

BURIED AND STEEL POT MINES DETONATIONS AND THEIR EFFECTS ON BLAST PROTECTION SOLUTIONS

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ABSTRACT

The NATO standard affirms that the effects of a buried mine can be compared to the effects of a mine placed in a Steel-Pot [1]. In order to study the veracity of this affirmation, this paper will try to compare the effects of these two different trial methods.

Detonation of charges in free-field has been studied for 50 years [2]. Based on this knowledge and thanks to dynamic simulation, a theory explaining the mechanisms of a buried mine explosion has been established. Once those mechanisms have been understood, we applied them to study the behavior of a mine placed in a Steel-Pot.

Thanks to these results, the effects of a buried mine and a mine placed in a Steel-Pot on an armored vehicle floor have been simulated and then compared.

This paper finally concludes on the utility of using composite materials in existing blast protection solutions [3].