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Improved shaped-charge liners of the hemisphere-cylinder type for explosive forming compact copper elements over a wide range of velocities

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To study the behavior of materials and objects under high-velocity impact, it is proposed to use shaped charges with improved combined hemisphere-cylinder liners. According to numerical modeling data, it is shown that replacing a hemispherical part with a constant thickness in such copper liners with a semi-ellipsoid one slightly elongated along the symmetry axis with a thickness decreasing from its tip to the base makes it possible to obtain compact elements moving at velocities up to 9.5 km/s.

Keywords: explosion, shaped charge, high-velocity compact element, combined hemisphere-cylinder liner, numerical modeling.

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