

Title (en)

STEEL SHEET FOR LOW-TEMPERATURE SERVICE HAVING EXCELLENT SURFACE PROCESSING QUALITY AND METHOD FOR MANUFACTURING SAME

Title (de)

STAHLBLECH FÜR DEN EINSATZ BEI NIEDRIGER TEMPERATUR MIT HERVORRAGENDER OBERFLÄCHENBEARBEITUNGSQUALITÄT UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)

TÔLE D'ACIER BASSE TEMPÉRATURE AYANT UNE EXCELLENTE QUALITÉ DE TRAITEMENT DE SURFACE ET PROCÉDÉ POUR LA FABRIQUER

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Application

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Abstract (en)

The present invention relates to a steel sheet for low-temperature service, which can be used at a wide temperature range from low temperature to room temperature in liquefied gas storage tanks and transport facilities, and provides: a steel sheet for low-temperature service having an excellent surface processing quality even after a processing processes is performed, such as a tension process; and a method for manufacturing the same. An aspect of the present invention relates to a steel sheet for low-temperature service having an excellent surface processing quality, the steel sheet for low-temperature service containing manganese (Mn, 15-35 wt%), carbon (C, satisfying $23.6C + Mn \leq 28$ and $33.5C - Mn \leq 23$), copper (Cu, 5 wt% or less (excluding 0 wt%)), chrome (Cr, satisfying $28.5C + 4.4Cr \leq 57$ (excluding 0 wt%)), titanium (Ti, 0.01-0.5 wt%), nitrogen (N, 0.003-0.2 wt%), the balance iron (Fe), and other inevitable impurities, wherein Ti and N satisfy relational expression 1 below. [Relational expression 1] $1.0 \leq Ti/N \leq 4.5$ (provided that, Mn, C, Cr, Ti, and N in the respective expressions mean wt% of respective ingredient contents).

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