

their penetration abilities. In the case of developing new compositions or just verifying the adequate amount of energizers in the explosive, this practical method can be applied. From a theoretical point of view, their capabilities are predictable, however they are not quantified.

With this method, different explosive mixtures can be tested for shaped charges because both the jet formation and the proper detonation run up should be present. The composition has to detonate in small quantities and a relatively small diameter in order to create an appropriate jet.

From a practical point of view, it is a small-scale test that can be performed with grams instead of kilograms of materials. It can be accomplished in blasting chambers because specific instruments are not required. It is a suitable method for development, or other cases when reasonable comparability and repeatability are important factors.

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SAŽETAK

Određivanje učinkovitosti perforatora malih dimenzija na čeličnim metama

U radu su prikazana istraživanja prilikom testiranja perforatora malih dimenzija. Uzorci su izrađeni od kompozita-B, semteksa i prešanoga RDX-a, binarnih eksploziva i emulzijskoga eksploziva. S obzirom na to da se obloga perforatora nije mijenjala, izabran je penetracijski test u mete izrađene od mekanoga čelika, a kao metoda za usporedbu i kvantificiranje učinkovitosti perforatora. Postav meta za mjerenje učinka standardizirano je izrađen od čeličnih diskova. Za vrijeme testiranja opaženo je kako test može poslužiti kao praktičan razvojni alat za određivanje optimalne mješavine binarnih eksploziva. S obzirom na to da se u literaturi mogu naći uglavnom teorijska razmatranja učinkovitosti perforatora, ovo je primjer razvoja jednostavne ispitne metode prilagođene primjeni na terenu.

Ključne riječi:

lijevani eksploziv, perforator, penetracijski test, binarni eksplozivi

Author contribution

Lorand Kugyela (explosive engineer, environmental engineer) initialized the principal idea and carried out all the tests, as a part of PhD thesis research regarding new explosive mixtures.