Title (en)

FERRITIC STAINLESS STEEL

Title (de)

FERRITISCHER EDELSTAHL

Title (fr)

ACIER INOXYDABLE FERRITIQUE

Publication

EP 3670692 A1 20200624 (EN)

Application

EP 18215480 A 20181221

Priority

EP 18215480 A 20181221

Abstract (en)

The invention relates to a Ferritic stainless steel having excellent corrosion and sheet forming properties. The steel consists of in weight percentages 0.003 - 0.035 % carbon, 0.05 - 1.0 % silicon, 0.10 - 0.8 % manganese, 18 - 24 % chromium, 0.05 - 0.8 % nickel, 0.003 - 2.5 % molybdenum, 0.2 - 0.8 % copper, 0.003 - 0.05 % nitrogen, 0,05 - 1.0 % titanium, 0.05 - 1.0 % niobium, 0.03 - 0.5 % vanadium, 0.010 - 0.04 % aluminium, and the sum C+N less than 0.06 %, the remainder being iron and inevitable impurities, wherein the ratio(Ti+Nb)/(C+N) is higher or equal to 8, and less than 40,and the ratioTieq/Ceq = (Ti + 0.515*Nb +0.940*V)/(C+0.858*N) is higher or equal to 6, and less than 40, andLeq = 5.8*Nb + 5*Ti*Si is higher or equal to 3.3, and the steel is produced using AOD (Argon-Oxygen-Decarburization) technology.

IPC 8 full level

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CPC (source: EP KR US)

C21D 8/0205 (2013.01 - US); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/02** (2013.01 - US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US); **C22C 38/42** (2013.01 - EP KR US); **C22C 38/44** (2013.01 - EP KR US); **C22C 38/46** (2013.01 - EP KR US); **C22C 38/48** (2013.01 - EP KR US); **C22C 38/50** (2013.01 - EP KR US); **C22C 38/58** (2013.01 - KR); C21D 2211/004 (2013.01 - EP); C21D 2211/005 (2013.01 - EP KR US)

Citation (applicant)

- EP 2922978 A1 20150930 - OUTOKUMPU OY [FI]
- EP 1818422 A1 20070815 - UGINE & ALZ FRANCE [FR]
- EP 2163658 A1 20100317 - JFE STEEL CORP [JP]
- WO 2012046879 A1 20120412 - JFE STEEL CORP [JP], et al
- EP 1083241 A1 20010314 - UGINE SA [FR]
- EP 1170392 A1 20020109 - KAWASAKI STEEL CO [JP]
- US 4726853 A 19880223 - GRESSIN PASCAL [FR], et al
- EP 0478790 A1 19920408 - NISSHIN STEEL CO LTD [JP]
- EP 2557189 A1 20130213 - NIPPON STEEL & SUMIKIN SST [JP]
- W. GORDON; A. VAN BENNEKOM: "Review of stabilisation of ferritic stainless steels", MATERIALS SCIENCE AND TECHNOLOGY, vol. 12, no. 2, 1996, pages 126 - 131

Citation (search report)

- [XI] CN 103194689 B 20170804
- [XDI] EP 2922978 A1 20150930 - OUTOKUMPU OY [FI]
- [X] EP 2826878 A1 20150121 - JFE STEEL CORP [JP]
- [XI] JP 2013133482 A 20130708 - JFE STEEL CORP
- [XI] WO 2017170067 A1 20171005 - NIPPON STEEL & SUMITOMO METAL CORP [JP]

Cited by

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DOCDB simple family (application)

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