

# **BLAST WAVE CHARACTERISTICS OF EXPLOSIVES MIXED WITH PARTICLES OF Al-Mg ALLOY**

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## **ABSTRACT**

Research on the blast wave characteristics of mixtures of RDX or nitromethane and particles of an aluminium and magnesium ( $\text{Al}_3\text{Mg}_4$ ) alloy was carried out. The mixtures of phlegmatized RDX or gelled nitromethane containing 15, 30, 45 and 60 wt. %  $\text{Al}_3\text{Mg}_4$  were tested. Overpressure histories of incident blast waves produced by the detonating compositions were measured inside a concrete bunker of  $40 \text{ m}^3$  in volume by using piezoelectric gauges. To characterize blast waves the overpressure peak and specific impulse were determined for each explosive mixture. An influence of metallic powder contents on the blast wave parameters was analyzed. TNT equivalences for the tested mixtures was also estimated on the basis of the overpressure histories.