

Title (en)
Duplex stainless steel

Title (de)
Duplexedelstahl

Title (fr)
Acier inoxydable à deux faces

Publication
EP 2902525 A1 20150805 (EN)

Application
EP 15156371 A 20100901

Priority
• JP 2009209160 A 20090910
• EP 10815306 A 20100901

Abstract (en)
Problem to be Solved: To provide a duplex stainless steel excellent in the weldability during large heat input welding and excellent in the stress corrosion cracking resistance in a chloride environment containing corrosive associated gases. Solution: A duplex stainless steel that has a chemical composition consisting, by mass%, of C: 0.03% or less, Si: 0.2 to 1%, Mn: 5.0% or less, P: 0.040% or less, S: 0.010% or less, sol. Al: 0.040% or less, Ni: 4 to 8%, Cr: 20 to 28%, Mo: 0.5 to 2.0%, Cu: more than 2.0% and 4.0% or less and N: 0.1 to 0.35%, and optionally contains one or more selected from among V, Ca, Mg, B and a rare earth metal(s), with the balance being Fe and impurities; wherein the duplex stainless steel satisfies the relations of the following formulas (1) and (2): $2.2 \# \text{Cr} + 7 \# \text{Mo} + 3 \# \text{Cu} > 66 \text{Cr} + 11 \# \text{Mo} + 10 \# \text{Ni} < 12 \# \text{Cu} + 30 \# \text{N}$ wherein the symbols of elements in formulas (1) and (2) respectively represent the contents (unit: mass%) of the elements in the steel.

IPC 8 full level
C22C 38/00 (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP US)
C22C 1/02 (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/42** (2013.01 - EP US); **C22C 38/44** (2013.01 - EP US); **C22C 38/58** (2013.01 - EP US)

Citation (applicant)
• WO 9618751 A1 19960620 - SUMITOMO METAL IND [JP], et al
• JP 2003171743 A 20030620 - AICHI STEEL WORKS LTD

Citation (search report)
• [A] JP 2000313940 A 20001114 - SUMITOMO METAL IND
• [A] EP 0261345 A1 19880330 - SANDUSKY FOUNDRY & MACHINE CO [US]
• [A] WO 0100898 A1 20010104 - SANDVIK AB [SE], et al
• [A] US 4816085 A 19890328 - FLASCHE LEE H [US], et al
• [A] GB 2166159 A 19860430 - CARPENTER TECHNOLOGY CORP
• [A] JP S55158256 A 19801209 - DAIDO STEEL CO LTD

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 SE SI SK SM TR

DOCDB simple family (publication)
EP 2476771 A1 20120718; EP 2476771 A4 20140723; EP 2476771 B1 20150304; AU 2010293591 A1 20120301; AU 2010293591 B2 20130117; BR 112012005005 A2 20160503; BR 112012005005 B1 20230124; CA 2770378 A1 20110317; CA 2770378 C 20140218; CN 102482746 A 20120530; CN 102482746 B 20160622; EP 2902525 A1 20150805; EP 2902525 B1 20160511; IN 1250DEN2012 A 20150515; JP 4640536 B1 20110302; JP WO2011030709 A1 20130207; MX 2012002870 A 20120420; MX 352395 B 20171122; US 2012177529 A1 20120712; WO 2011030709 A1 20110317

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