

Title (en)

STEEL HAVING WELD HEAT-AFFECTED ZONE EXCELLENT IN TOUGHNESS

Title (de)

STAHL MIT DURCH SCHWEISSEN BEEINFLUSSTER ZONE MIT AUSGEZEICHNETER ZÄHIGKEIT

Title (fr)

ACIER A ZONE AFFECTEE THERMIQUEMENT PAR SOUDAGE PRESENTANT UNE EXCELLENTE TENACITE

Publication

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Application

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Abstract (en)

The present invention realizes excellent HAZ toughness by further suppressing the coarsening of austenite grains when they are heated for a long time at a high temperature in order to remarkably improve HAZ properties. The present invention is a steel excellent in the toughness of a weld heat-affected zone: having a specific chemical composition; satisfying the expression $0 \leq EN \leq 0.002$ regarding the EN value expressed by an equivalent equation comprising (%N), (%Ti) and (%B); and containing oxide particles 0.005 to 2.0 μm , preferably 0.1 to 2.0 μm , in circle-equivalent diameter, which oxide particles contain at least Ca, Al and O in their composition and, in the mass percentage of the elements excluding O, contain Ca at 5% or more and Al at 5% or more with the balance consisting of other deoxidizing elements and/or unavoidable impurities, with the density of the oxide particles being 100 to 3,000 pieces/ mm^2 . <IMAGE>

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IPC 8 full level

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