



WANL-TMI-1677

INFORMATION CATEGORY

Unclassified  
N. J. Bifano 5/11/66  
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Subject Additional Test on Notched Beryllium at 140°R (EML-82)

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Inasmuch as the results of the notched tensile test on beryllium reported in TMI-1672 were in disagreement with previous data reported in TME-1281, it was decided to perform a second test duplicating the conditions of the original test. With an identical specimen and test conditions, the following results were obtained:

- 1) Notched T. S. at 140°R = 25,600 psi.
- 2) Modulus (from strain gages on major diameter) =  $45.5 \times 10^6$  psi.
- 3) Stress-strain deviated from linearity at approximately 6000 psi.

The notch tensile strength is in agreement - within normal scatter range - with the first results but is approximately 300 percent greater than the values reported in TME-1281. However, a comparison of the results with Brush Beryllium Corporation data as reported in TME-1106 shows a fairly good agreement. Excluding pressing number 1988 which was used entirely for control drums, the Brush notch data at 140°R is summarized as follows:

Mean Notch Tensile Strength	36,100 psi
Standard Deviation	3,900 psi
No. of Samples	26
Maximum Spread - All Samples	19,000 psi
Maximum Spread - Single Pressing	9,000 psi

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The higher notch strength values from the Brush Beryllium data can be attributed to the etching procedure used in finishing the test specimen.

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