Material Analysis of 120 mm Mortar Projectile Stabilizer

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The article deals with the evaluation the state of 120 mm mortar projectile stabilizer. It assesses a crashed projectile, whose stabilizer got stuck in the barrel during the shot. The evaluation includes the analysis of the mechanical properties, especially hardness, besides the evaluation of cracks, structure and chemical composition of the materials used. Cracks are documented with Olympus GX 51 optical microscope and Tescan Vega TS 5135 electron microscope. The chemical composition was assessed by EDS method on the Noran System Six/300 device. The hardness values of the stabilizers were obtained by LECO LV800AT hardness tester, the microhardness measurement used LECO LM247AT equipment. Material properties and microstructure evaluation was compared with the documents available in the metallurgical laboratory of the Department of Mechanical Engineering.

Keywords: 120 mm mortar projectile stabilizer, woody crack.

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