

Title (en)
HIGHLY CORROSION-RESISTANT AUSTENITIC STAINLESS STEEL HAVING EXCELLENT IMPACT TOUGHNESS AND HOT WORKABILITY

Title (de)
HOCHKORROSIONSBESTÄNDIGER AUSTENITISCHER ROSTFREIER STAHL MIT AUSGEZEICHNETER SCHLAGZÄHIGKEIT UND WARMBEARBEITBARKEIT

Title (fr)
ACIER INOXYDABLE AUSTÉNITIQUE HAUTEMENT RÉISTANT À LA CORROSION AYANT UNE EXCELLENTE RÉISTANCE AU CHOC ET UNE EXCELLENTE APTITUDE AU FAÇONNAGE À CHAUD

Publication
EP 4023785 A4 20221109 (EN)

Application
EP 20861333 A 20200707

Priority
• KR 20190109377 A 20190904
• KR 2020008864 W 20200707

Abstract (en)
[origin: EP4023785A1] Disclosed is a highly corrosion-resistant austenitic stainless steel having excellent impact toughness and hot workability. According to one embodiment of the disclosed highly corrosion-resistant austenitic stainless steel, the highly corrosion-resistant austenitic stainless steel includes, in percent by weight (wt%), 0.03% or less (excluding 0) of carbon (C), 1.0% or less of silicon (Si), 1.0% or less of manganese (Mn), 18 to 24% of chromium (Cr), 16 to 24% of nickel (Ni), 5 to 7% of molybdenum (Mo), 0.1 to 2.0% of copper (Cu), 1.0% or less of tungsten (W), 0.18 to 0.3% of nitrogen (N), 0.02 to 0.1% of aluminum (Al), 0.01% or less of oxygen (O), 0.002 to 0.01% calcium (Ca), less than 0.001% of sulfur (S), and the remainder of iron (Fe) and inevitable impurities, and satisfies an O/Al ratio of 0.01 to 0.12 and a S/Ca ratio of 0.01 to 0.4.

IPC 8 full level
C22C 38/44 (2006.01); **C21D 1/26** (2006.01); **C21D 6/00** (2006.01); **C21D 8/02** (2006.01); **C21D 9/46** (2006.01); **C22C 38/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/42** (2006.01)

CPC (source: CN EP KR)
C21D 1/26 (2013.01 - EP); **C21D 6/004** (2013.01 - EP); **C21D 8/0205** (2013.01 - CN); **C21D 8/0226** (2013.01 - CN KR); **C21D 8/0247** (2013.01 - CN); **C22C 38/001** (2013.01 - CN EP); **C22C 38/002** (2013.01 - CN EP); **C22C 38/004** (2013.01 - EP); **C22C 38/02** (2013.01 - CN EP); **C22C 38/04** (2013.01 - CN EP); **C22C 38/06** (2013.01 - CN EP); **C22C 38/42** (2013.01 - CN EP KR); **C22C 38/44** (2013.01 - CN EP KR); **C21D 8/0205** (2013.01 - EP); **C21D 8/0263** (2013.01 - EP); **C21D 9/46** (2013.01 - EP); **C21D 2211/001** (2013.01 - CN EP)

Citation (search report)
• [X] JP S6447817 A 19890222 - NIPPON STEEL CORP
• [X] EP 0320820 A1 19890621 - NIPPON STEEL CORP [JP]
• [I] JP 2005133144 A 20050526 - NIPPON STEEL & SUMIKIN SST
• [A] JP H07157851 A 19950620 - NIPPON YAKIN KOGYO CO LTD
• [A] WO 2016076254 A1 20160519 - NIPPON STEEL & SUMIKIN SST [JP]
• [A] JP S6468450 A 19890314 - NIPPON KOKAN KK
• See references of WO 2021045371A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
EP 4023785 A1 20220706; EP 4023785 A4 20221109; CN 114514333 A 20220517; JP 2022546776 A 20221108; JP 7271789 B2 20230511; KR 20210028382 A 20210312; WO 2021045371 A1 20210311

DOCDB simple family (application)
EP 20861333 A 20200707; CN 202080068573 A 20200707; JP 2022514735 A 20200707; KR 20190109377 A 20190904; KR 2020008864 W 20200707