Reply to 'Comments on "On estimating the Weibull modulus for a brittle material" '

Since it is difficult to carry out uniaxial tensile tests for brittle material, the data used by Trustrum and Jayatilaka [1] were obtained from three-point bending tests for which the Weibull function of specific risk of fracture is not generally applicable, as was pointed out by Kittl and Günther in [2]. However, the data were only used to illustrate the degeneracy of the three-parameter Weibull distribution and the conclusions and results presented in [1] are not affected, since in the case $\sigma_u = O(\sigma_1 = 0)$, recommended for brittle materials, the cumulative probabilities of failure for three-point bending and for uniform loading coincide as, using the notation in [2],

$$\lim_{\sigma_1 \to 0} F_{\mathbf{T}}(\sigma) = \lim_{\sigma_1 \to 0} F_{\mathbf{K}}(\sigma).$$

References

- K. TRUSTRUM and A de S. JAYATILAKA, J. Mater. Sci. 14 (1979) 1080.
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