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INFLUENCE OF THE ADIABATIC SHEAR BAND ON THE BALLISTIC RESISTANCE OF HIGH HARDNESS ARMOR (HHA) STEEL

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The high hardness steels are still used in ballistic protection of military vehicles due their relatively low cost when compared to advanced lightweight composite. The objective of this study was evaluated the ballistic resistance of high hardness armor steel, developed by a Brazilian steel company, with the microstructural changes occurred during the ballistic impact. The HHA steel was characterized by metallographic examination, mechanical tests and ballistic tests. The results suggest that the decrease in ballistic resistance can be associated to the appearance of adiabatic shear bands, which has become a weak point in this material.