

Blast Resistance Enhancement of Structures Subjected to Improvised Explosive Devices Attack: A Numerical Study

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Abstract : This paper presents a numerical study of the impact mechanic of metallic and sandwich structures incorporate with blast resistance enhancements. The study focuses on structures that have been exposed to improvised explosives devices (IEDs) attacks. The results show numerical conclusions on mechanisms to ensure blast resistance enhancement for the applications studied in this work. The work has identified optimal panel configuration both in geometry and configurations to ensure optimal blast resistance response to such IEDs discharges. Findings from this work will drive improvements in especially military and civilian vehicles in countries where blast attacks on vehicular occupants are quite rampant like Pakistan and Afghanistan.

Keywords : blast resistance, blast enhancement, explosives, material behavior

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