

Abstract Submitted
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The Characteristic of Porous Charges on a Base of a Water-Filled RDX Powder GEORGY VALIANO, BORIS YANKOVSKIY, VLADIMIR MILYAVSKIY, TATIANA BORODINA, JIHT RAS — A detonation velocity of a condensed RDX linearly depends on density at a range of 1,0-1,8 g/cm³. These charges are porous if the density of RDX monocrystal is 1,806 g/cm³. The state of porous charge can be characterized by the packing density. It can be rising, if RDX powder will be mixed with water for deciding technological problems. It is necessary to be able to predict characteristics of such charges. Charges on a base of a water-filled RDX powder with air inclusions can be described by three parameters: a density of a charge, packing density of RDX powder and RDX mass fraction. Last two parameters are independent parameters of a mix. We have designed a nomogram for definition of mutual communication of three quantities: velocity of a detonation, density of packing of RDX powder and its mass fraction in a mix. To check up correctness of a prelegends of a nomogram, we have carried out measurement of a detonation velocity of porous water-contained RDX charges. We prepared charges on a base of RDX powder which has consisted of particles with a size 80-220 mcm. We was changing RDX mass fraction of charges in a range 0,6-1,0 and a packing density of RDX powder in a range of 1,0-1,4 g/cm³. The disorder of experimental data concerning the nomogram data did not exceed basically of 3 percent.

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