SHAPED CHARGES WITH THIN AND ULTRA-THIN FACINGS

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The aim of the research is to study the formation of cumulative jets in charges with cumulative facings with a wall thickness of the order of the thickness of the jet-forming layer in classical charges. Based on mathematical modeling and experiments, it is shown that in such charges, the detonation products of explosives can play the role of an additional body that affects the axial velocity of the lining throwing and leads to a collapse angle of more than 180 degrees. In this process, the mass of the jet is greater than the mass of the pestle. For the first time, corrugations were experimentally detected on the surface of the lining during its explosive compression. Corrugations may occur on the surface of the lining, leading to instability of the cumulative jet formation process. As a result of the study, it was found that the minimum wall thickness of the cladding is mainly determined by the instability of its surface (the appearance of corrugations on its surface).

Keywords: hypercumulation, cumulative charge, cumulative jet, facings, Richtmayer–Meshkov instability, jet speed

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