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APPLICATION OF FUEL-AIR EXPLOSIONS IN LANDMINE CLEARING

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ABSTRACT

Different technologies are applicable in minefield clearing. Mechanical and explosive methods are the main types of such techniques. Available high explosive techniques apply line charge systems. The main disadvantage of such systems in mine field breaching is the narrow cleared gapes. Also, duration of generated pressure impulse by the explosion of condensed explosive charges is very short which represents a problem in clearing shock resisting landmines. Fuel-Air explosions are characterized by relatively long time duration of generated blast pressure impulse in comparison with condensed high explosives.

This paper summarizes an experimental study of minefield clearing using Fuel-Air explosions field tests. The study was carried out using the most common antitank and antipersonnel pressure landmines including shock resistance ones. Fuel-Air Explosions were generated using liquid hydrocarbon fuels in canisters of 33 liters. The main result of the study points out to the feasibility of using such technique in both minefield clearing and breaching.

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[Pages 292- 301]

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