

MAR 25 1970

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THRU: H. R. Denton, Chief, Technical Support Branch, CO

TESTING OF REINFORCING STEEL

In response to your inquiry of March 16, 1970, on the above subject, it has been my experience, and that of people in DRL, that 0.505 inch diameter specimens machined from a quadrant of a large reinforcing bar and tested in accordance with ASTM standards will usually meet acceptance criteria. However, when the full size bar is tested the strength may be below an acceptable value and the steel has to be rejected. It is suggested that results should be based upon full size bar tests and that this be the standard for acceptability for reinforcing bar strength.

It is doubtful that the work-hardening has much effect on the strength properties, since these bars are hot rolled and the test specimens are machined to a size which requires that the surface material be removed. The variability in metal chemistry and the ability to test the material at the proper strain rates are the probable causes of the variations between machined specimens and full bar testing results.

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