

Abstract Submitted
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Measurement of Damage Velocities in Bullet Impacts of Transparent Armor CHARLES ANDERSON, RORY BIGGER, CARL WEISS, Southwest Research Institute — A series of impact experiments have been conducted to examine the response of transparent material to ballistic impact. The experiments consisted of impacting 15 mm of borosilicate glass back by 9.5 mm of Lexan. The projectile was a 0.30-cal hard steel bullet designed specifically for the experiments. Residual velocities and the residual length of the bullets (which were soft-recovered in a catch box) were measured as a function of impact velocity. High-speed imaging of the impact event and post-test analysis has permitted quantification of damage propagation and the rate of propagation. The results of several experiments are presented and compared to edge-on impact experiments that have been conducted by Strassburger et al [1].

[1] E. Strassburger, M. Hunzinger, J. W. McCauley and P. Patel, “Experimental methods for characterization and evaluation of transparent armor materials,” *Advances in Ceramic Armor VI, Ceramic Engng. & Sci. Proc.*, Vol. 31(5): 183-198 (2010).

Charles Anderson
Southwest Research Institute

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