

Title (en)

THICK STEEL PLATE HAVING EXCELLENT LOW-TEMPERATURE TOUGHNESS AND MANUFACTURING METHOD THEREFOR

Title (de)

DICKE STAHLPLATTE MIT AUSGEZEICHNETER TIEFTEMPERATURZÄHIGKEIT UND VERFAHREN ZU IHRER HERSTELLUNG

Title (fr)

PLAQUE D'ACIER ÉPAISSE POSSÉDANT UNE EXCELLENTE RÉSISTANCE AU FROID ET SON PROCÉDÉ DE FABRICATION

Publication

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Application

EP 18890536 A 20181214

Priority

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Abstract (en)

[origin: EP3730640A1] According to an aspect of the present invention, a thick steel plate having excellent low-temperature toughness comprises, by weight %, 0.03-0.06% of C, 0.1-0.2% of Si, 1.0-2.0% of Mn, 0.01-0.035% of Al, 0.015-0.03% of Nb, 0.001-0.02% of Ti, 0.1-0.2% of Ni, 0.002-0.006% of N, 0.01% or less (0% exclusive) of P, 0.003% or less of S, and the balance of Fe and other inevitable impurities, satisfies relationship formulas 1 and 2, and has a microstructure including, by area fraction, 50-70 % of polygonal ferrite and 30-50 % of acicular ferrite wherein the ferrite has an average grain size of 20 μm or less. [Relationship formula 1] $0.23 \leq [C] + [Si] + 10^{\sup} * \leq [Al] \leq 0.61$ wherein [C], [Si], and [Al] mean contents (weight %) of respective alloy components. [Relationship formula 2] $1.35 \leq [Mn] + 2^{\sup} * \leq [Ni] + 10^{\sup} * \leq [Nb] \leq 2.7$ wherein [Mn], [Ni], and [Nb] mean contents (weight %) of respective alloy components.

IPC 8 full level

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Citation (search report)

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