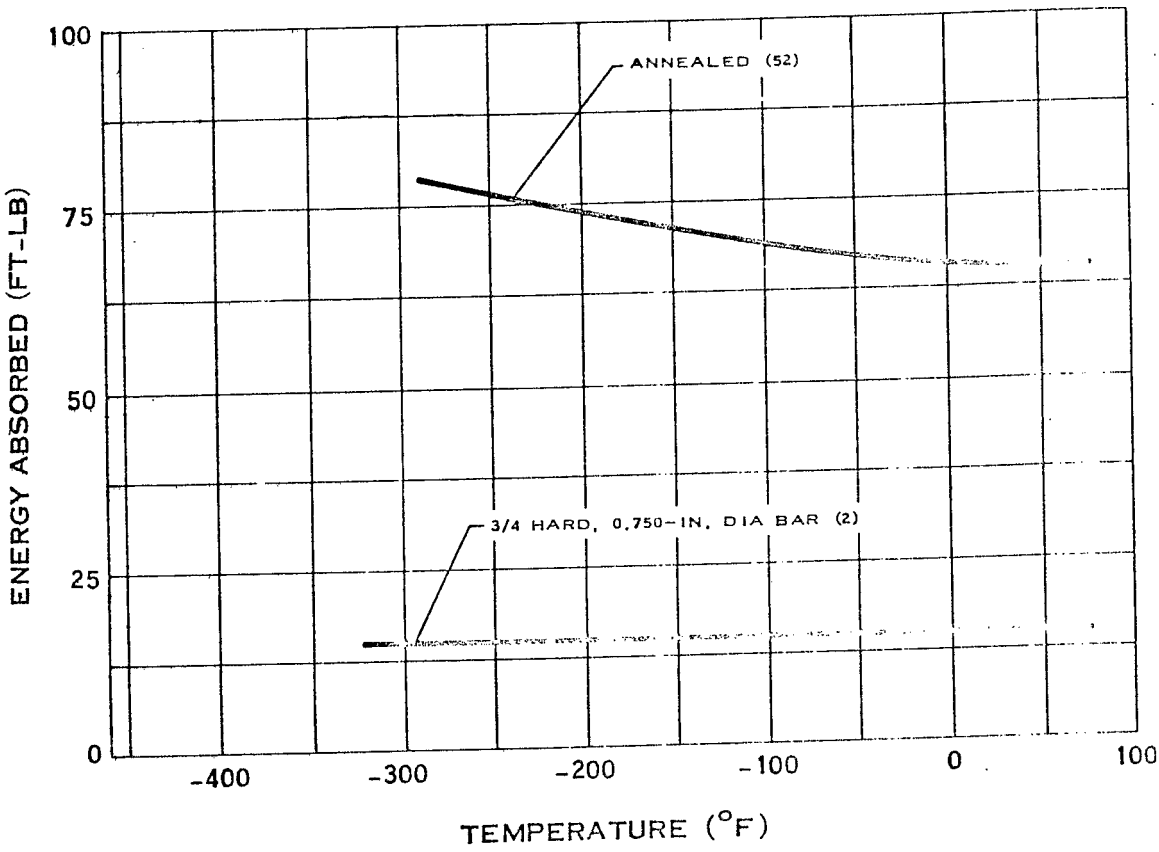
REDUCTION OF AREA OF 70/30 BRASS



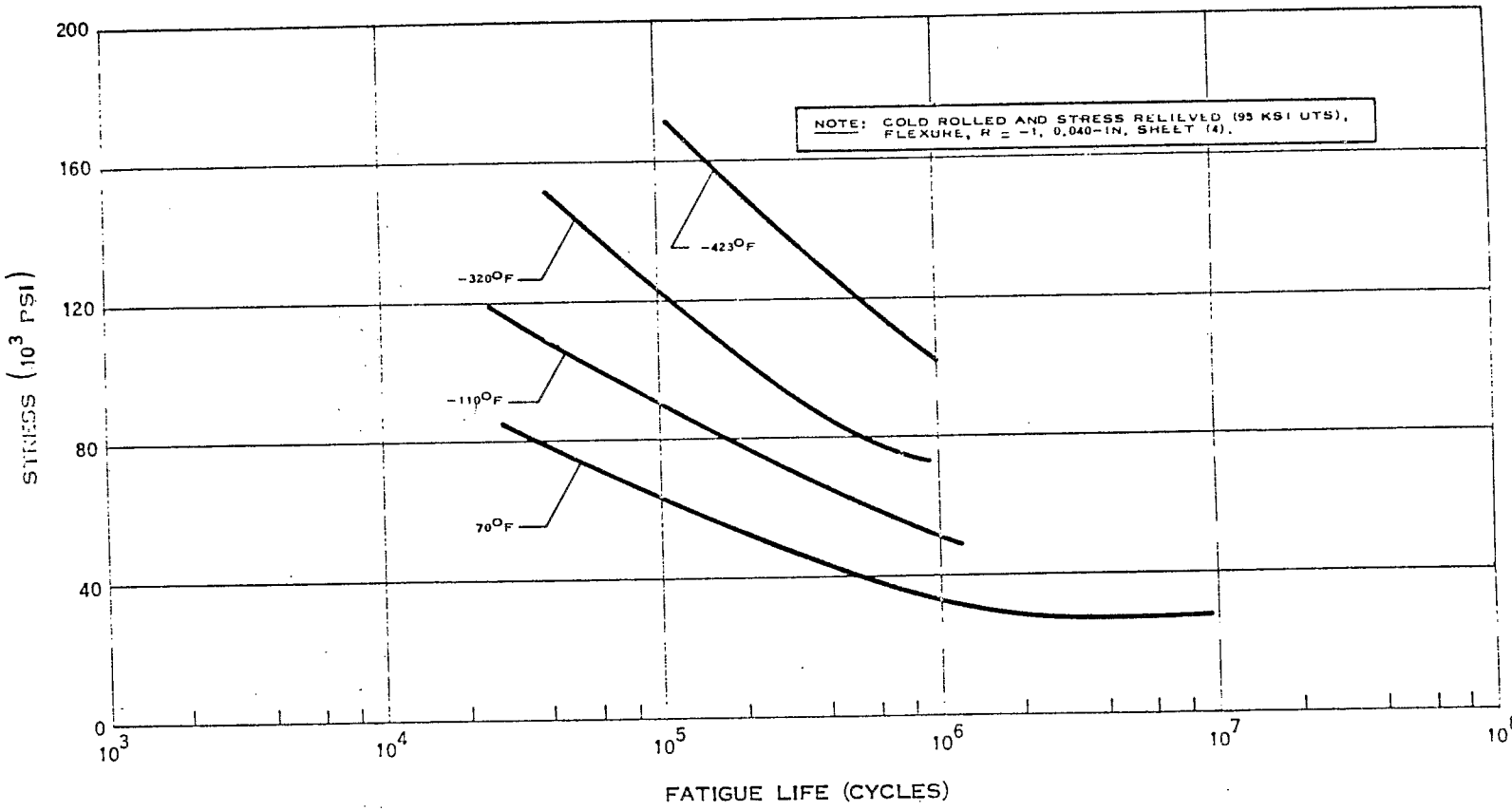
STRESS-STRAIN DIAGRAM FOR 70/30 BRASS



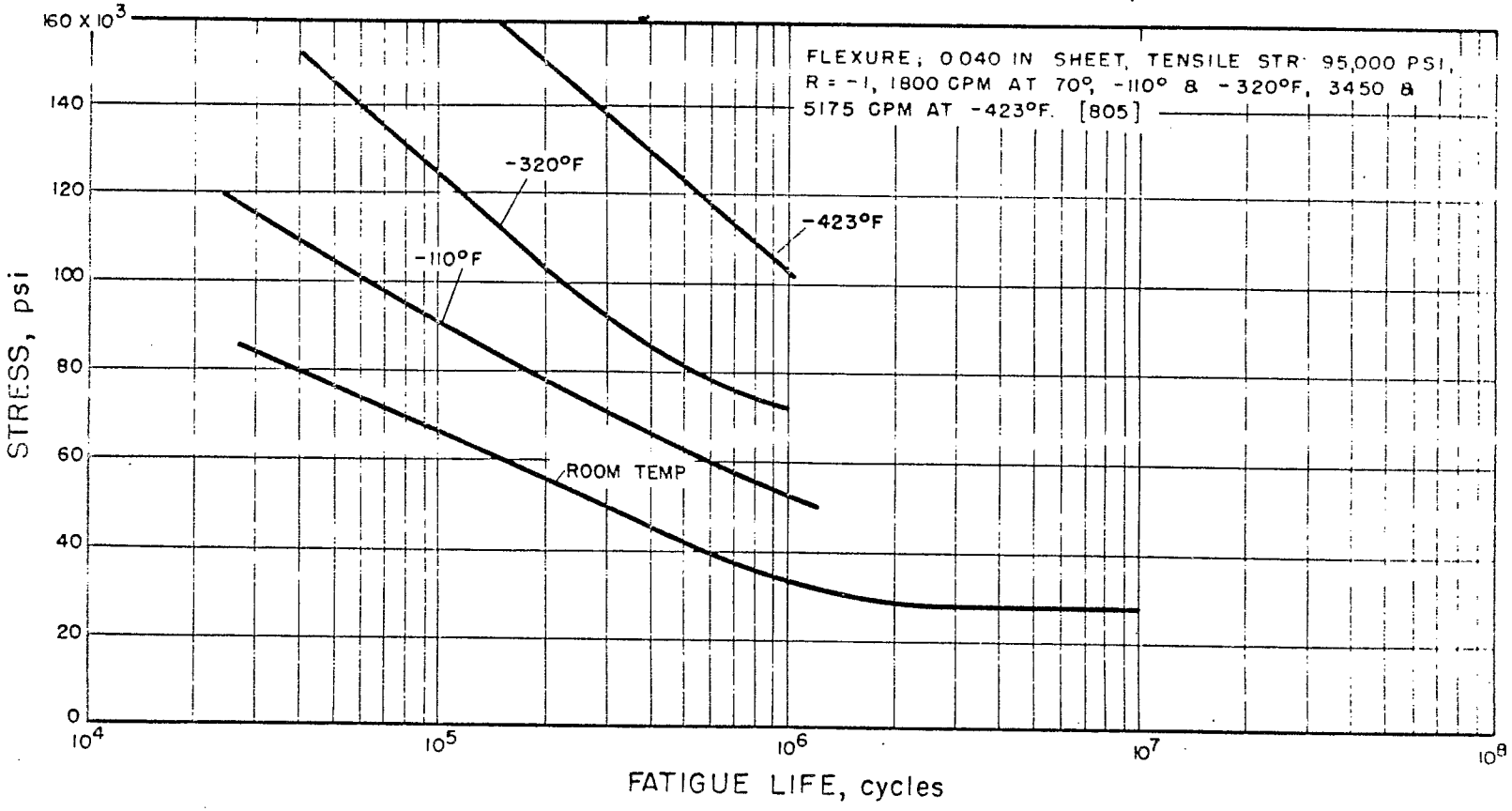
MODULUS OF ELASTICITY OF 70/30 BRASS



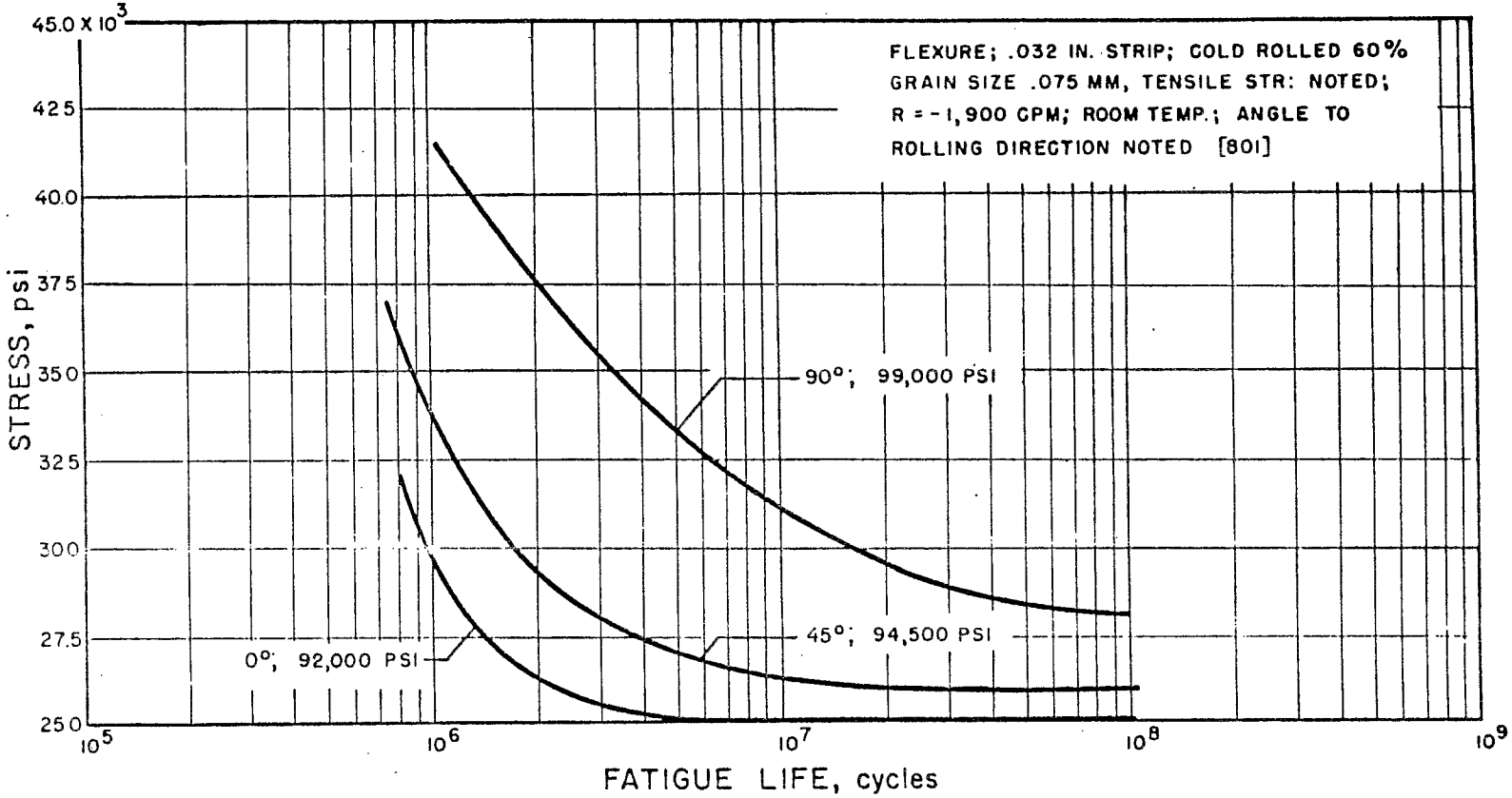
IMPACT STRENGTH OF 70/30 BRASS



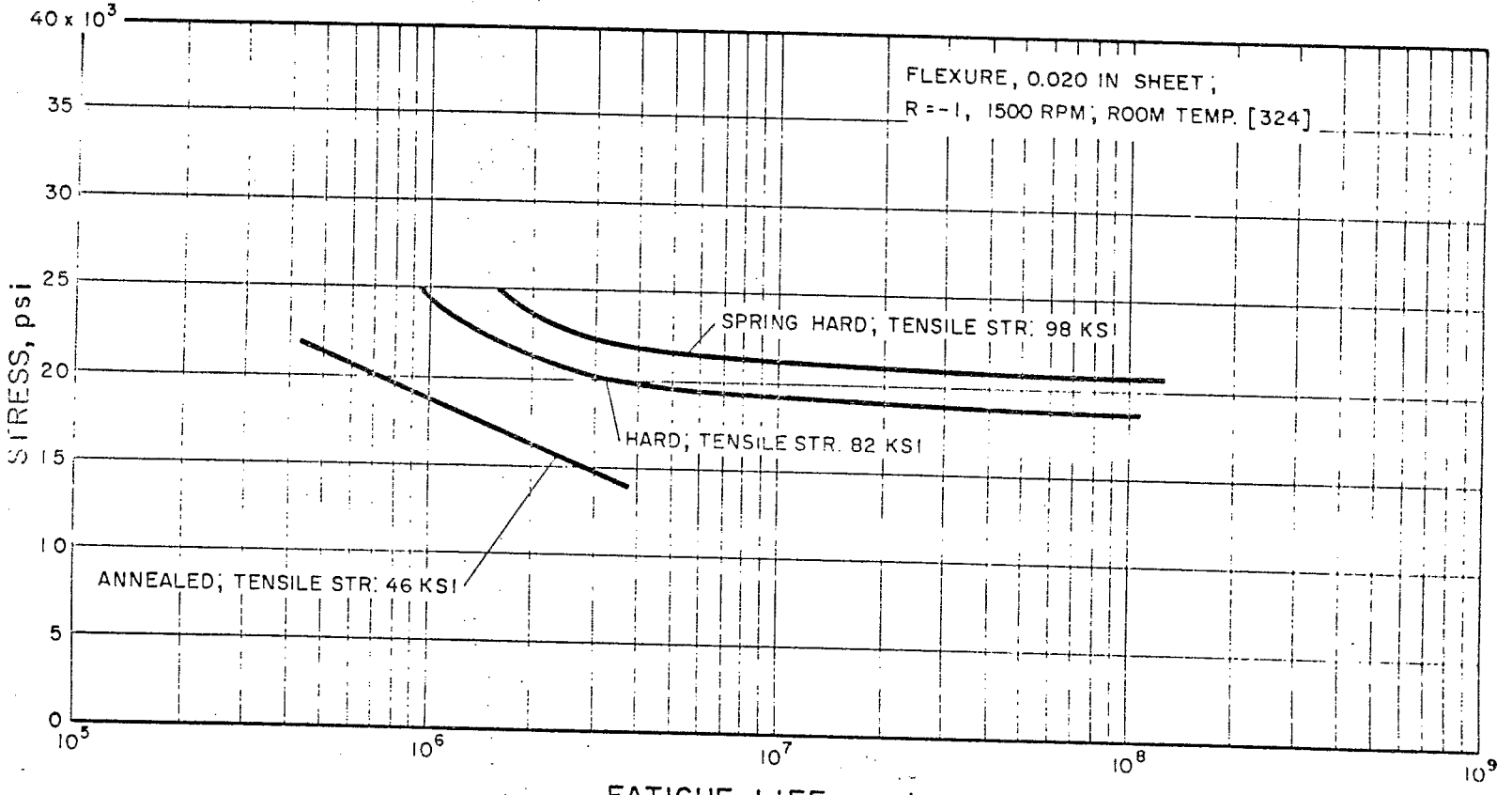
FATIGUE STRENGTH OF 70/30 BRASS



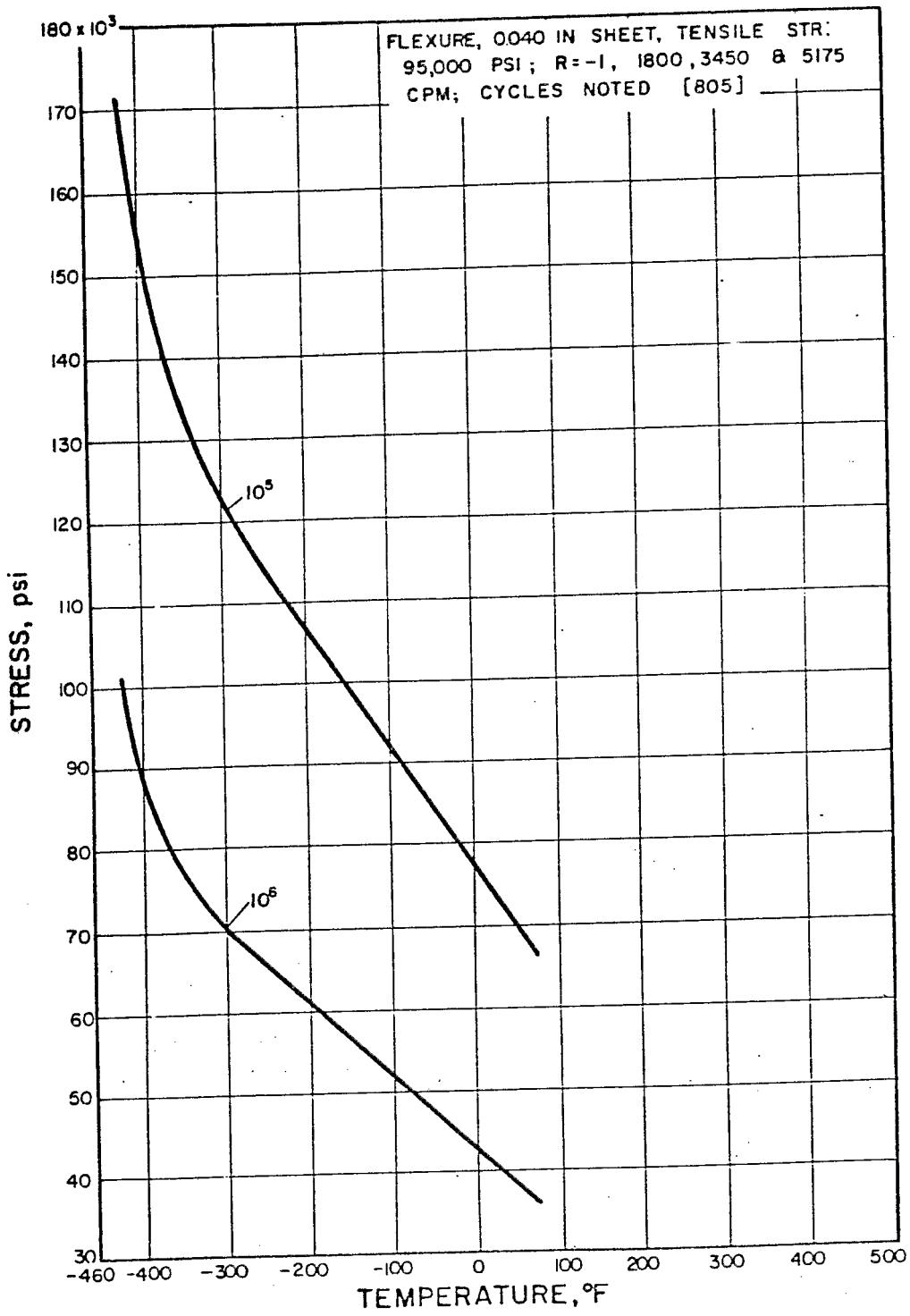
FATIGUE BEHAVIOR OF 70/30 BRASS



FATIGUE BEHAVIOR OF 70/30 BRASS

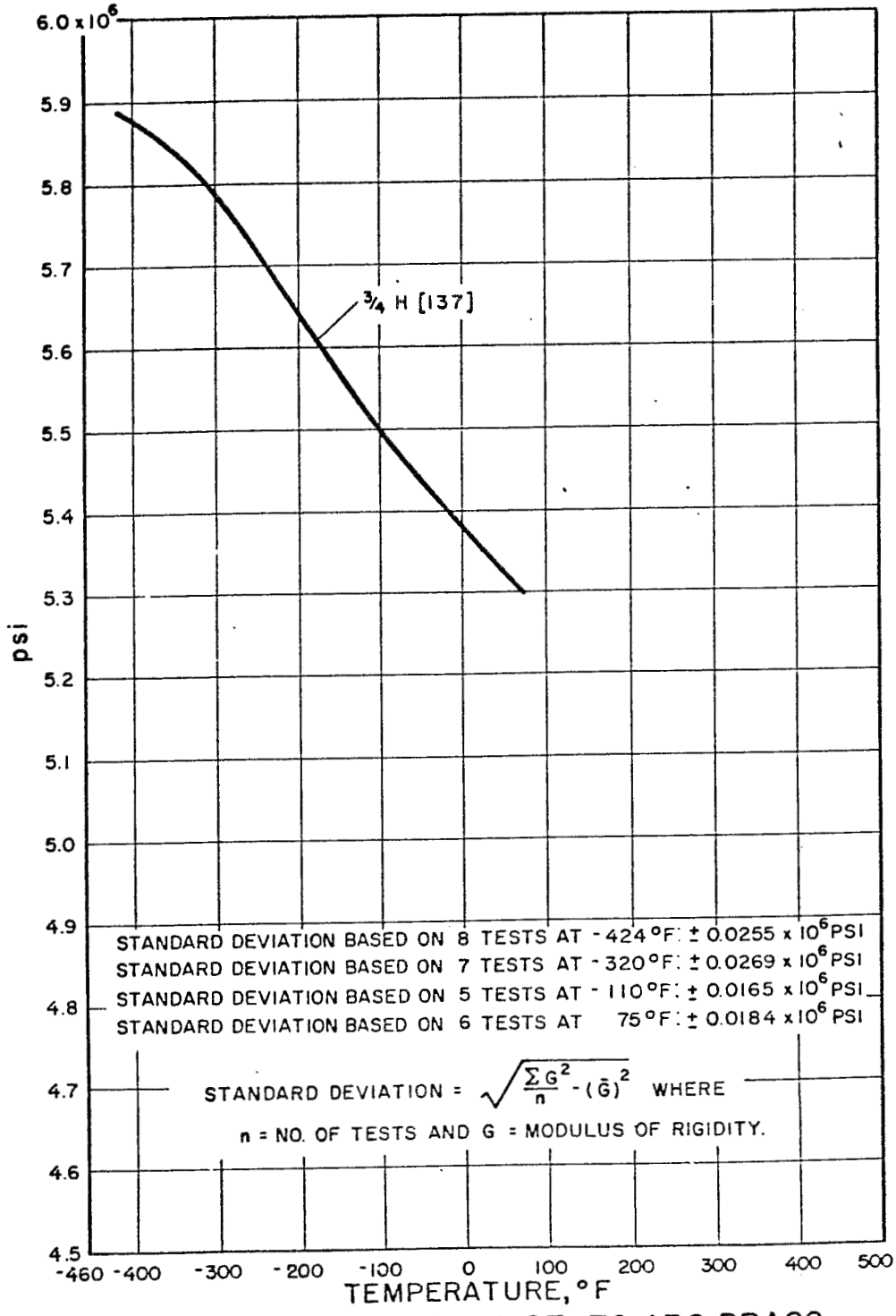


FATIGUE BEHAVIOR OF 70 / 30 BRASS

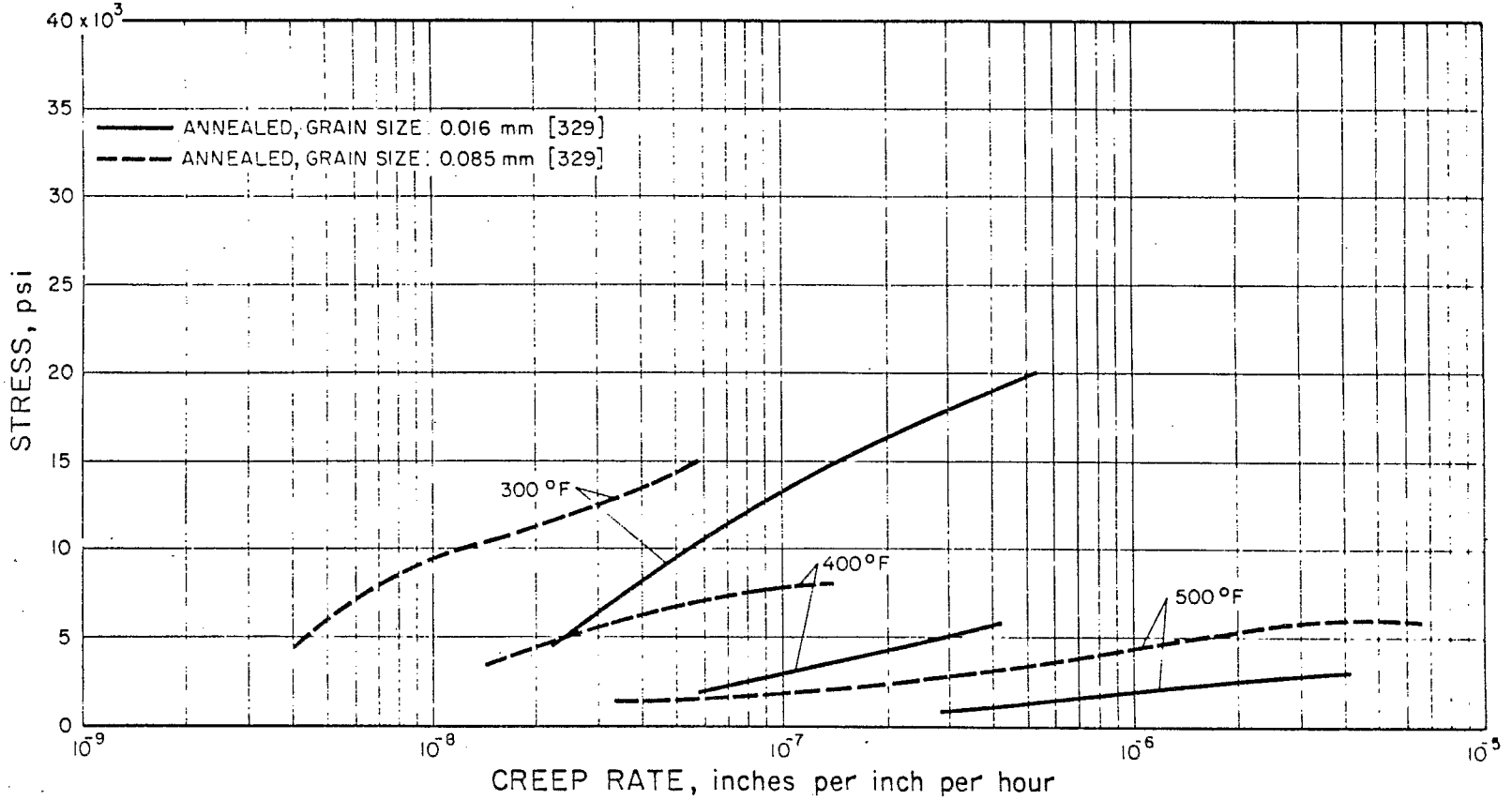


FATIGUE STRENGTH OF 70/30 BRASS

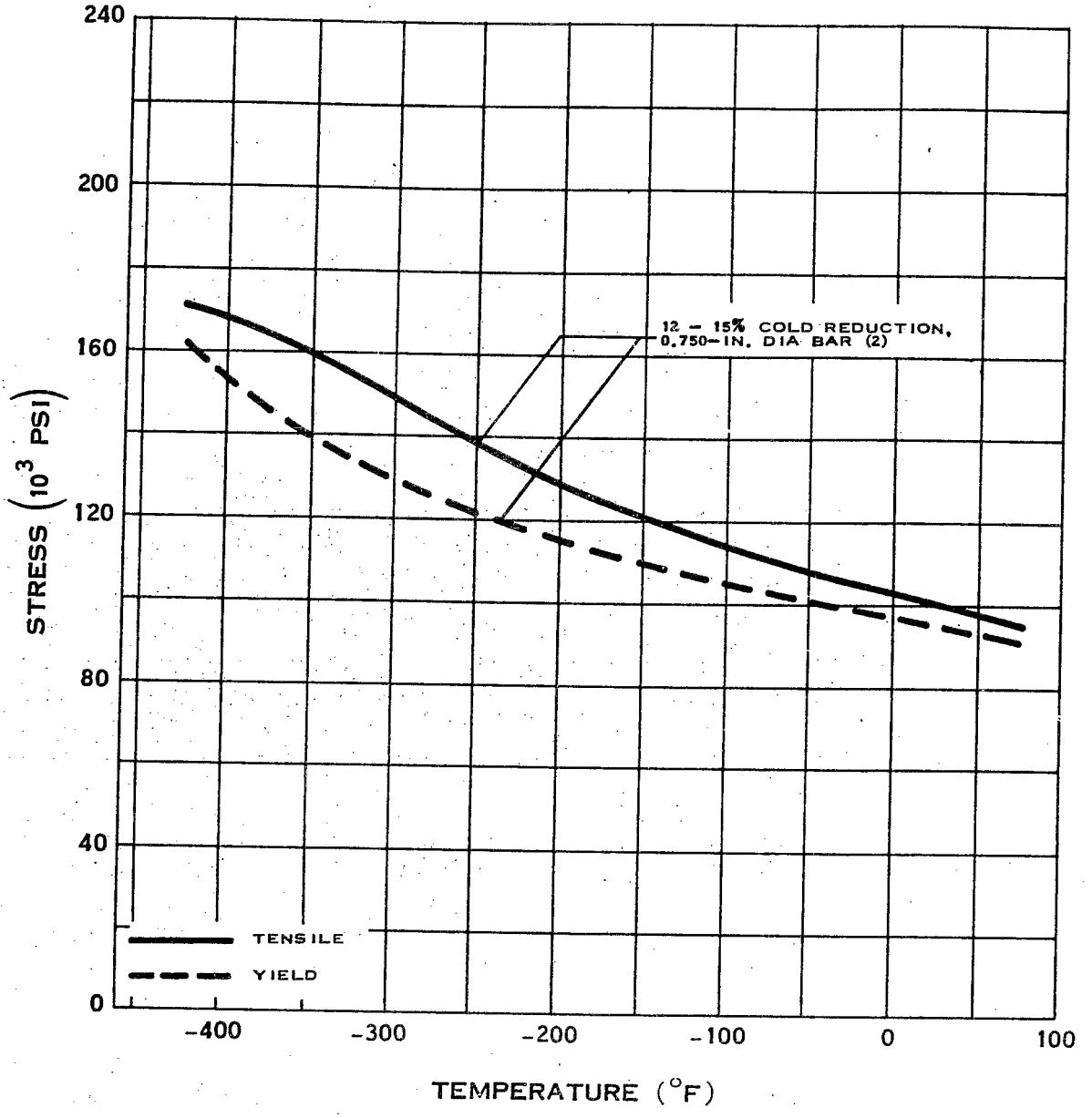
XI-E-3.12



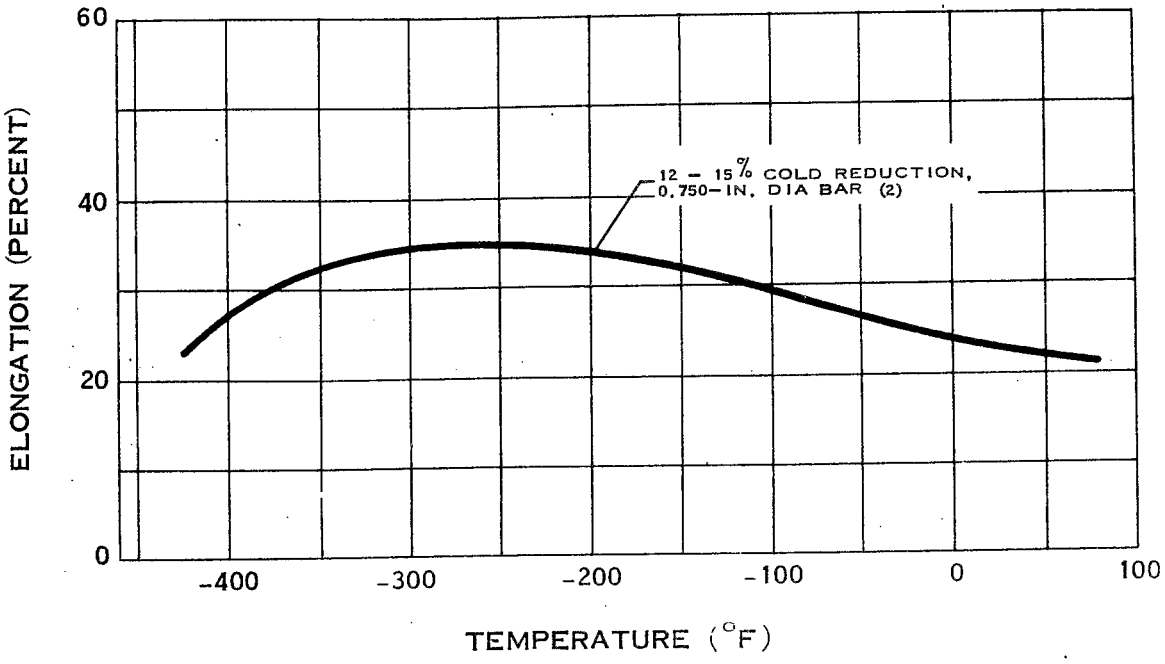
MODULUS OF RIGIDITY OF 70 / 30 BRASS



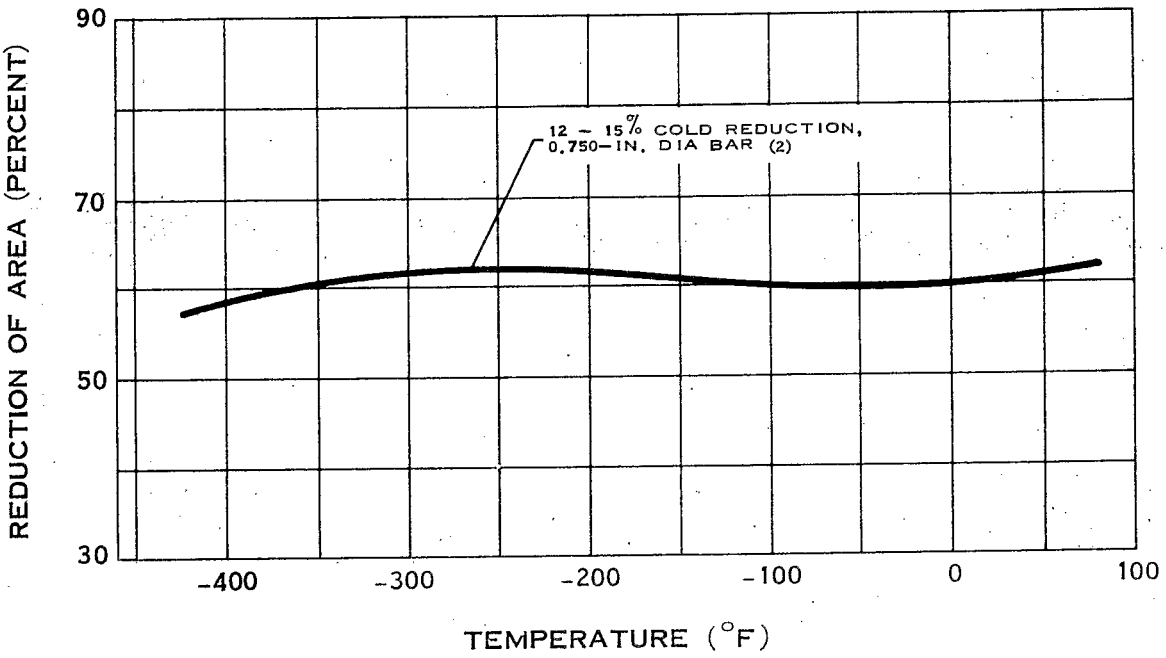
CREEP BEHAVIOR OF 70/30 BRASS



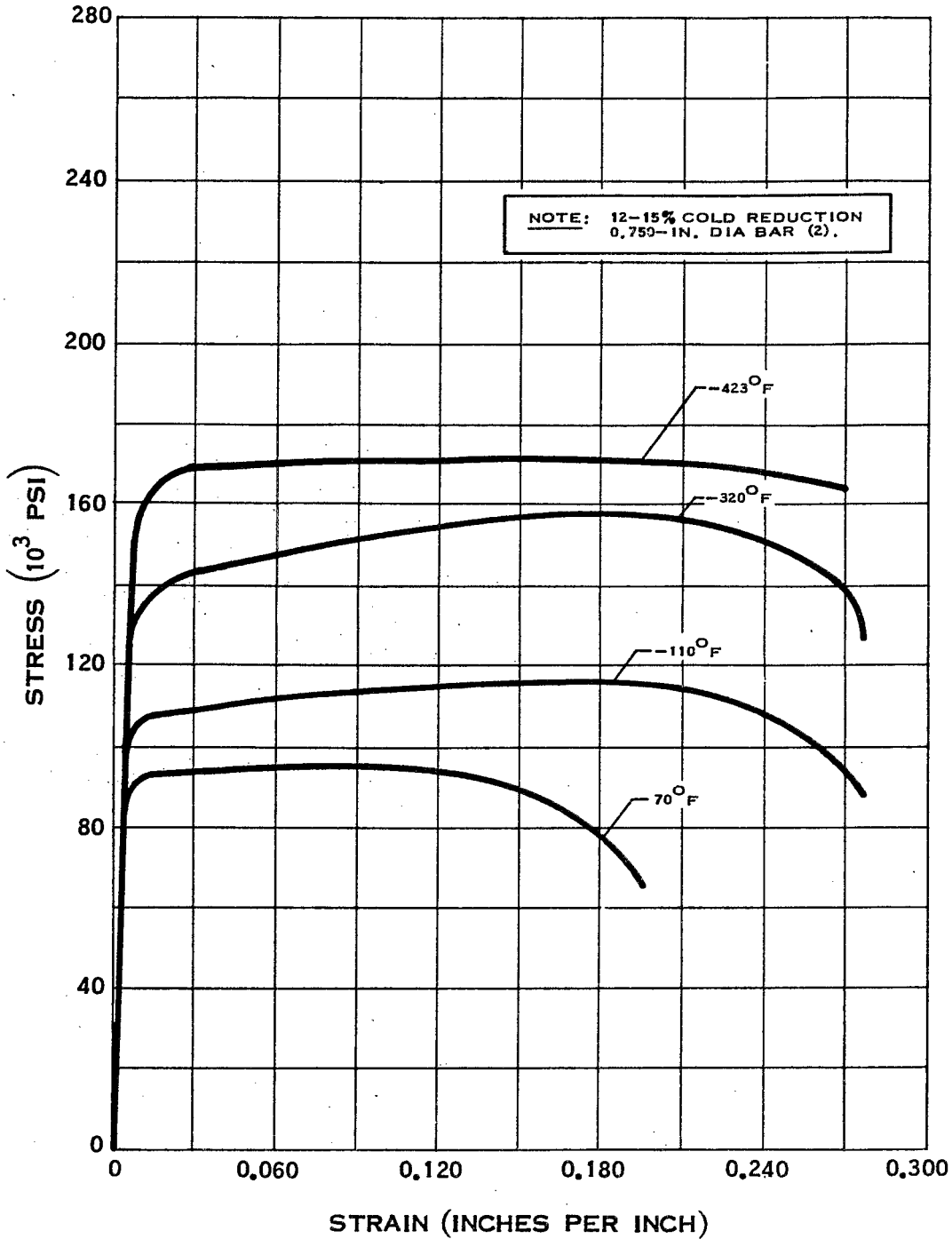
STRENGTH OF INVAR



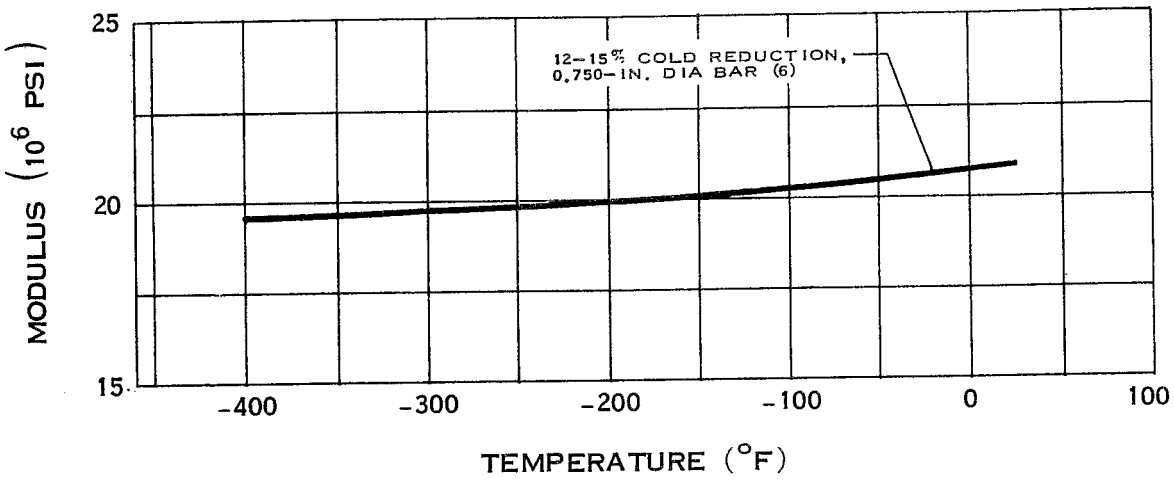
ELONGATION OF INVAR



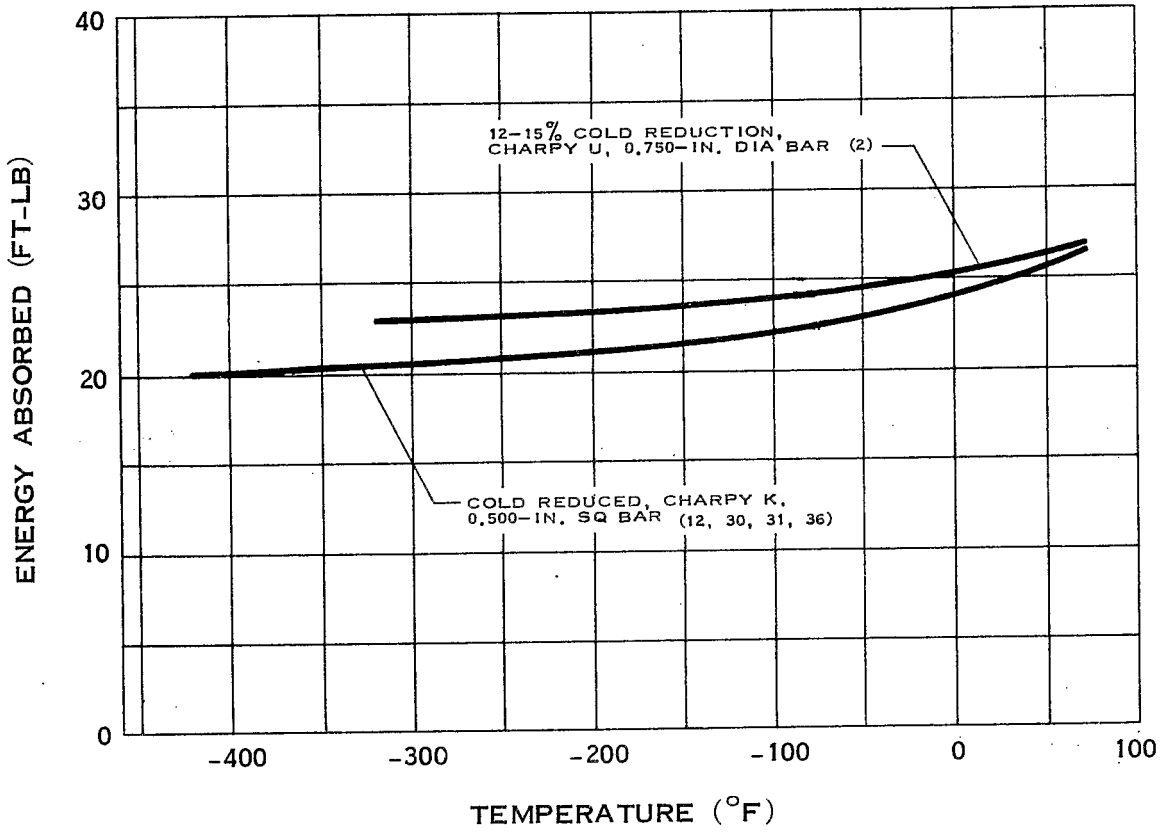
REDUCTION OF AREA OF INVAR



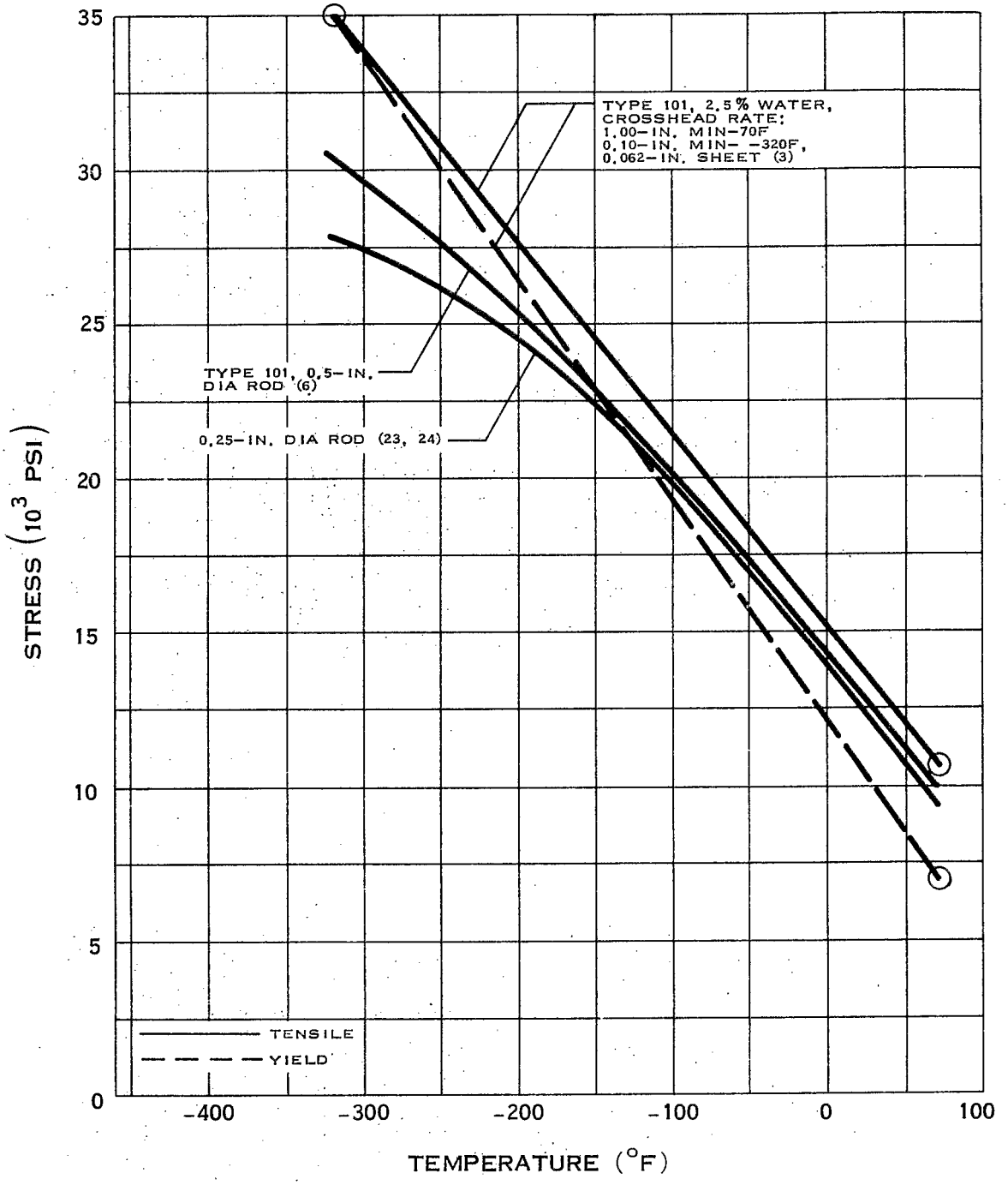
STRESS-STRAIN DIAGRAM FOR INVAR



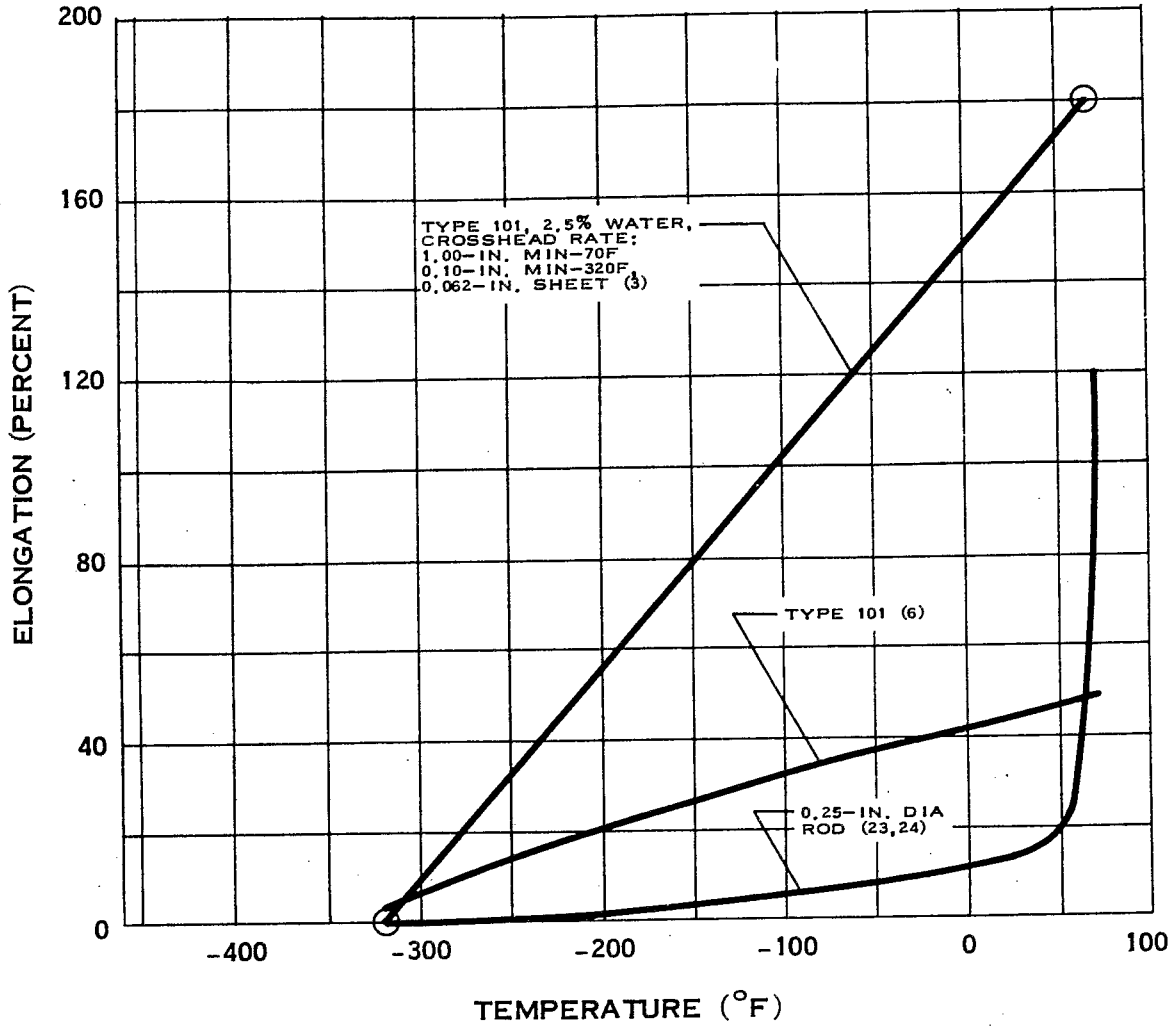
MODULUS OF ELASTICITY OF INVAR



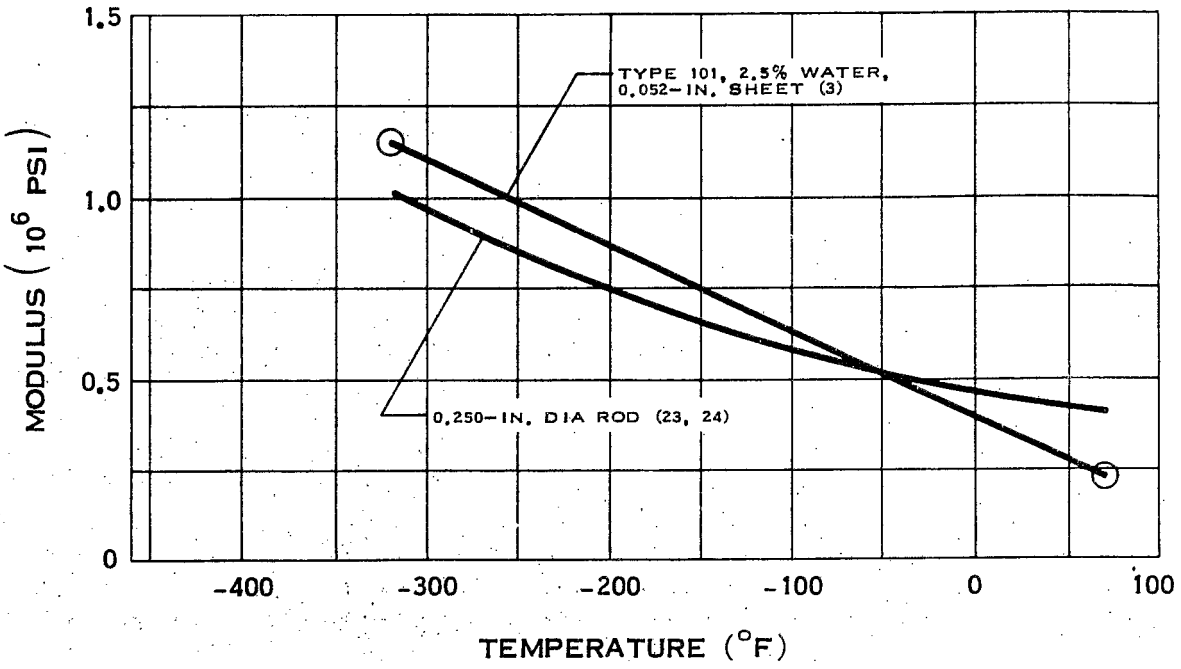
IMPACT STRENGTH OF INVAR



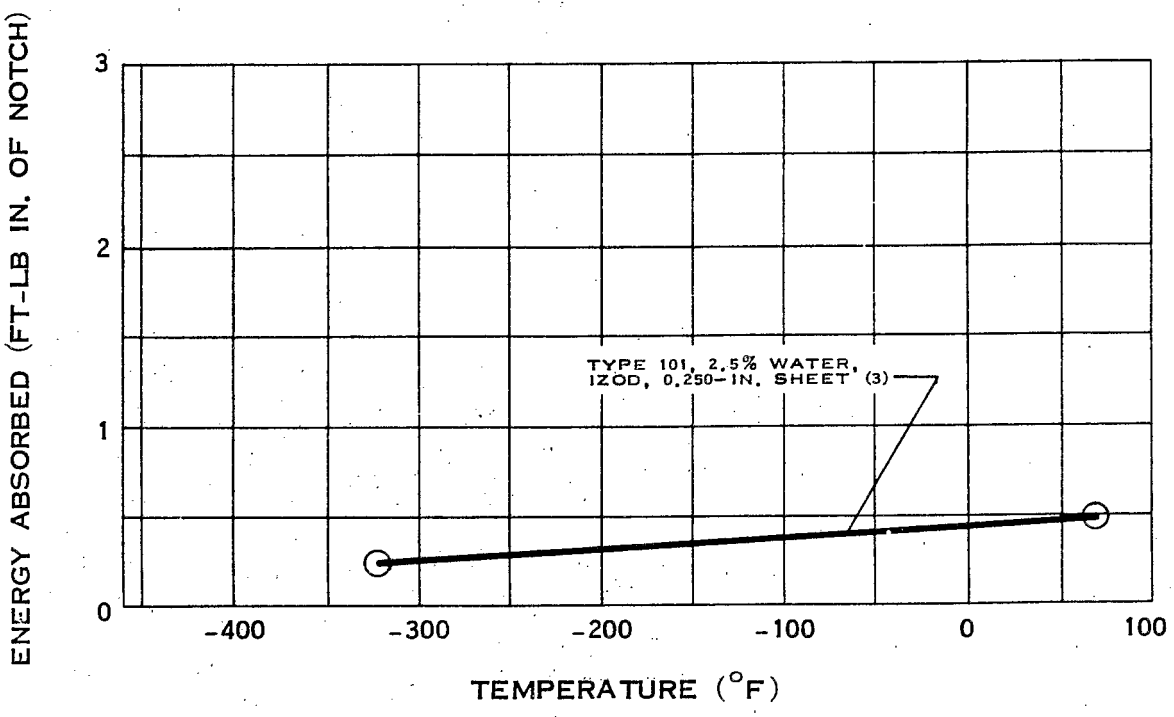
STRENGTH OF NYLON



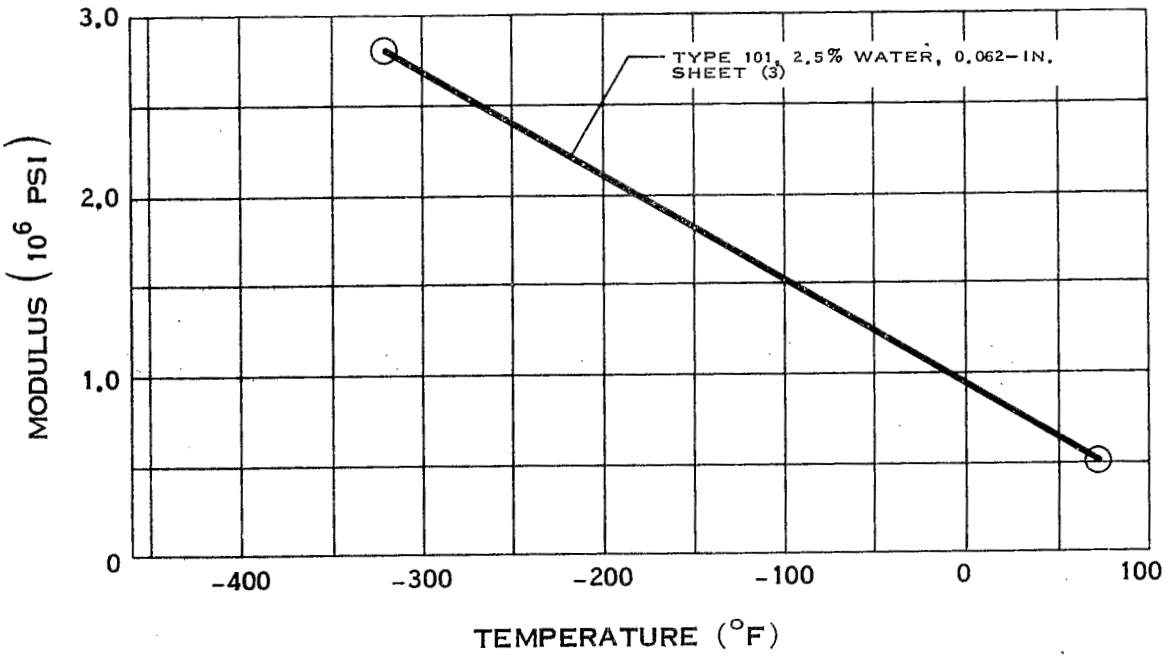
ELONGATION OF NYLON



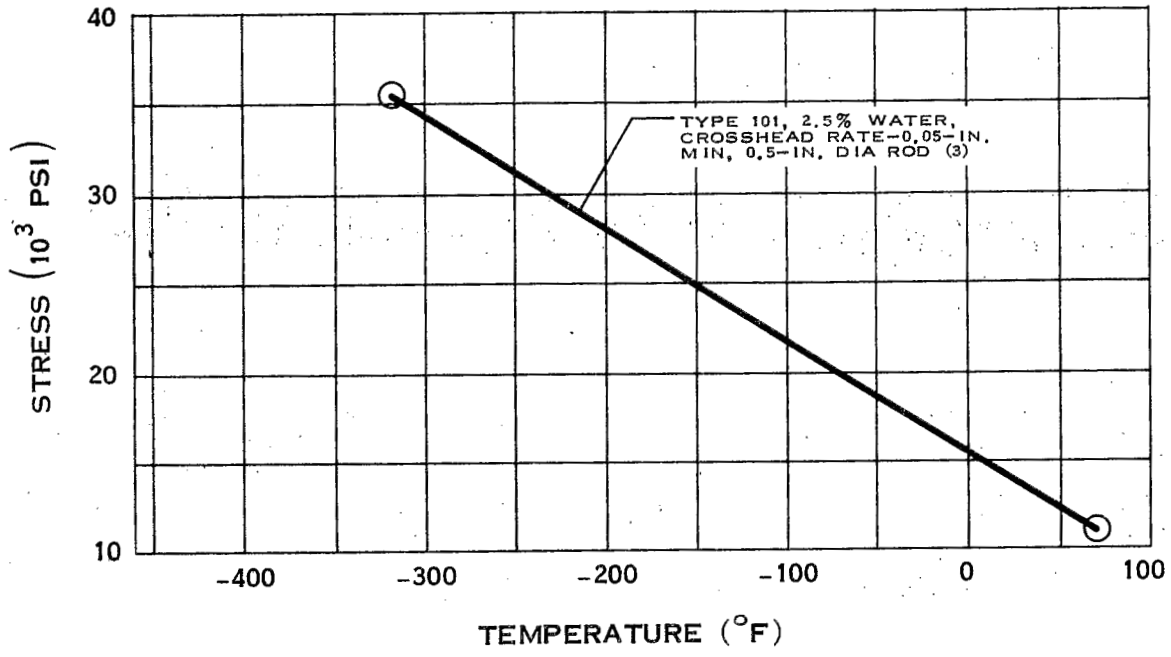
MODULUS OF ELASTICITY OF NYLON



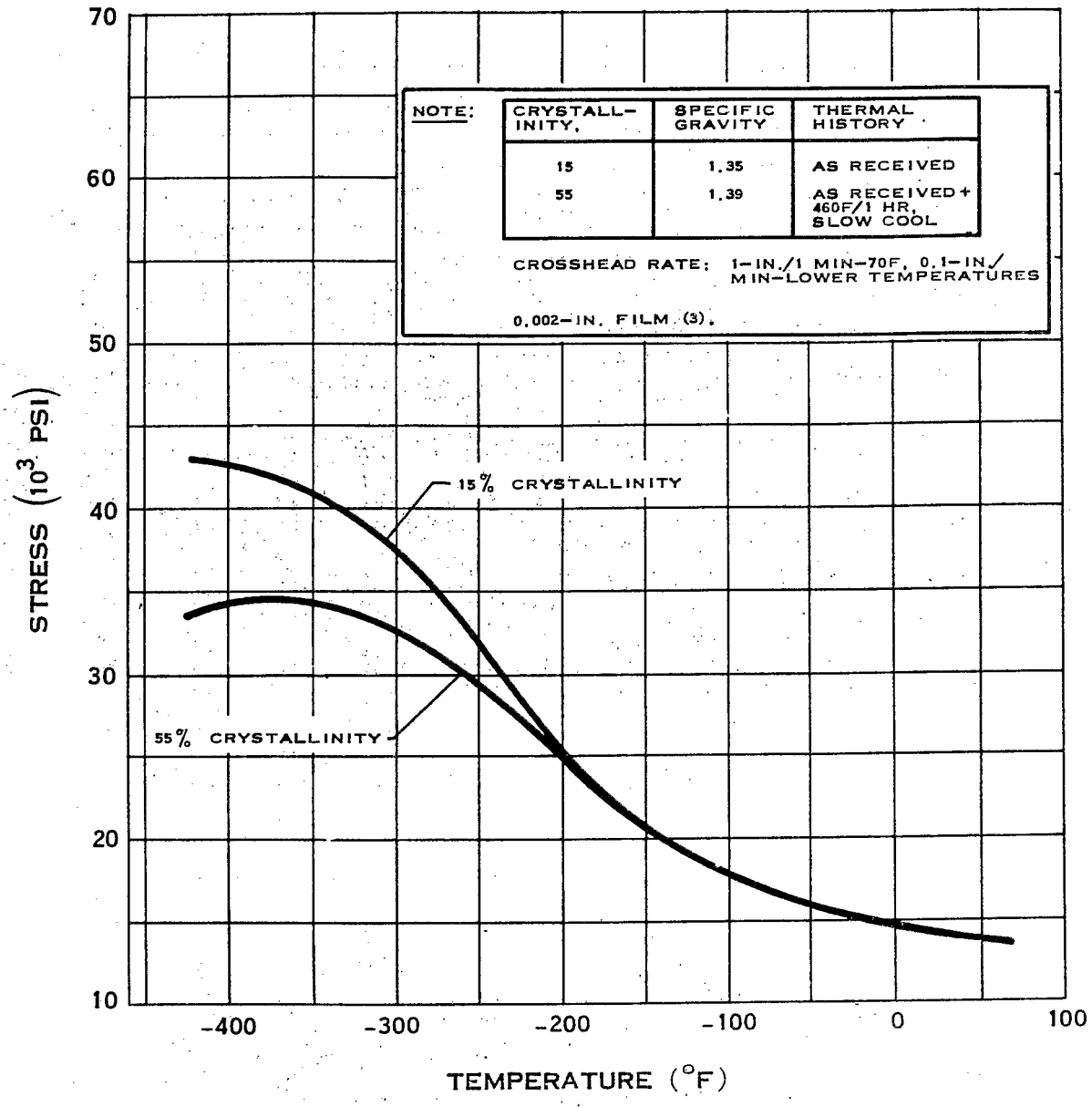
IMPACT STRENGTH OF NYLON



MODULUS OF RIGIDITY OF NYLON

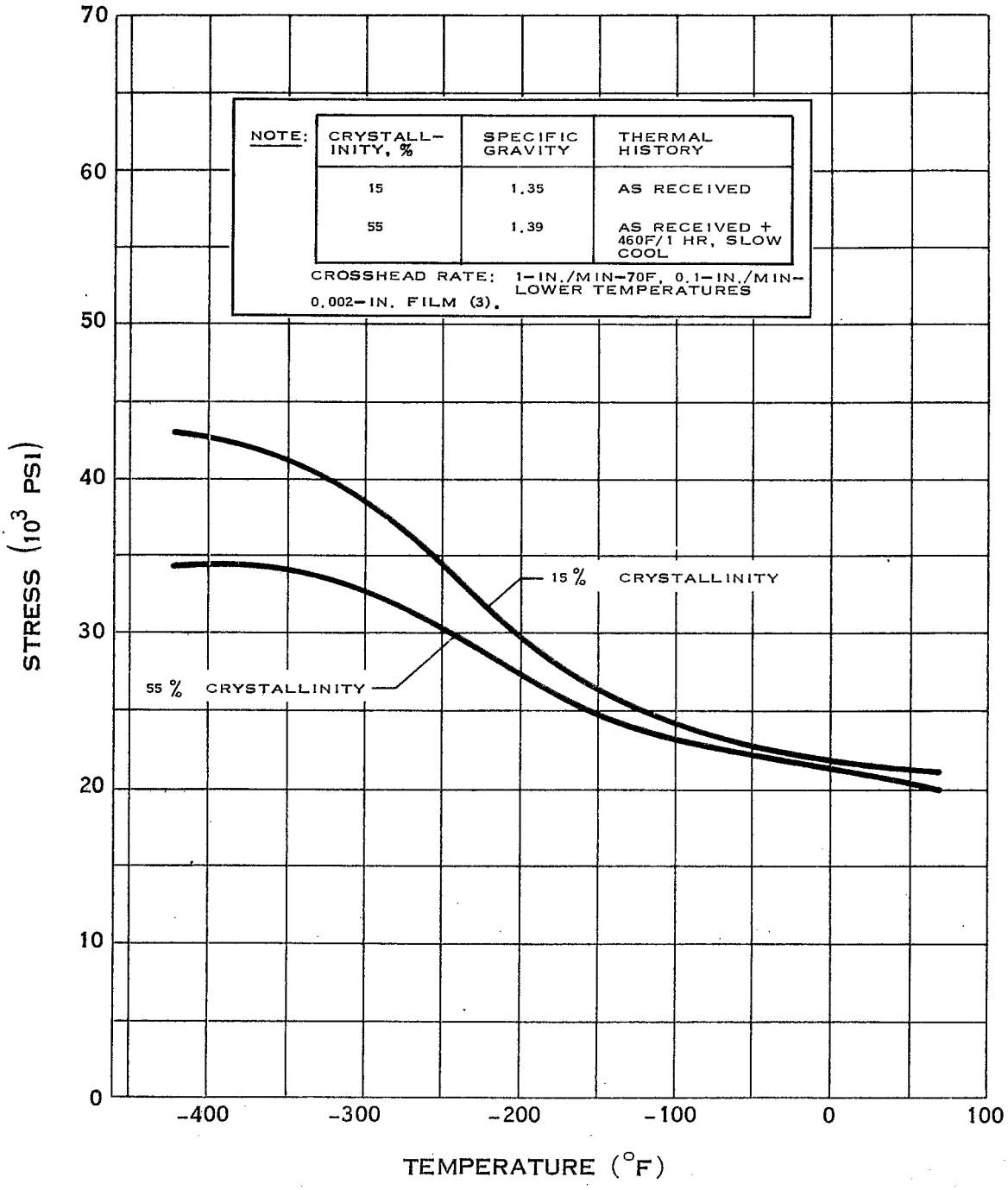


COMPRESSIVE STRENGTH OF NYLON



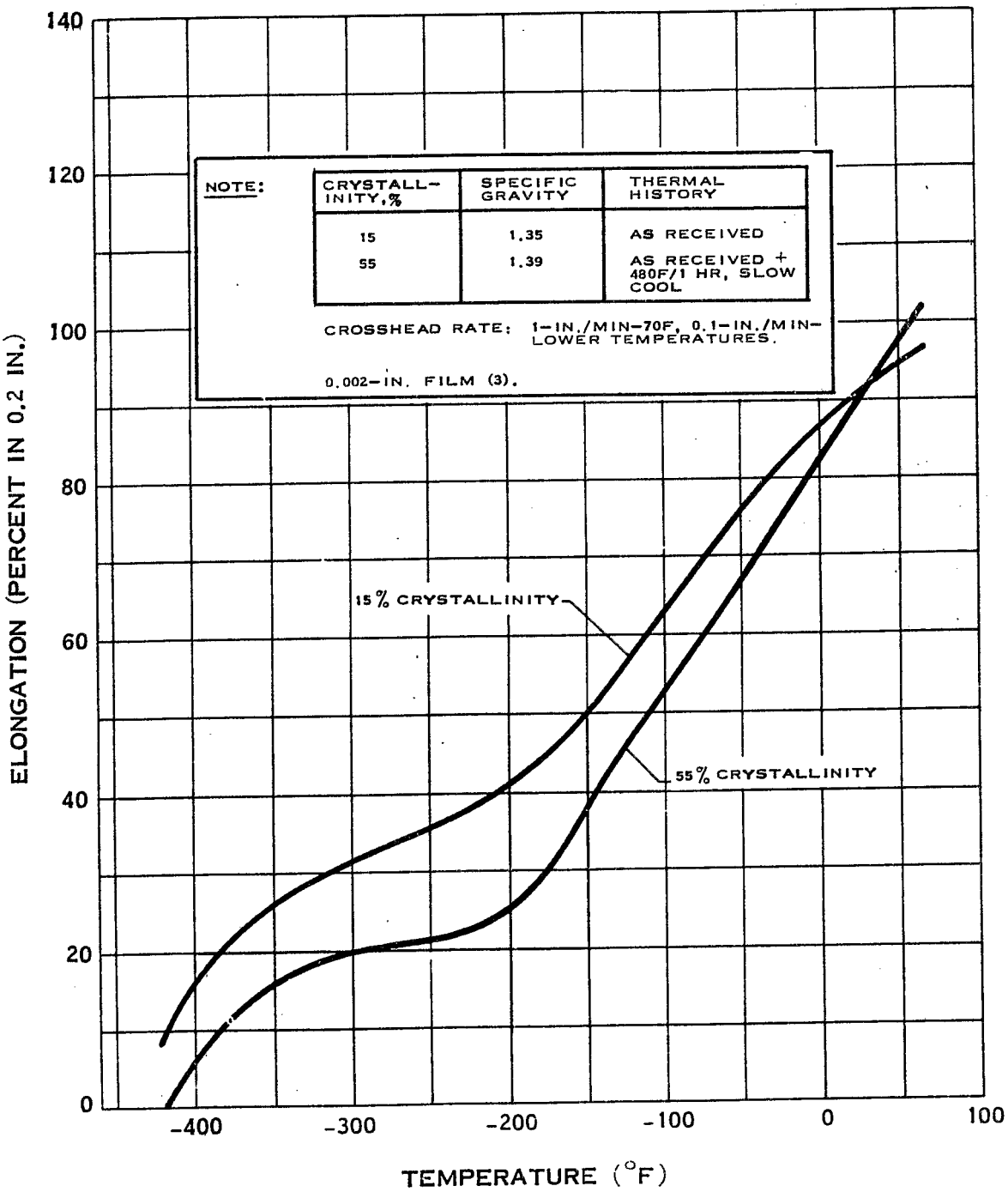
YIELD STRENGTH OF MYLAR*

* T.M. E. I. DUPONT DE NEMOURS AND CO.



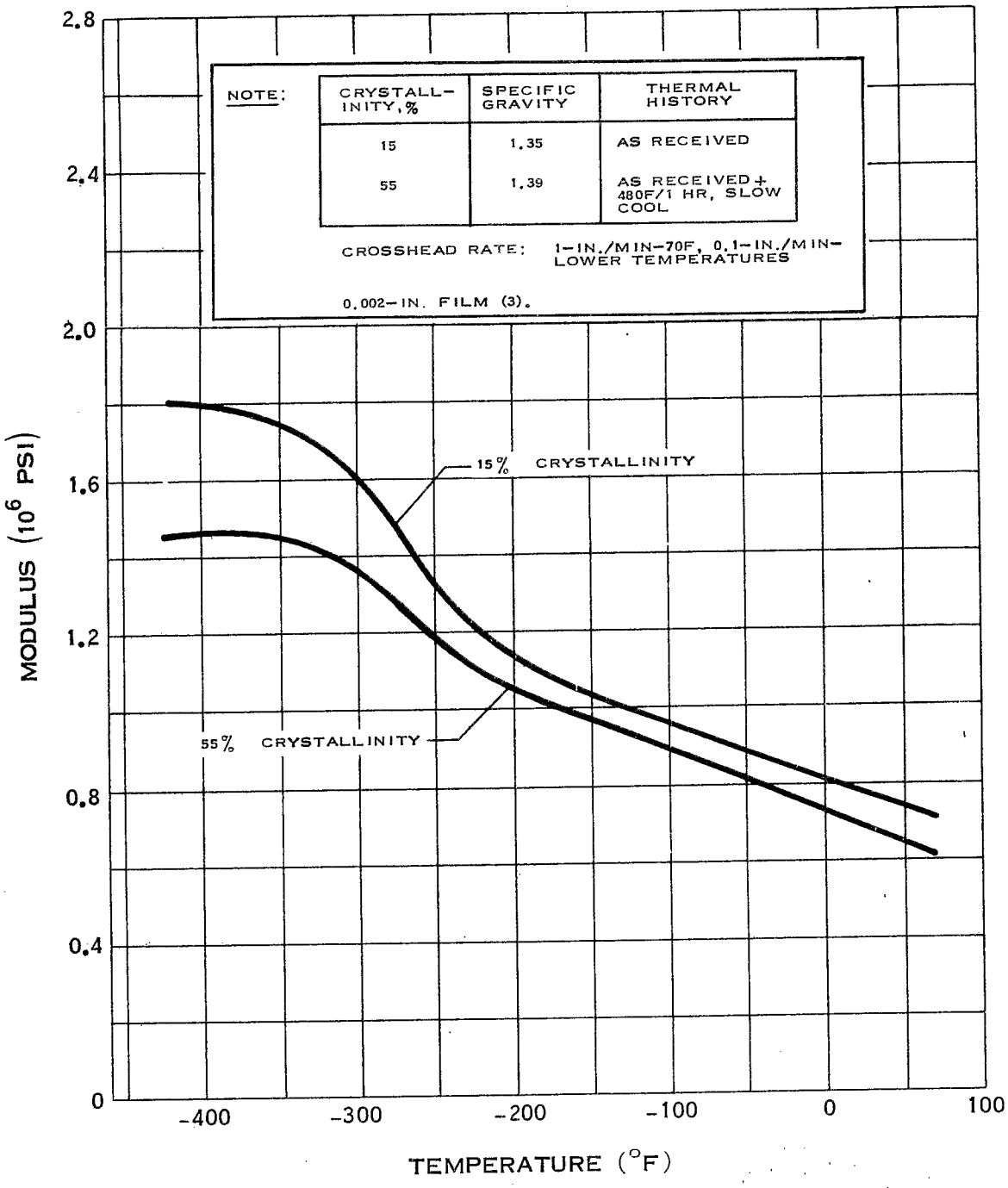
TENSILE STRENGTH OF MYLAR*

* T.M.
E. I. DUPONT DE NEMOURS AND CO.



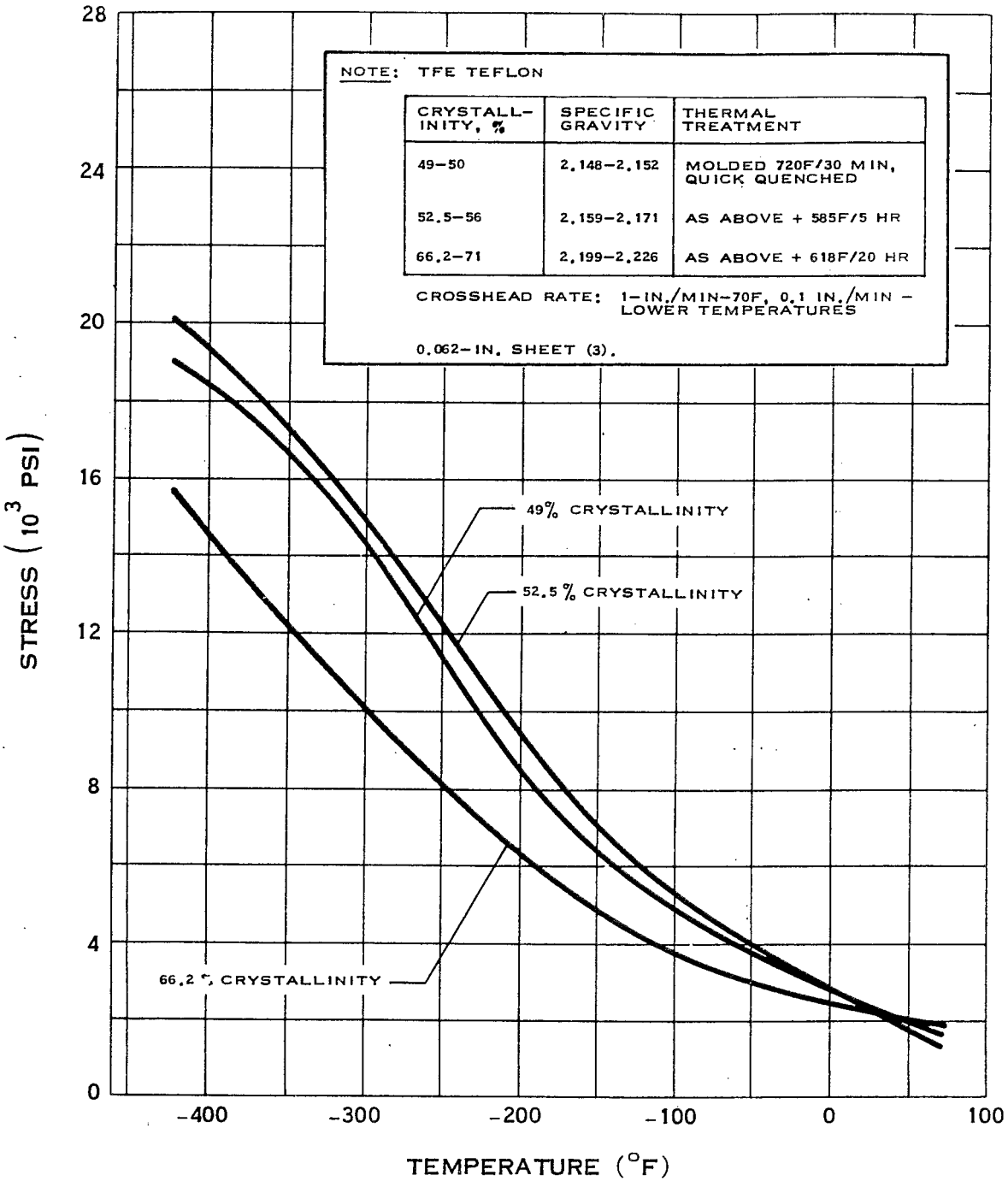
ELONGATION OF MYLAR*

* T.M. E. I. DUPONT DE NEMOURS AND CO.



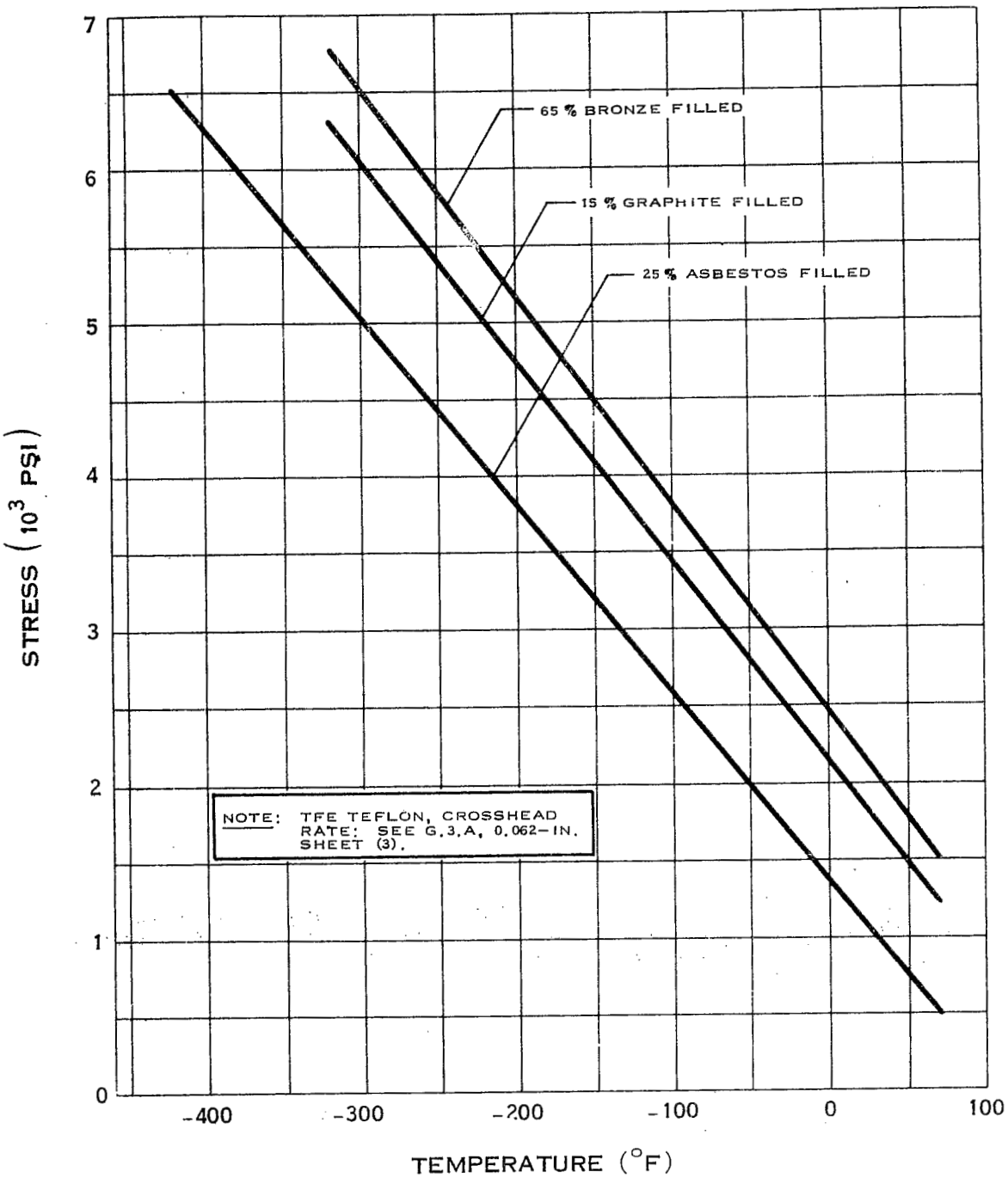
MODULUS OF ELASTICITY OF MYLAR*

* T.M. E. I. DUPONT DE NEMOURS AND CO.



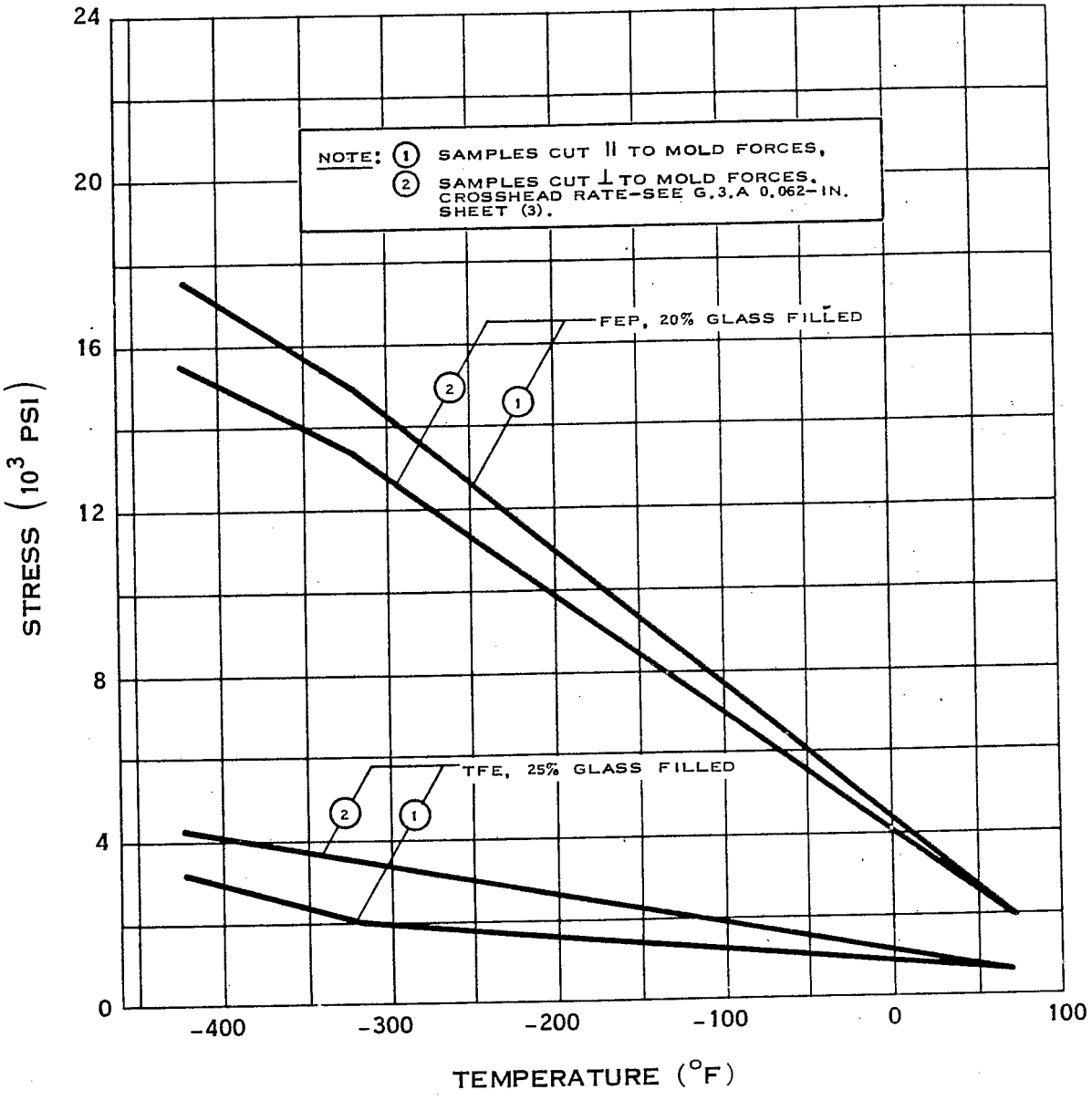
YIELD STRENGTH OF TEFLON*

* T.M. E. I. DUPONT DE NEMOURS AND CO.



YIELD STRENGTH OF TEFLON*

* T.M. E. I. DUPONT DE NEMOURS AND CO.



YIELD STRENGTH OF TEFLON*

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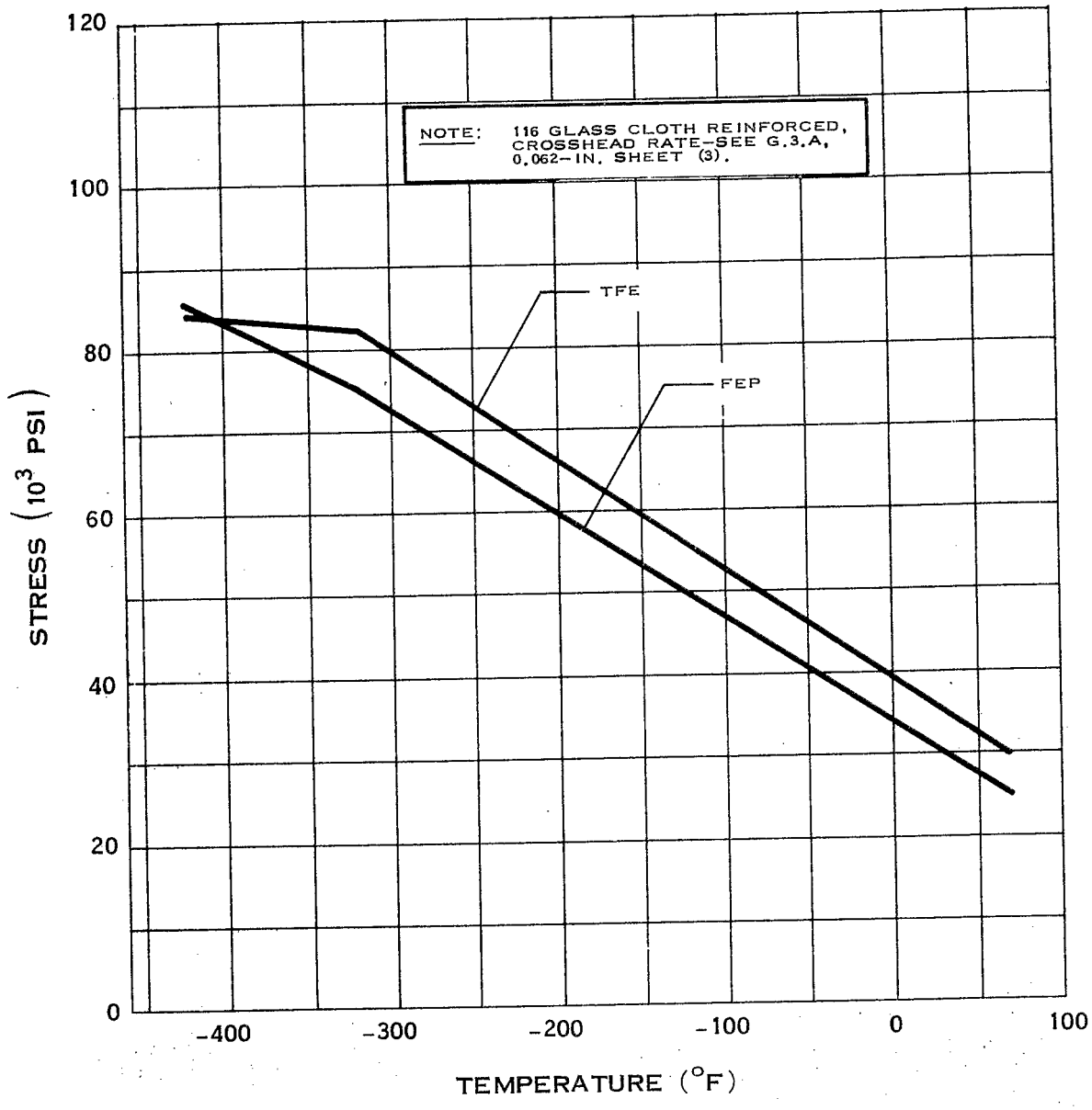

YIELD STRENGTH OF TEFLON*

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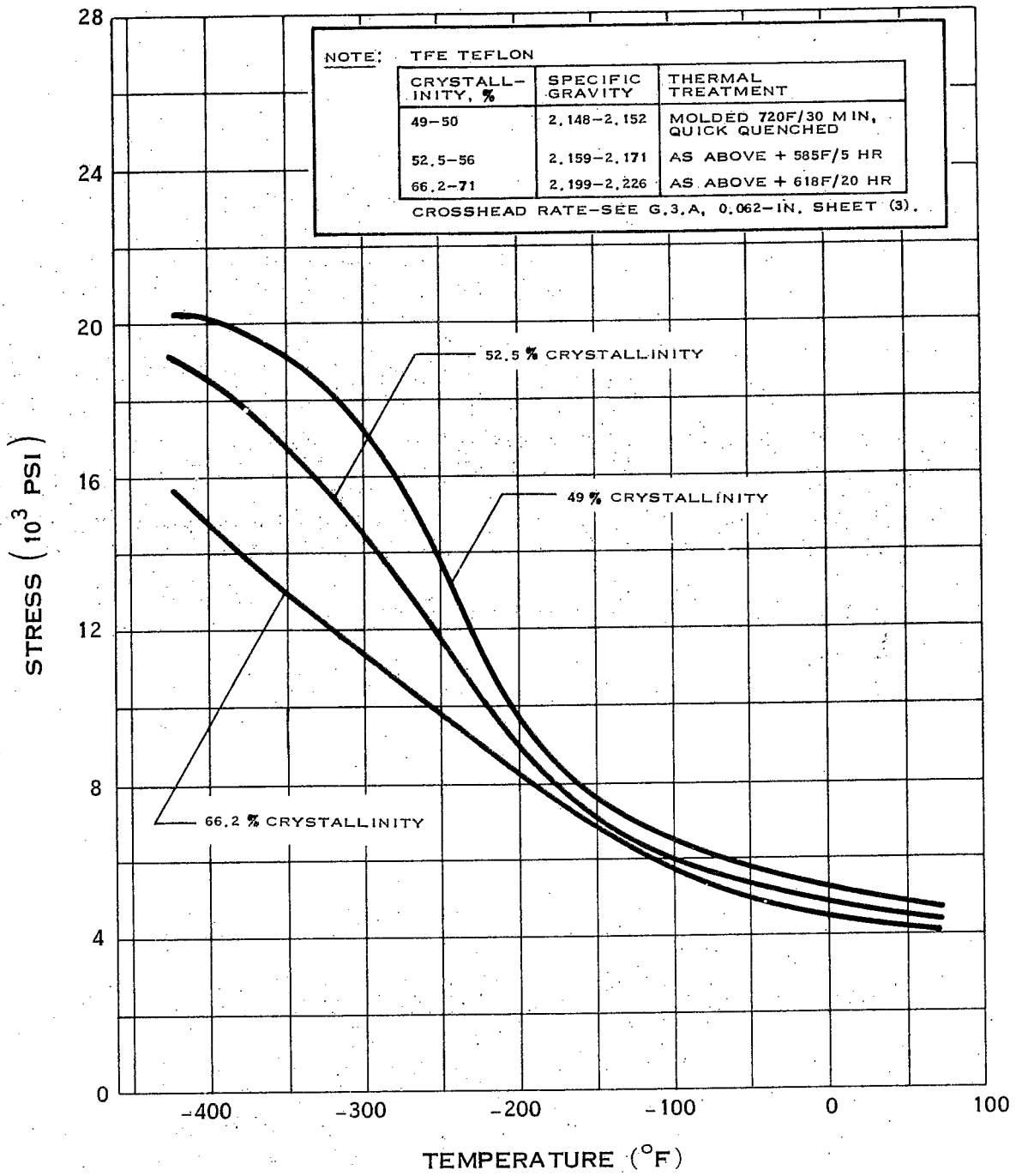
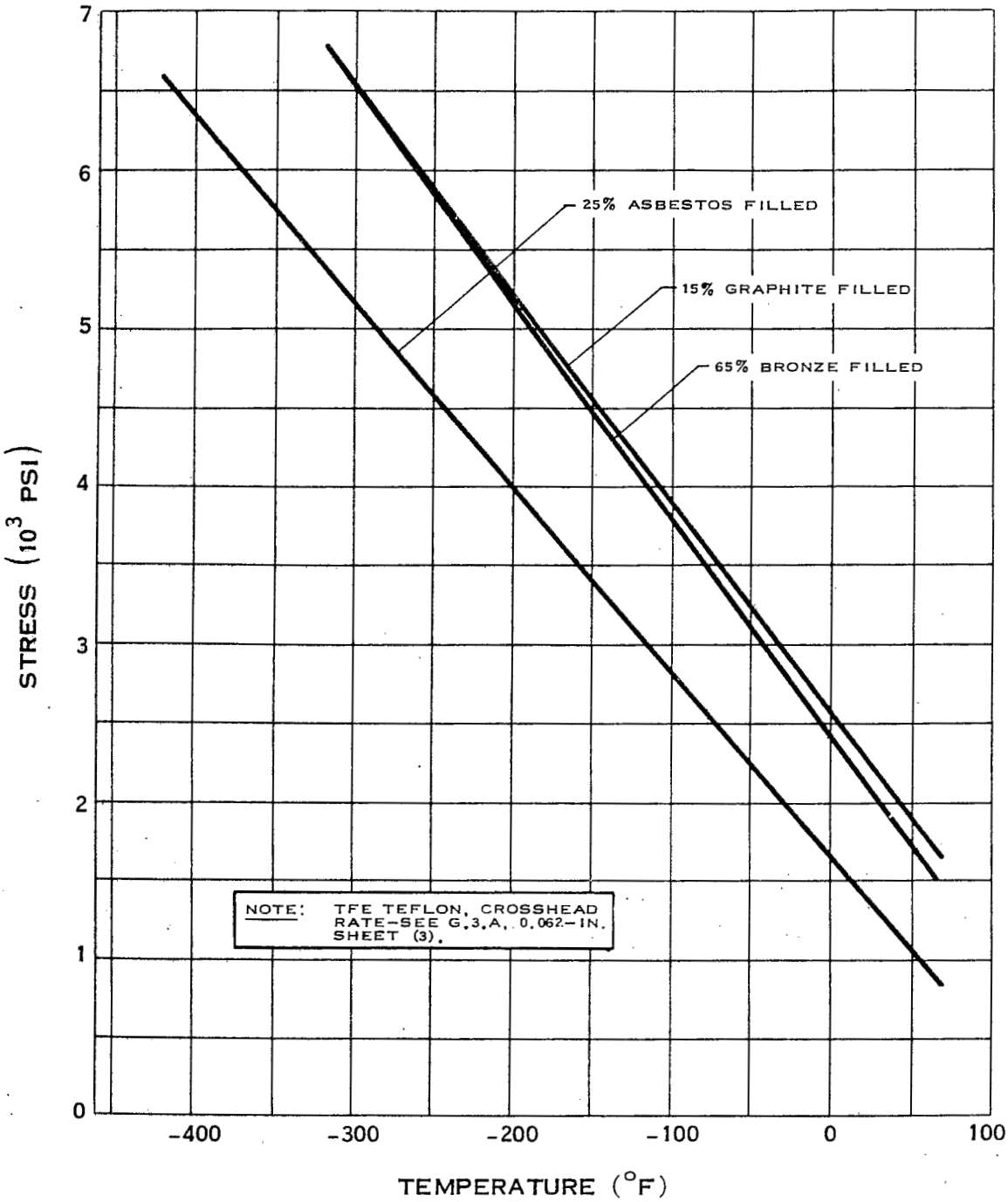


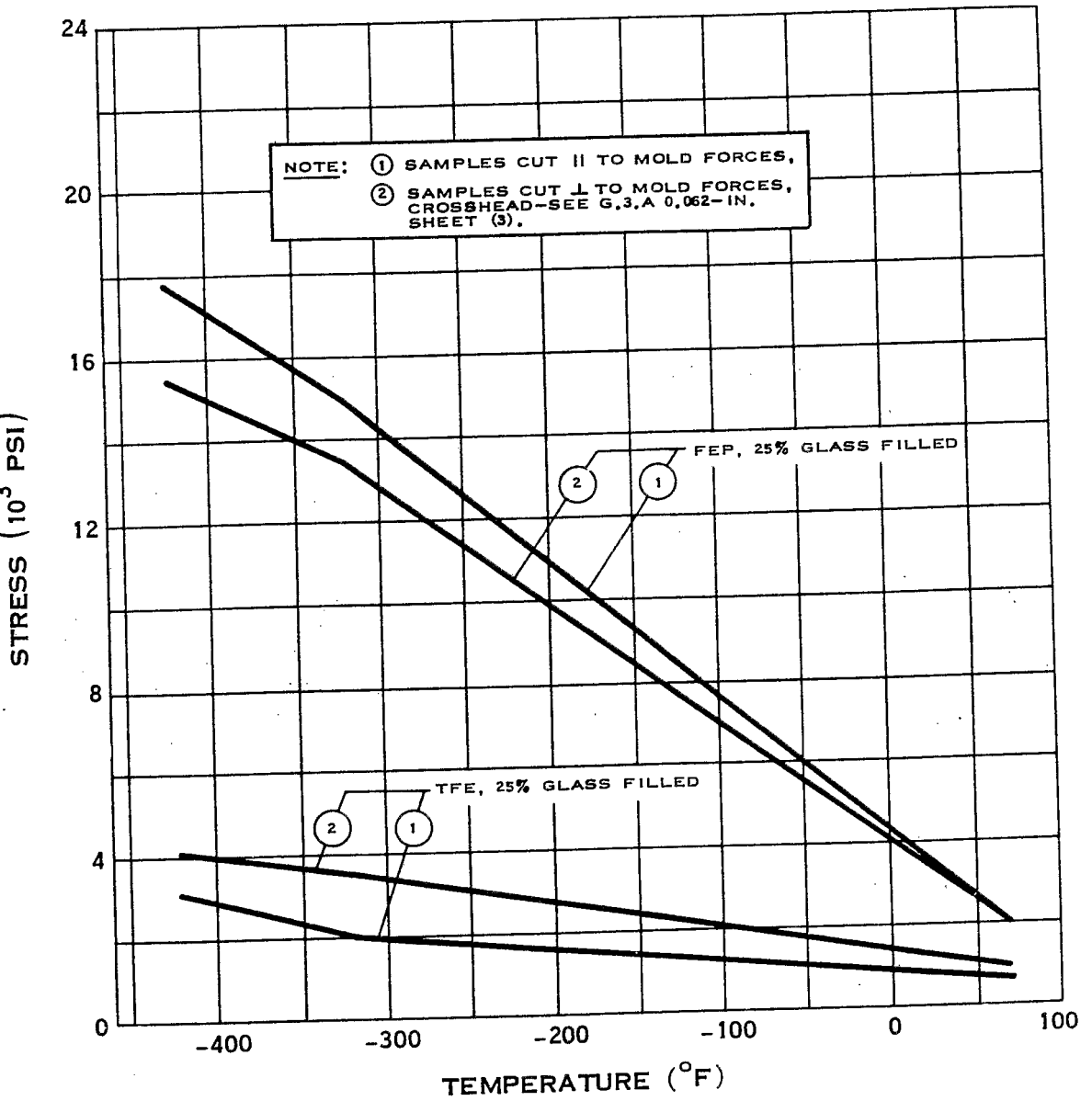
TENSILE STRENGTH OF TEFLON*

*T.M.
E. I. DUPONT DE NEMOURS AND CO.



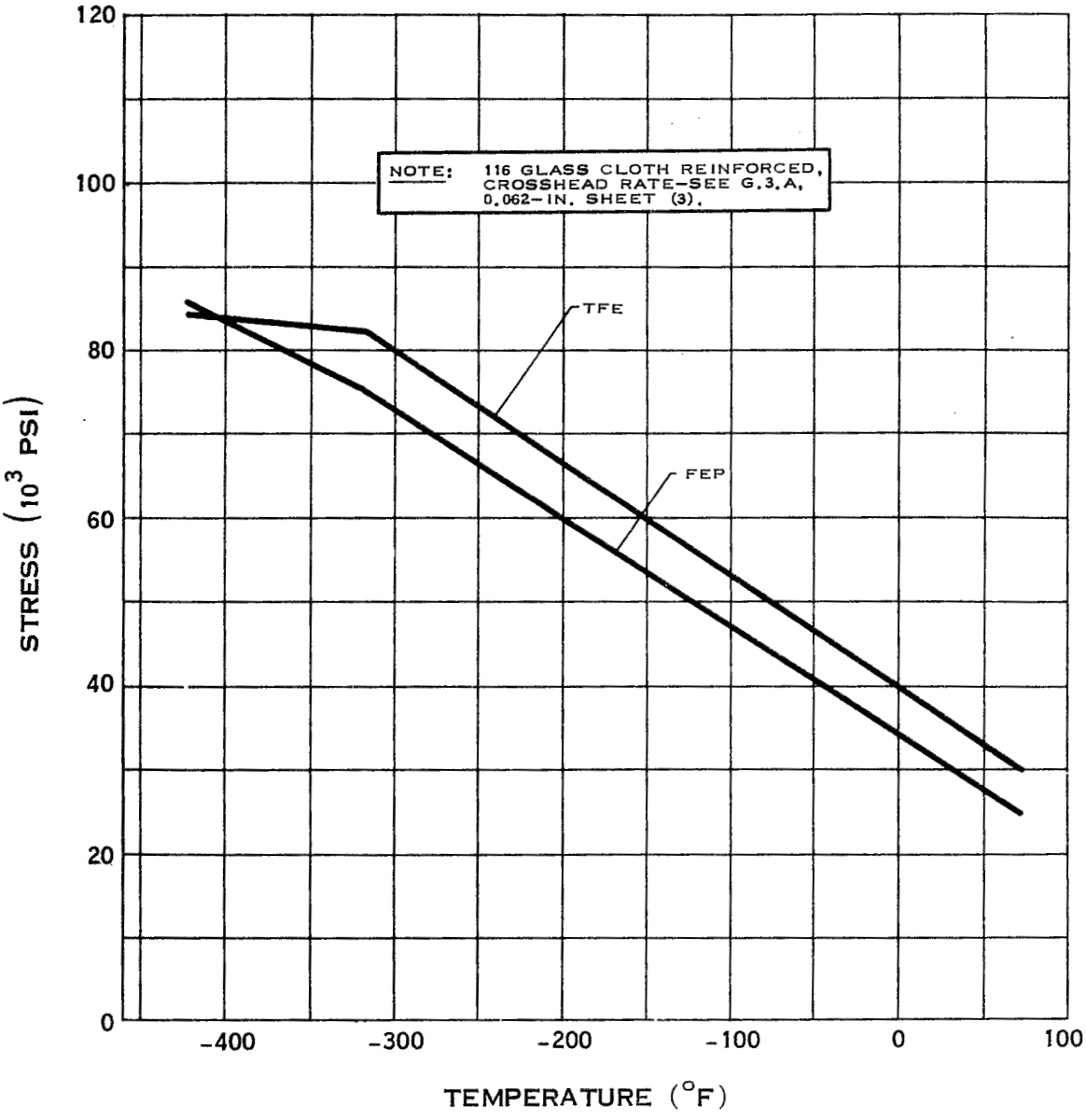
TENSILE STRENGTH OF TEFLON*

* T.M. E. I. DUPONT DE NEMOURS AND CO.



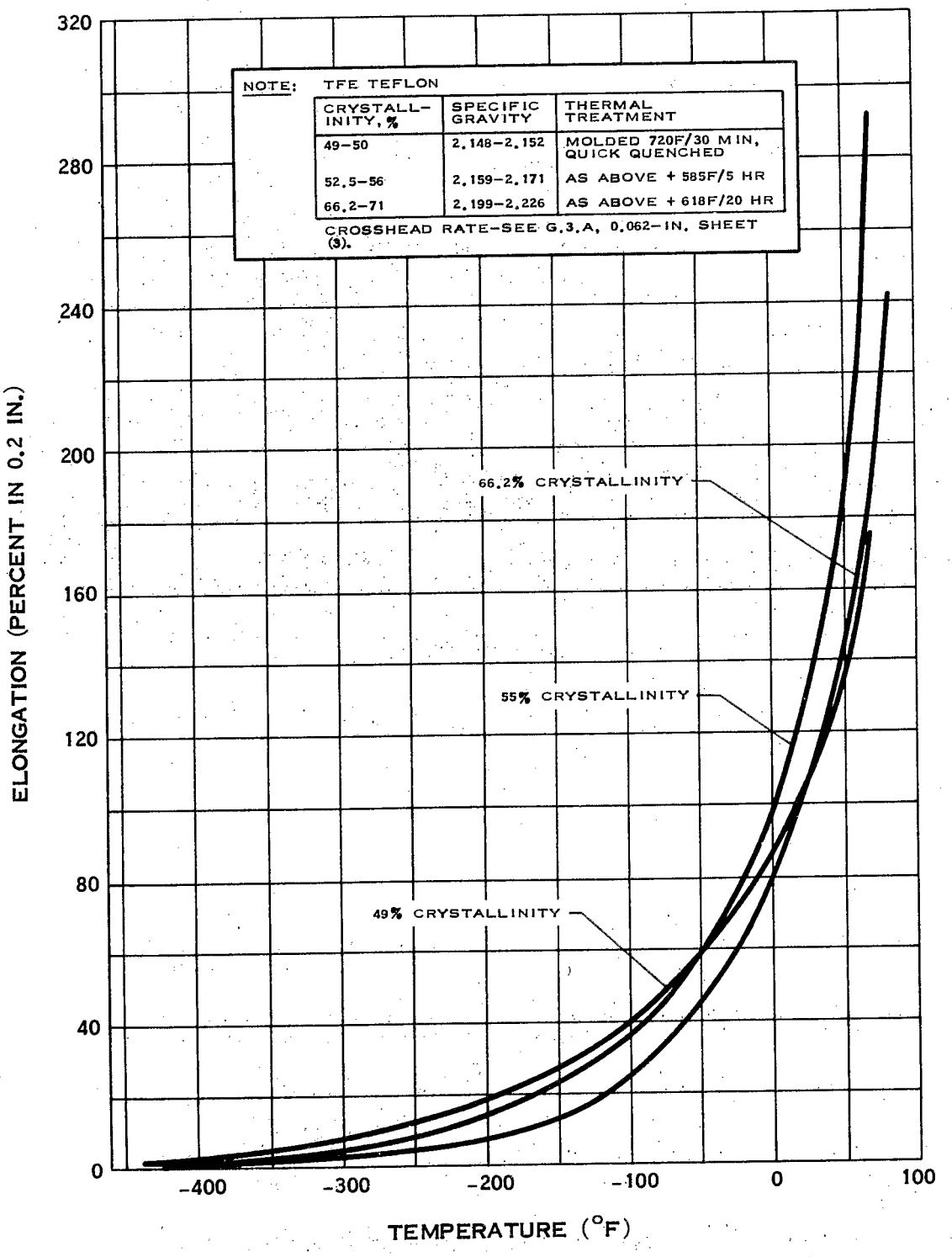
TENSILE STRENGTH OF TEFLON*

* T.M. E. I. DUPONT DE NEMOURS AND CO.



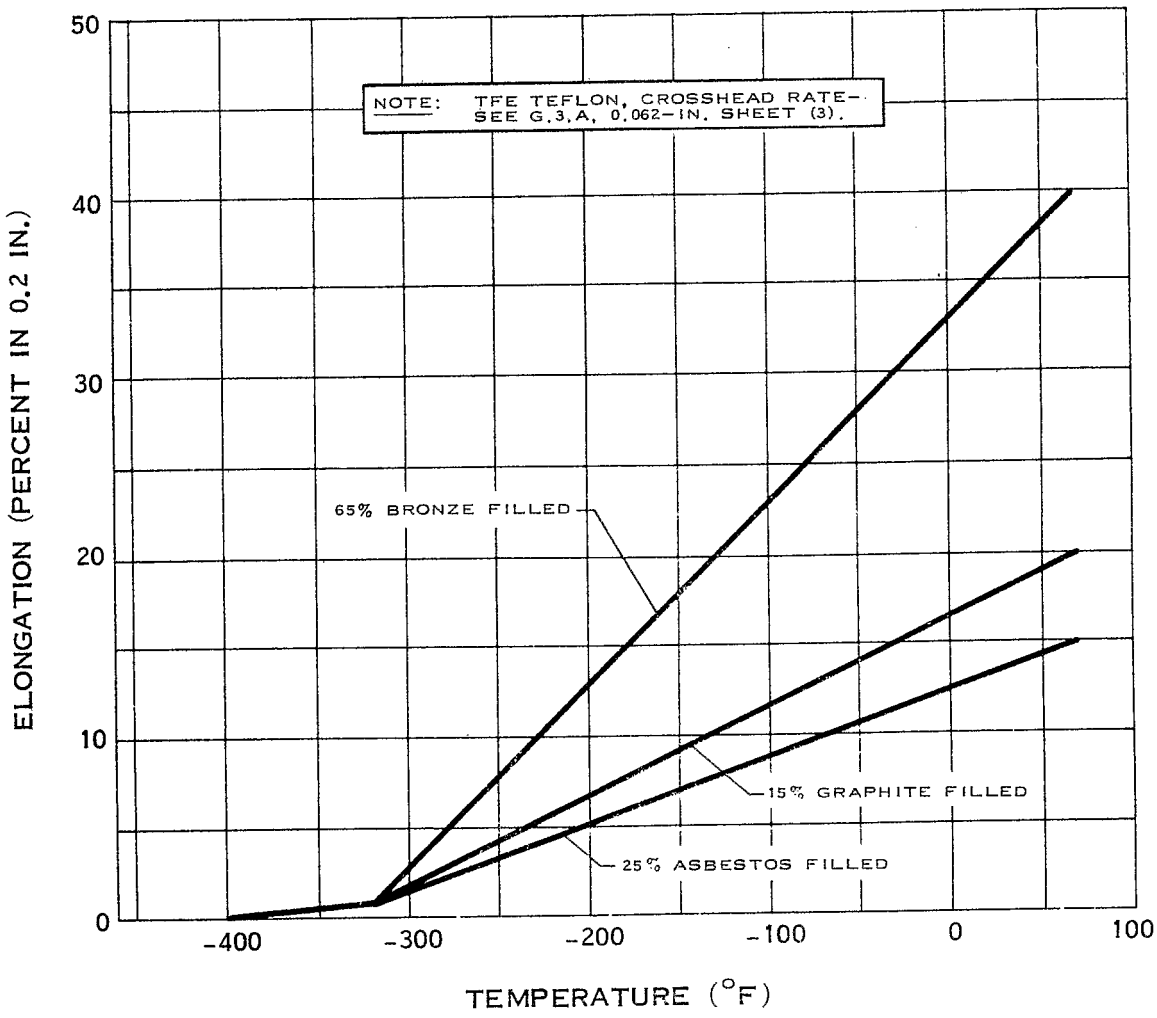
TENSILE STRENGTH OF TEFLON*

* T.M. E. I. DUPONT DE NEMOURS AND CO.



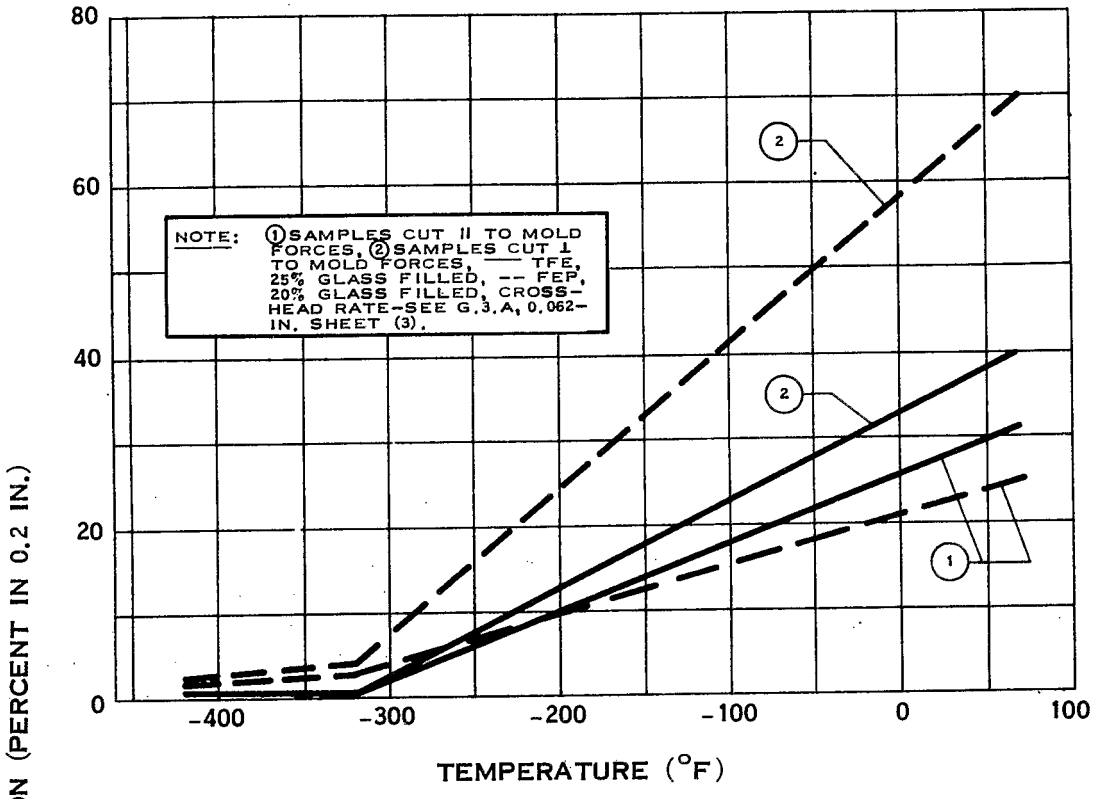
ELONGATION OF TEFLON*

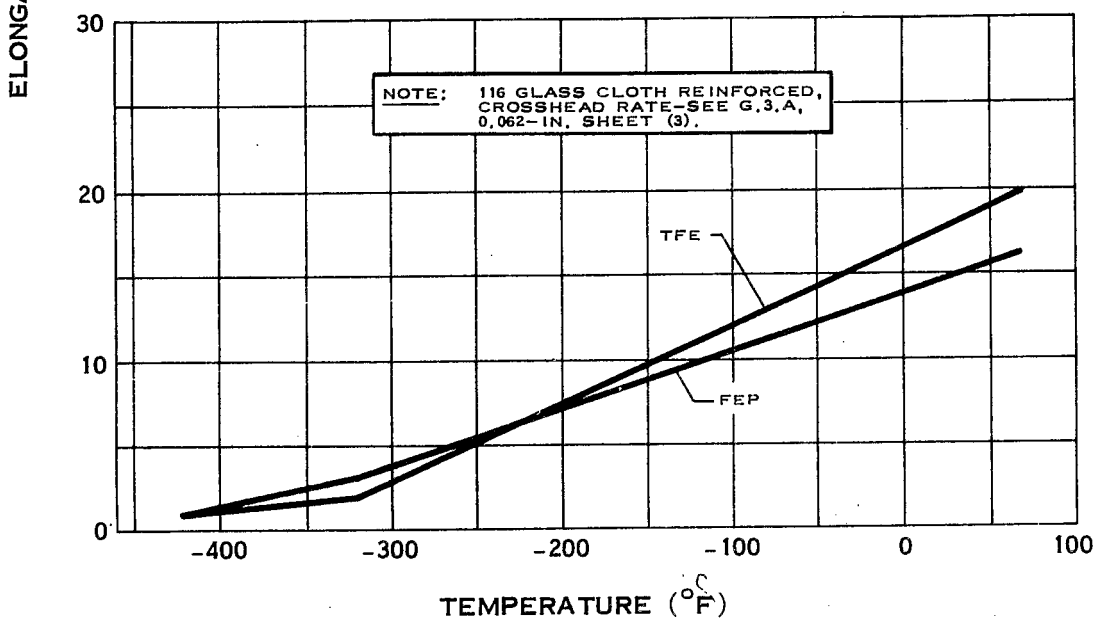
* T.M. E. I. DUPONT DE NEMOURS AND CO.



ELONGATION OF TEFLON*

* T.M. E. I. DUPONT DE NEMOURS AND CO.

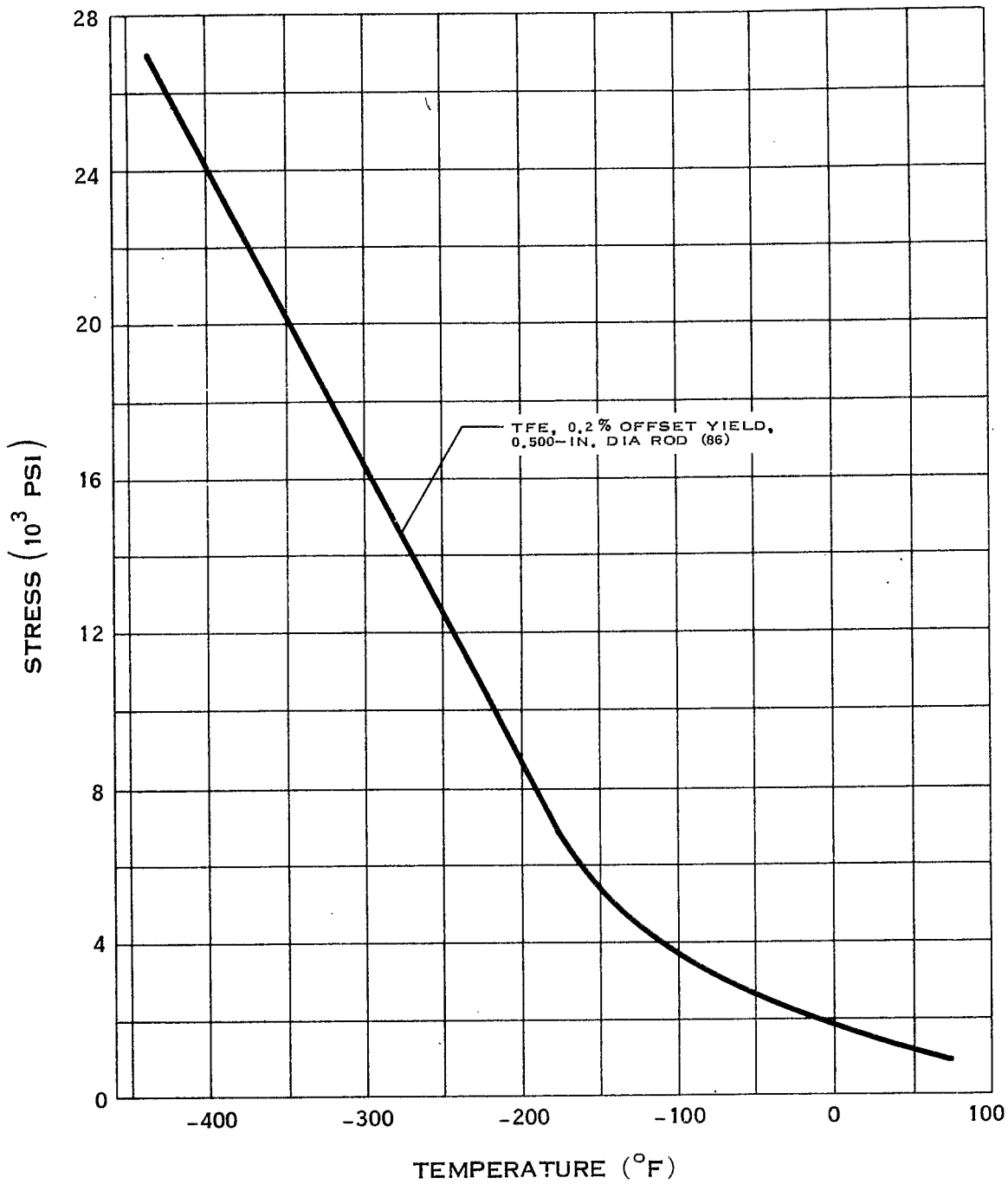




ELONGATION (PERCENT IN 0.2 IN.)

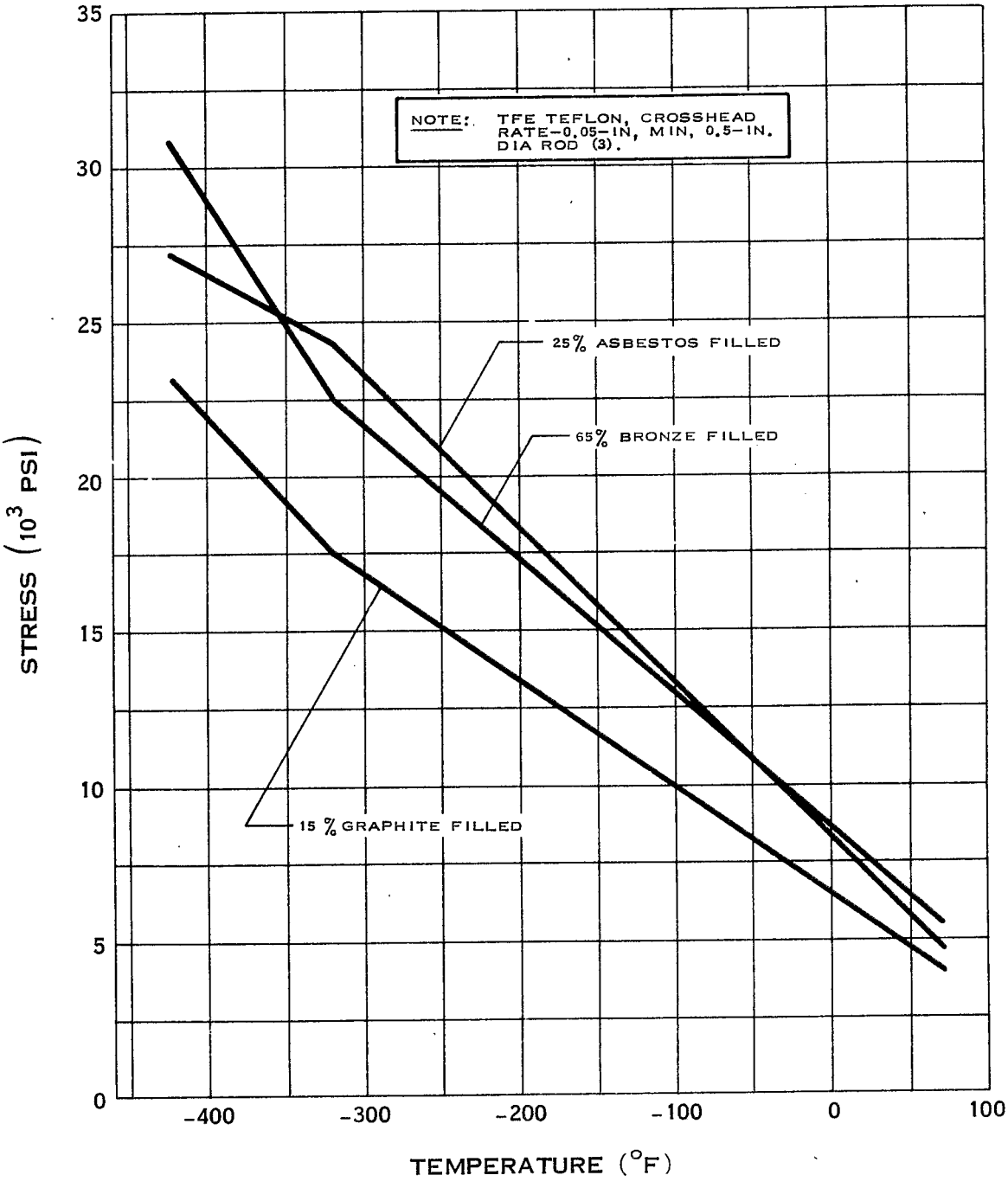
ELONGATION OF TEFLON*

*T.M. E. I. DUPONT DE NEMOURS AND CO.



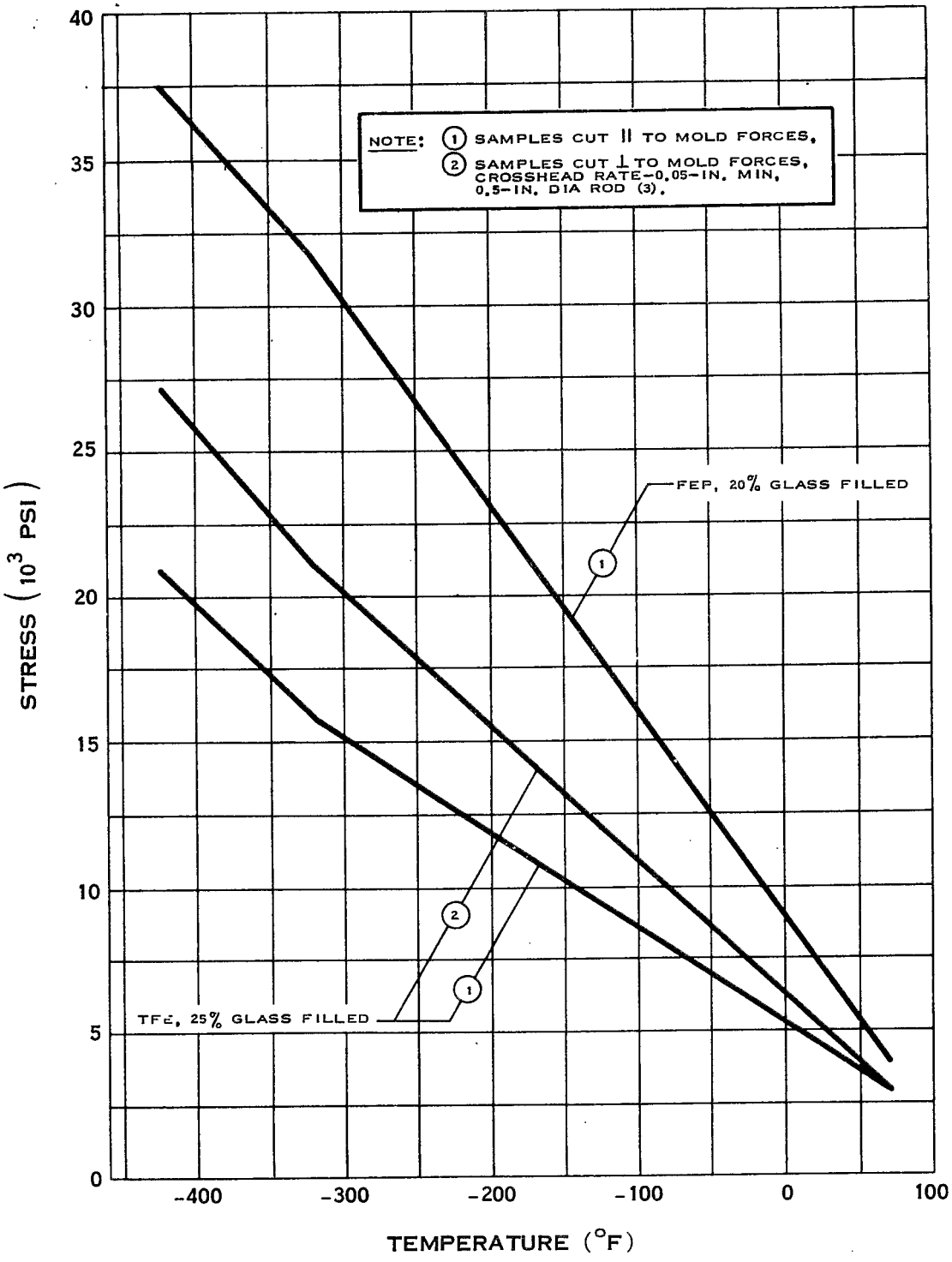
COMPRESSIVE STRENGTH OF TEFLON*

*T.M. E. I. DUPONT DE NEMOURS AND CO.



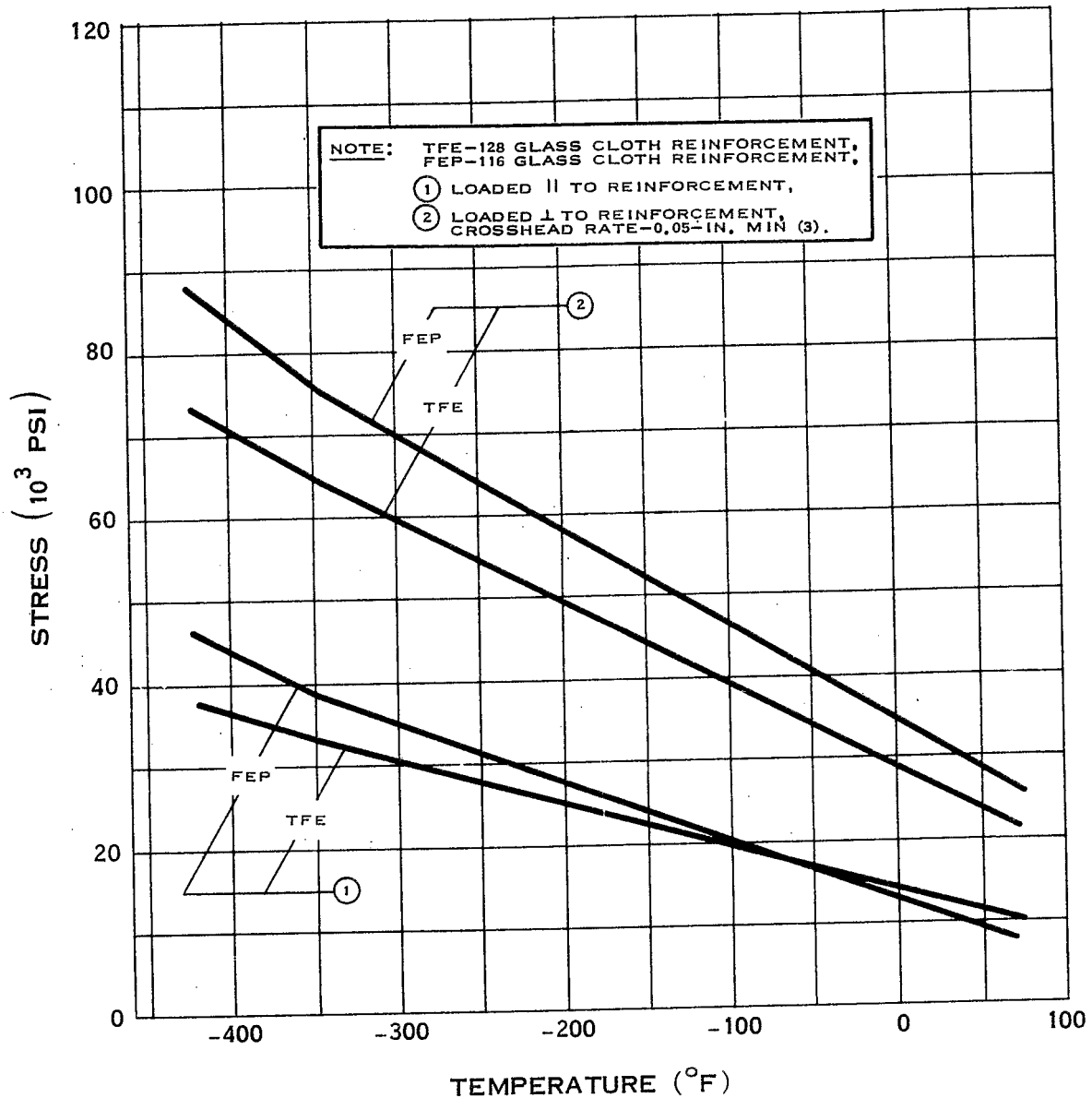
COMPRESSIVE STRENGTH OF TEFLON*

* T.M. E. I. DUPONT DE NEMOURS AND CO.



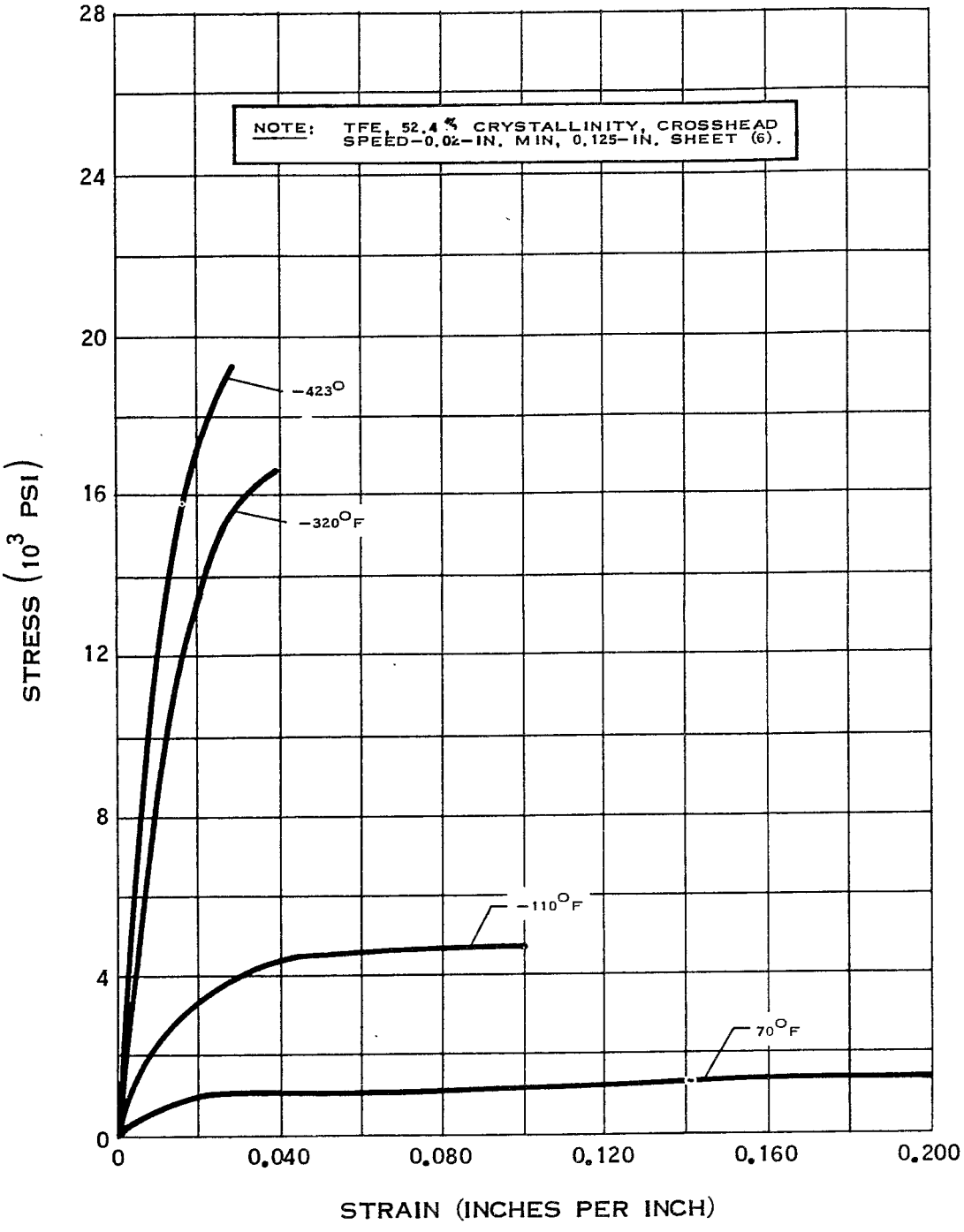
COMPRESSIVE STRENGTH OF TEFLON*

*T.M.
E. I. DUPONT DE NEMOURS AND CO.



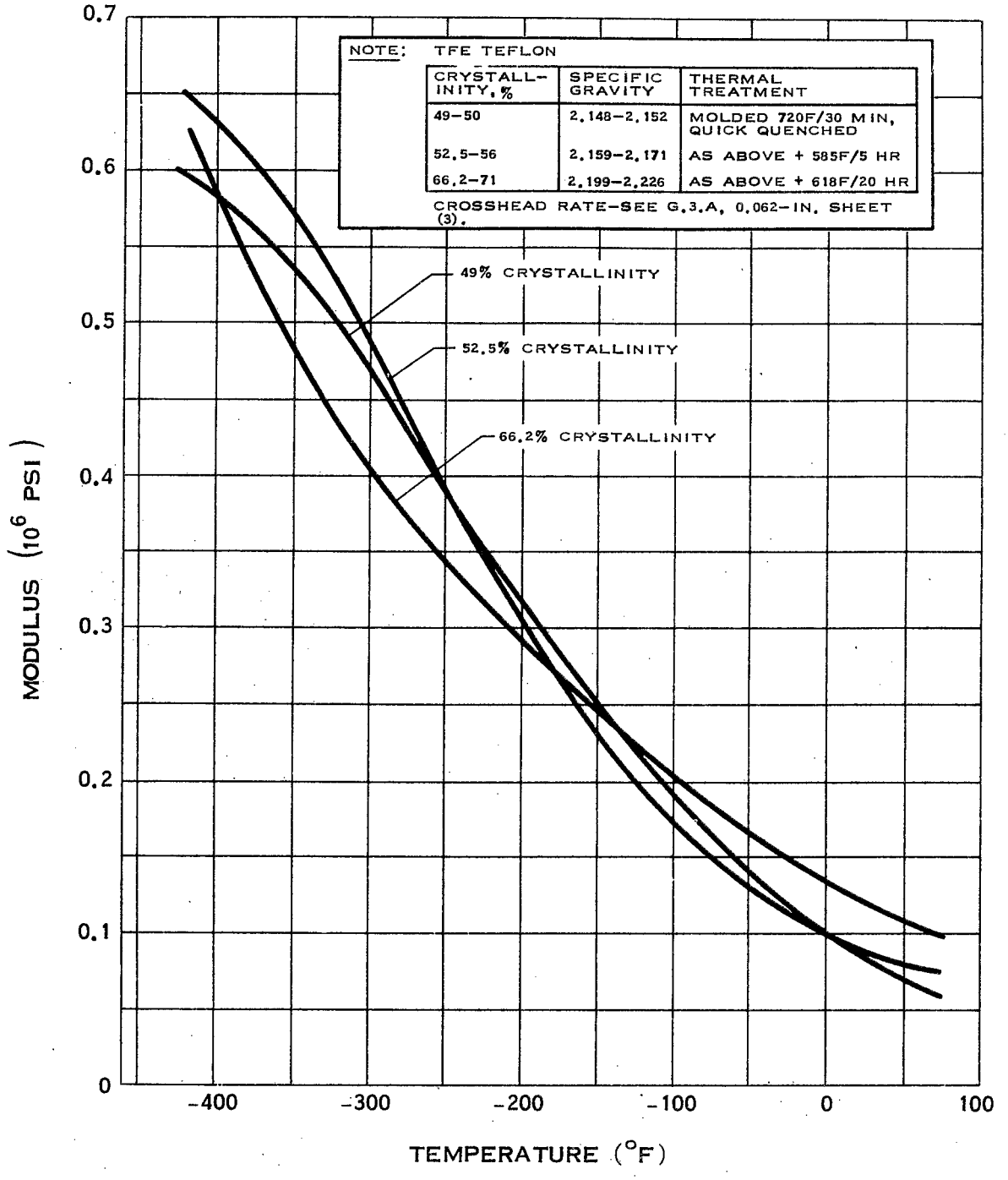
COMPRESSIVE STRENGTH OF TEFLON*

*T.M. E. I. DUPONT DE NEMOURS AND CO.



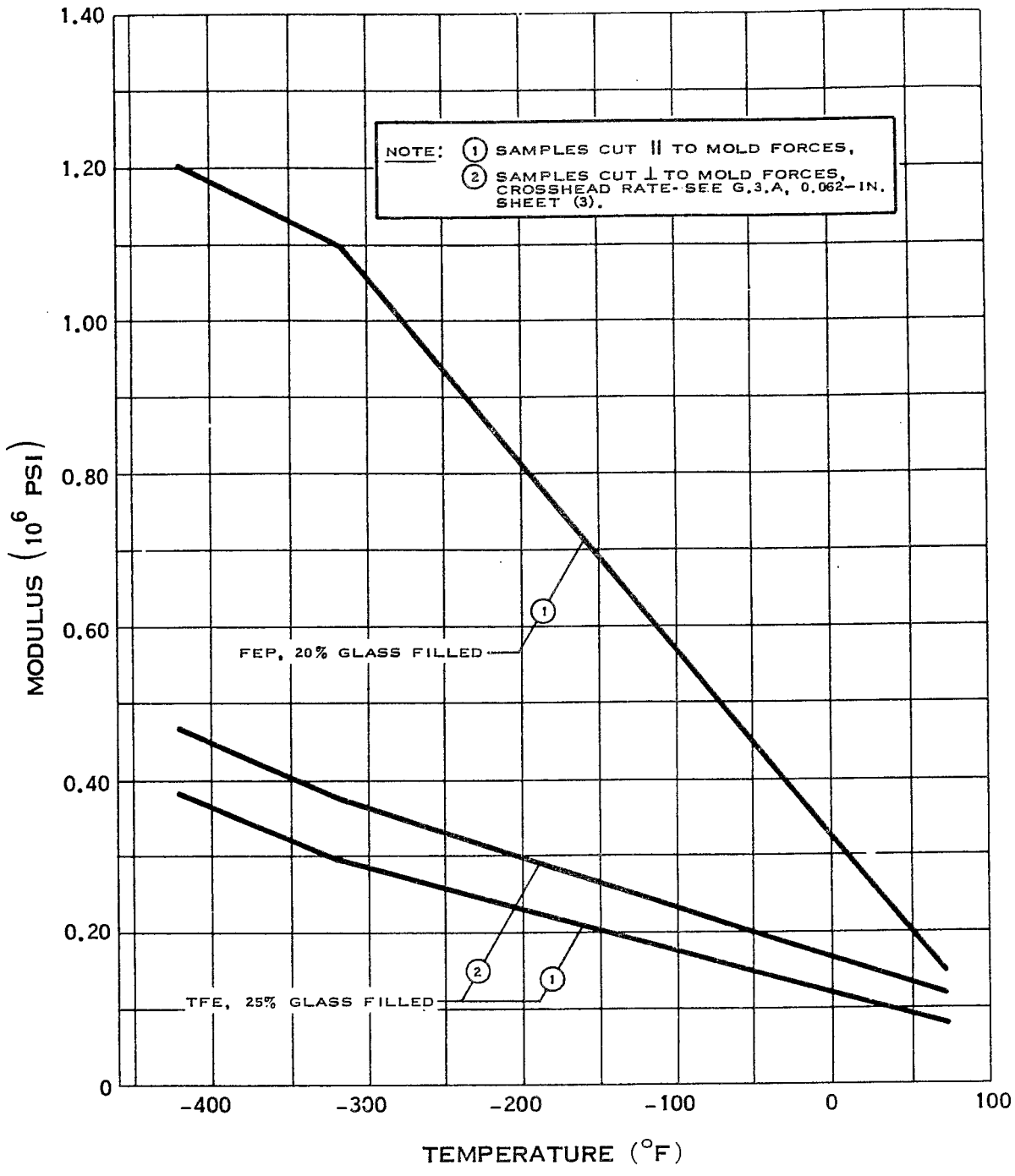
STRESS-STRAIN DIAGRAM FOR TEFLON*

* T.M.
E. I. DUPONT DE NEMOURS AND CO.



MODULUS OF ELASTICITY OF TEFLON*

*T.M. E. I. DUPONT DE NEMOURS AND CO.



MODULUS OF ELASTICITY OF TEFLON*

* T.M.
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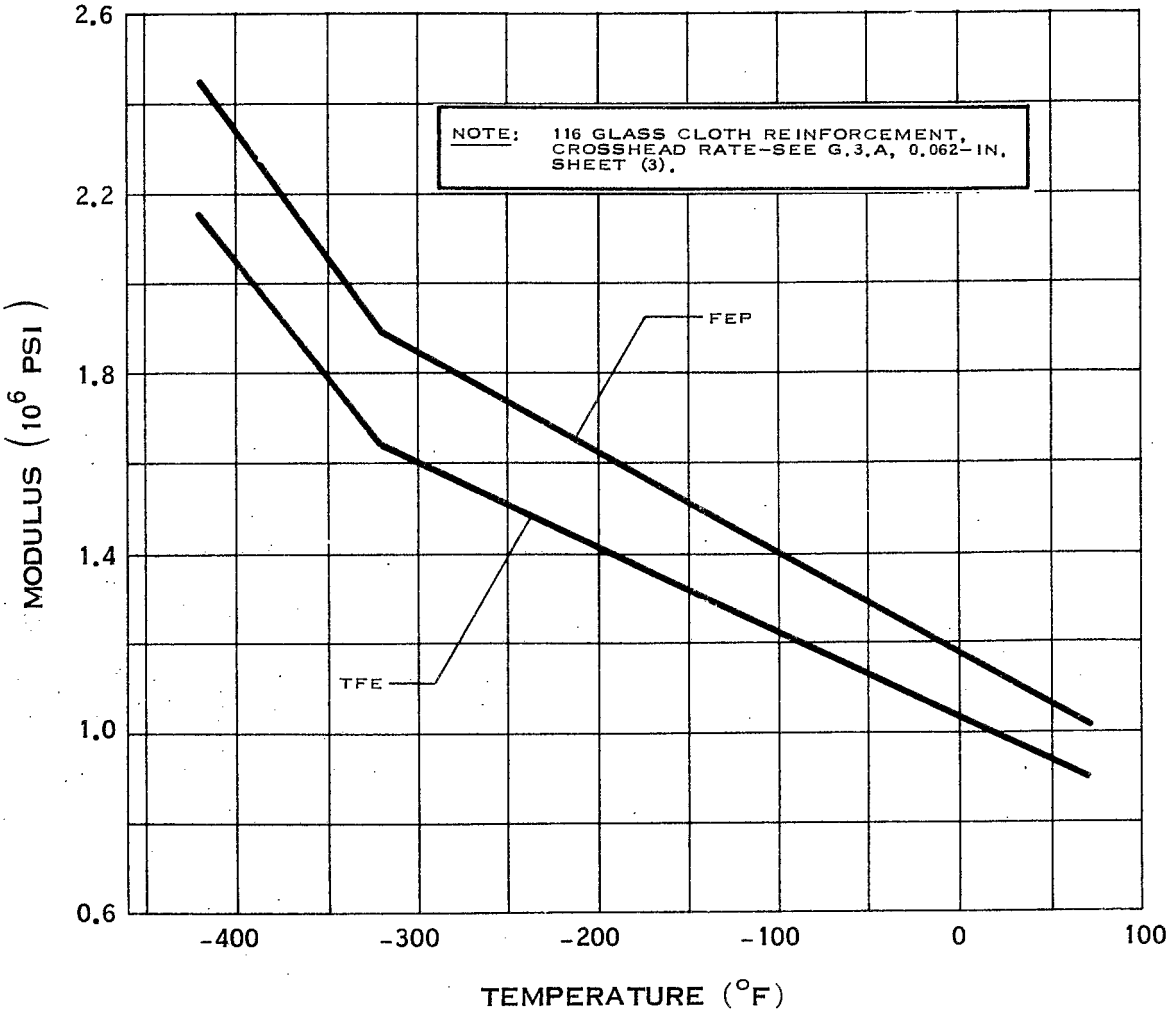
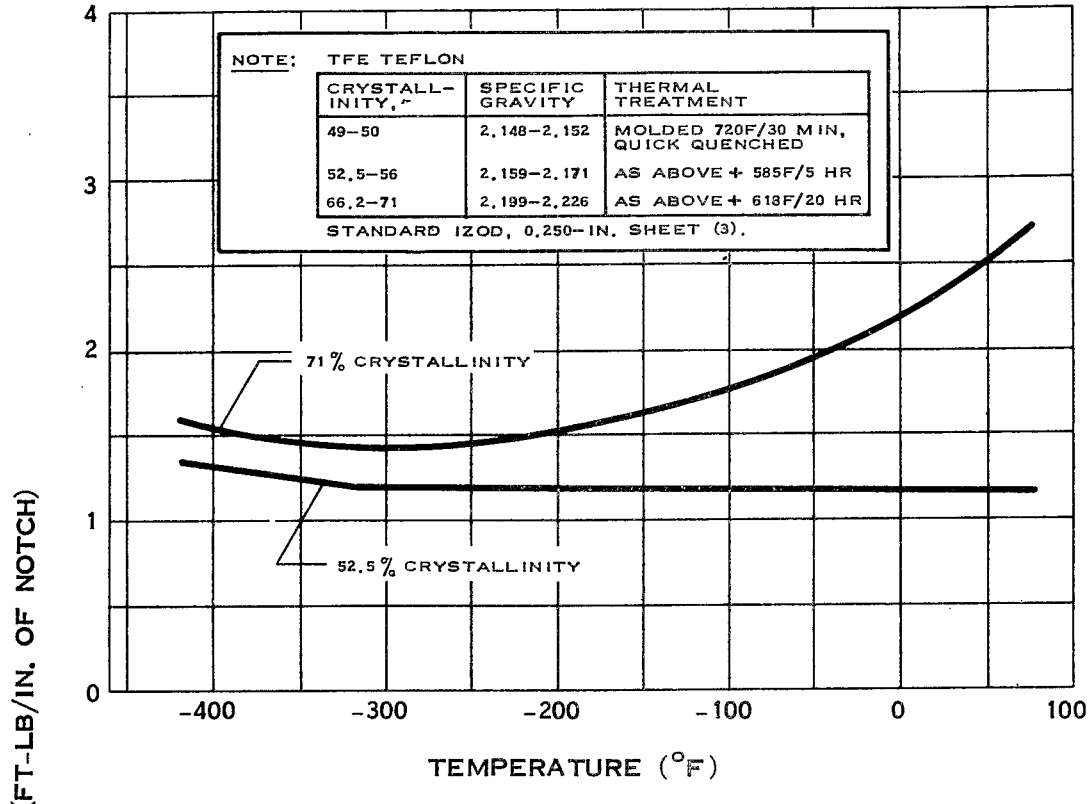
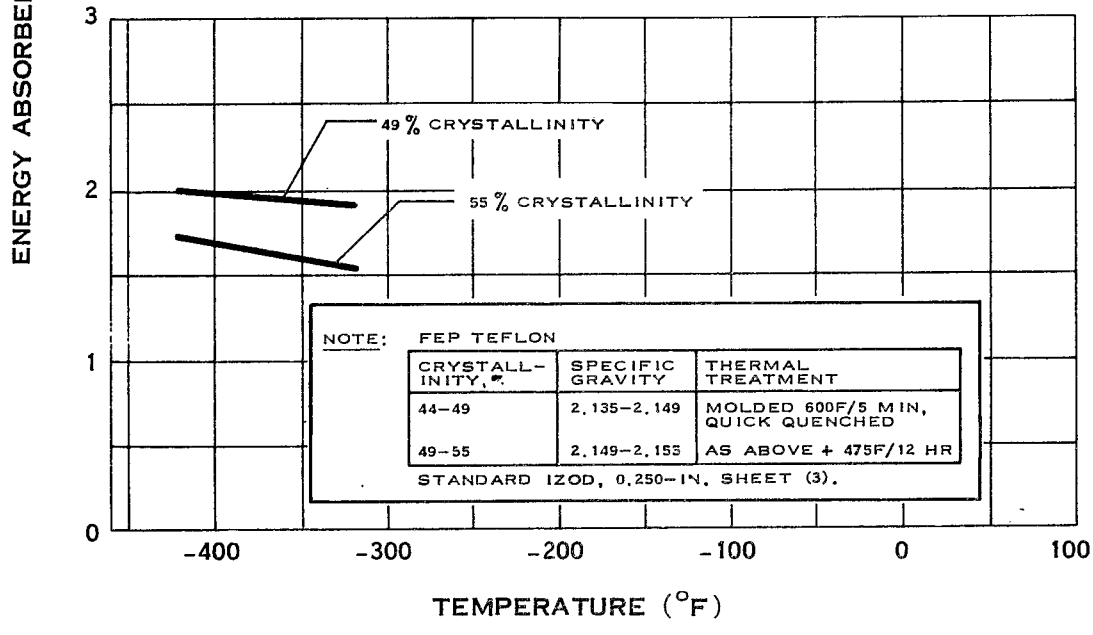


MODULUS OF ELASTICITY OF TEFLON*

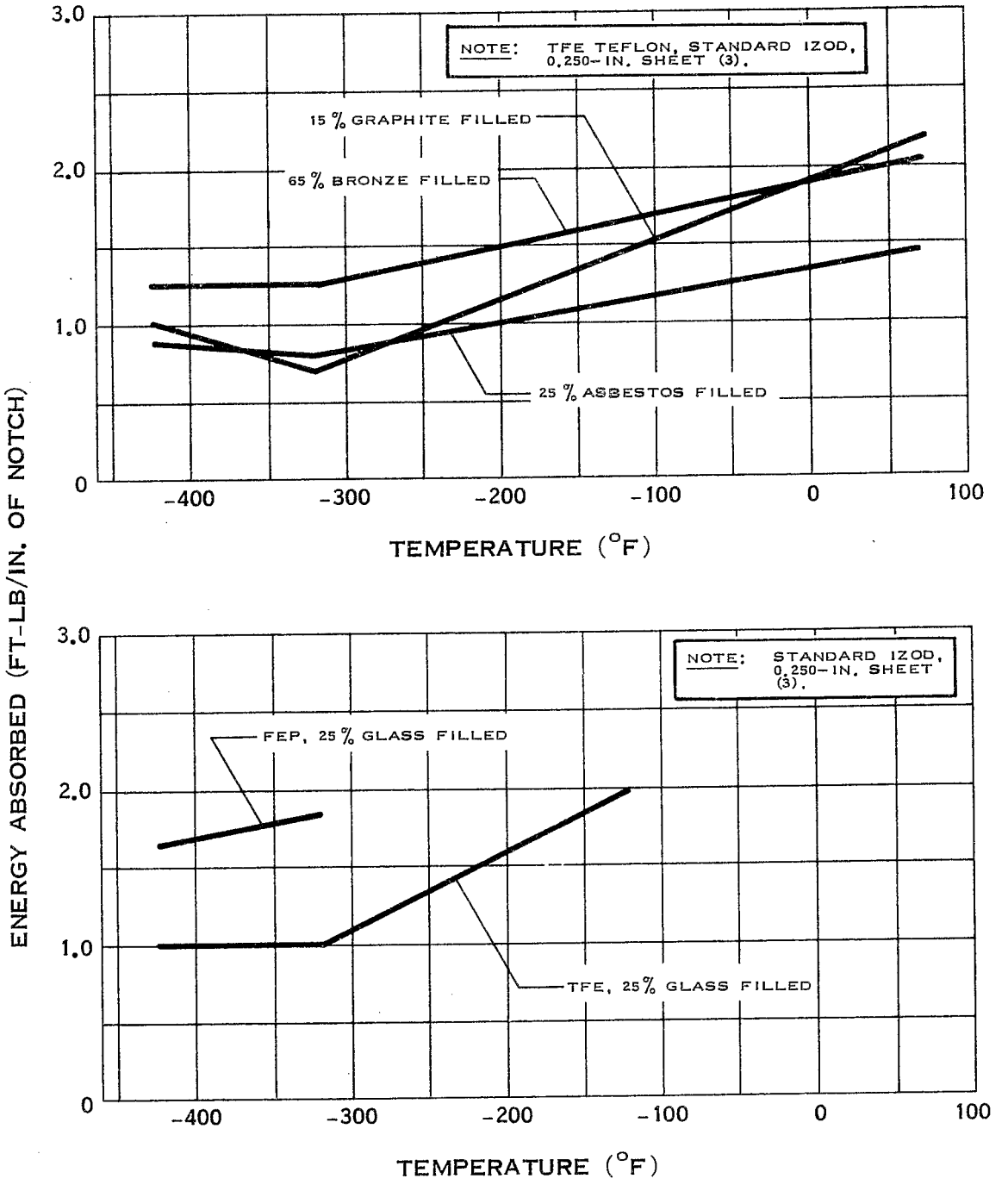
* T.M. E. I. DUPONT DE NEMOURS AND CO.





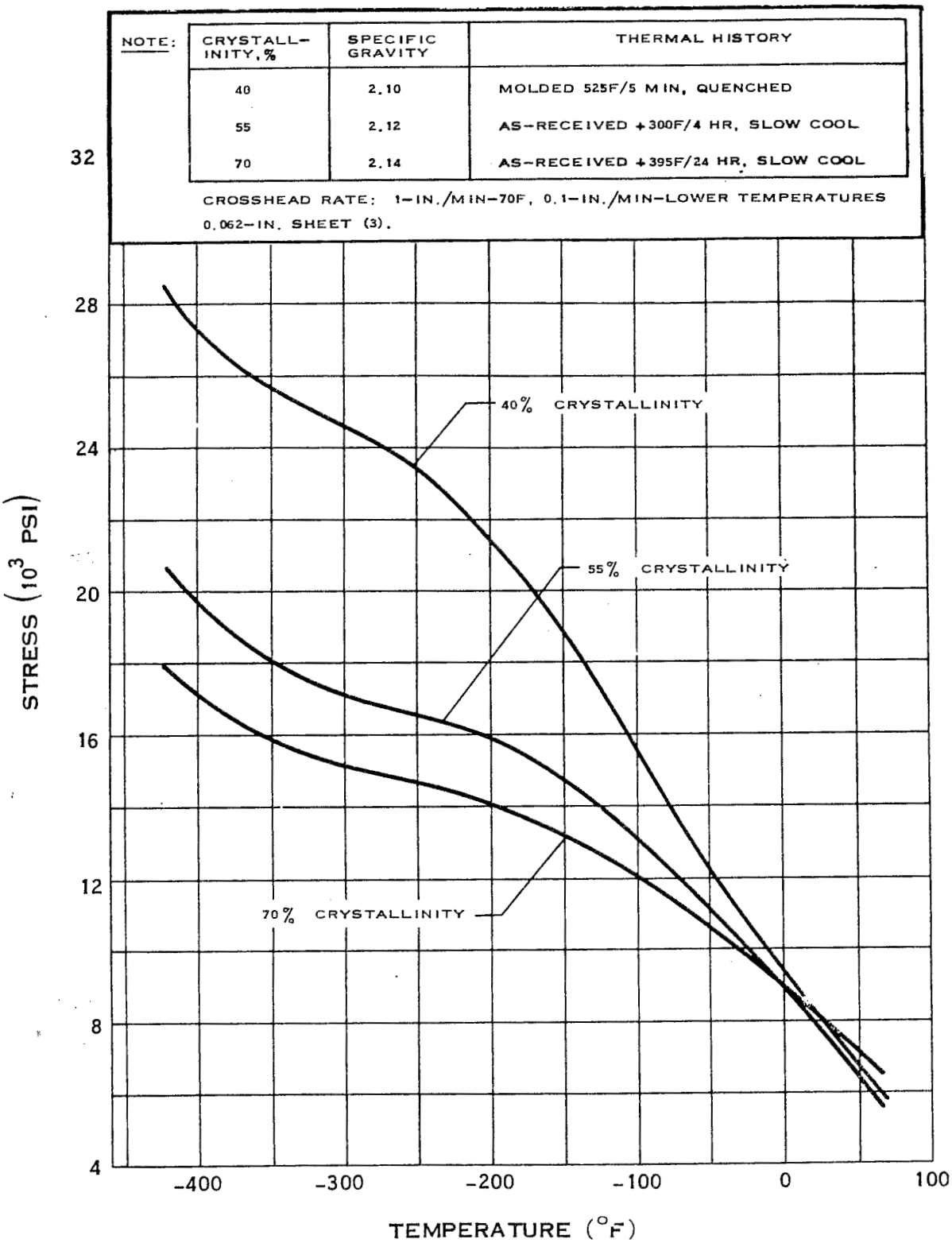
IMPACT STRENGTH OF TEFLON*

*T.M. E. I. DUPONT DE NEMOURS AND CO.



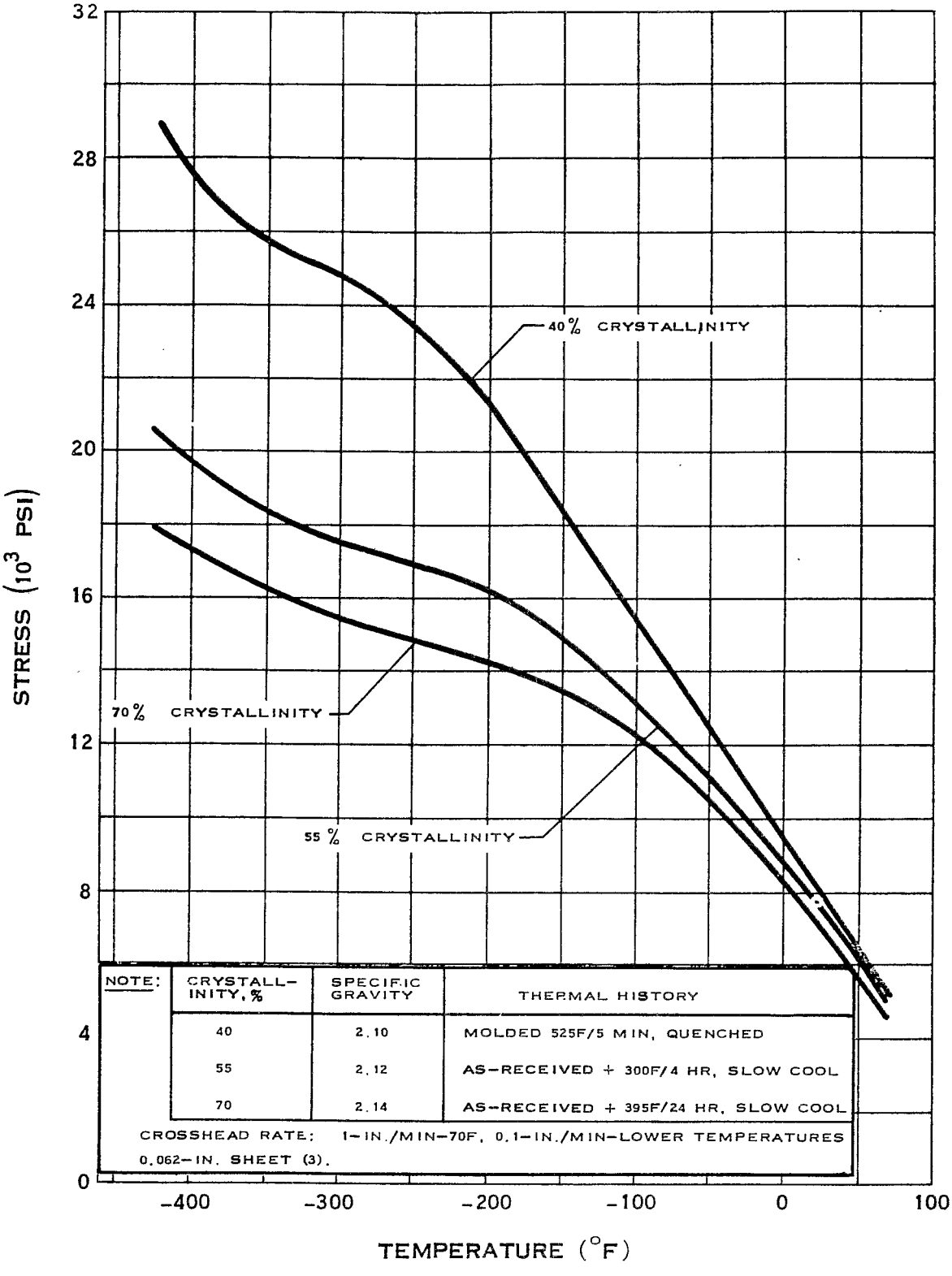
IMPACT STRENGTH OF TEFLON*

*T.M. E. I. DUPONT DE NEMOURS AND CO.



YIELD STRENGTH OF KEL-F*

* T.M. MINNESOTA MINING AND MFG. CO.



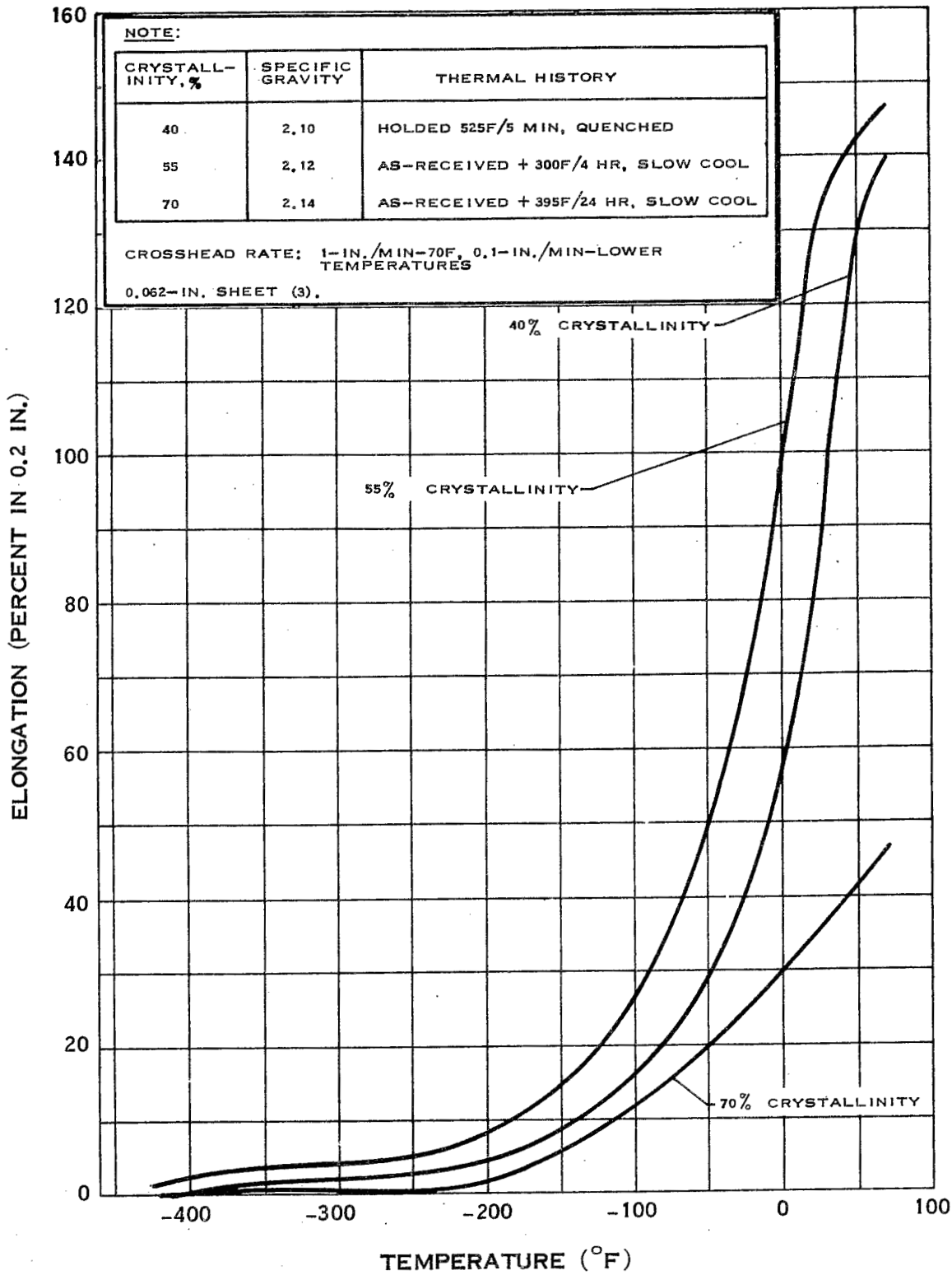
NOTE:

CRYSTALLINITY, %	SPECIFIC GRAVITY	THERMAL HISTORY
40	2.10	MOLDED 525F/5 MIN, QUENCHED
55	2.12	AS-RECEIVED + 300F/4 HR, SLOW COOL
70	2.14	AS-RECEIVED + 395F/24 HR, SLOW COOL

CROSSHEAD RATE: 1-IN./MIN-70F, 0.1-IN./MIN-LOWER TEMPERATURES
0.062-IN. SHEET (3).

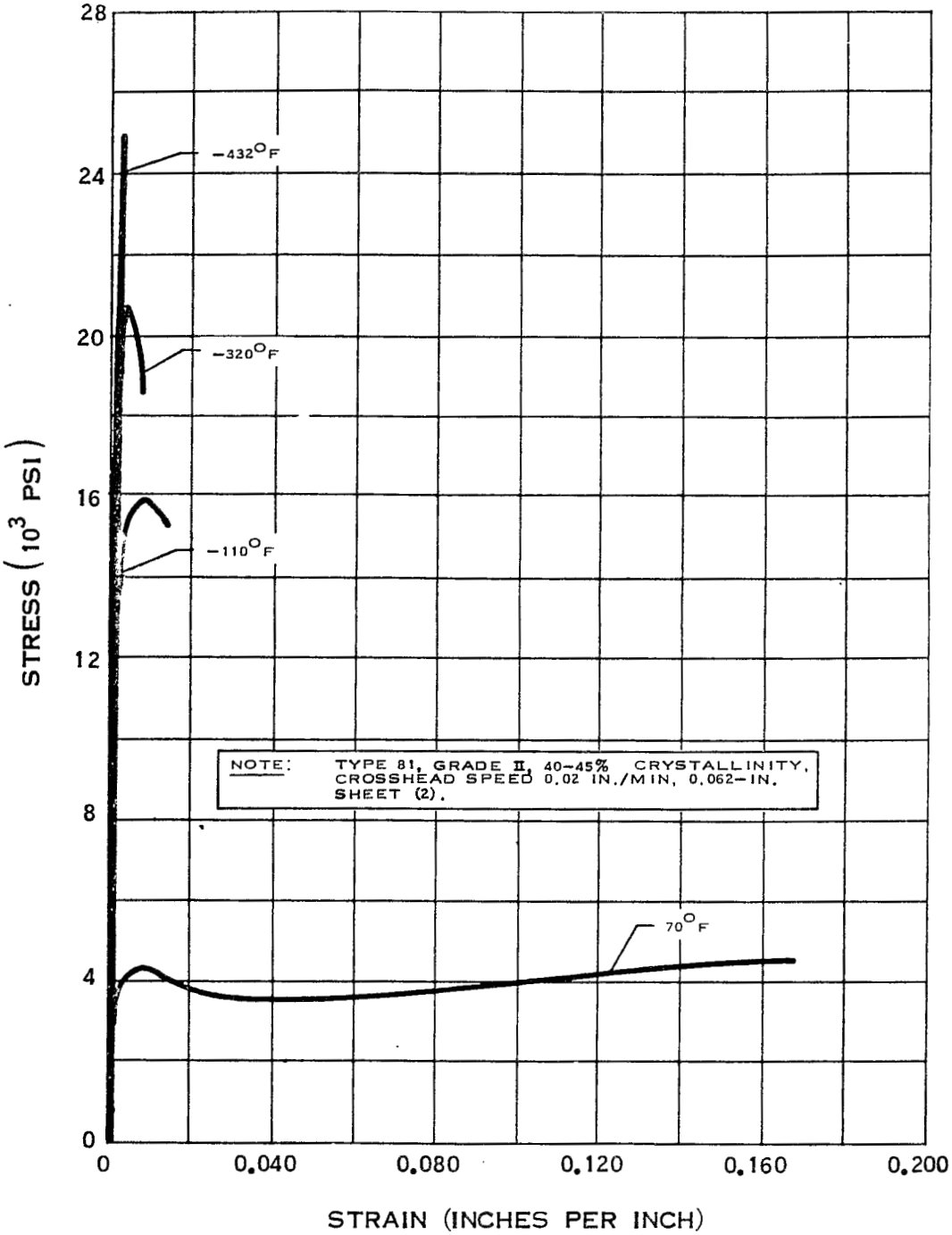
TENSILE STRENGTH OF KEL-F*

* T.M.
MINNESOTA MINING AND MFG. CO.



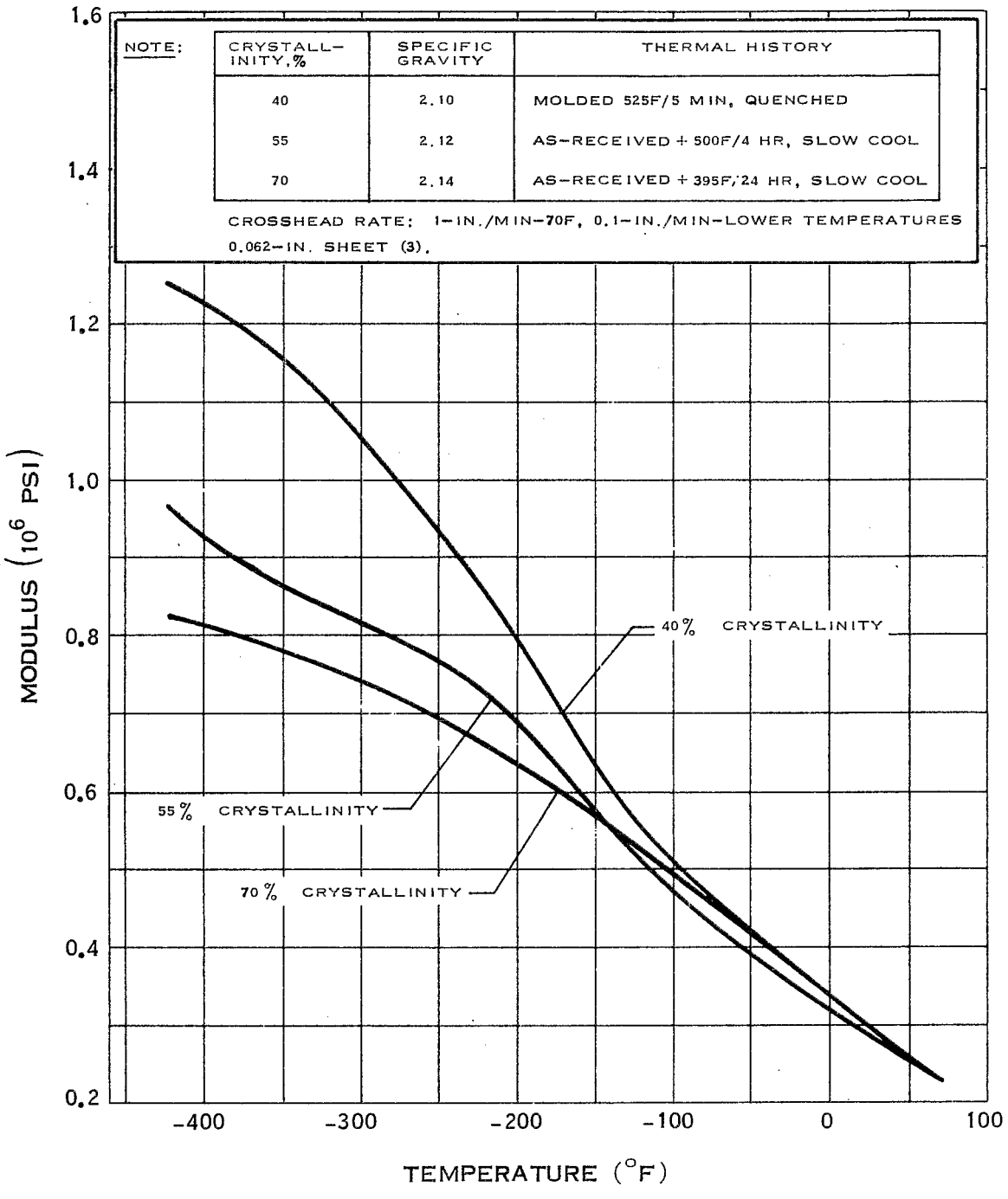
ELONGATION OF KEL-F*

* T.M. MINNESOTA MINING AND MFG. CO.



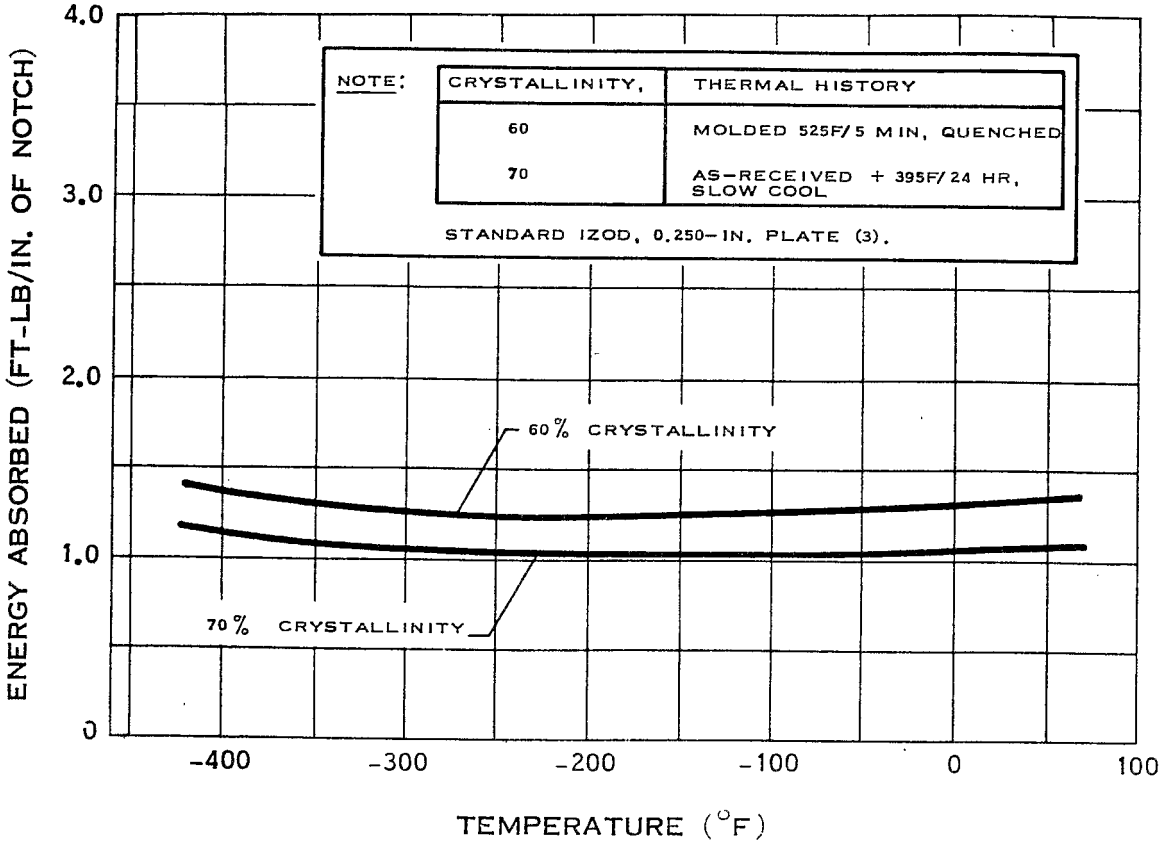
STRESS-STRAIN DIAGRAM FOR KEL-F*

* T.M. MINNESOTA MINING AND MFG. CO.



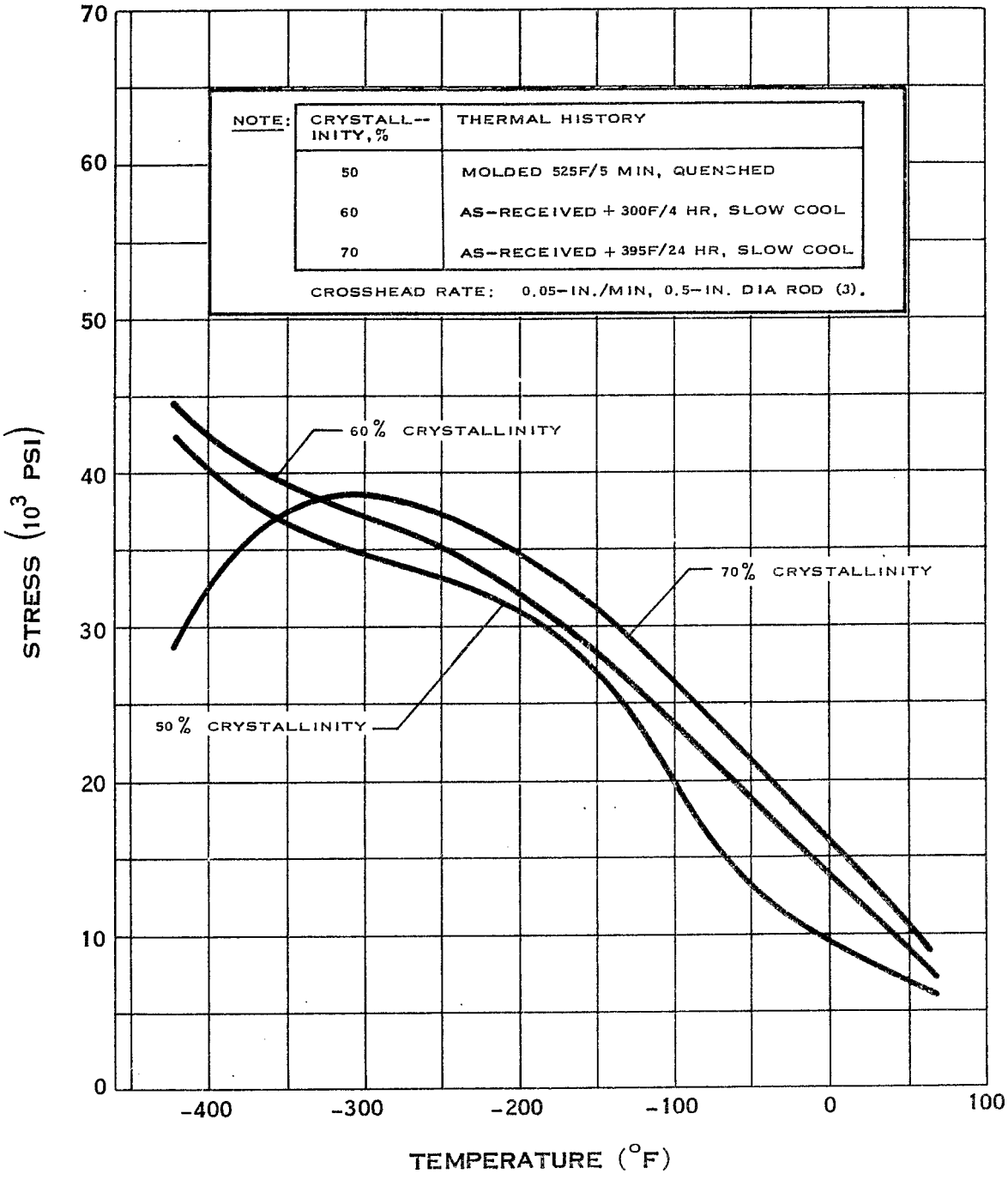
MODULUS OF ELASTICITY OF KEL-F*

*T.M.
MINNESOTA MINING AND MFG, CO.



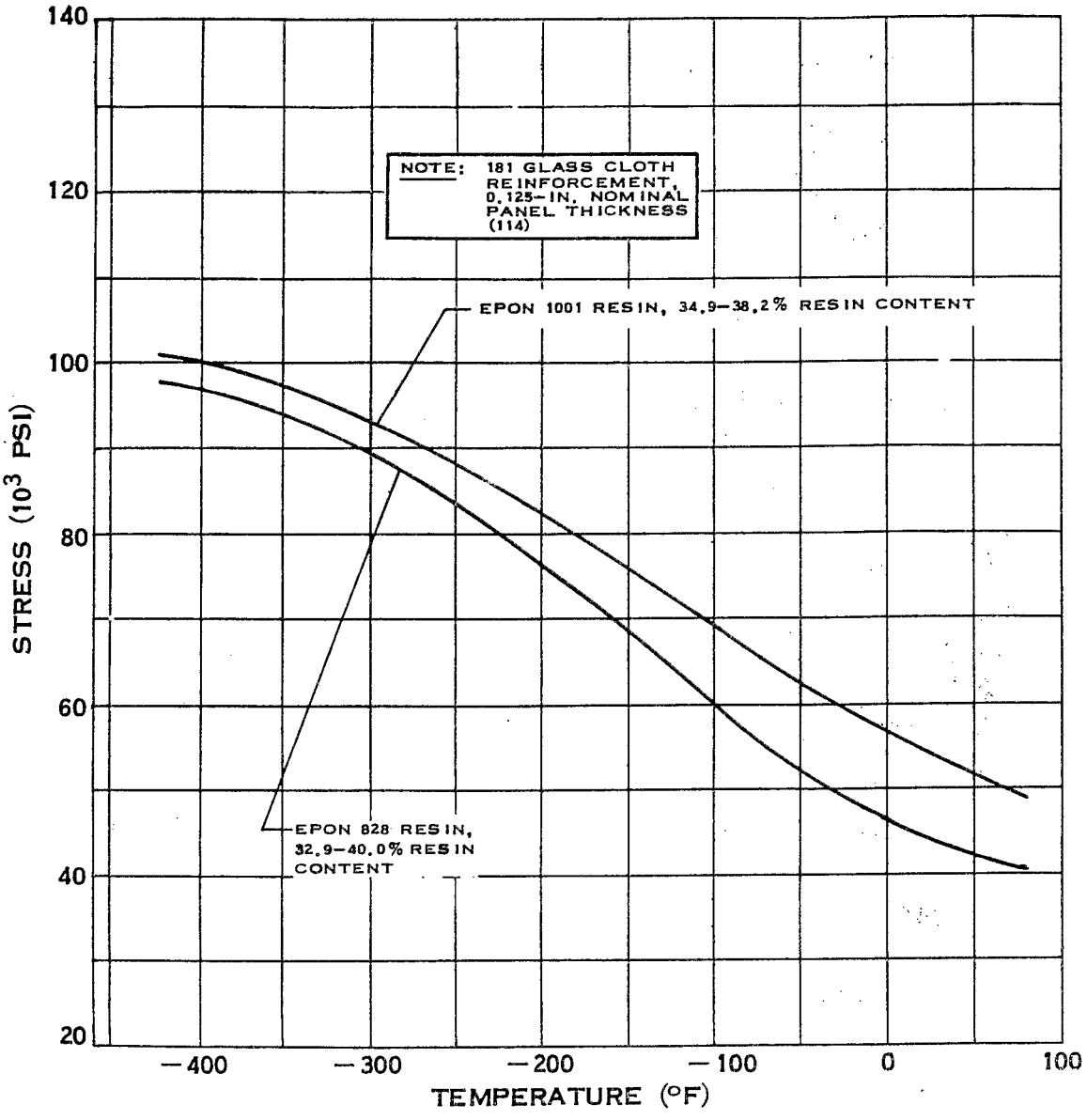
IMPACT STRENGTH OF KEL-F*

*T.M.
MINNESOTA MINING AND MFG, CO.

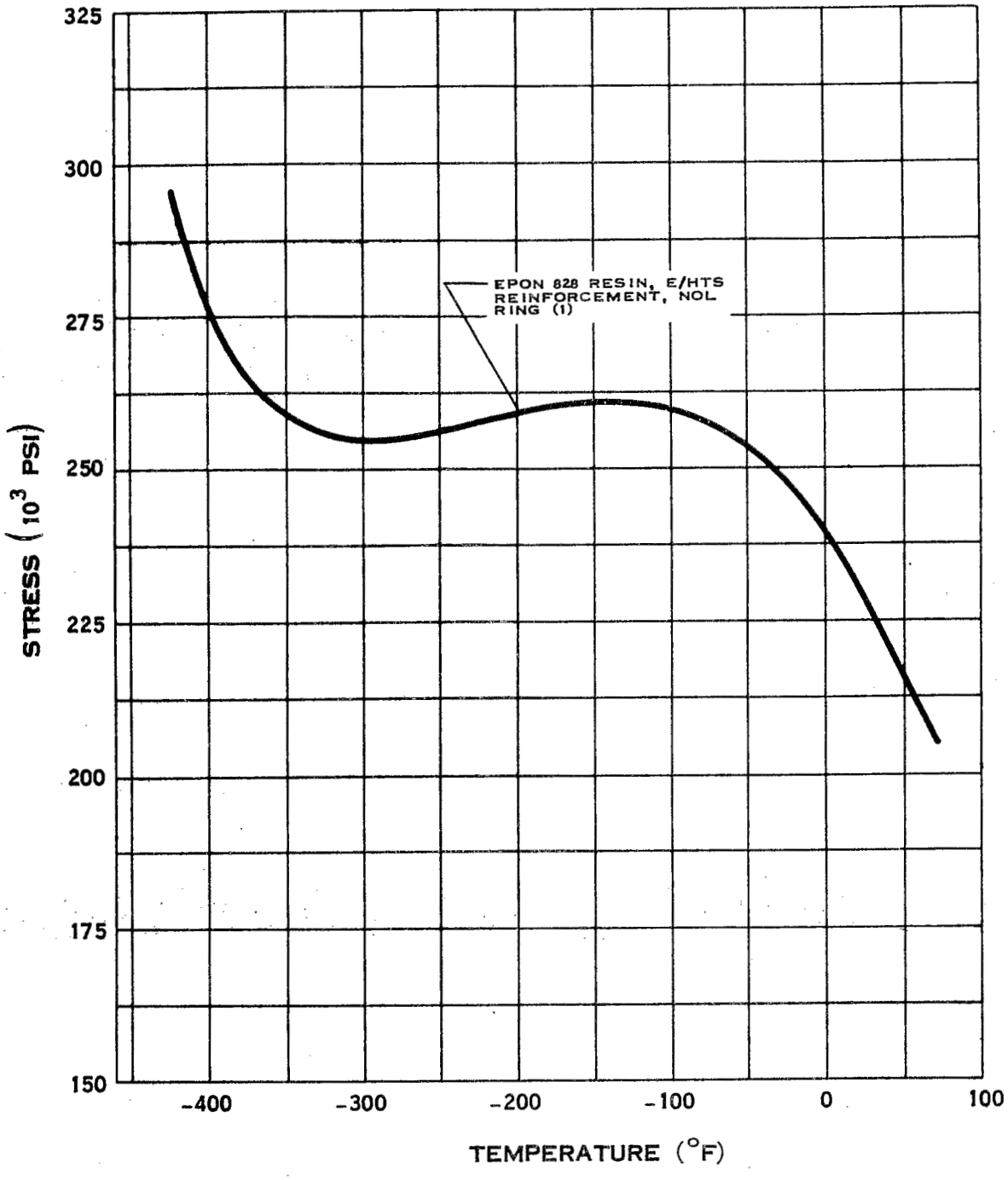


COMPRESSIVE STRENGTH OF KEL-F*

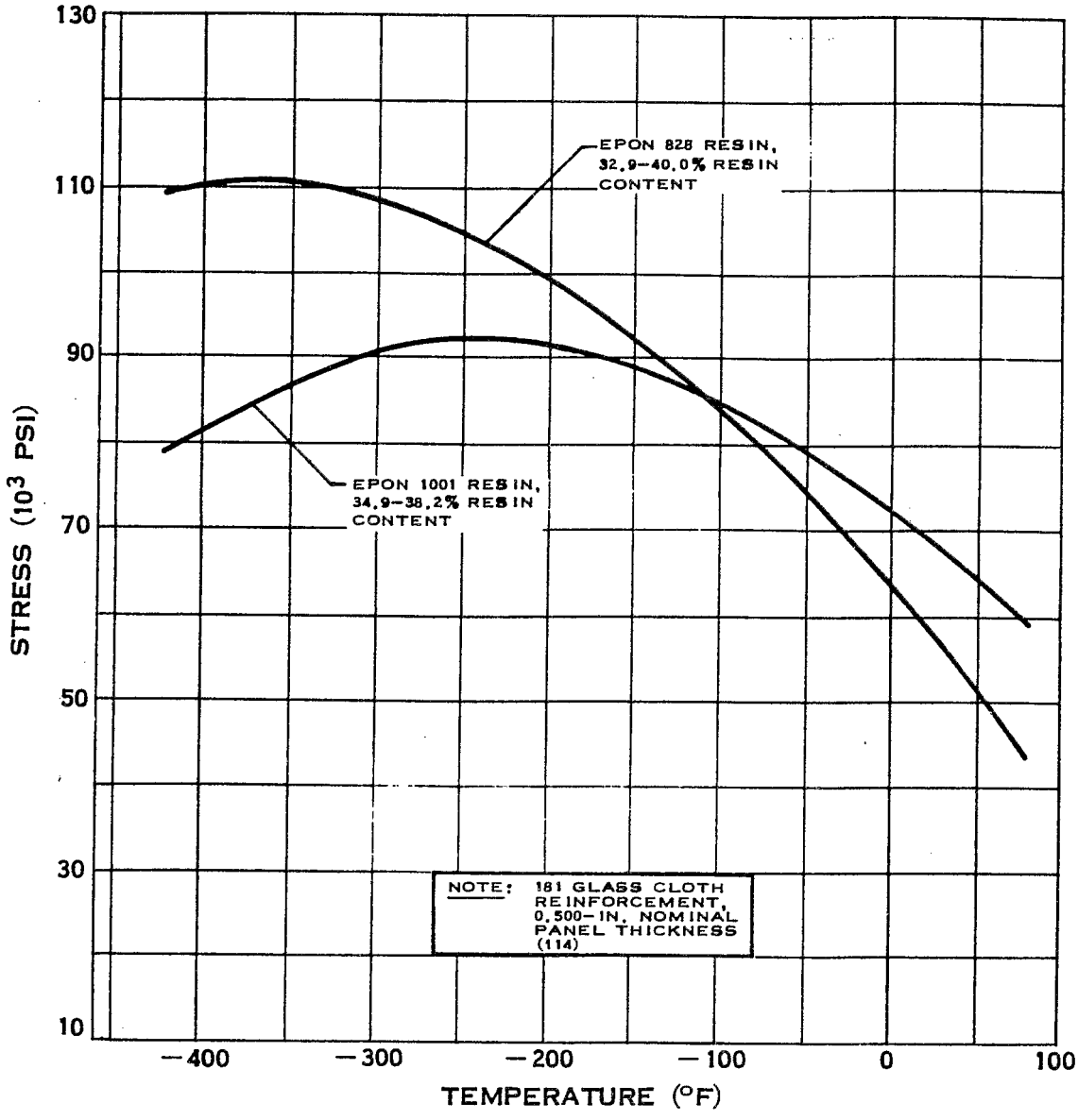
*T.M. MINNESOTA MINING AND MFG. CO.



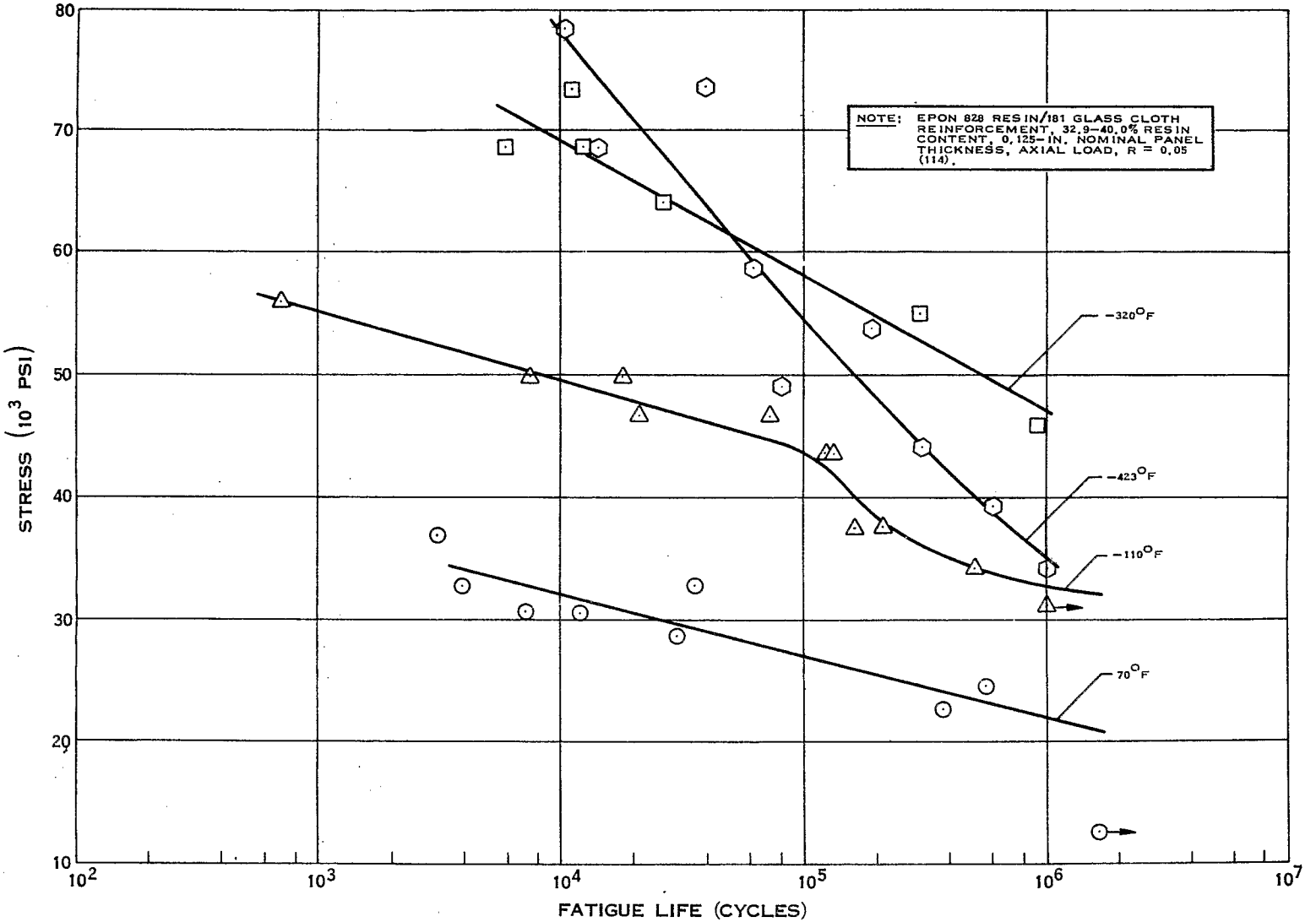
TENSILE STRENGTH OF EPOXY – FIBERGLASS LAMINATE



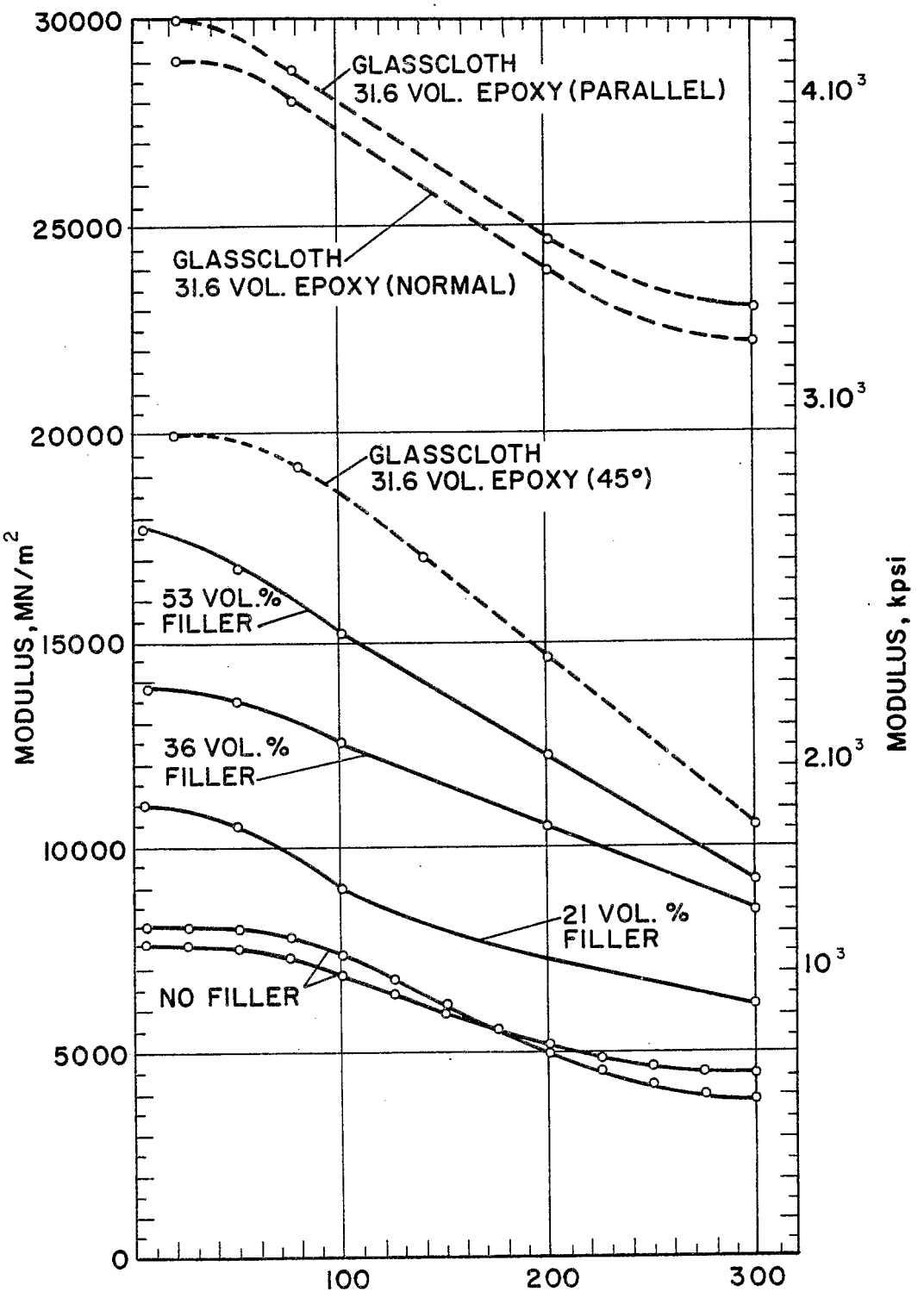
TENSILE STRENGTH OF EPOXY-FIBERGLASS FILAMENT WOUND RINGS



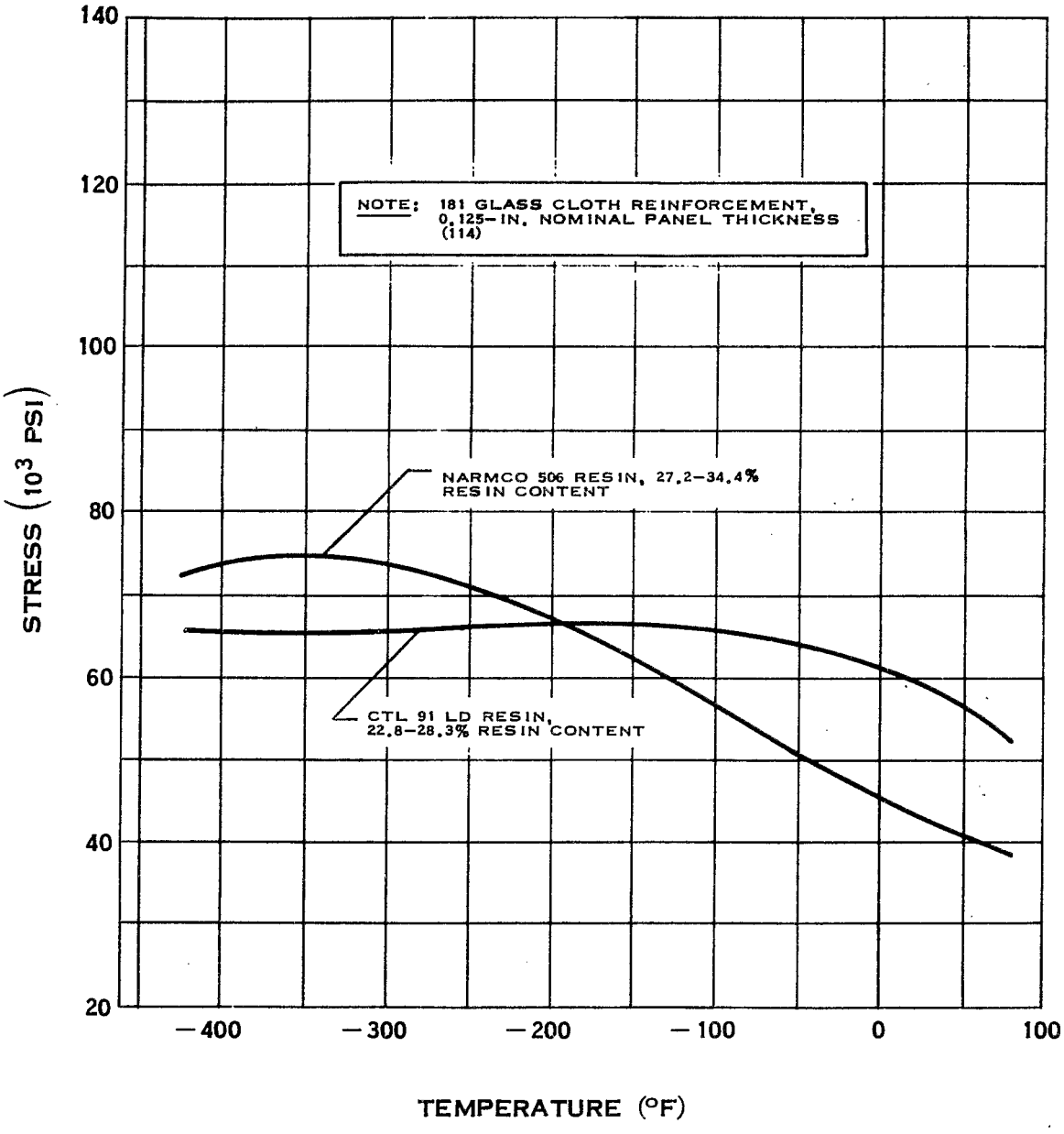
COMPRESSIVE STRENGTH OF EPOXY – FIBERGLASS LAMINATE



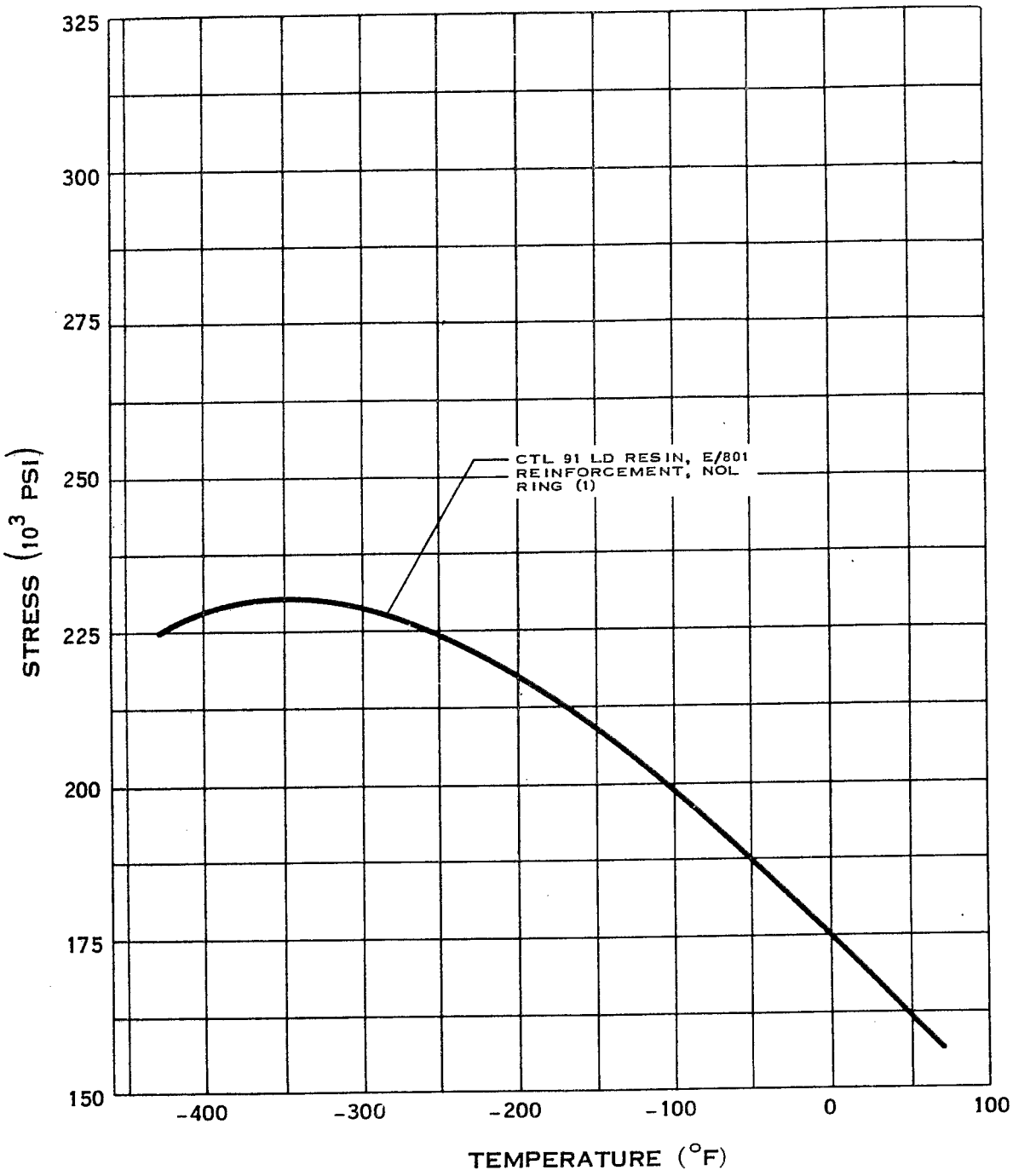
FATIGUE STRENGTH OF EPOXY-FIBERGLAS LAMINATE



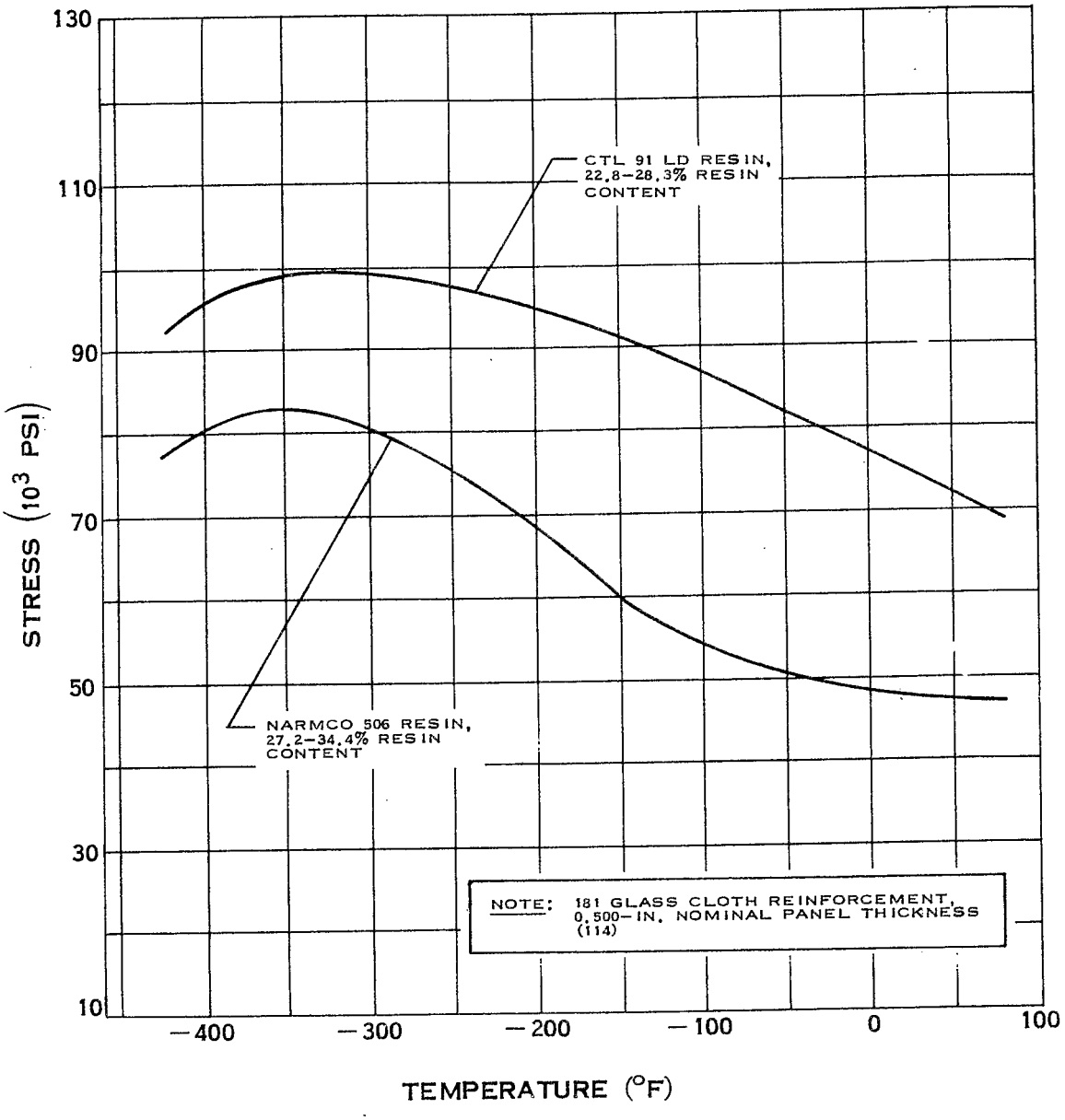
TENSILE MODULUS OF ELASTICITY OF UNFILLED, GLASSFIBER-REINFORCED AND FILLED EPOXIES



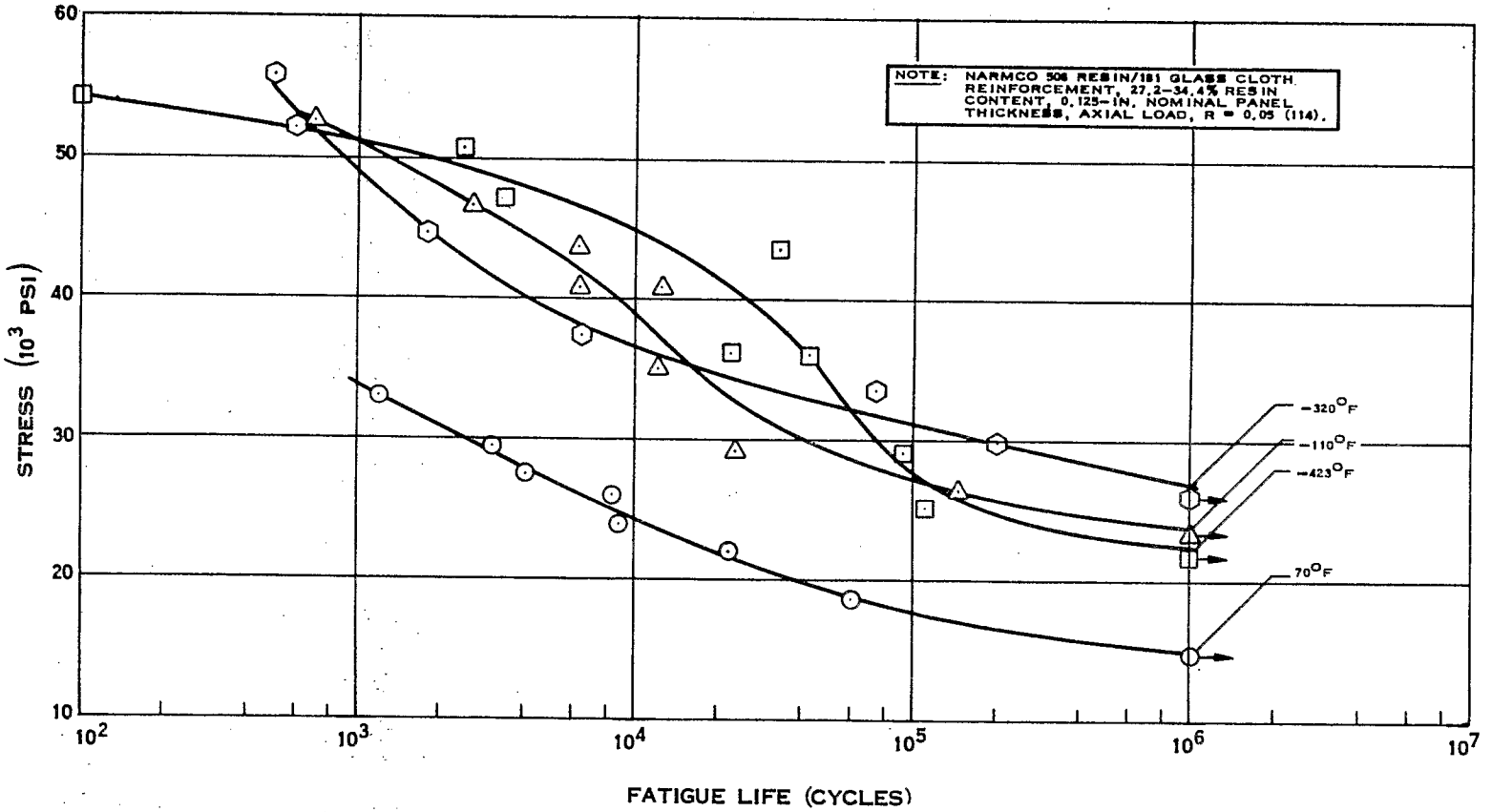
TENSILE STRENGTH OF PHENOLIC - FIBERGLAS LAMINATE



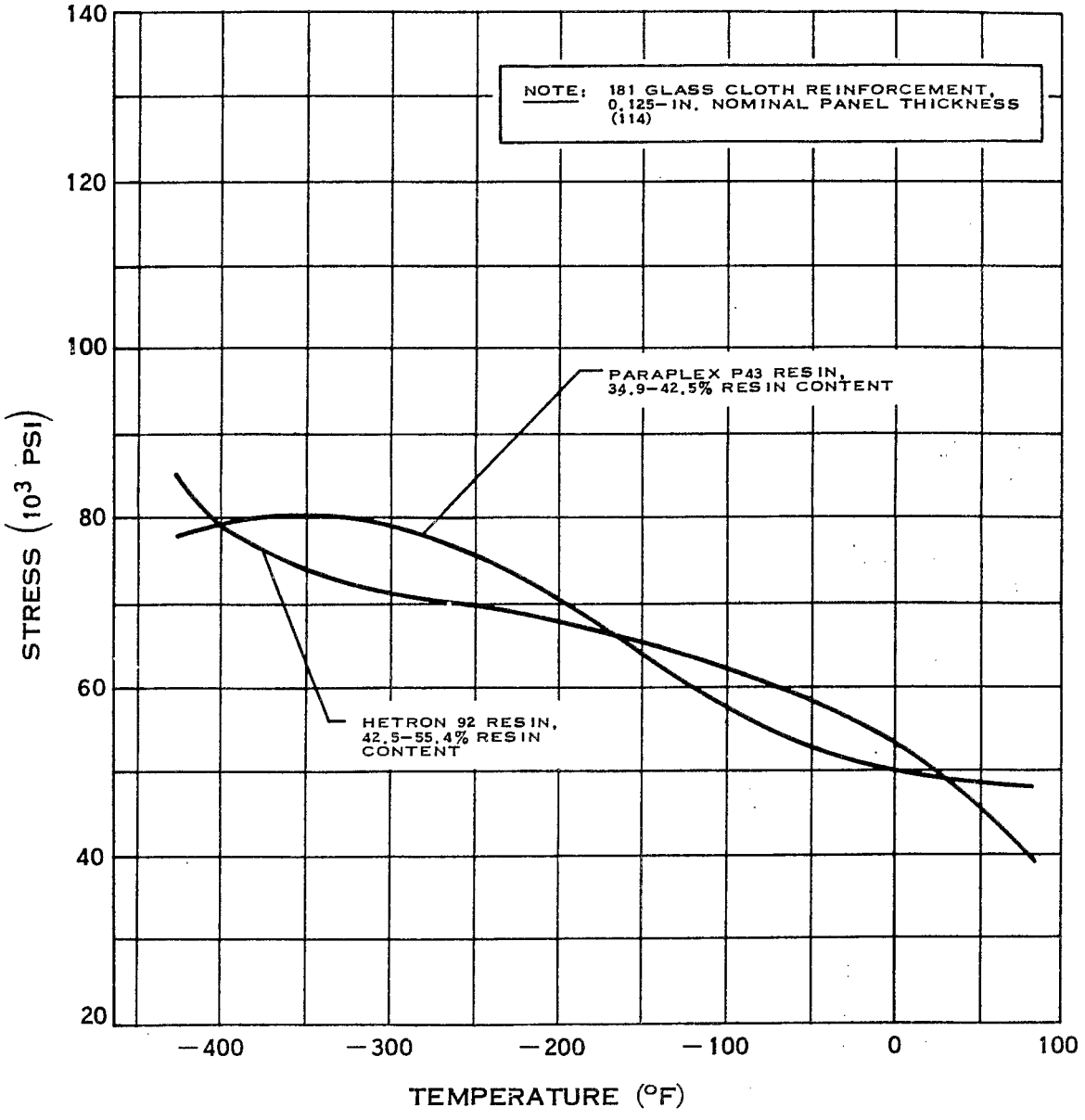
TENSILE STRENGTH OF PHENOLIC-FIBERGLASS FILAMENT WOUND RINGS



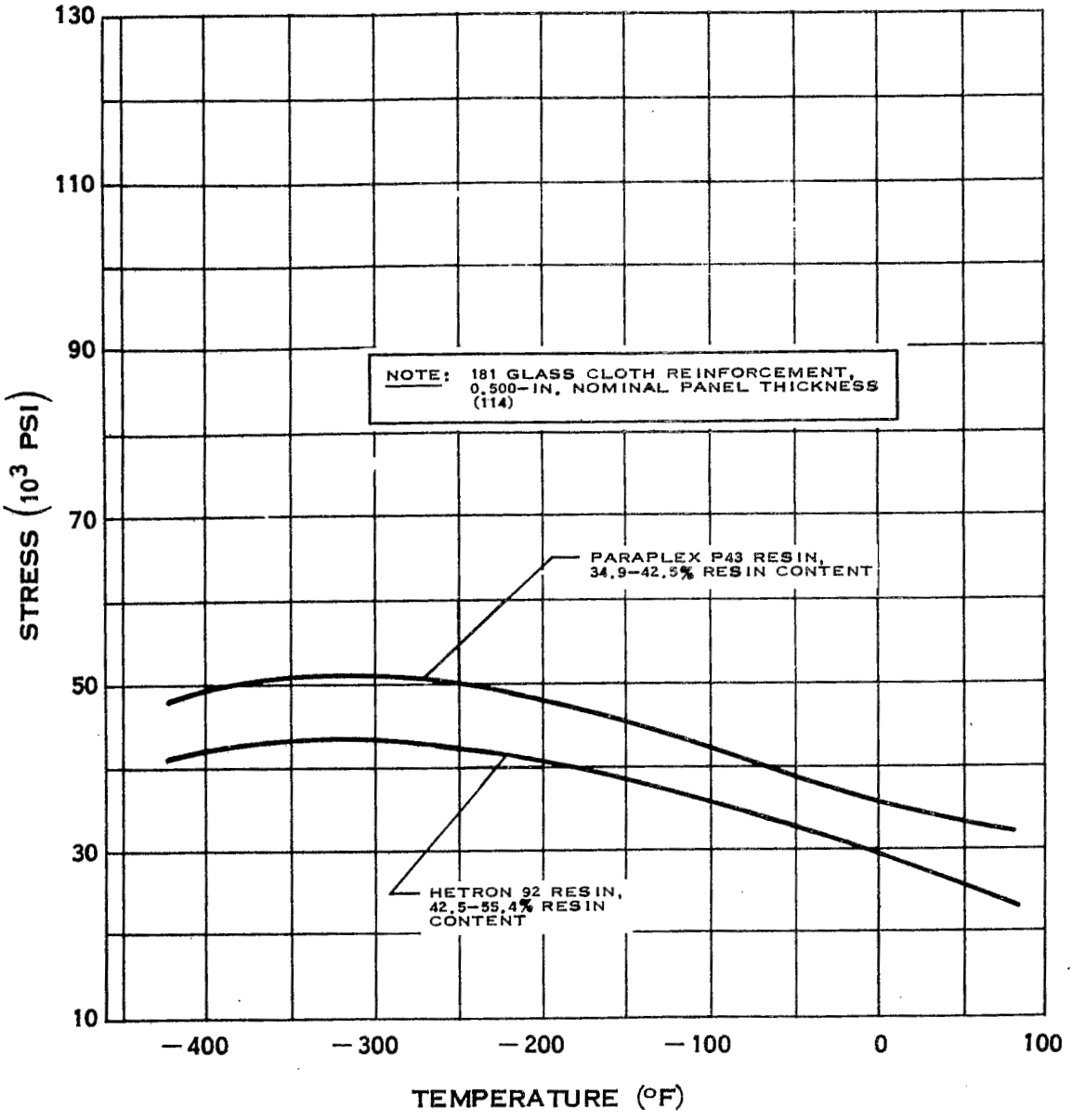
COMPRESSIVE STRENGTH OF PHENOLIC – FIBERGLASS LAMINATE



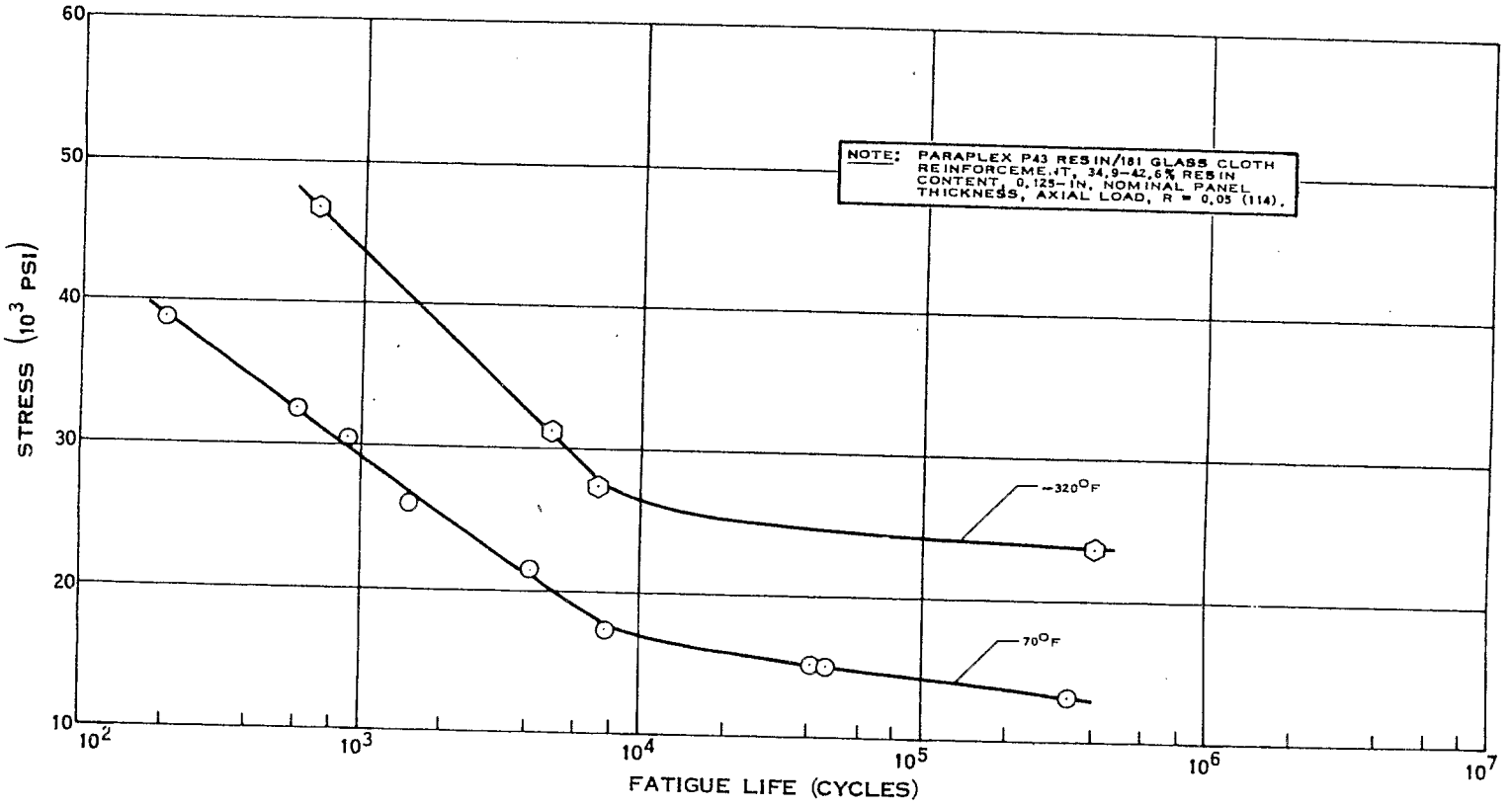
FATIGUE STRENGTH OF PHENOLIC-FIBERGLASS LAMINATE



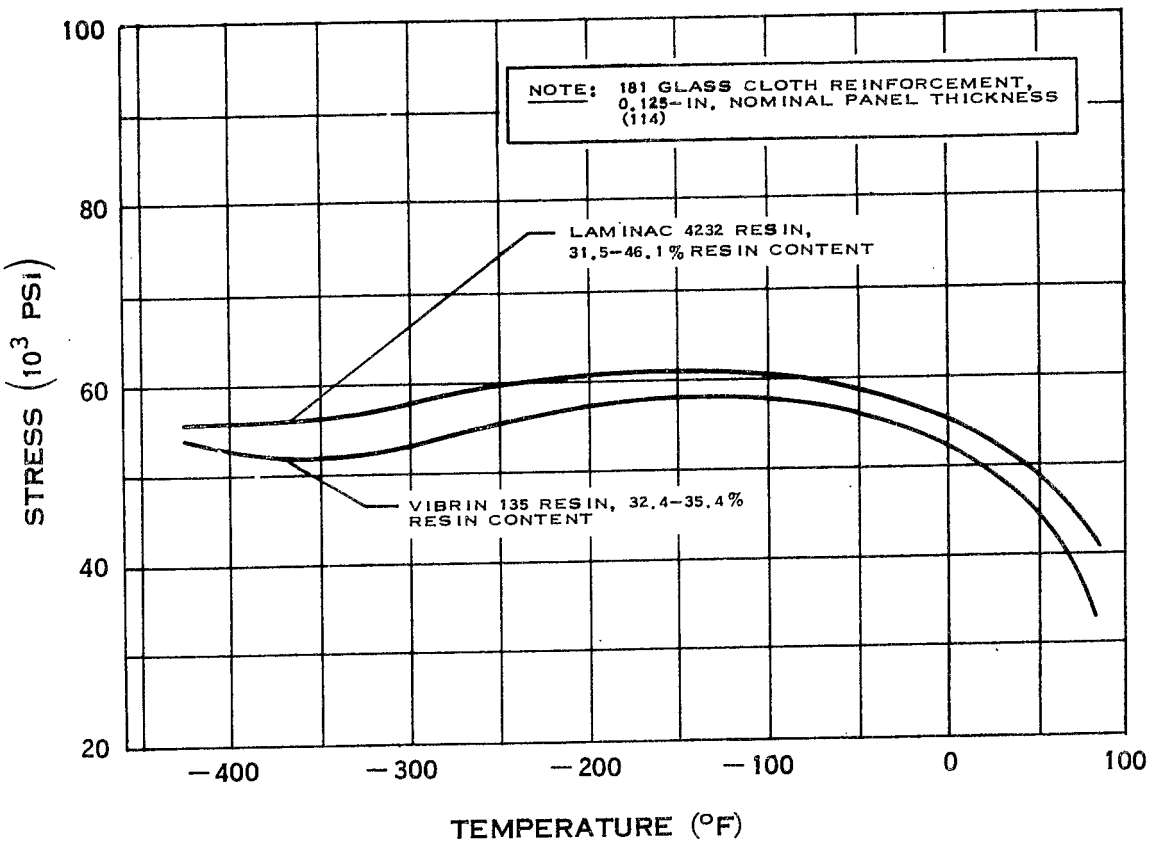
TENSILE STRENGTH OF POLYESTER - FIBERGLAS LAMINATE



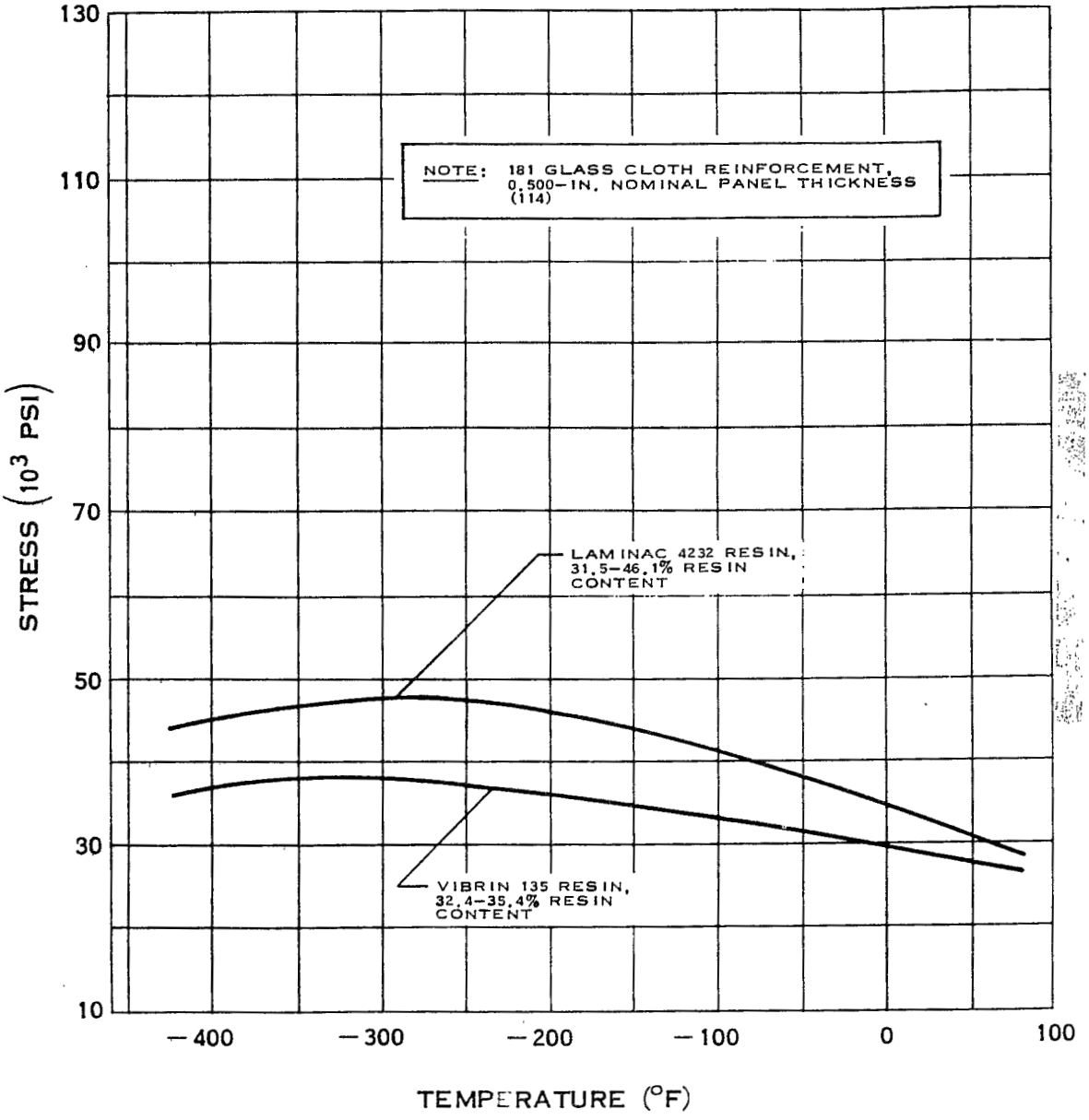
COMPRESSIVE STRENGTH OF POLYESTER - FIBERGLAS LAMINATE



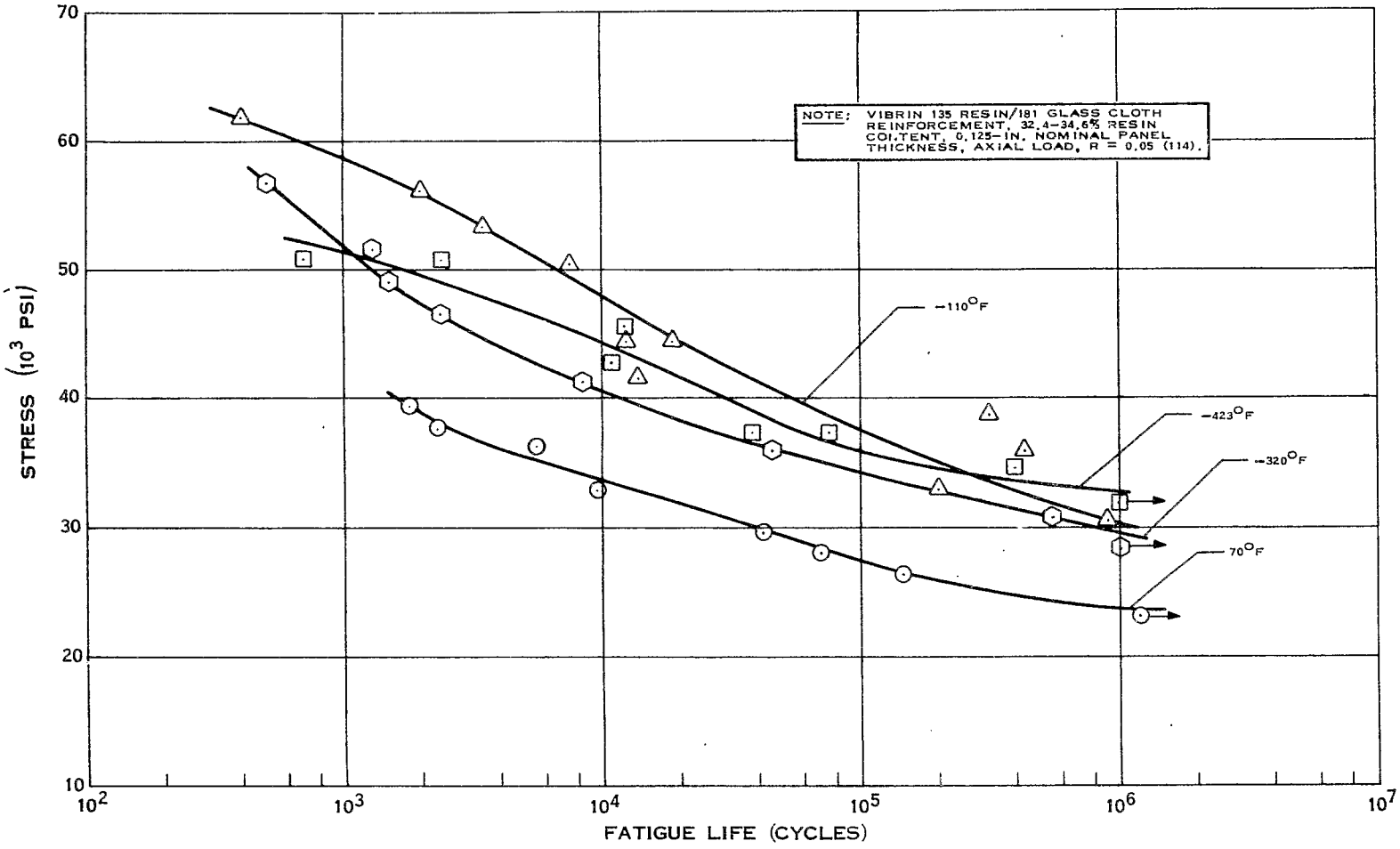
FATIGUE STRENGTH OF POLYESTER-FIBERGLAS LAMINATE



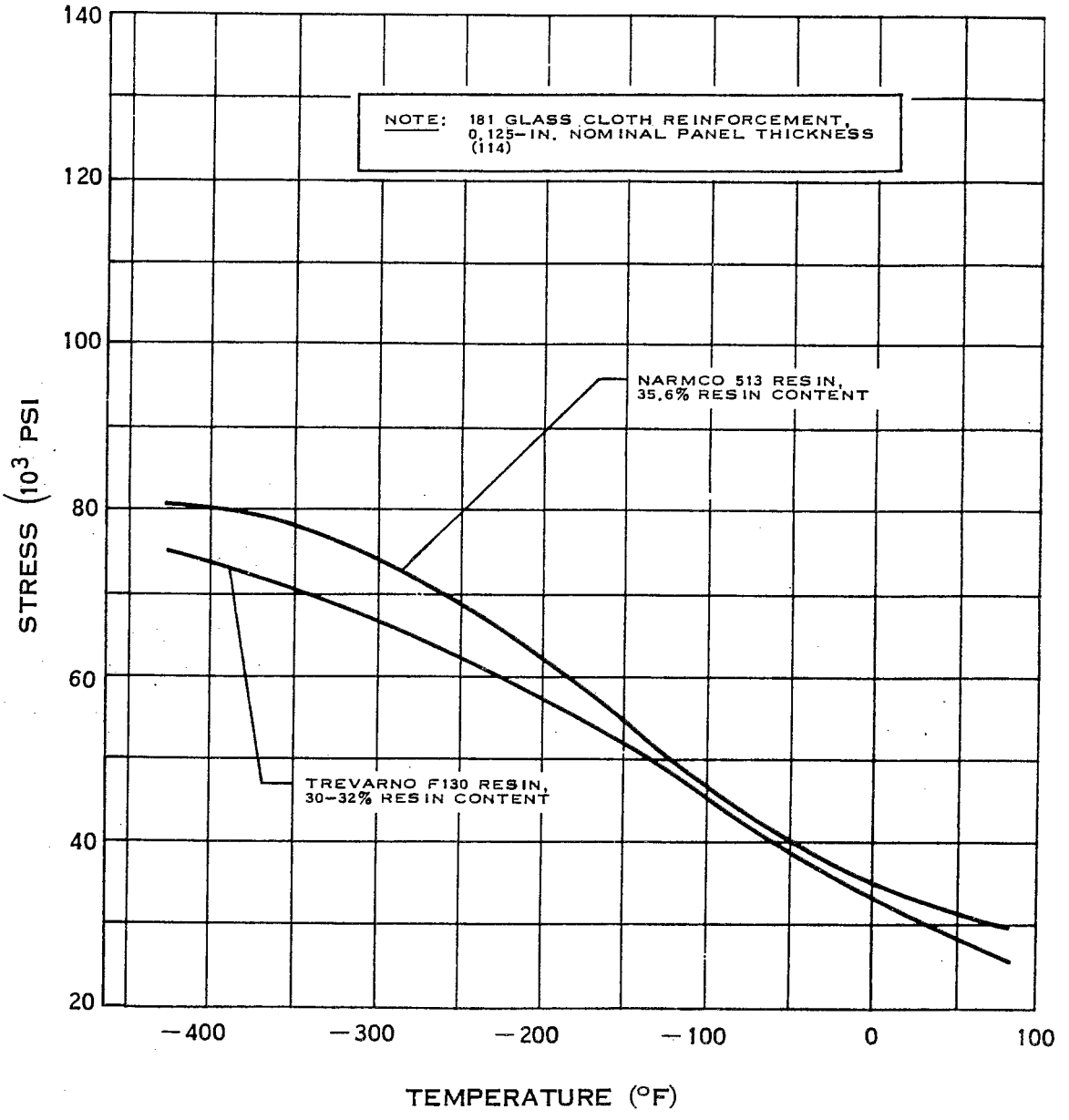
TENSILE STRENGTH OF HIGH TEMPERATURE POLYESTER - FIBERGLAS LAMINATE



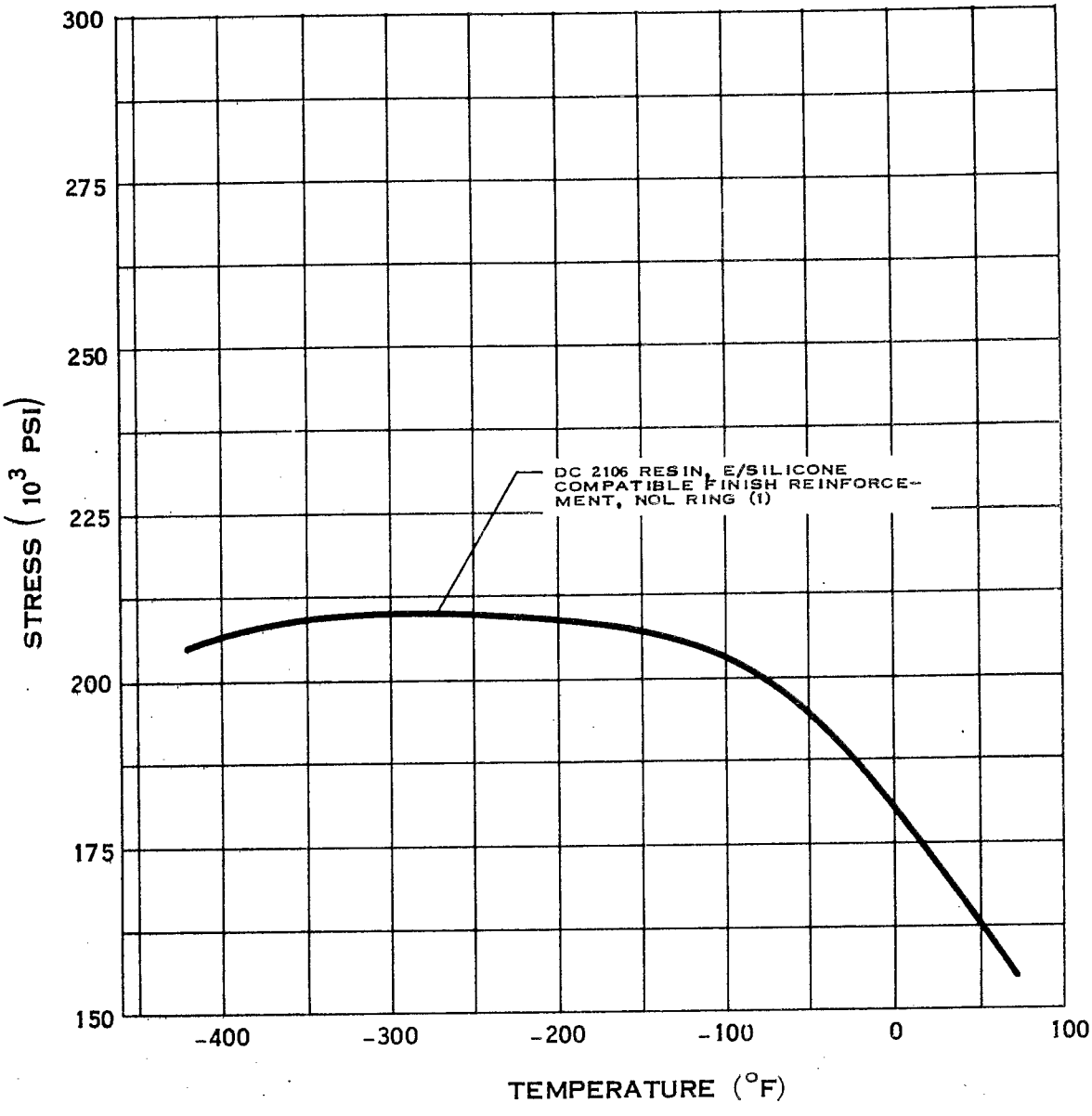
COMPRESSIVE STRENGTH OF HIGH TEMPERATURE POLYESTER - FIBERGLAS LAMINATE



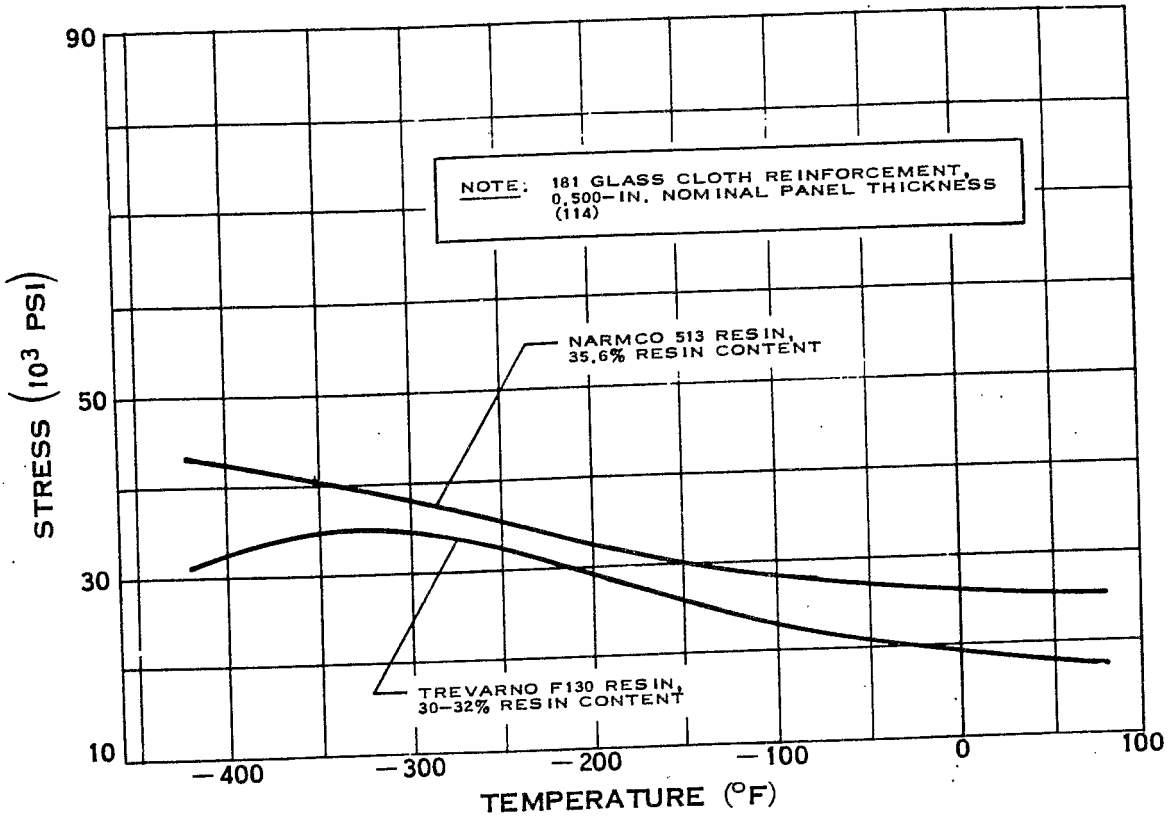
FATIGUE STRENGTH OF HIGH TEMPERATURE POLYESTER-FIBERGLAS LAMINATE



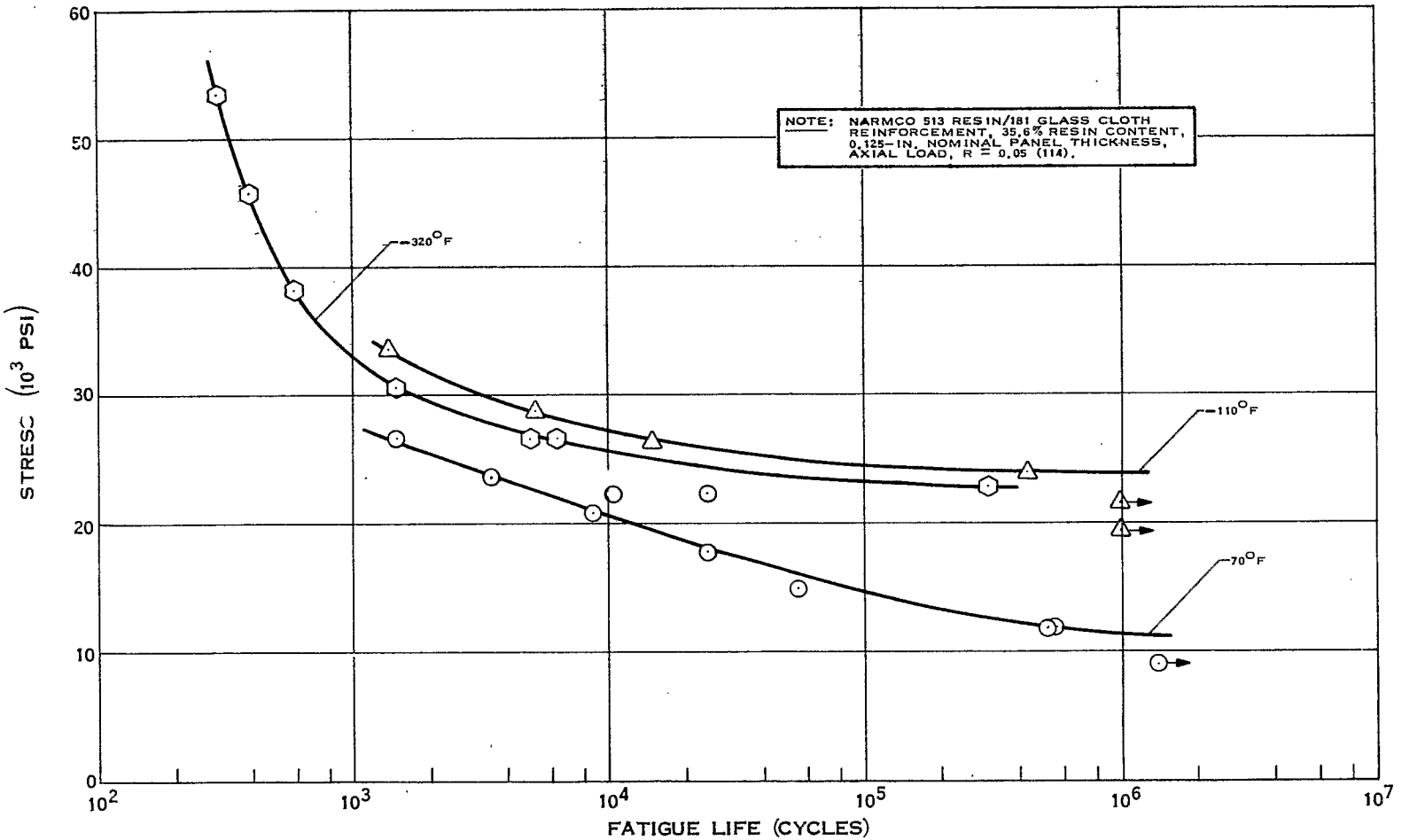
TENSILE STRENGTH OF SILICONE - FIBERGLAS LAMINATE



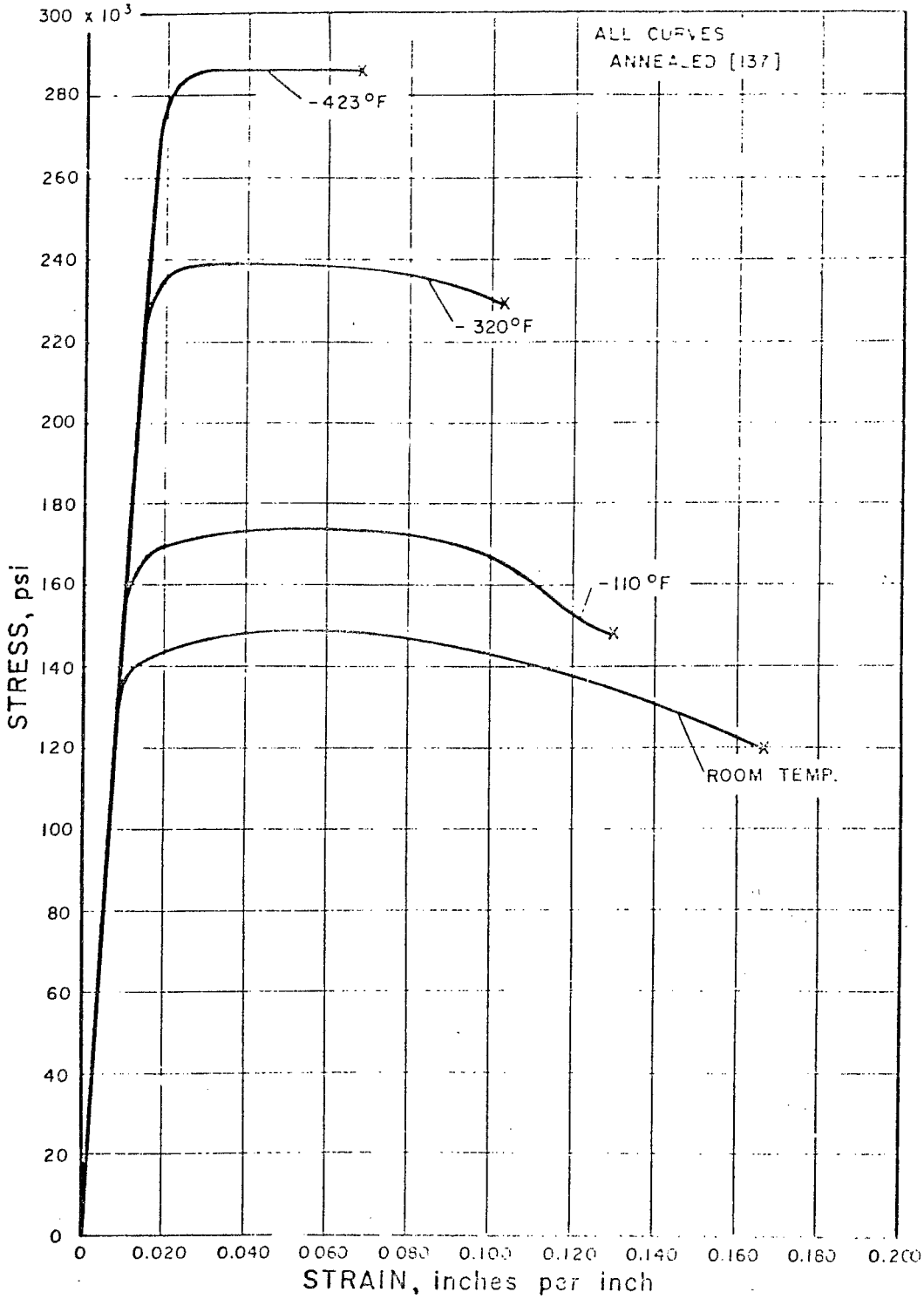
TENSILE STRENGTH OF SILICONE-FIBERGLASS FILAMENT WOUND RINGS



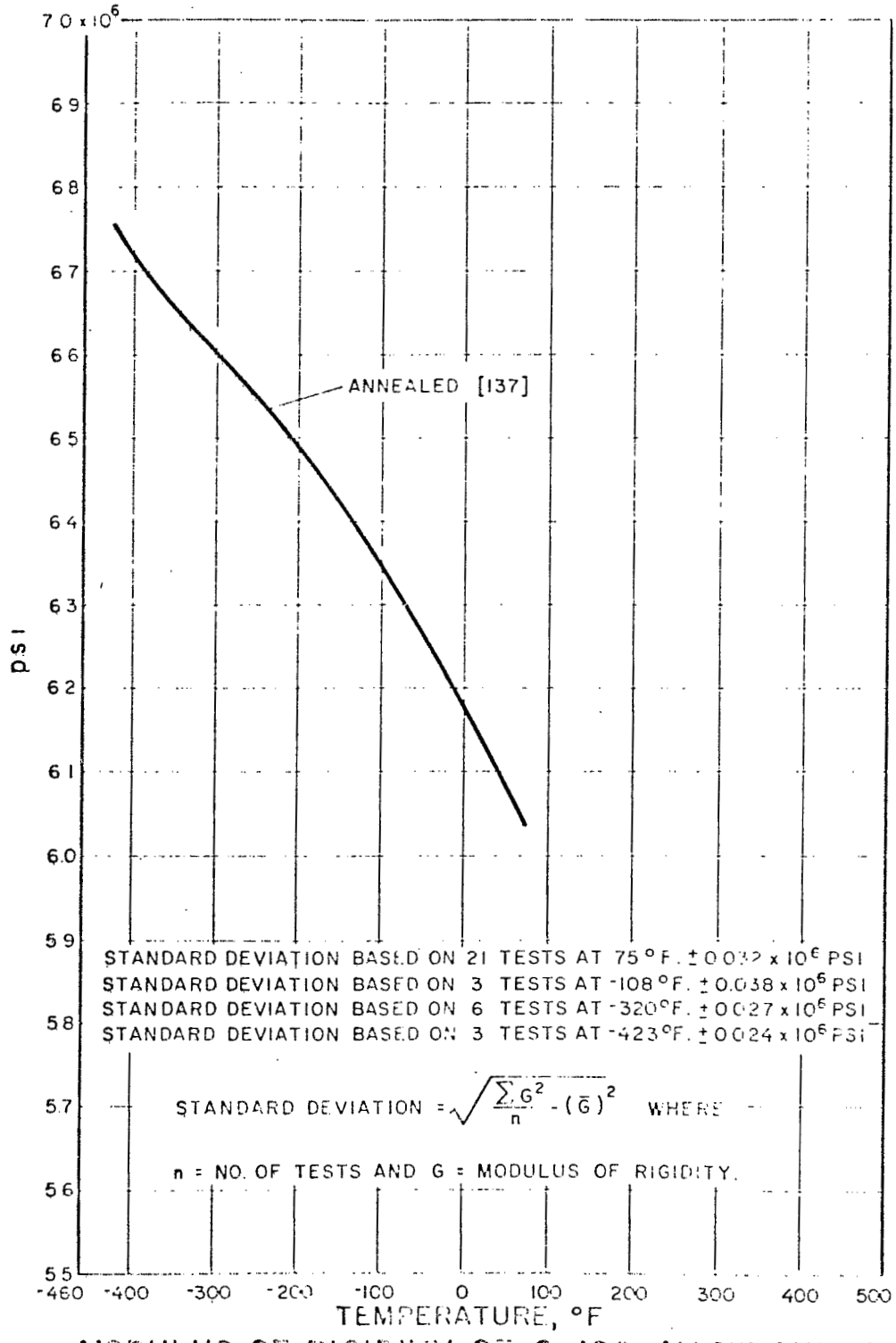
COMPRESSIVE STRENGTH OF SILICONE - FIBERGLASS LAMINATE



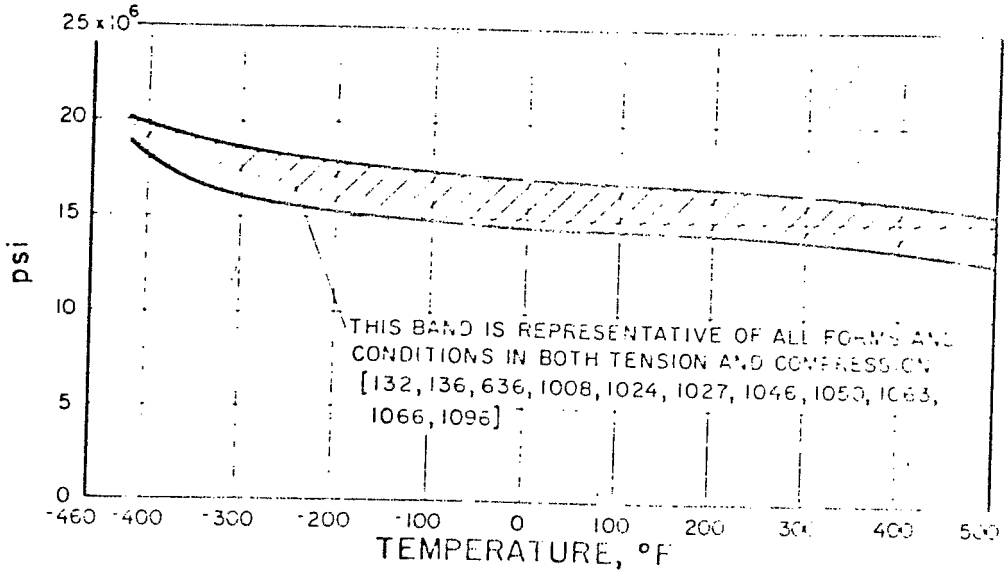
FATIGUE STRENGTH OF SILICONE-FIBERGLAS LAMINATE



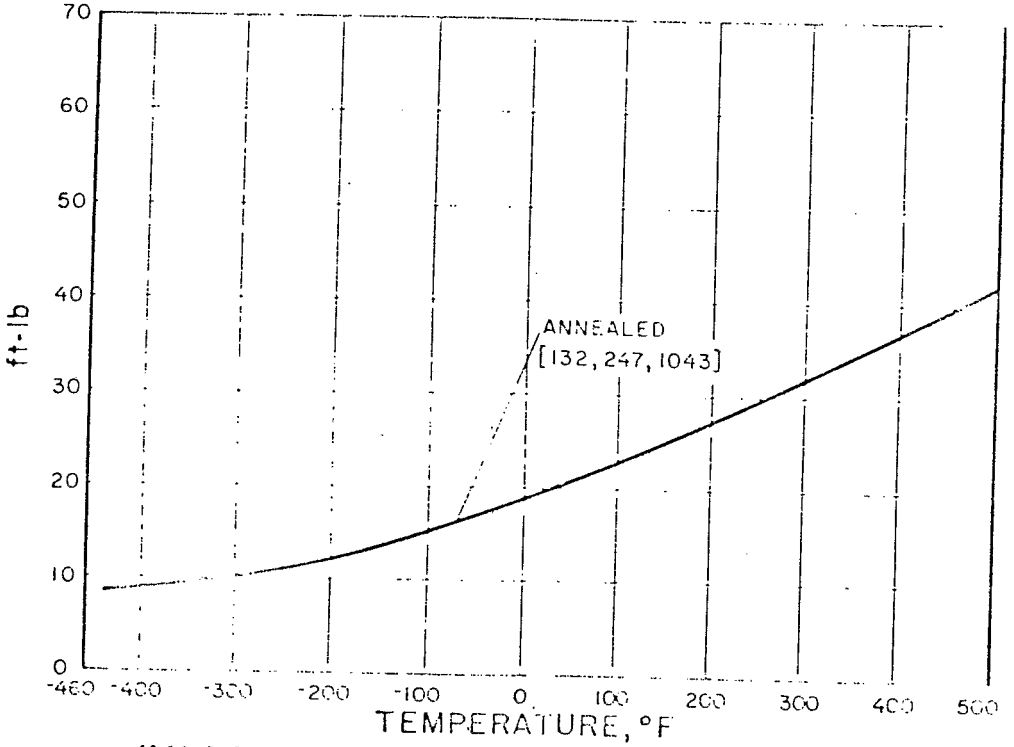
STRESS-STRAIN DIAGRAM FOR C-120-AV TITANIUM



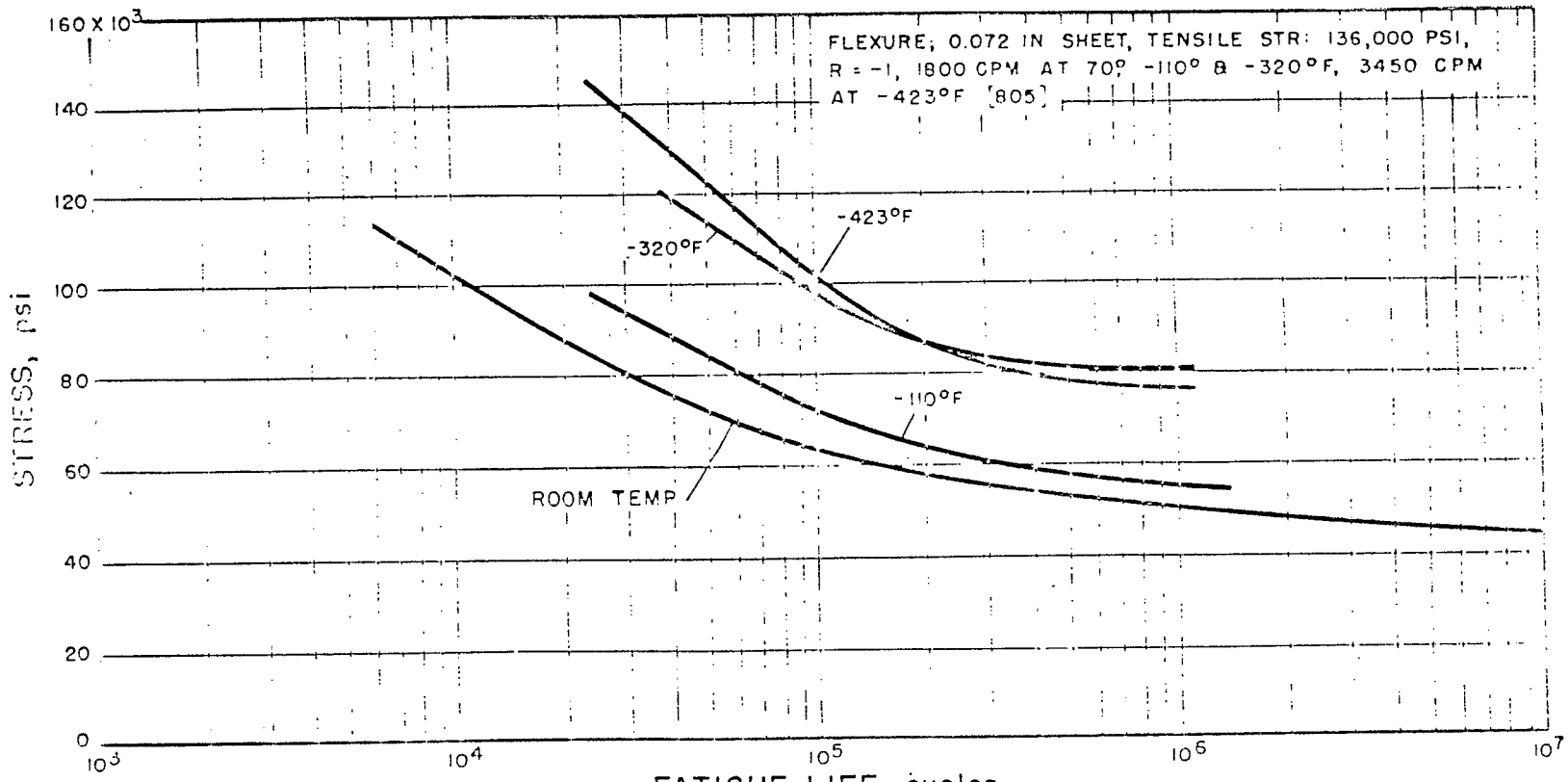
MODULUS OF RIGIDITY OF C-120-AV TITANIUM



MODULUS OF ELASTICITY OF C-120-AV TITANIUM



IMPACT ENERGY OF C-120-AV TITANIUM



FATIGUE BEHAVIOR OF C-120-AV TITANIUM