ANALYSIS OF MULTI-LAYER WALL SYSTEMS SUBJECTED TO CONTACT DETONATIONS

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The minimization of consequences due to blast or contact detonations is an area of interest for protective structures. Multi-layer wall systems, also called sandwich systems, can improve the structural resistance to such loads significantly. Therefore, the University of the Bundeswehr is analytically, numerically and experimentally investigating different types and arrangements of multi-layered walls. At least adjacent layers are of different materials. Therefore, at least two different materials are used. The aim of the research is to optimize systems in order to protect against contact detonations. Based on theoretical approaches, numerical investigations, and experiments a newly developed design will be presented.