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ABSTRACT**

Title of abstract:	Blast Load Simulation System for Testing of Glazing
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Abstract:	<p>One of the major causes of injury and loss of life in structures subjected to blast loading is the glass windows. Common window glass is annealed glass. When annealed glass is subjected to impulsive loads such as the one generated by a blast, it breaks into relatively large shards with sharp cutting edges. This is responsible for most of the injuries incurred in explosions. In the bombing of the Alfred P. Murrah Federal Building in Oklahoma City in 1995, more than 75% of the injuries were due to flying shards of glass.</p> <p>The current approach to testing blast-resistant glazing materials such as polycarbonates and laminated glass is to carry out tests in either a shock tube or an open-air arena. Limited access to such facilities is the main obstacle hampering the development of standardised tests for glazings under blast loading conditions.</p> <p>This paper will present a simple and economical physical simulation technique for testing glass panels under impact and blast loading conditions. A technique that can generate pressure shocks simulating blasts of different magnitude and duration is based on a high-capacity drop hammer machine to produce impulsive loads which are distributed over the glass panel using the airtight chamber with a fluid medium. Experimental and numerical simulation results for the annealed glass panels with and without fragment retention films will demonstrate the effectiveness of the system to deliver a blast impulse with a given characteristic.</p>