

**LEGEND**

- ⊙ 54" Wire extensometer
- ⊗ 24" Wire extensometer
- 2" Clip gage
- Thermocouple
- | SR-4 Strain gage
- ∇ SR-4 Rosette strain gage

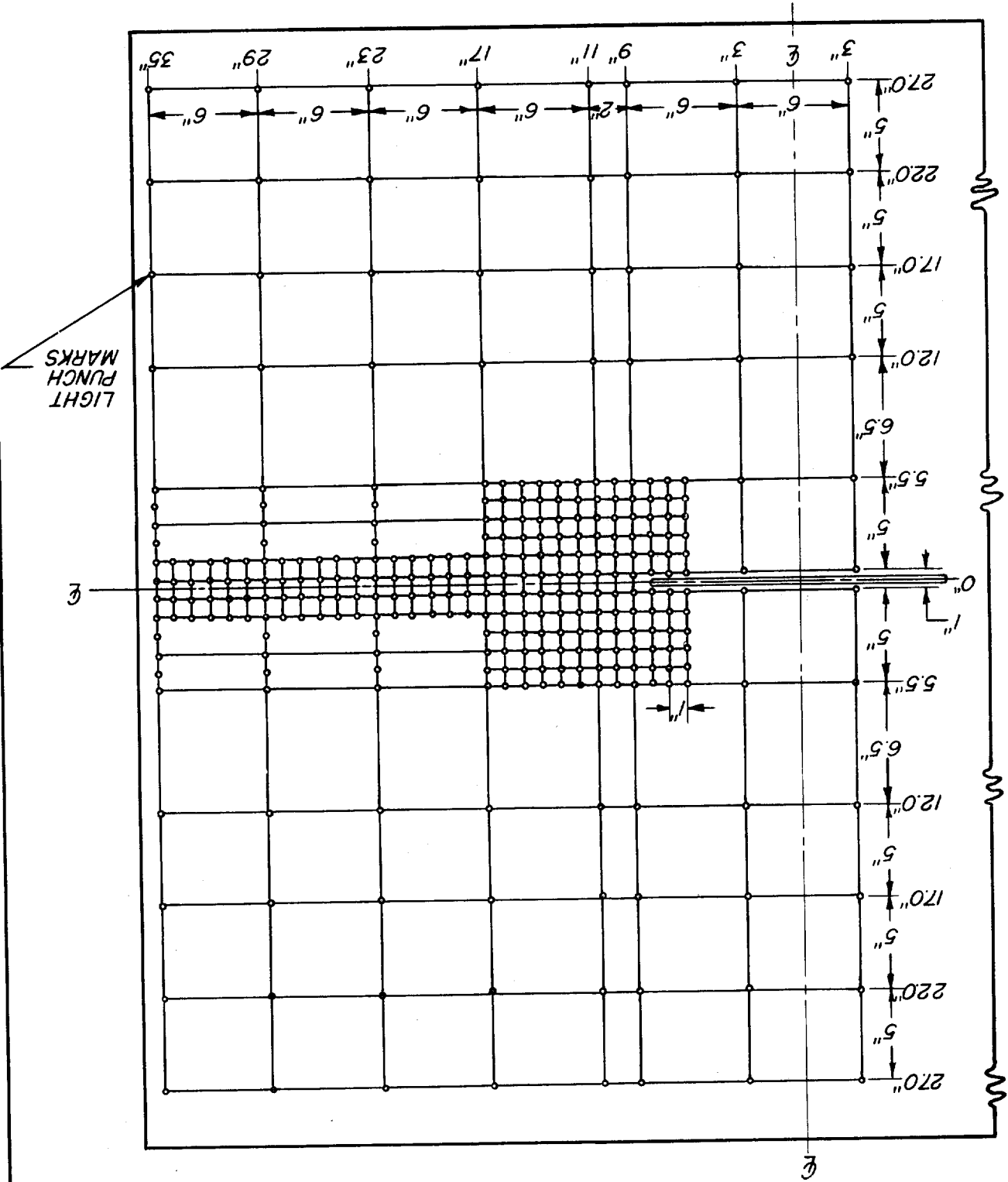
**NOTES**

Gages on both near and far faces at locations shown  
 Thermocouples on near face only

**FIG. 4-TYPICAL GAGE AND THERMOCOUPLE LAYOUT FOR 72-INCH-WIDE SPECIMEN**

FIG. 5-TYPICAL GRID LAYOUT, 72-INCH WIDE SPECIMEN.

NOTE: LAYOUT SYMMETRICAL ABOUT LONGITUDINAL CENTER LINE.



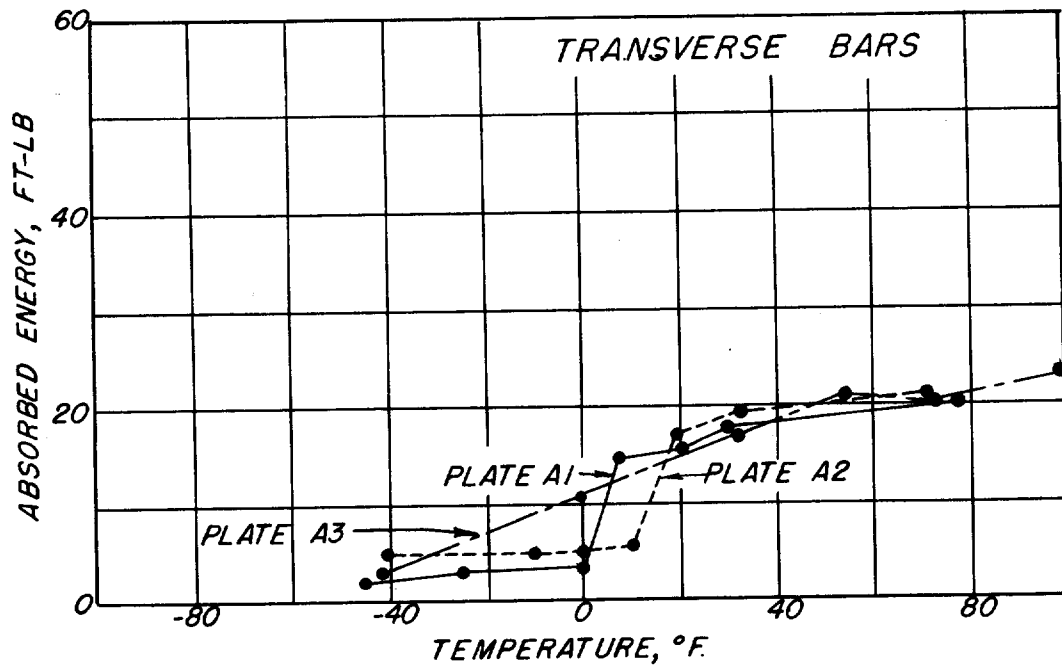
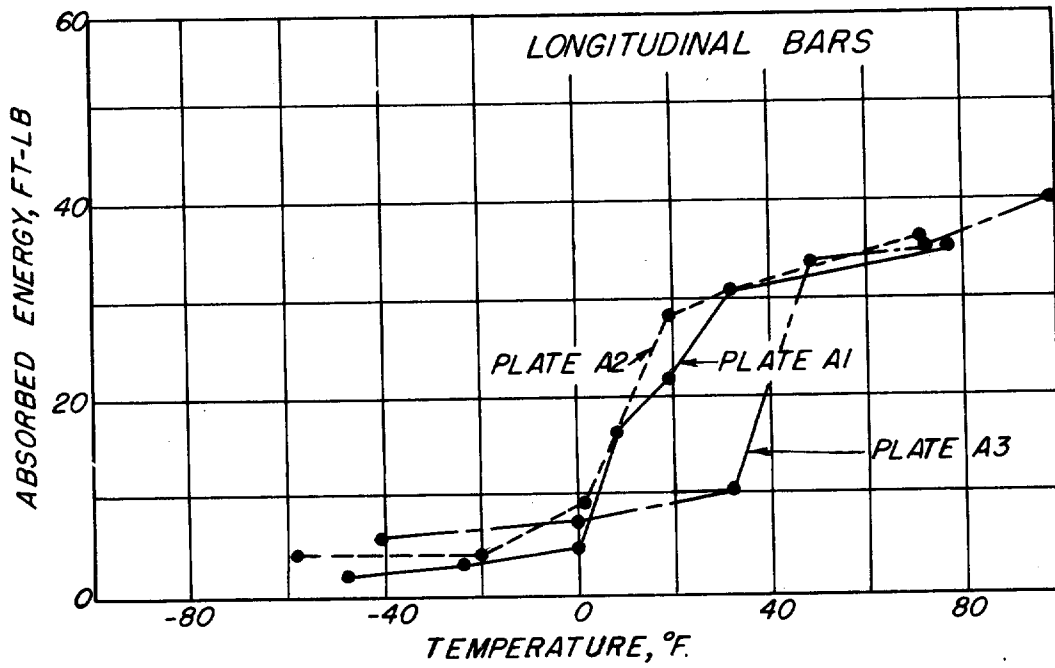
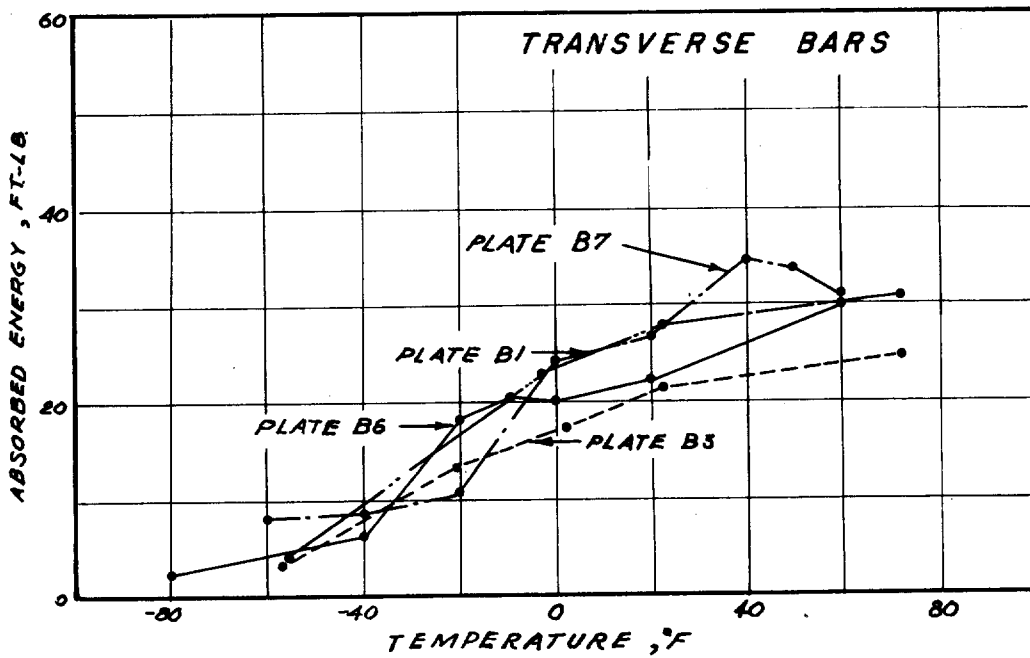
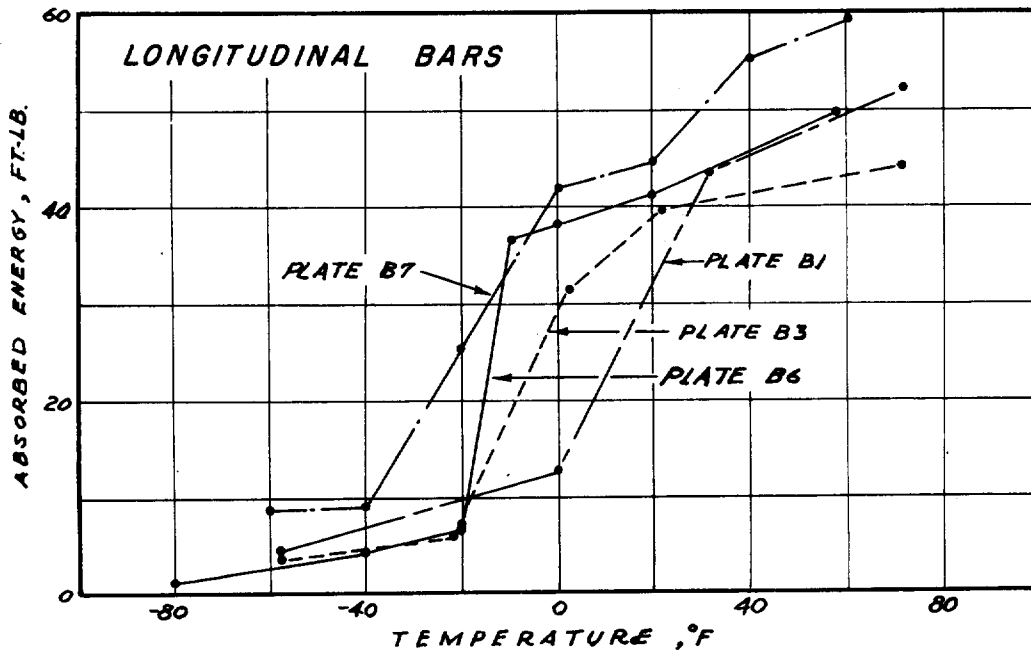
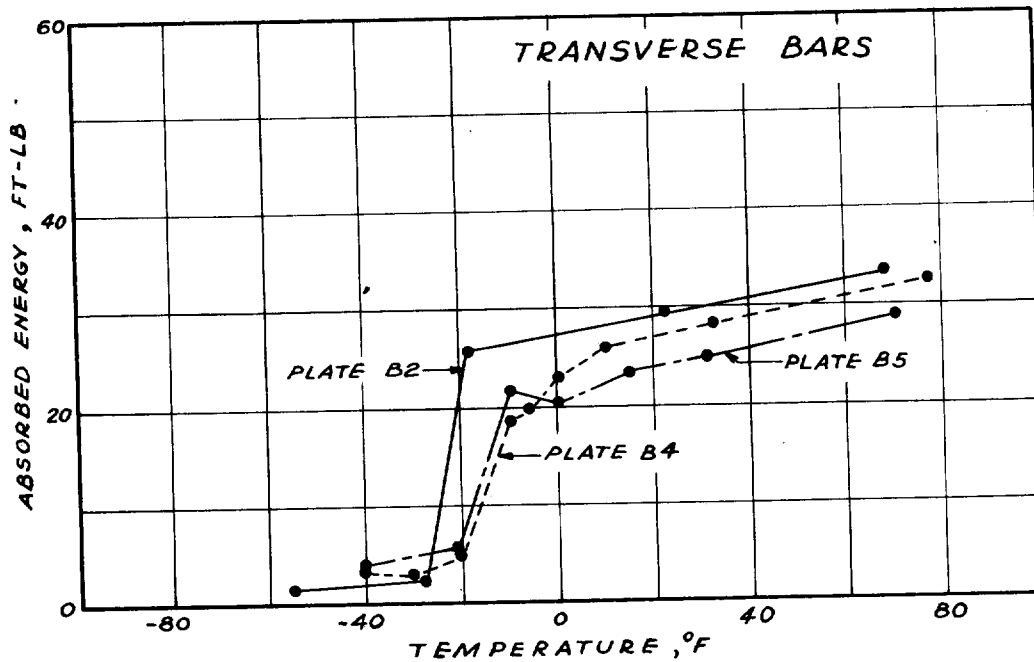
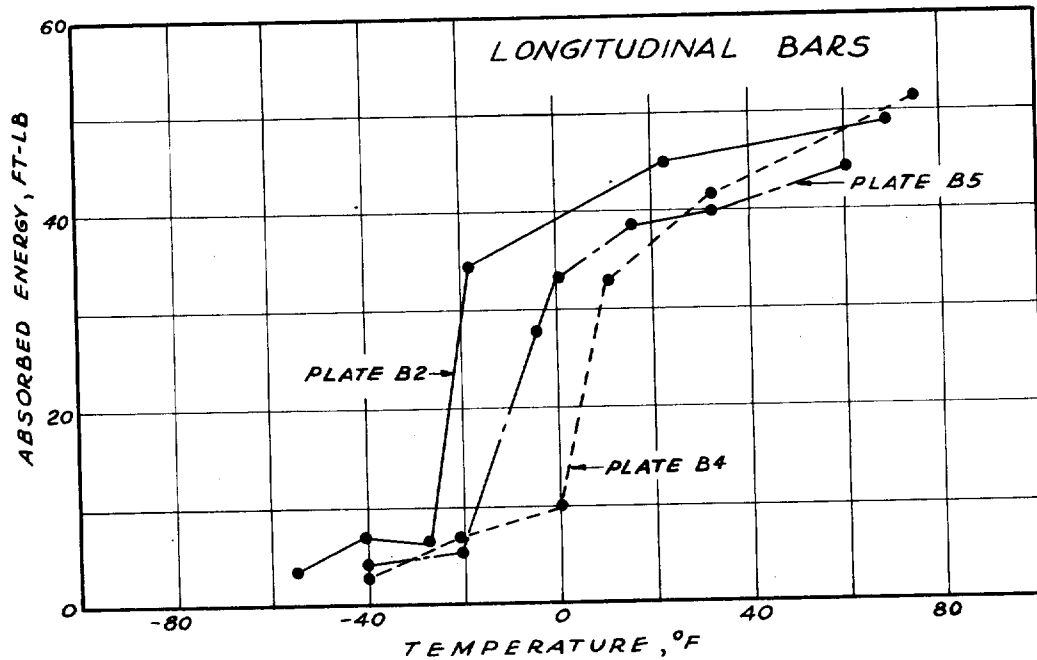


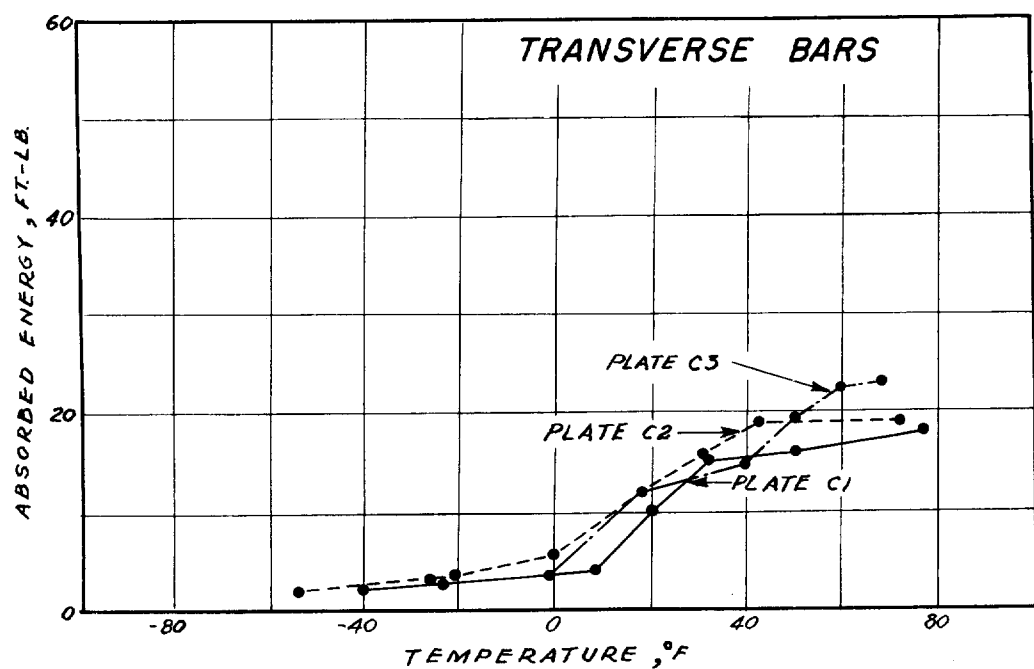
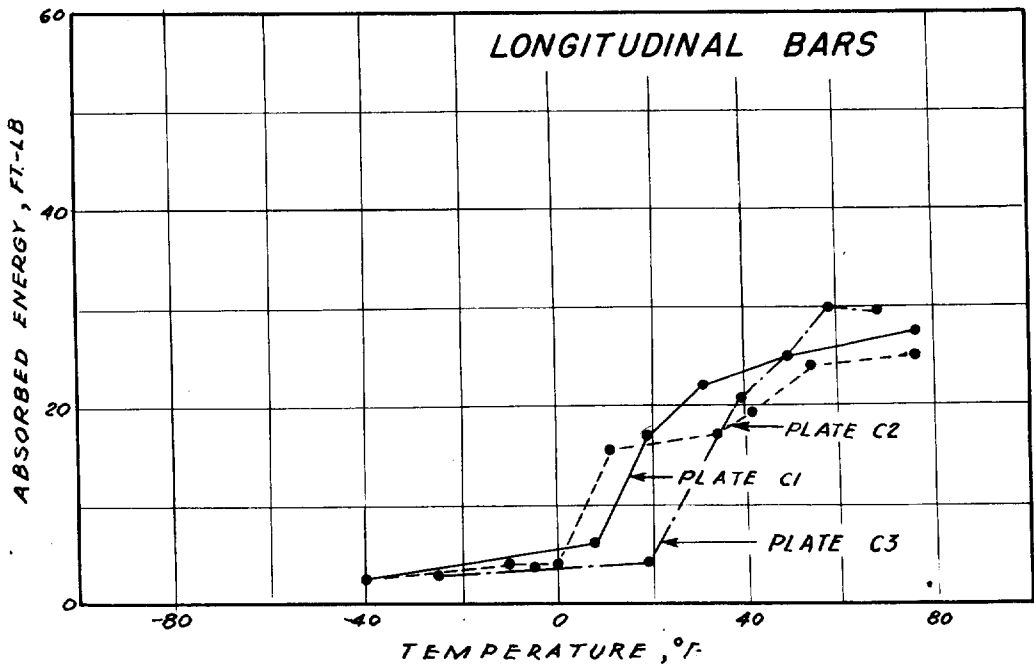
FIG. 6-RESULTS OF CHARPY IMPACT TESTS-STEEL A.



**FIG. 7-RESULTS OF CHARPY IMPACT TESTS-STEEL B IN THE AS-ROLLED CONDITION**



**FIG. 8-RESULTS OF CHARPY IMPACT TESTS-STEEL B IN THE NORMALIZED CONDITION.**



**FIG. 9-RESULTS OF CHARPY IMPACT TESTS-STEEL C**

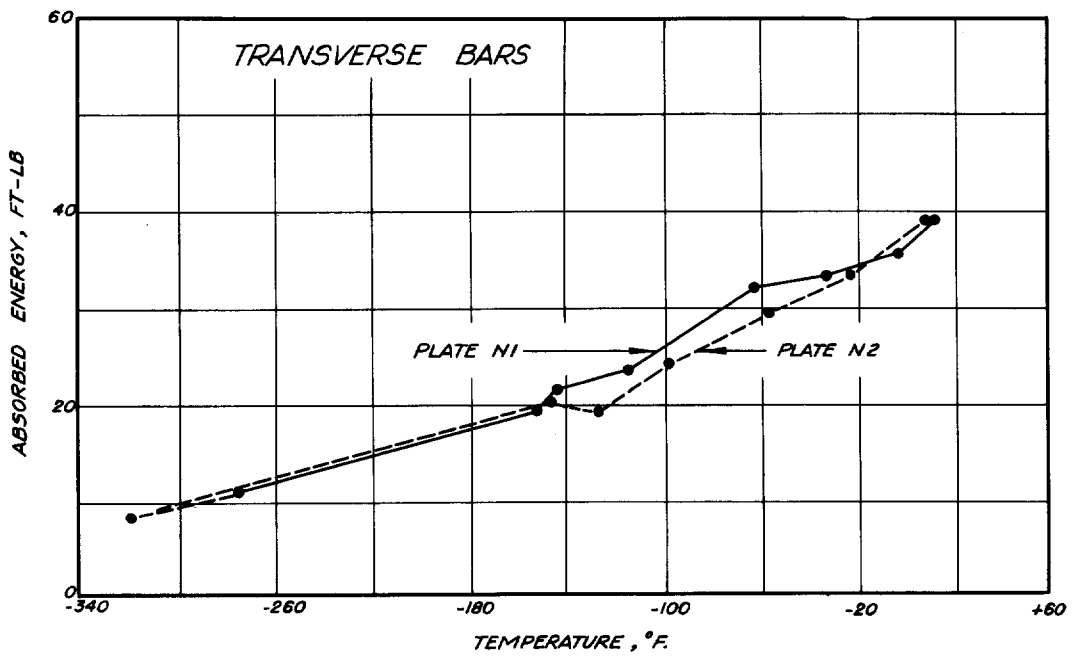
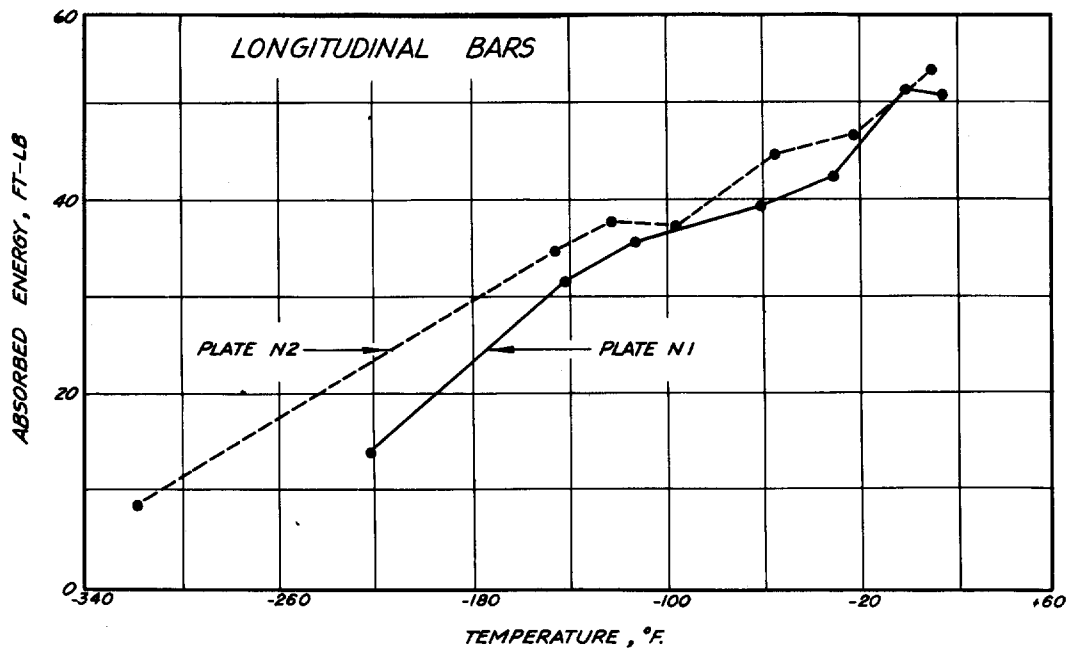


FIG. 10- RESULTS OF CHARPY IMPACT TESTS- STEEL N

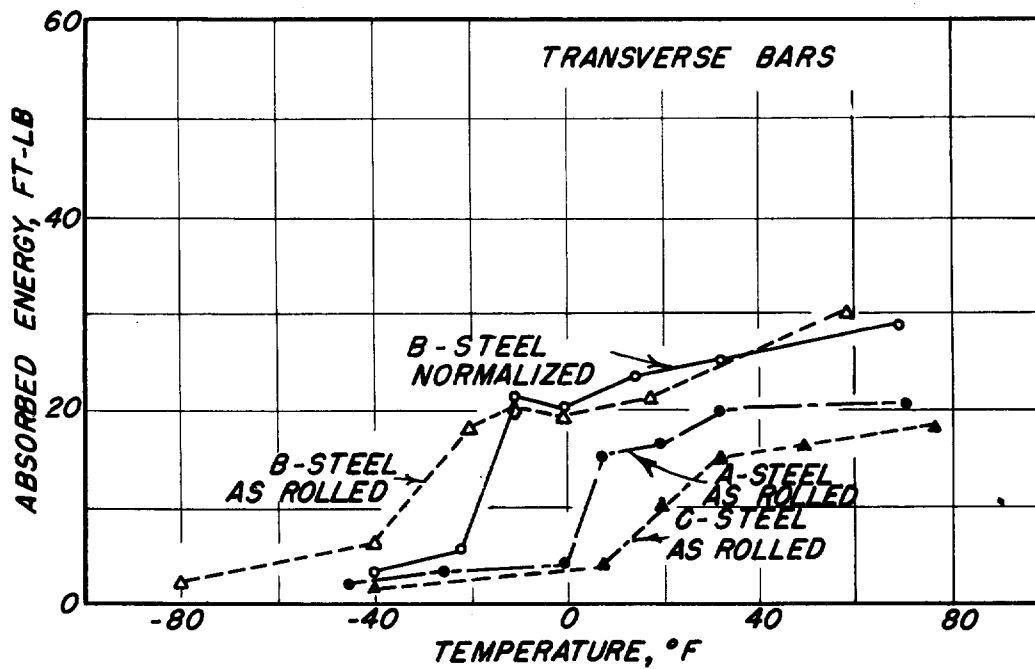
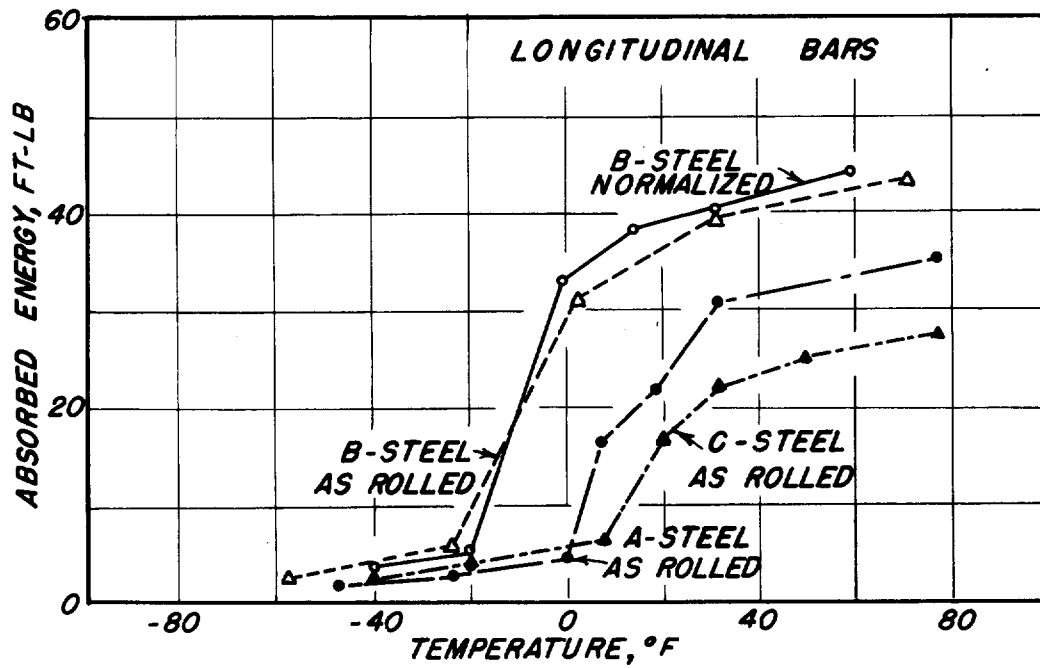


FIG. 11 COMPARISON OF RESULTS OF CHARPY IMPACT TESTS FOR STEELS A, B AND C  
 DIAGRAMS SELECTED TO REPRESENT TYPICAL RESULTS FOR EACH STEEL.



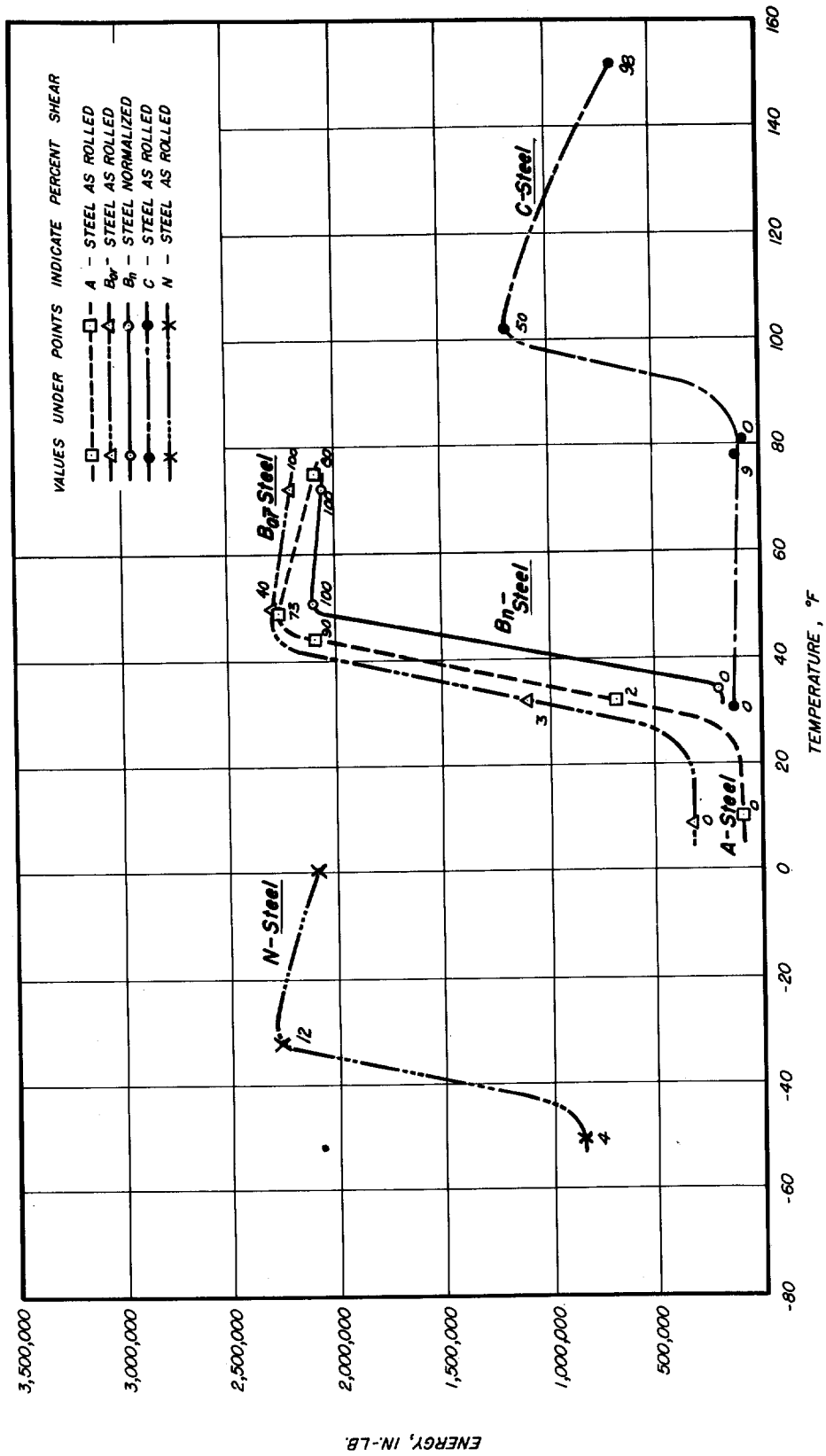
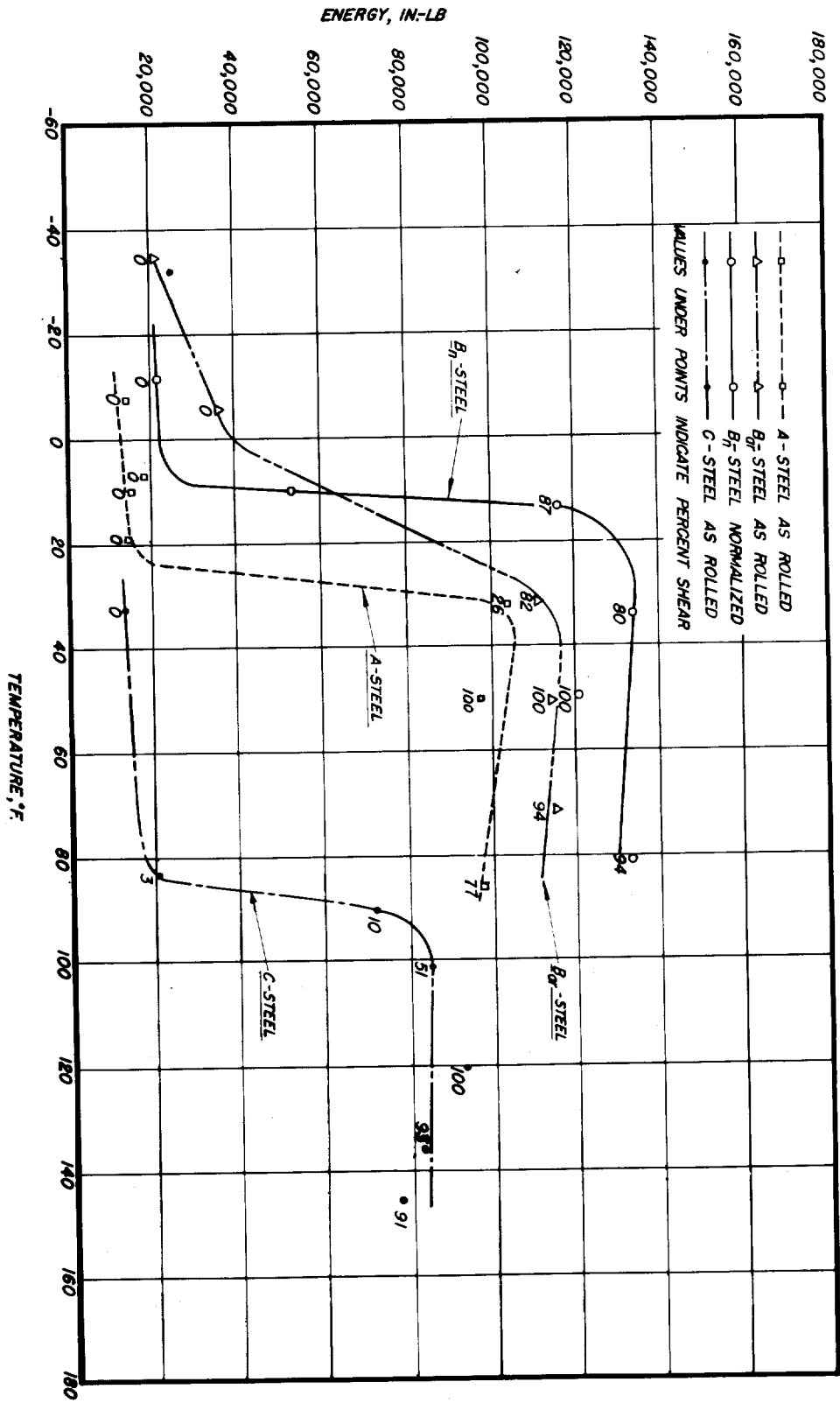


FIG. 12 - ESTIMATED VARIATION WITH TEMPERATURE OF ENERGY TO MAXIMUM LOAD FOR 72-INCH WIDE SPECIMENS.

FIG. 13 - ESTIMATED VARIATION WITH TEMPERATURE OF ENERGY TO MAXIMUM LOAD FOR 12-INCH WIDE SPECIMENS FOR SEMI-KILLED STEELS



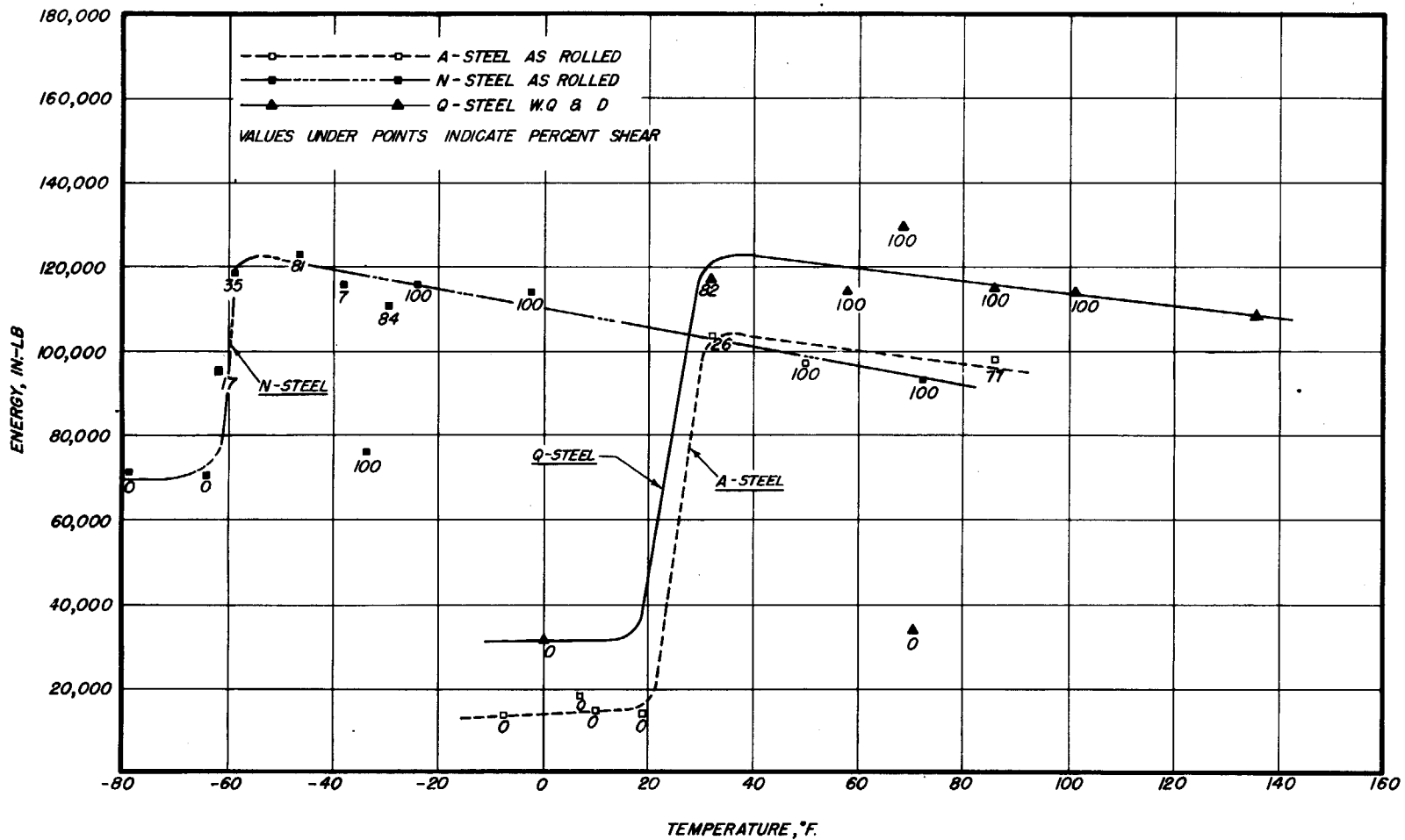


FIG. 14 - ESTIMATED VARIATION WITH TEMPERATURE OF ENERGY TO MAXIMUM LOAD FOR 12-INCH WIDE SPECIMENS

FIG. 14

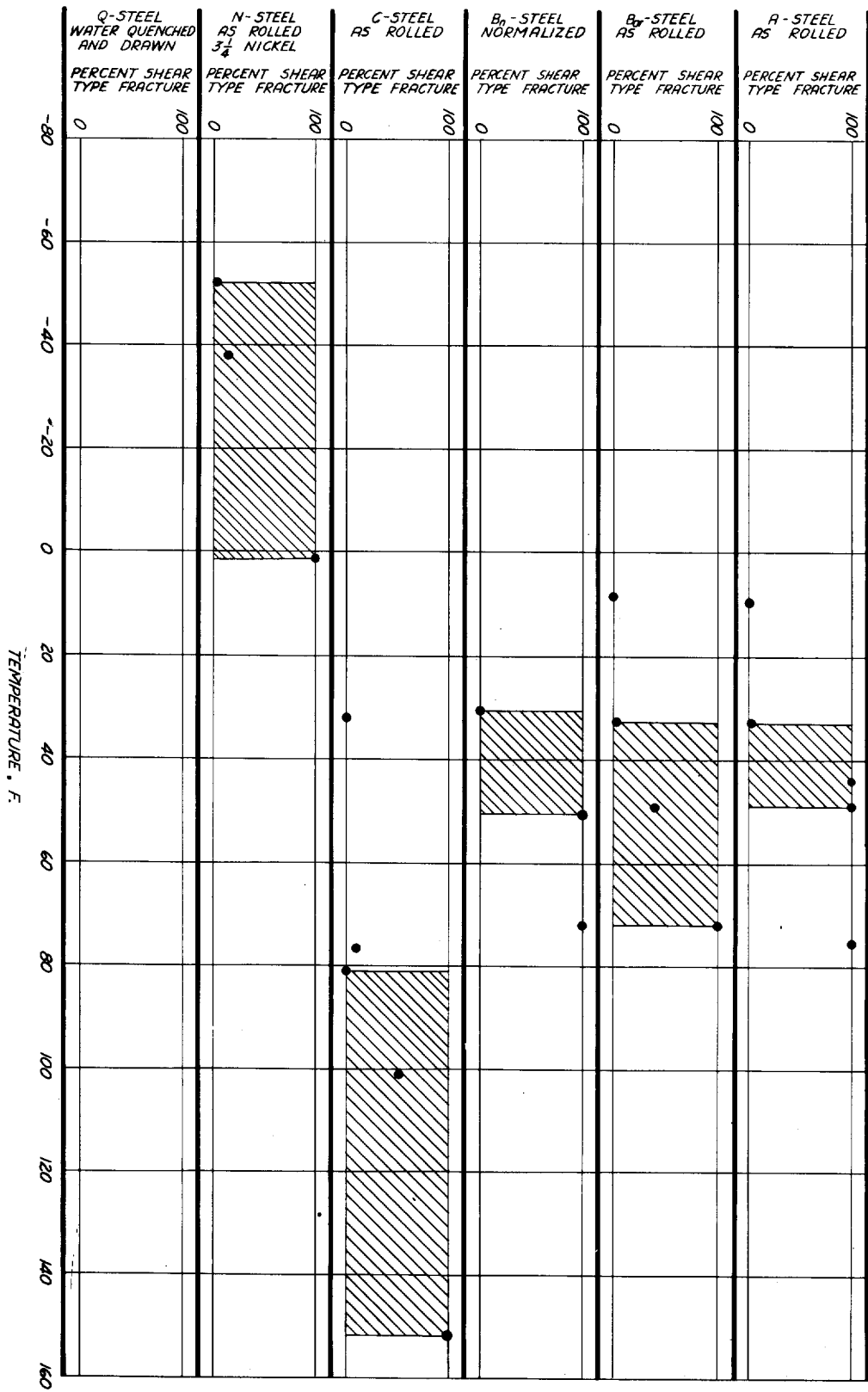


FIG.15-TRANSITION TEMPERATURE RANGE, 72-INCH WIDE SPECIMENS

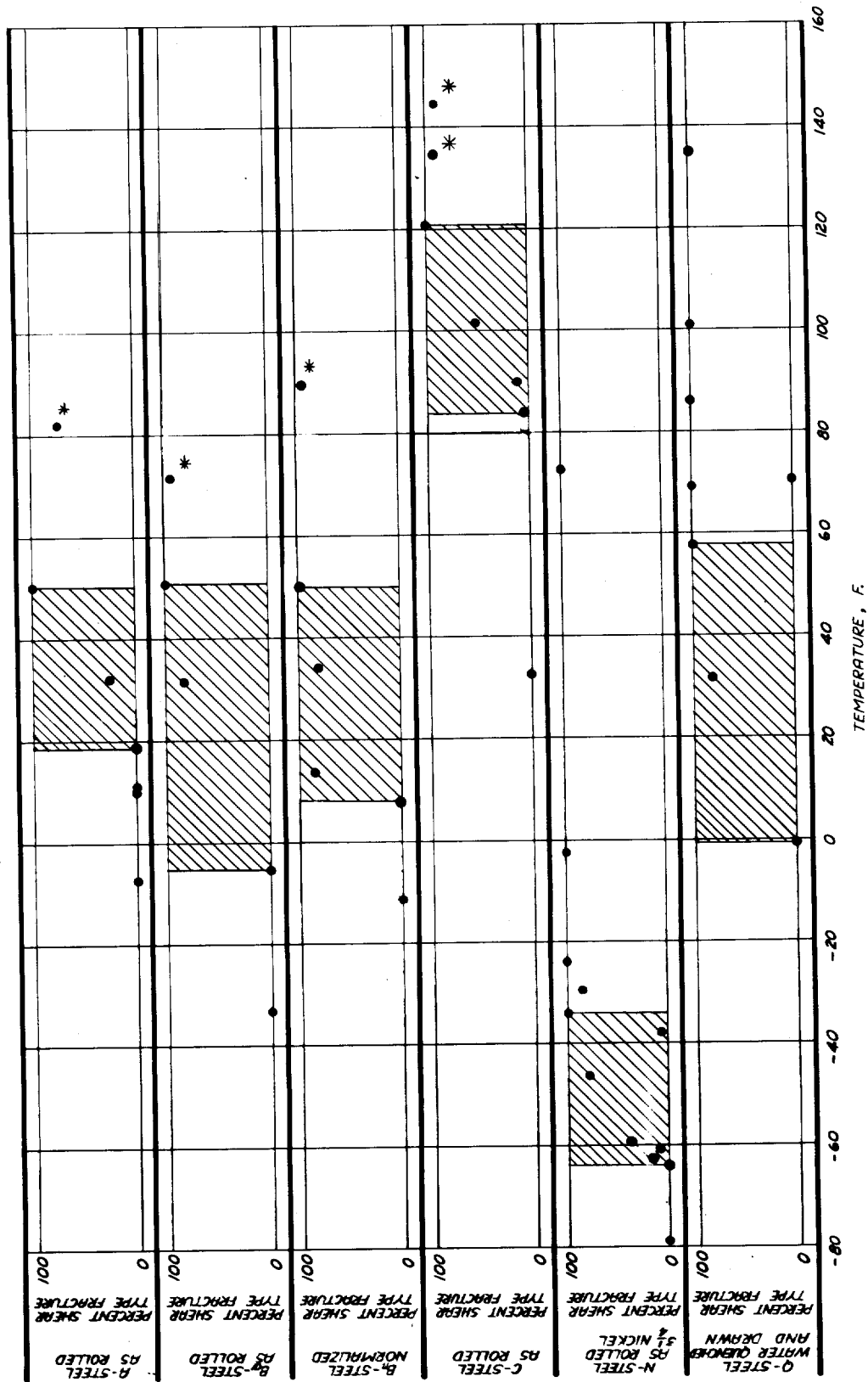


FIG. 16 - TRANSITION TEMPERATURE RANGE 12-INCH WIDE SPECIMENS

\*NOTE: SPECIMENS SHOW SIGNS OF TEARING ACTION OCCURRING AT ONE EDGE OF PLATE.

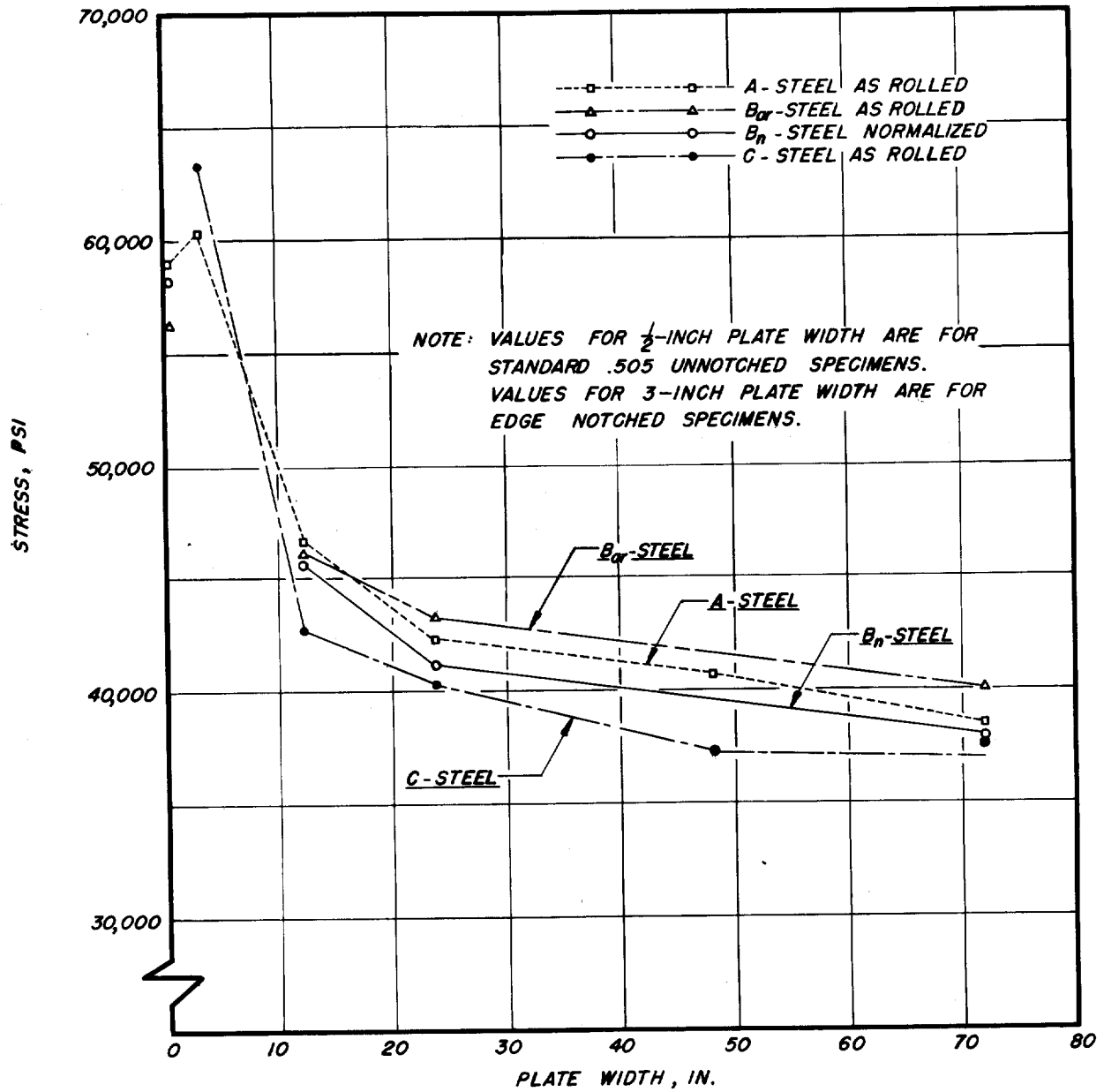


FIG.17A-VARIATION IN NOMINAL STRESS WITH WIDTH OF PLATE—TESTS AT ROOM TEMPERATURE (70°F.)

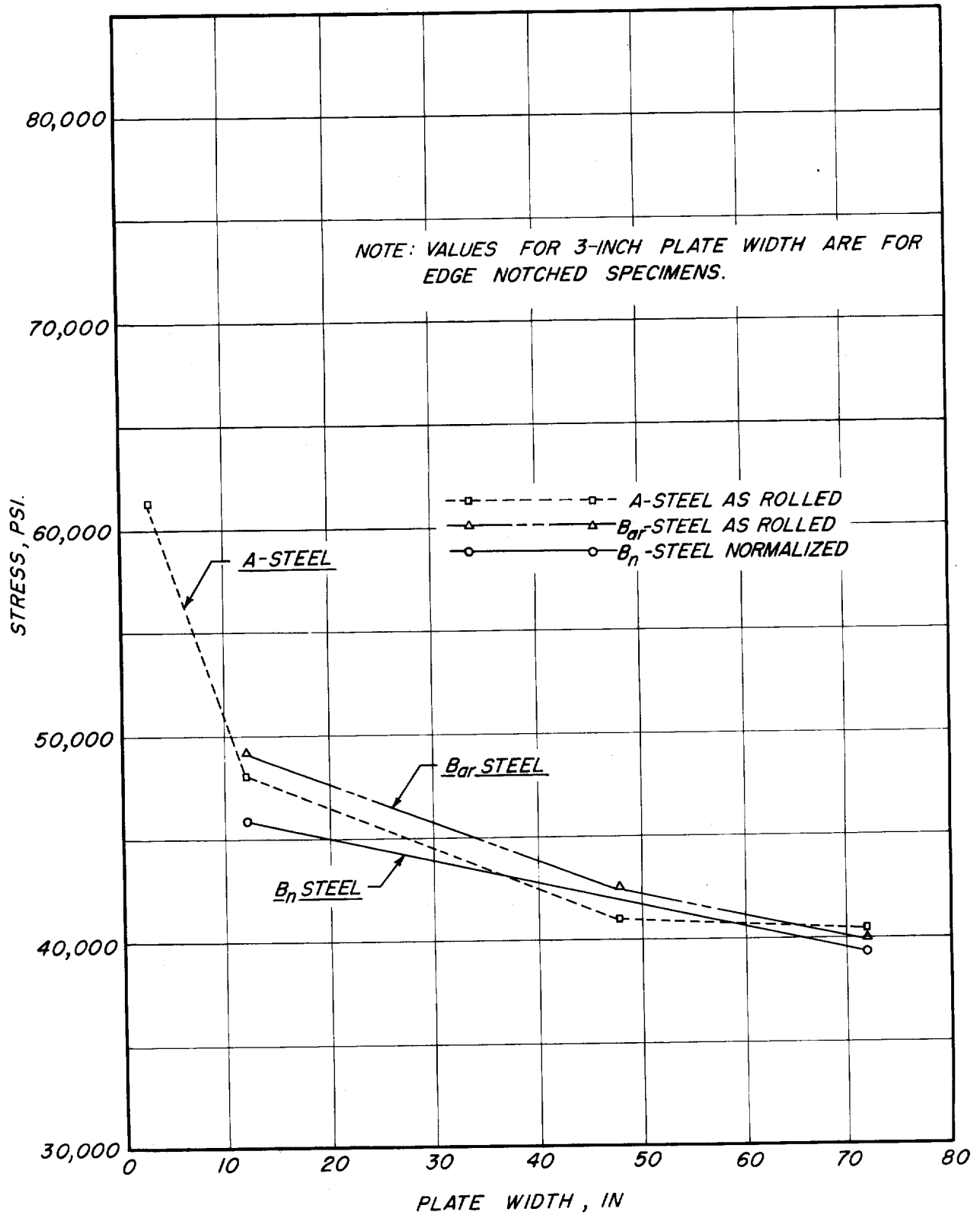


FIG.17B - VARIATION IN NOMINAL STRESS WITH WIDTH OF PLATE - TESTS AT 50° F.

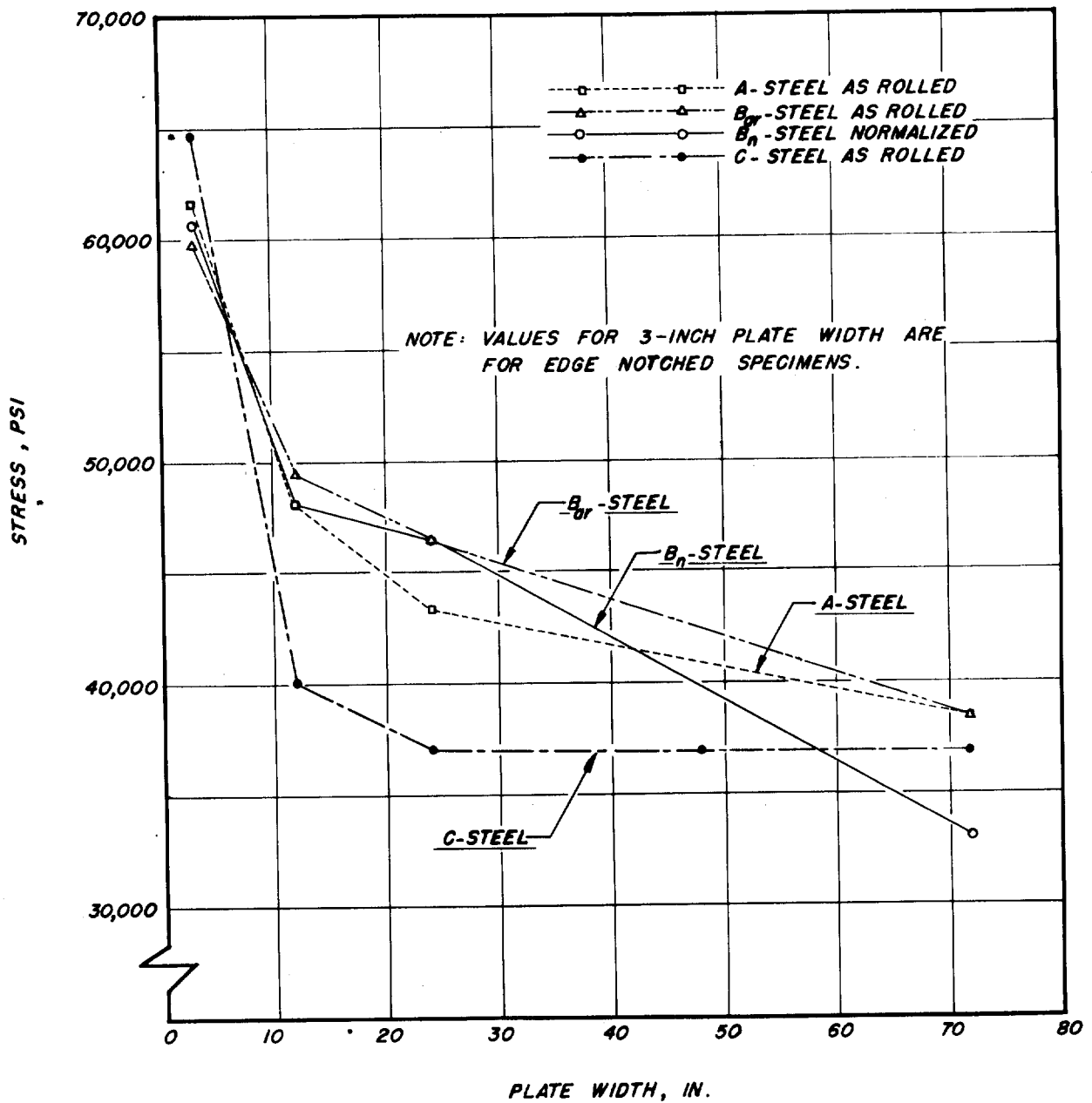


FIG.17C-VARIATION IN NOMINAL STRESS WITH WIDTH OF PLATE—TESTS AT 32° F.



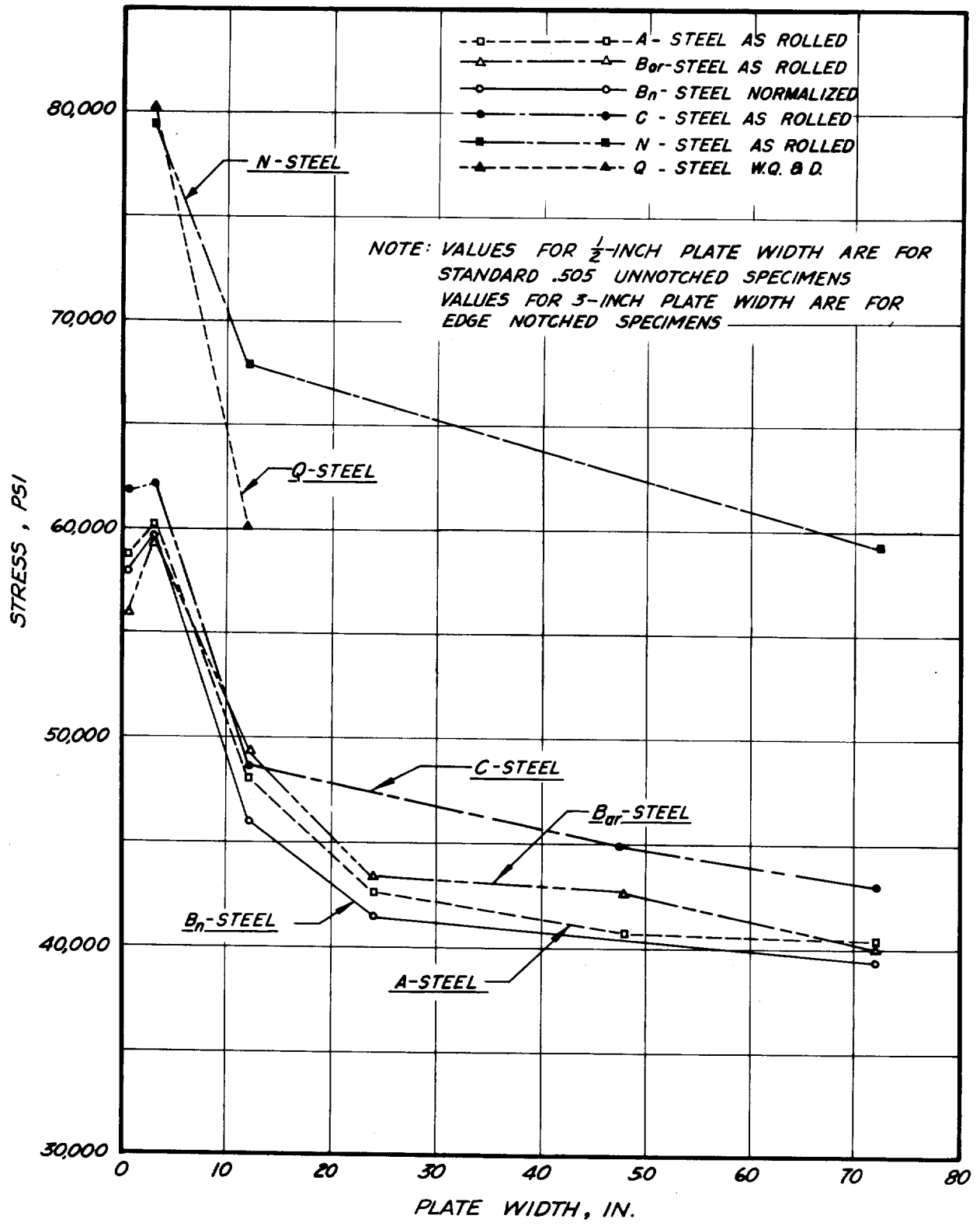


FIG.18 - VARIATION IN NOMINAL STRESS WITH WIDTH OF PLATE FOR SHEAR TYPE FRACTURE. THE SPECIMENS WERE TESTED AT THE LOWEST TEMPERATURE THAT GAVE 100% SHEAR FRACTURE.

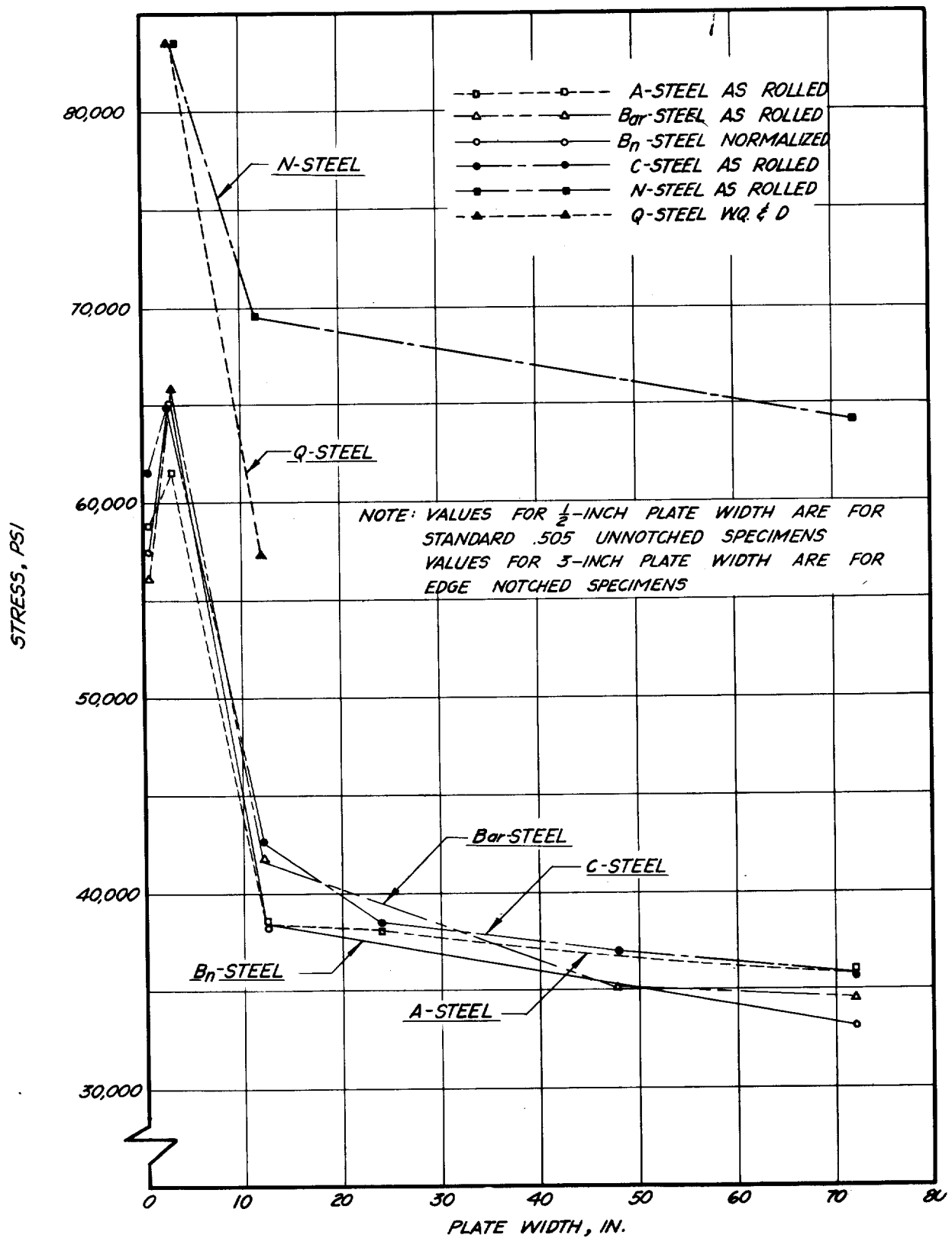


FIG.19 - VARIATION IN NOMINAL STRESS WITH WIDTH OF PLATE FOR CLEAVAGE TYPE FRACTURE. THE SPECIMENS WERE TESTED AT THE HIGHEST TEMPERATURE THAT GAVE 100% CLEAVAGE FRACTURE.

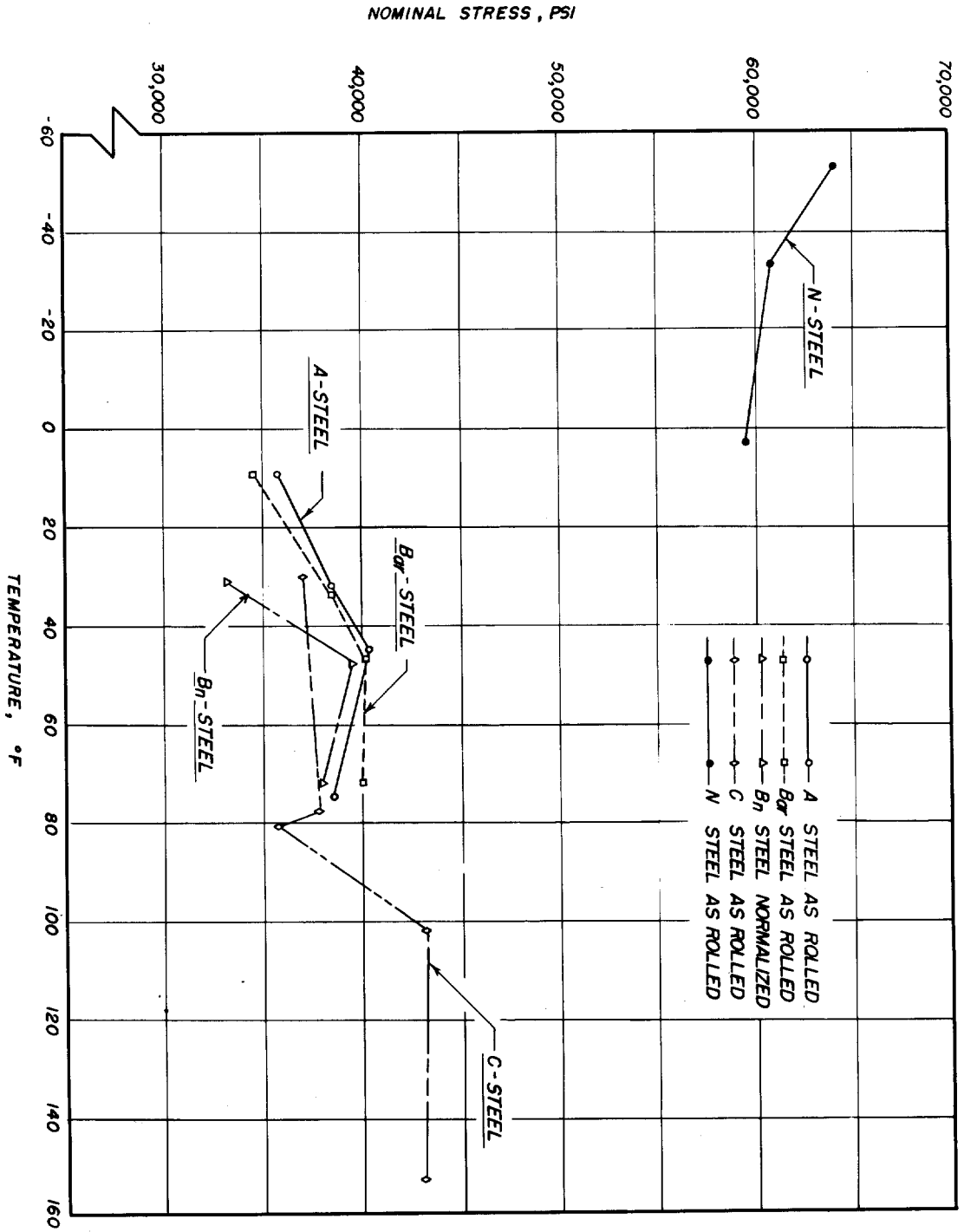
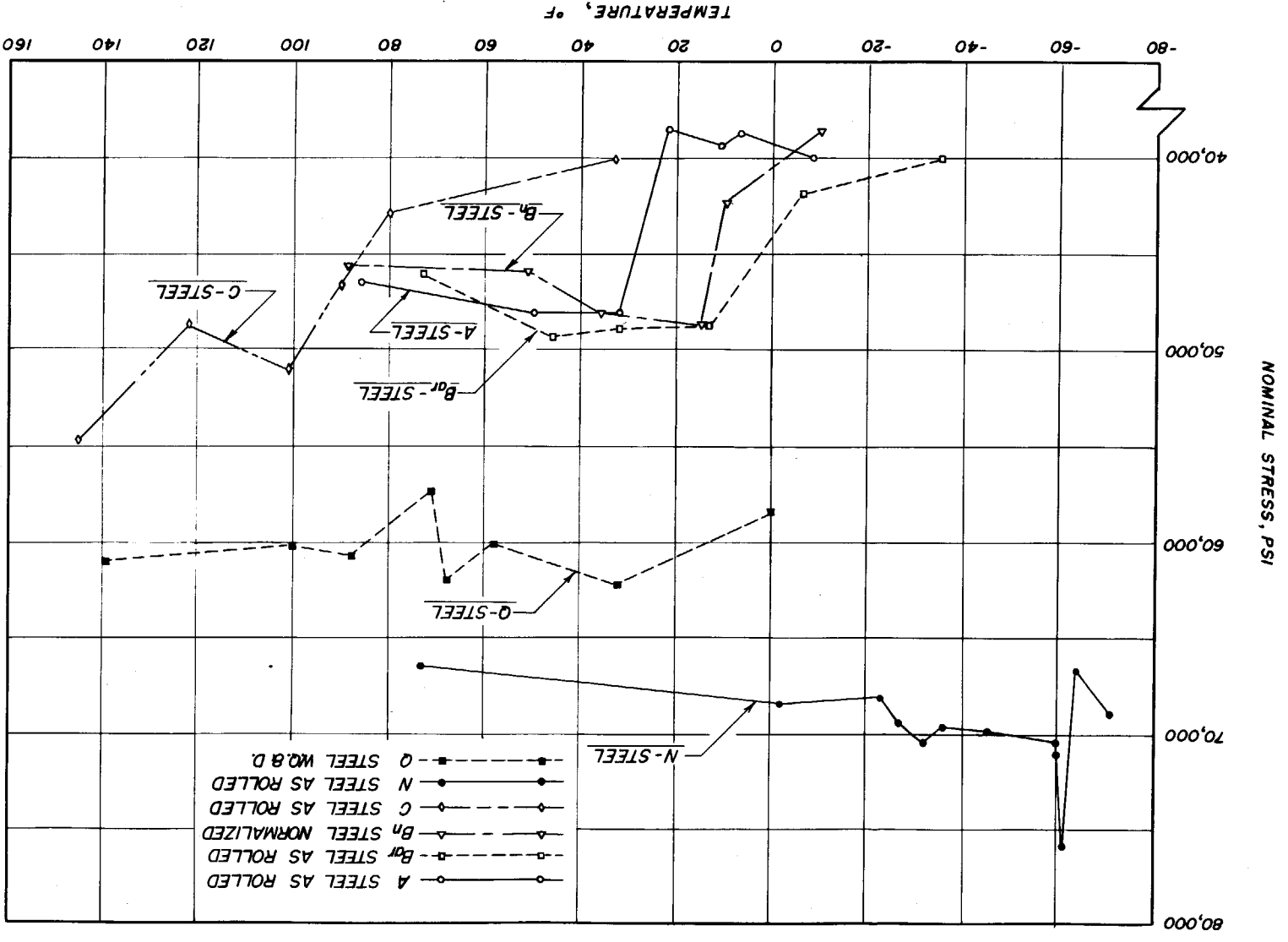


FIG. 20 VARIATION IN NOMINAL STRESS WITH TEMPERATURE FOR 72-INCH WIDE SPECIMENS

FIG. 21 VARIATION IN NOMINAL STRESS WITH TEMPERATURE FOR 12-INCH WIDE SPECIMENS



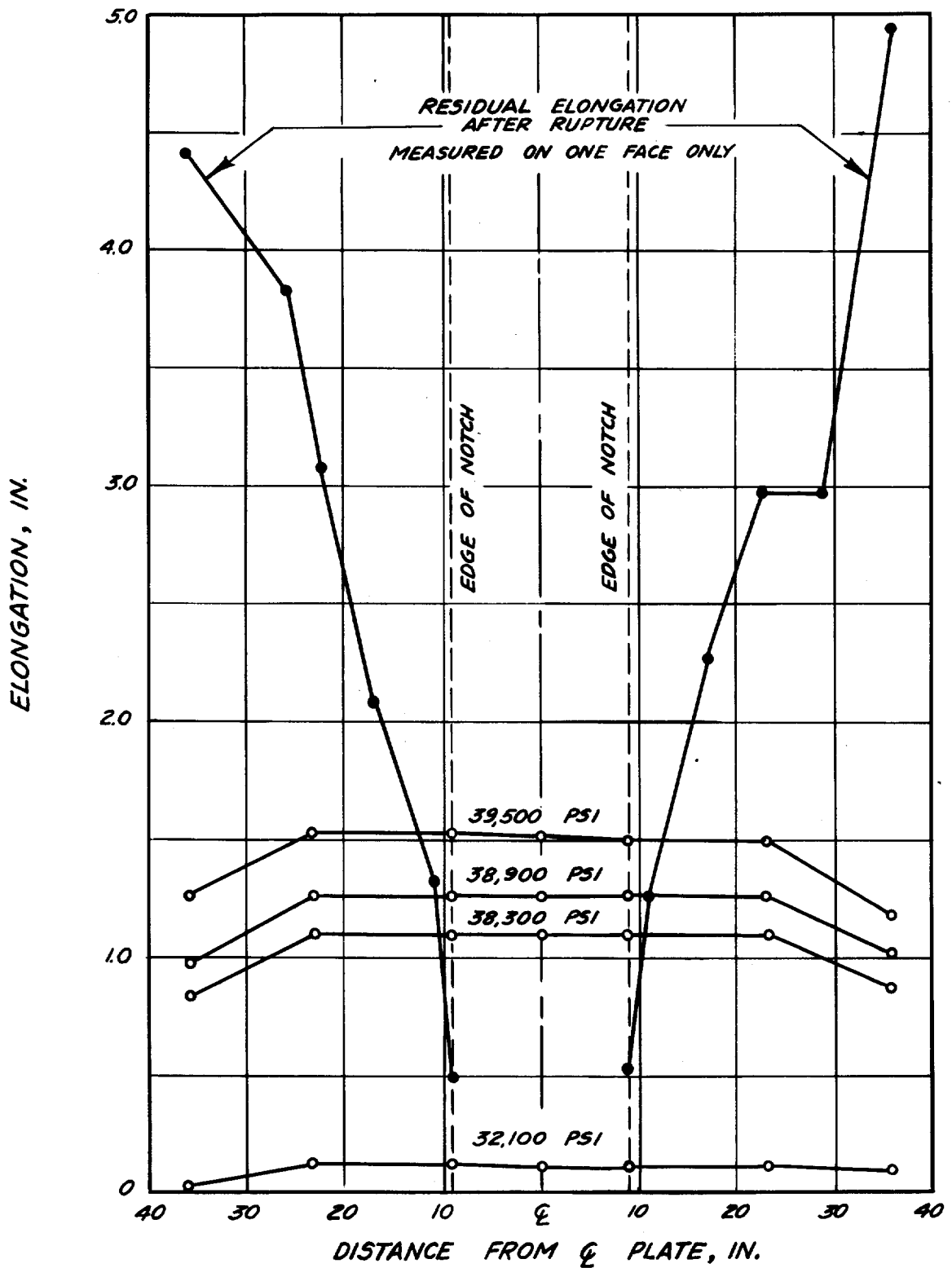


FIG. 22—TYPICAL ELONGATIONS AT VARIOUS STRESS LEVELS,  
SHEAR TYPE FAILURE, 72-INCH WIDE SPECIMEN  
GAGE LENGTH —  $\frac{3}{4}$  PLATE WIDTH  
(SPECIMEN B-5A)

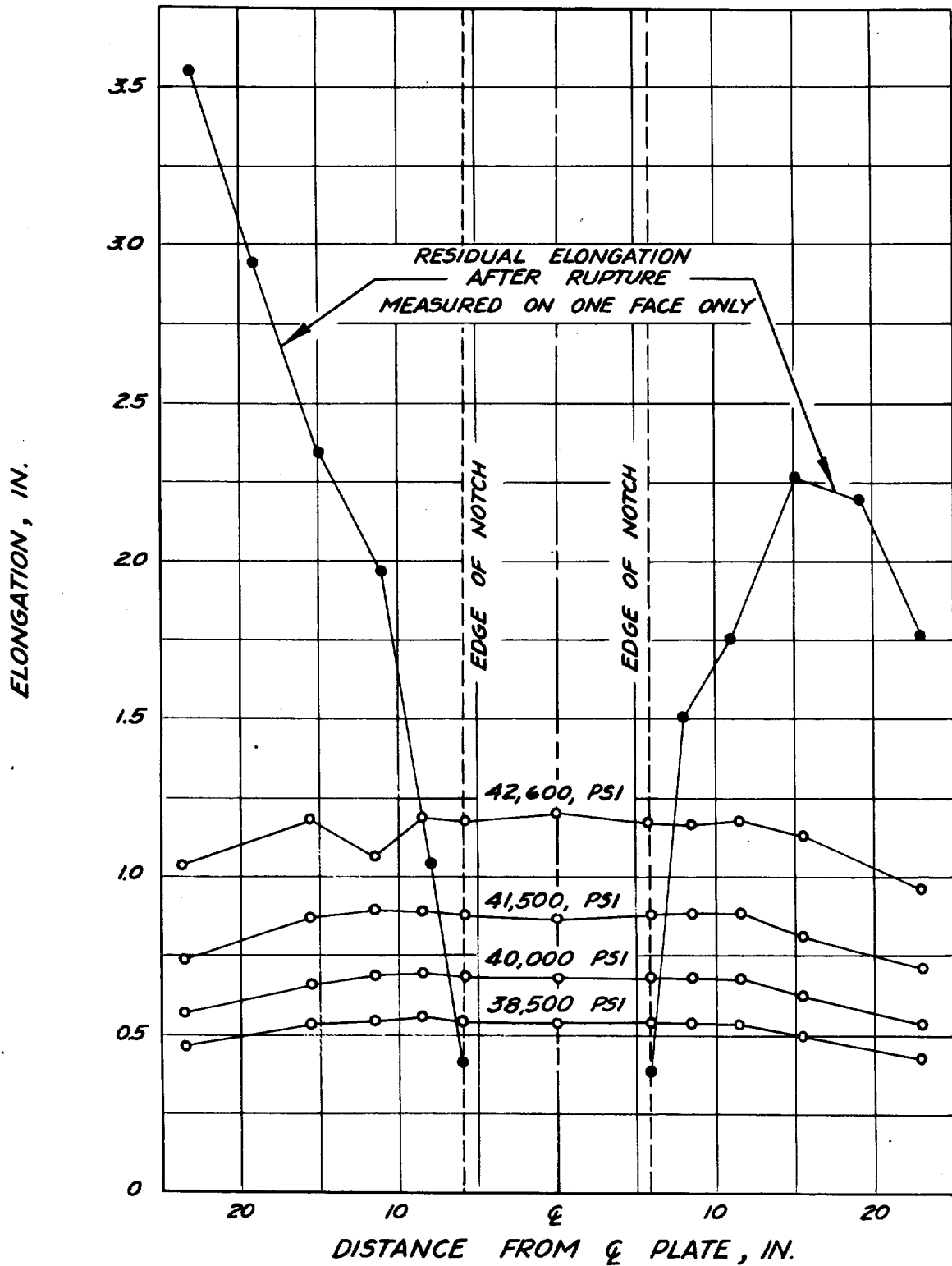


FIG. 23-TYPICAL ELONGATIONS AT VARIOUS STRESS LEVELS,  
 SHEAR TYPE FAILURE, 48-INCH WIDE SPECIMEN  
 GAGE LENGTH -  $\frac{3}{4}$  PLATE WIDTH  
 (SPECIMEN B-6B)

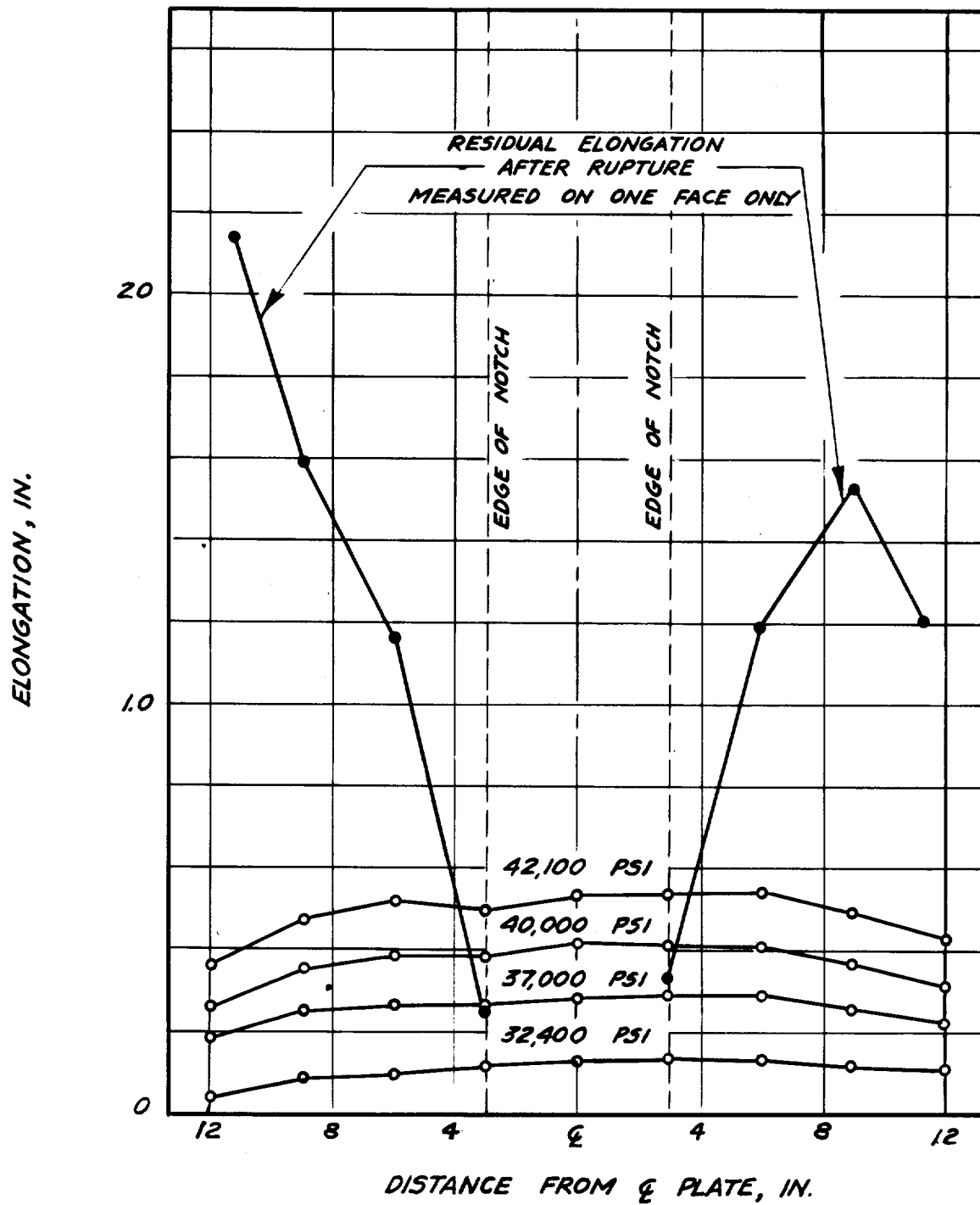


FIG. 24-TYPICAL ELONGATIONS AT VARIOUS STRESS LEVELS, SHEAR TYPE FAILURE, 24-INCH WIDE SPECIMEN GAGE LENGTH -  $\frac{3}{4}$  PLATE WIDTH (SPECIMEN B-3C)

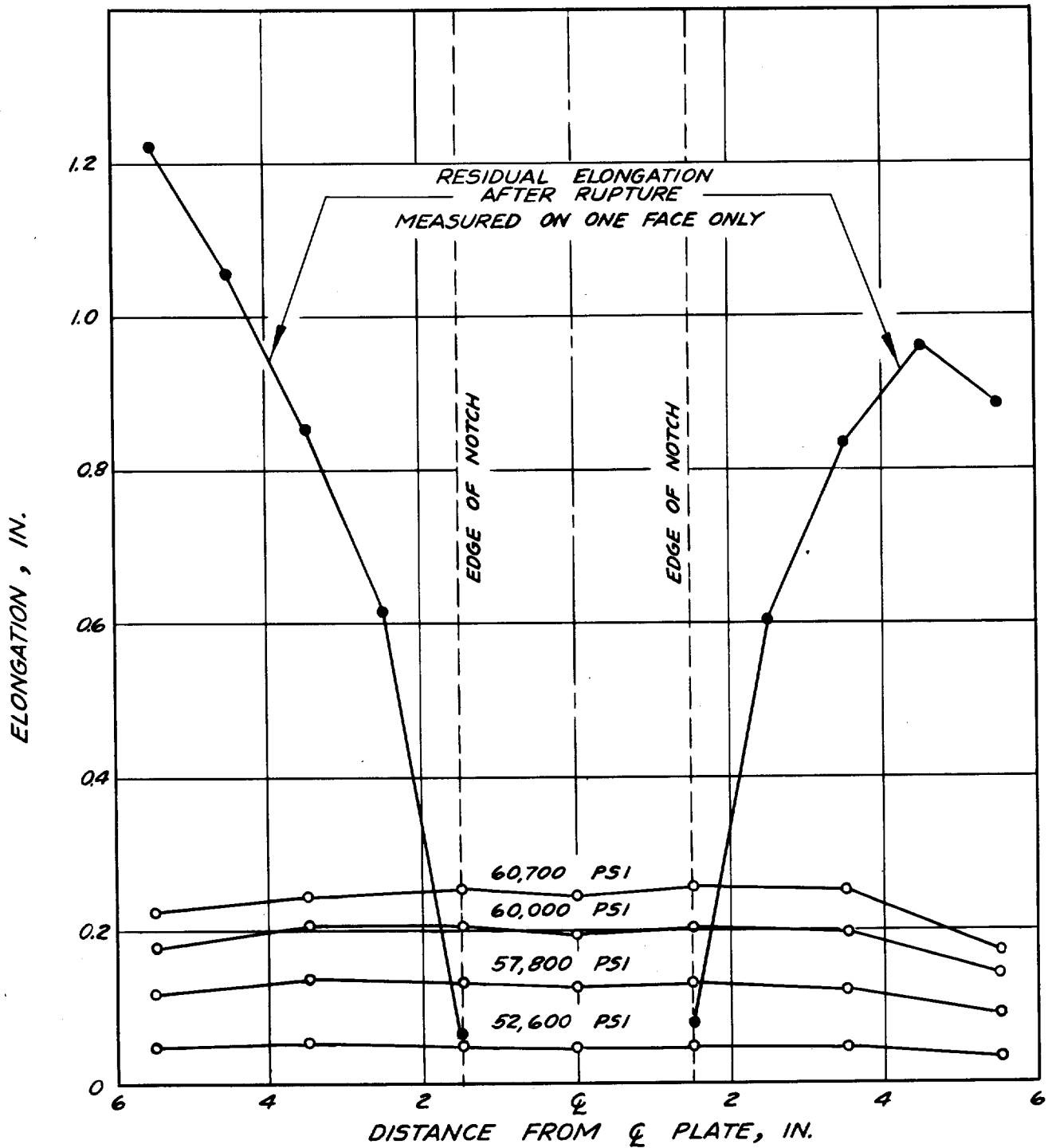


FIG. 25-TYPICAL ELONGATIONS AT VARIOUS STRESS LEVELS,  
SHEAR TYPE FAILURE, 12-INCH WIDE SPECIMEN  
GAGE LENGTH- $\frac{3}{4}$  PLATE WIDTH.  
(SPECIMEN Q-2D)



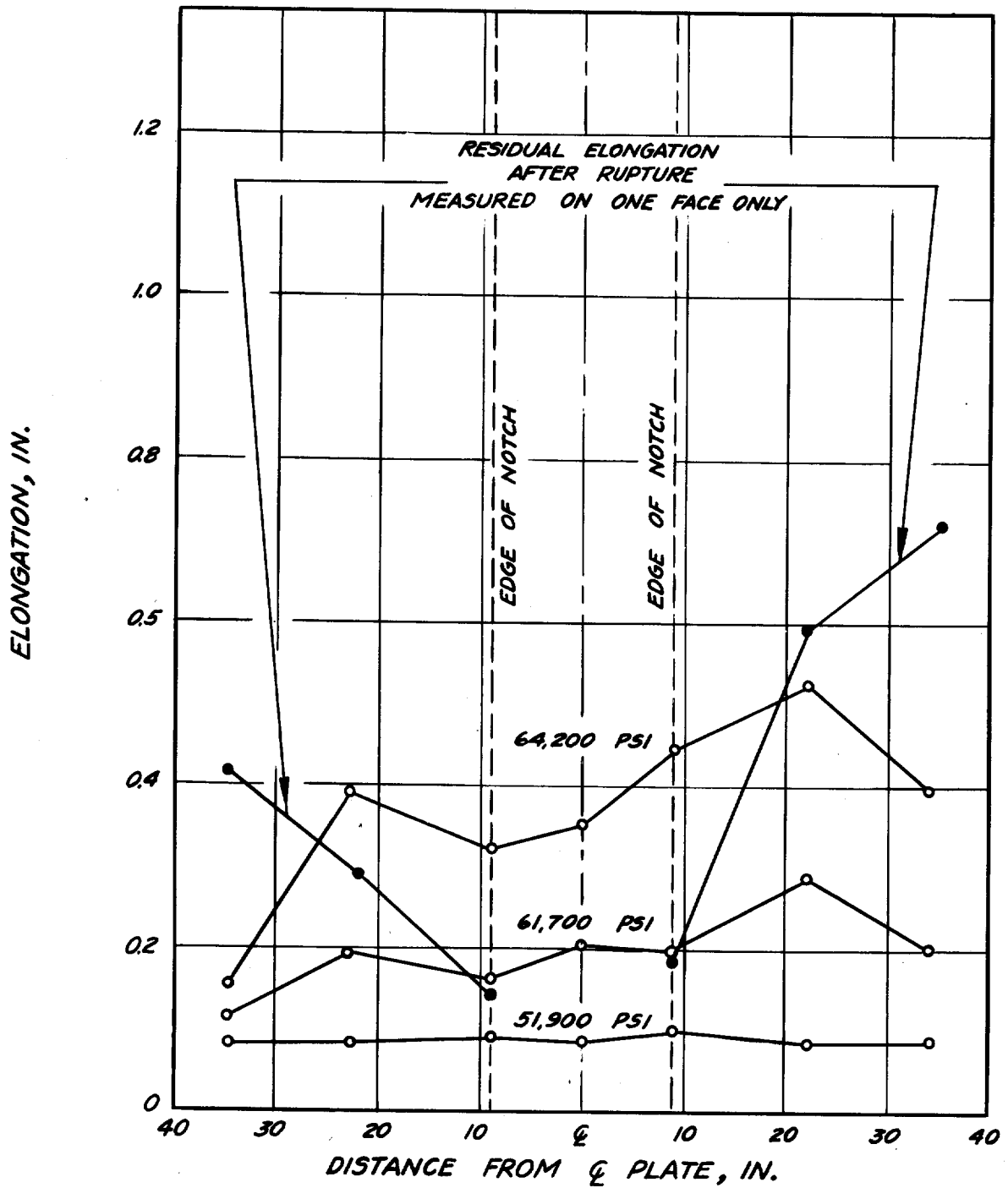
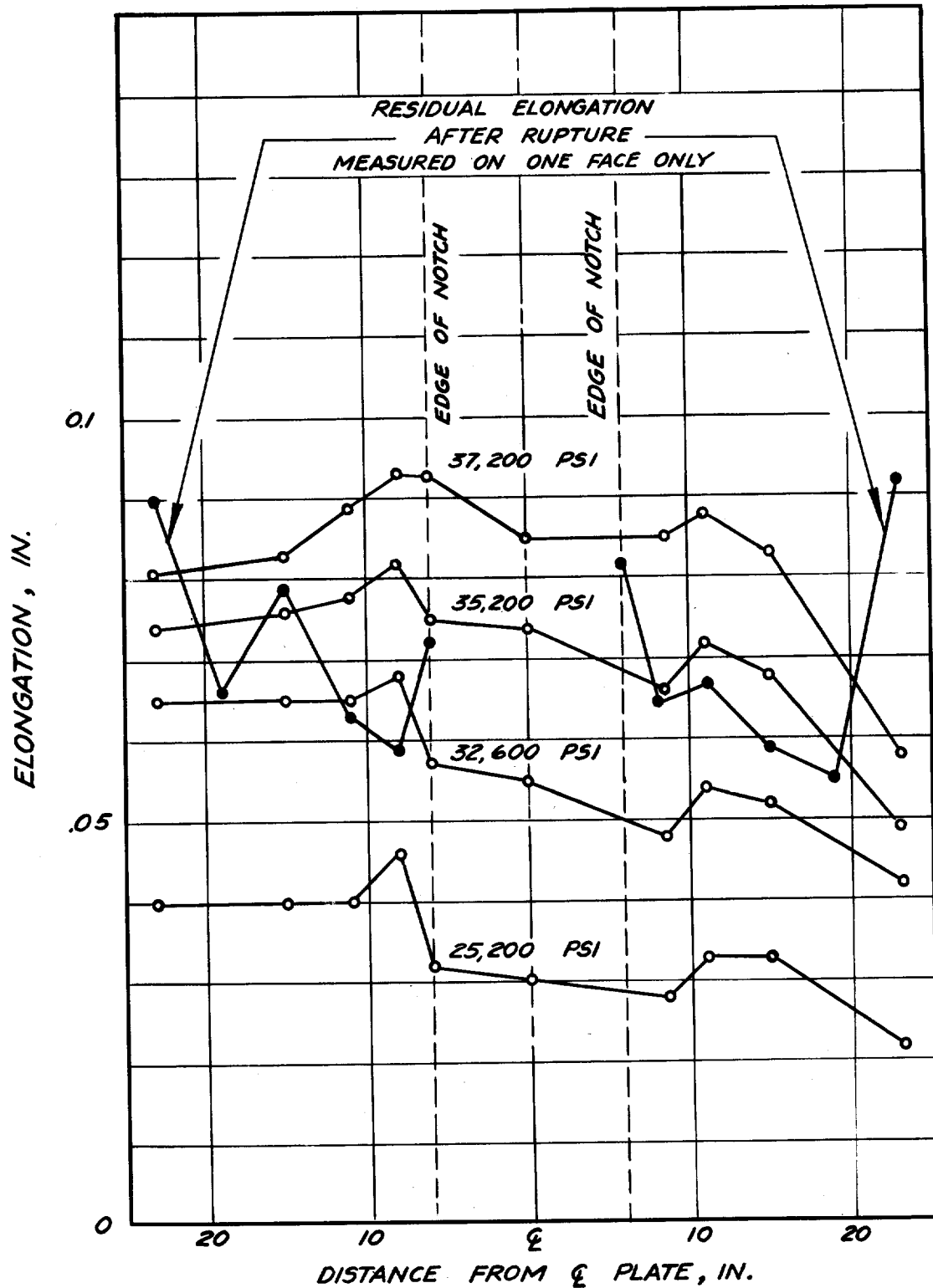
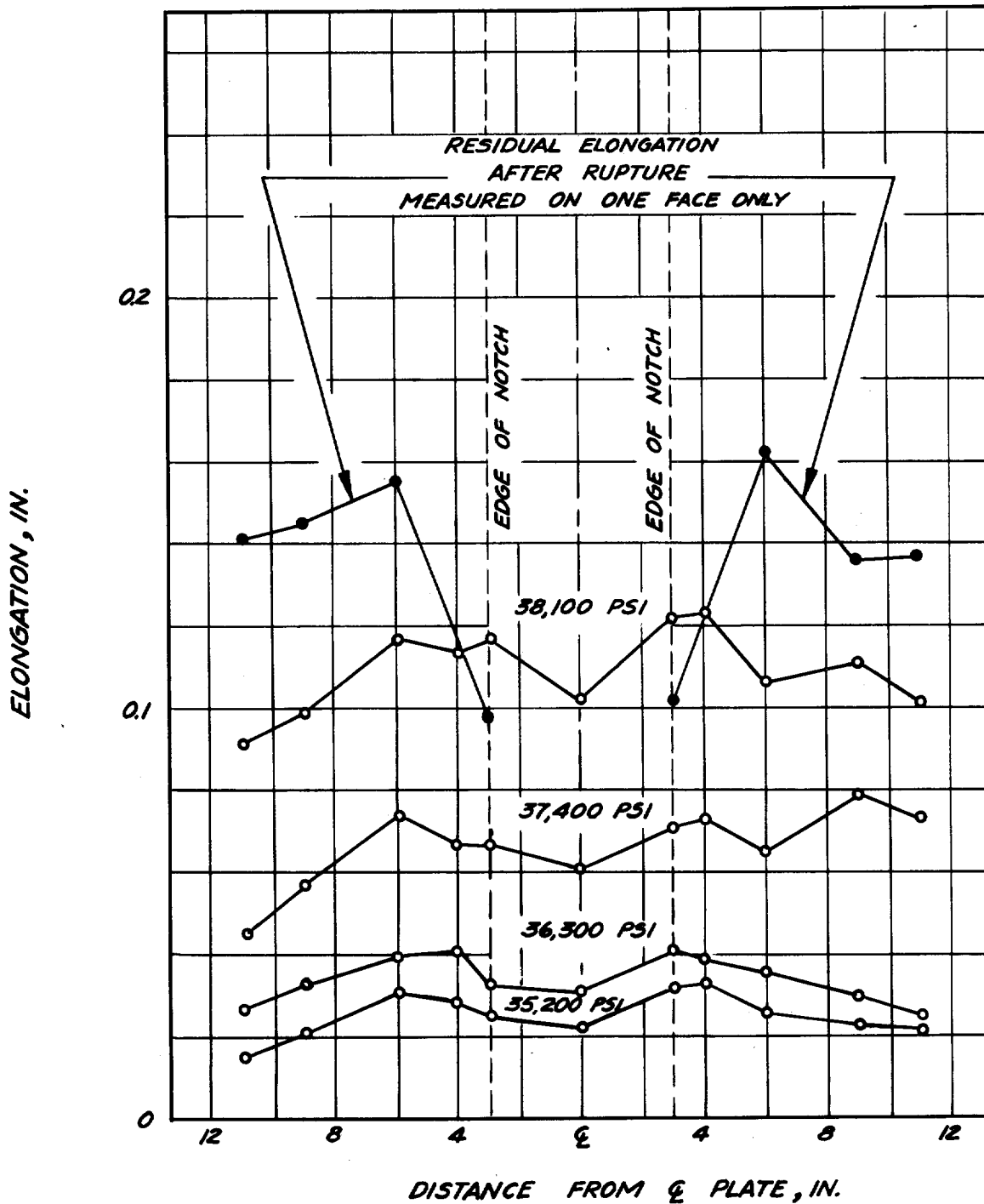


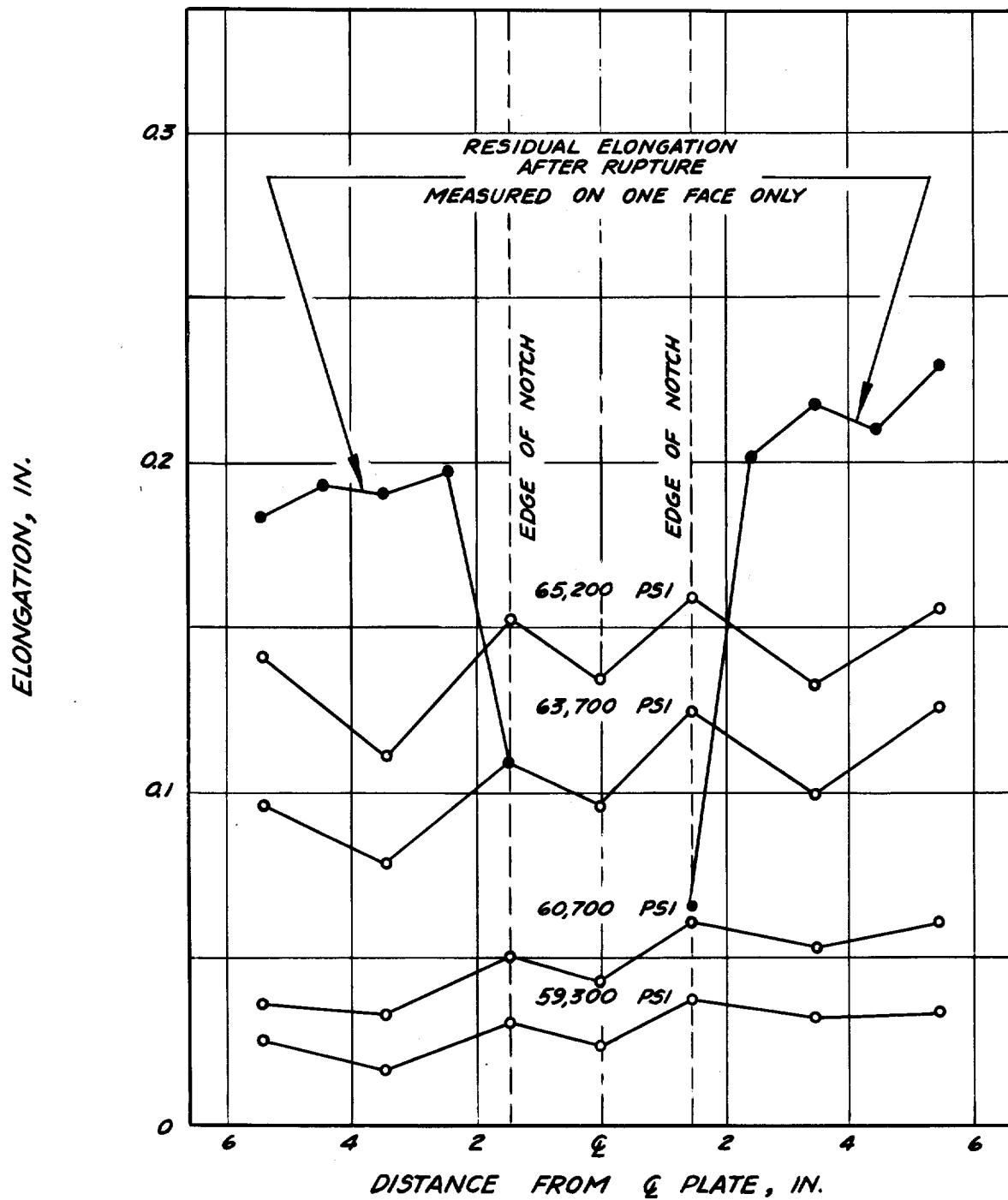
FIG. 26-TYPICAL ELONGATIONS AT VARIOUS STRESS LEVELS,  
CLEAVAGE TYPE FAILURE, 72-INCH WIDE SPECIMEN  
GAGE LENGTH -  $\frac{3}{4}$  PLATE WIDTH  
(SPECIMEN N-1A)



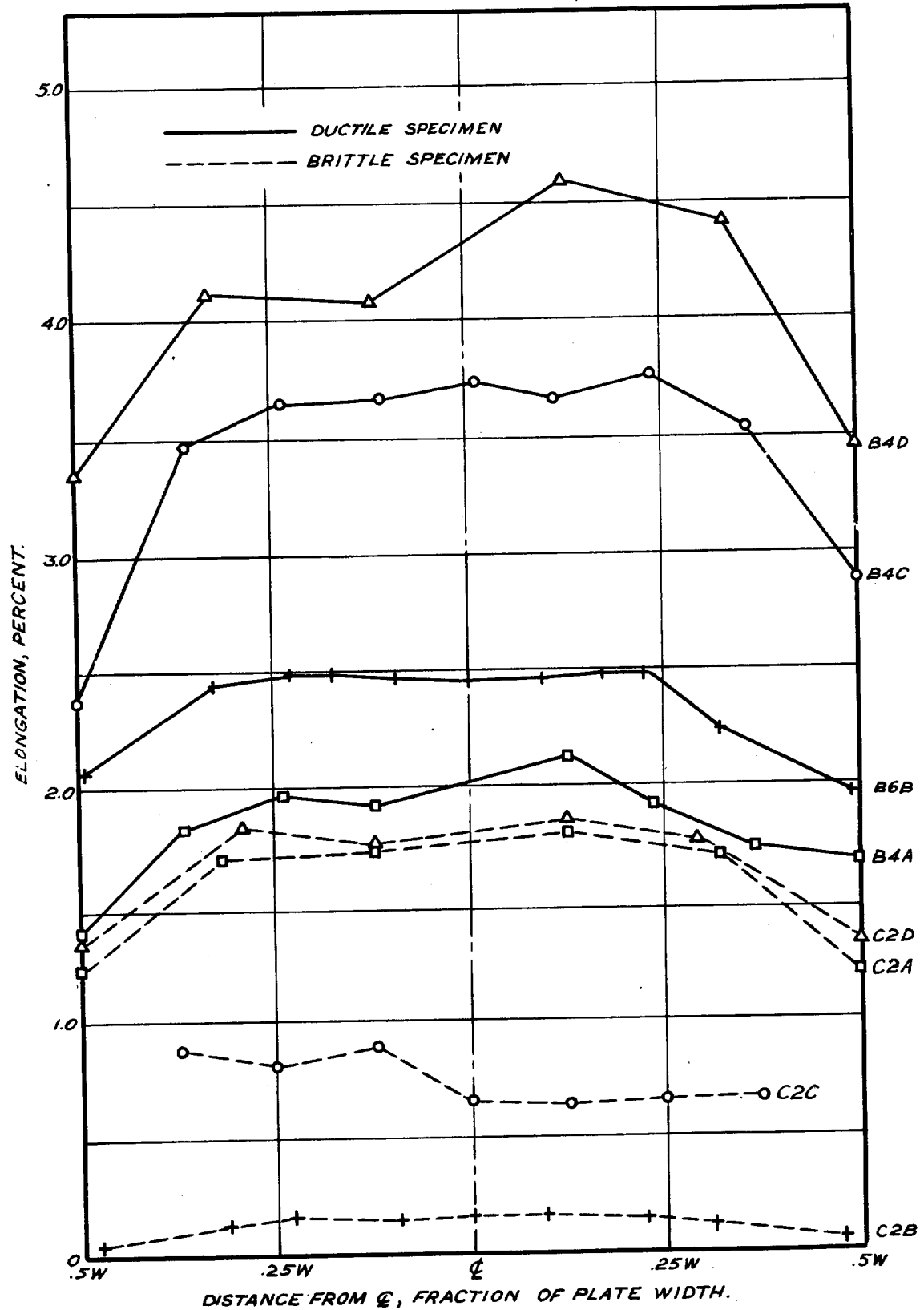
**FIG. 27—TYPICAL ELONGATIONS AT VARIOUS STRESS LEVELS,  
CLEAVAGE TYPE FAILURE, 48-INCH WIDE SPECIMEN  
GAGE LENGTH -  $\frac{3}{4}$  PLATE WIDTH  
(SPECIMEN C-4B)**



**FIG. 28-TYPICAL ELONGATIONS AT VARIOUS STRESS LEVELS,  
CLEAVAGE TYPE FAILURE, 24-INCH WIDE SPECIMEN  
GAGE LENGTH -  $\frac{3}{4}$  PLATE WIDTH  
(SPECIMEN A-3C)**

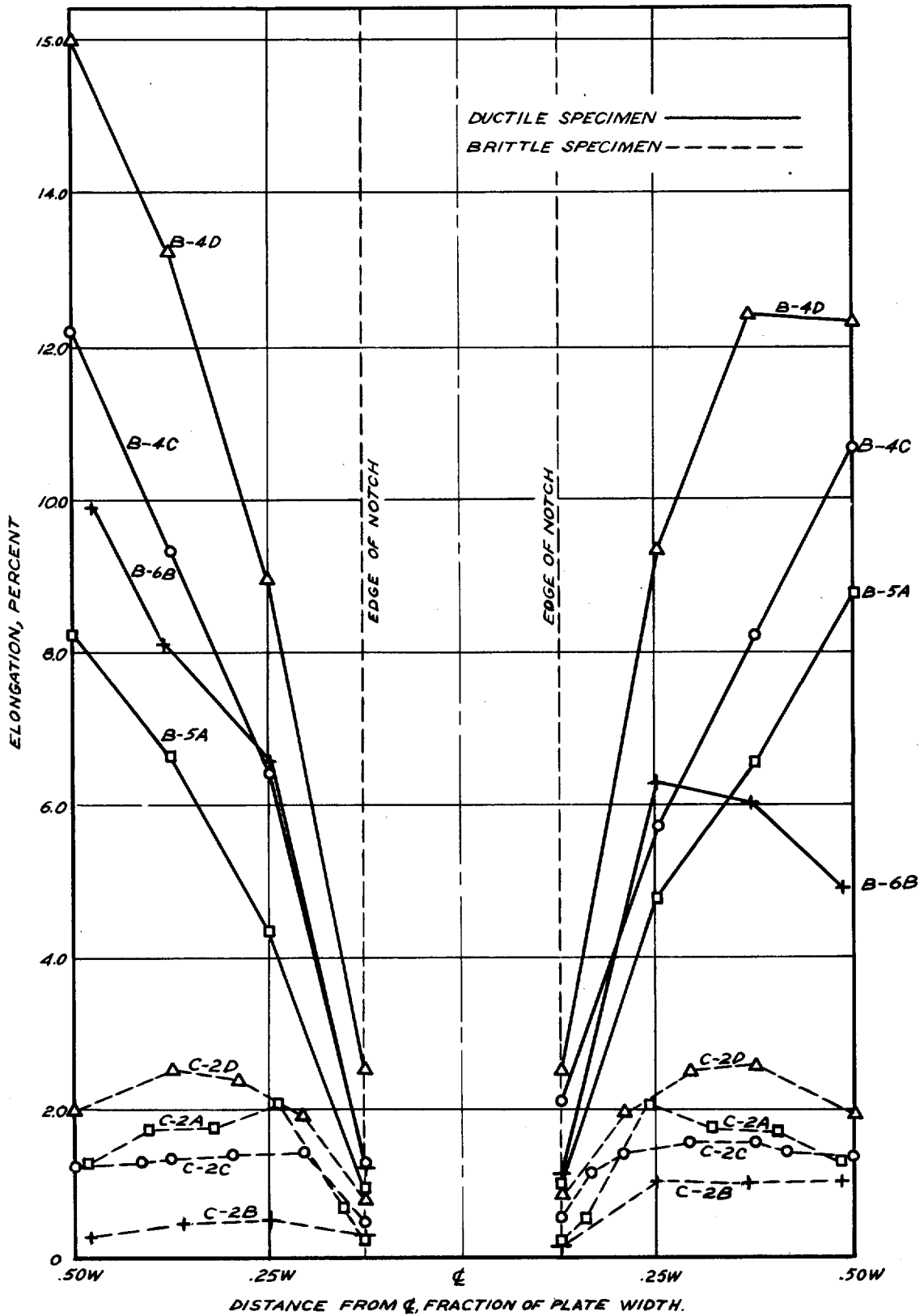


**FIG. 29—TYPICAL ELONGATIONS AT VARIOUS STRESS LEVELS,  
CLEAVAGE TYPE FAILURE, 12-INCH WIDE SPECIMEN  
GAGE LENGTH -  $\frac{3}{4}$  PLATE WIDTH  
(SPECIMEN N-15XD)**



**FIG. 30 - ELONGATION AT MAXIMUM LOAD, ILLUSTRATING INFLUENCE OF PLATE WIDTH ON DUCTILITY AT MAXIMUM LOAD**

ELONGATION MEASURED BY RESISTANCE WIRE EXTENSOMETERS  
 SPECIMENS B4A AND C2A ARE 72-IN. WIDE  
 SPECIMENS B6B AND C2B ARE 48-IN. WIDE  
 SPECIMENS B4C AND C2C ARE 24-IN. WIDE  
 SPECIMENS B4D AND C2D ARE 12-IN. WIDE  
 GAGE LENGTH -  $\frac{3}{4}$  PLATE WIDTH



**FIG. 31 - RESIDUAL ELONGATION AFTER RUPTURE, ILLUSTRATING INFLUENCE OF PLATE WIDTH ON DUCTILITY AT FAILURE.**

ELONGATIONS MEASURED ON ONE FACE ONLY  
 GAGE LENGTH =  $\frac{3}{4}$  PLATE WIDTH