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Impact Strength of Glass and Glass Ceramic[1] STEPHAN BLESS, JOHN TOLMAN, The University of Texas at Austin, Institute for Advanced Technology — Bar impact tests, using the techniques described elsewhere in this symposium, were used to measure compressive and tensile strengths of borosilicate glass, soda lime glass, and glass ceramic. The glass ceramic was 25% crystalline spinel, furnished by Corning, Inc. There are two measures of compressive strength: the peak stress that can be transmitted in unconfined compression and the steady-state strength. For both glasses, these values were similar, being about 1.8 and 1.5 GPa, respectively. The glass ceramic was almost 50% stronger. Tensile failure in the glass and glass ceramic takes places via surface flaws, and thus tensile strength is an extrinsic—as opposed to intrinsic—property.

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Sandra Spicher
The University of Texas at Austin, Institute for Advanced Technology

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