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Percolation in mixed energy materials. Characteristics of burning, ignition and sensitivity of mixtures to mechanical stress.

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Abstract

The paper presents the research results of the content of powdered fillers (oxidants, energy supplements, metal fuel) on the ignition, burning rate and sensitivity to mechanical stress of composite energetic materials. The concentrations of powder components, corresponding to the critical content which yields a percolation cluster and the observed changes in functional dependencies properties of materials. Comparison of the experimental data with the theoretical results has been carried out.