

Title (en)

TI- AND NB-ADDED FERRITIC STAINLESS STEEL EXCELLENT IN LOW-TEMPERATURE TOUGHNESS OF WELDS

Title (de)

TI- UND NB-ZUGESETZTER FERRITISCHER EDELSTAHL MIT AUSGEZEICHNETER TIEFTEMPERATURZÄHIGKEIT VON SCHWEISSNÄHTEN

Title (fr)

ACIER INOXYDABLE FERRITIQUE AVEC AJOUT DE TI ET NB AYANT UNE EXCELLENTE TÉNACITÉ DE SOUDURES À BASSE TEMPÉRATURE

Publication

EP 3831978 A4 20210908 (EN)

Application

EP 18928736 A 20181102

Priority

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Abstract (en)

[origin: EP3831978A1] A Ti, Nb-added ferritic stainless steel with excellent low-temperature toughness of weld zone according to an embodiment of present disclosure includes, in percent (%) by weight of the entire composition, C: 0.004 to 0.015%, N: 0.004 to 0.015%, Si: 0.01 to 0.7%, Mn: 0.01 to 0.7%, P: 0.0001 to 0.04%, S: 0.0001 to 0.005%, Cr: 10 to 30%, Al: 0.005 to 0.04%, Ti: 0.1 to 0.5%, Nb: 0.1 to 0.6%, Ca: 0.0001 to 0.003%, the remainder of iron (Fe) and other inevitable impurities, satisfies the following equation (1), and Al-Ca-Ti-Mg-O-based oxide and Ti-Nb-C-N carbonitride containing the oxide have an average diameter of 3 to 10 μm and a distribution density of 4 /mm² or more. $\text{Ti}+0.5*\text{Nb}*\text{C}+\text{N}/\text{Al}>0.25$

IPC 8 full level

C22C 38/26 (2006.01); **C22C 38/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/28** (2006.01)

CPC (source: EP US)

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Citation (search report)

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- [A] KR 20150000893 A 20150105 - NIPPON STEEL & SUMIKIN SST [JP]
- [A] US 2004154708 A1 20040812 - TAKAHASHI AKIHIKO [JP], et al
- [A] KR 20180000782 A 20180104 - POSCO [KR]
- [A] US 5685923 A 19971111 - TAKATA KEN [JP], et al
- See references of WO 2020027380A1

Designated contracting state (EPC)

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