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Testing Boron Carbide and Silicon Carbide under Triaxial Compression CHARLES ANDERSON, SIDNEY CHOCRON, ARTHUR NICHOLLS, Southwest Research Institute — Boron Carbide (B₄C) and silicon carbide (SiC-N) are extensively used as armor materials. The strength of these ceramics depends mainly on surface defects, hydrostatic pressure and strain rate. This article focuses on the pressure dependence and summarizes the characterization work conducted on intact and predamaged specimens by using compression under confinement in a pressure vessel and in a thick steel sleeve. The techniques used for the characterization will be described briefly. The failure curves obtained for the two materials will be presented, although the data are limited for SiC. The data will also be compared to experimental data from Wilkins (1969), and Meyer and Faber (1997). Additionally, the results will be compared with plate-impact data.

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