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EFFECT OF WELDING HEAT ON THE BALLISTIC RESISTANCE OF A HIGH HARDNESS ARMOR (HHA) STEEL

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A study was carried out to evaluate the influence of the amount of welding heat on the ballistic resistance of a Brazilian quenched and tempered (Q&T) high hardness armor (HHA) steel welded by an arc-welding method. The Q&T HHA steel was characterized by metallographic examination, mechanical tests and ballistic tests. The results showed that the amount of welding heat had a significant influence on the mechanical properties of the fusion zone (FZ) and the heat-affected zone (HAZ), leading to changes in the ballistic resistance. The best ballistic performance was observed for the least heat input.