

DISCUSSION

Material Considerations in Structural Steel Design

Paper by J. M. BARSOM
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Discussion by J. Stecich

Dr. Barsom has presented an excellent article on the properties of steel, of which all structural engineers should be aware.

There is, however, an error in the published units for the correlation equation among dynamic fracture toughness, K_{Ic} , Young's modulus, E , and Charpy energy absorption, CVN:

$$\frac{K_{Ic}^2}{E} = 5 \text{ (CVN)}$$

The correct units for this relationship are K_{Ic} in $\text{ksi} \sqrt{\text{in.}}$, E in psi , and CVN in ft-lb .

Addendum/Closure by J. Barsom

I want to thank Mr. Stecich for his kind remarks and for bringing the error to my attention. Also, the vertical scale in Figure 14 is wrong. The correct figure is shown below.

J. Stecich is consultant, Wiss, Janney, Elstner Associates, Chicago.

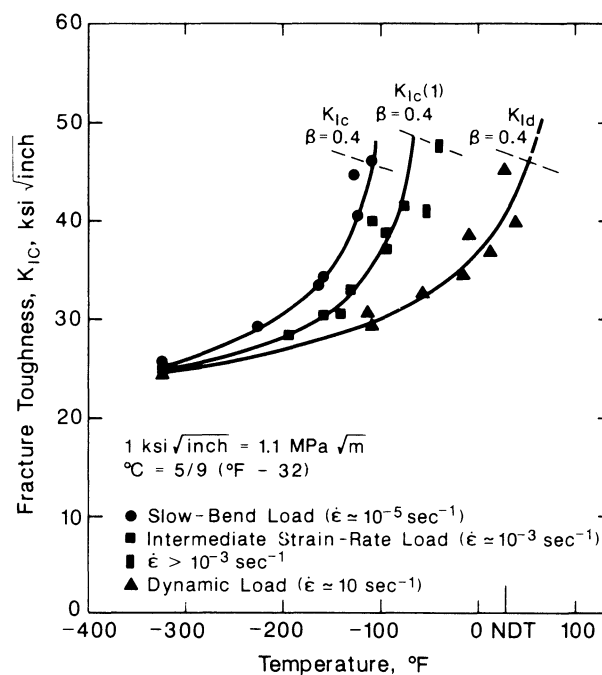


Fig. 14. Effect of temperature and strain rate on plane-strain fracture-toughness behavior of ASTM type A36 steel.