

Title (en)
STEEL PLATE WITH EXCELLENT HYDROGEN-INDUCED CRACKING RESISTANCE AND TOUGHNESS OF THE WELD HEAT AFFECTED ZONE, AND STEEL TUBE FOR USE AS LINE PIPE

Title (de)
STAHLPLATTE MIT AUSGEZEICHNETER WASSERSTOFFINDUZIERTER RISSBILDUNGSBESTÄNDIGKEIT UND ZÄHIGKEIT DER DURCH SCHWEISSWÄRME BEEINTRÄCHTIGTEN ZONE UND STAHLROHR ZUR VERWENDUNG ALS EIN LEITUNGSROHR

Title (fr)
PLAQUE EN ACIER PRÉSENTANT UNE EXCELLENTE RÉSISTANCE À LA FISSURATION INDUITE PAR L'HYDROGÈNE ET UNE EXCELLENTE TÉNACITÉ DE LA ZONE EXPOSÉE À LA CHALEUR DE SOUDAGE, ET TUBE EN ACIER DESTINÉ À ÊTRE UTILISÉ COMME TUBE DE CANALISATION

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Application
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Abstract (en)
A steel plate with excellent hydrogen-induced cracking resistance and toughness of the weld heat affected zone (HAZ toughness) and a steel pipe obtained using the steel plate are achieved. The steel plate is characterized to contain specified elements with the remainder consisting of iron and inevitable impurities, in which the ratio of Ca amount and S amount (Ca/S) is 2.0 or more, Ca amount, S amount, and O amount satisfy (Ca-1.25S)/O \geq 1.8, and, in a region from the surface to 5 mm depth in the plate thickness direction, Ca-based inclusions with 50 μ m or more of the long diameter or long side are 2.0 pieces/mm² or less, and TiN with 300 nm or less of the long diameter or long side is 5 \times 10² pieces/ μ m² or more.

IPC 8 full level
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