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Room Temperature Fracture Behavior Of Polycrystalline
Graphites Under Torsional And Biaxial Stresses

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ABSTRACT

Torsional stress-strain curves have been obtained for a fine-grain, molded graphite and a coarse-grain, extruded graphite. The effects of the specimen sizes and wall thickness on torsion strength were also examined. These graphites exhibit nonlinear torsional stress-strain behavior, and the nonlinearity was taken into account in the calculation of the torsion strength. The fracture surface of grade ATJ graphite under extensional biaxial stresses has been determined by applying combinations of internal pressure, external pressure, and axial compressive loads on hollow cylindrical specimens. The effect of loading path on the stress-strain behavior was also studied.