LAMINATED GLASS SUBJECTED TO BALLISTIC LOADS: NUMERICAL ANALYSIS AND EXPERIMENT

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This study addresses the response of laminated glass units (LGU's) subjected to six different ballistic load conditions. The response of the LGU's was numerically modeled for each ballistic scenario. Subsequently, a series of tests was out for each ballistic level. The numerical and experimental results were then compared.

A summary of the results derived from the finite element (FEM) simulations and the corresponding experiments are provided. These comparisons lead to the discussion pertaining to the importance of using the appropriate constitutive models suited for simulating highly non-linear, transient events.

Finally, a purely numerical investigation will be presented where a modified thickness LGU is exposed to an even higher caliber ballistic threat (compared to the original six levels). The outcome which potentially affects the direction of the current research effort will be presented and discussed.