

Title (en)

Stainless austenoferritic steel with very low nickel content and showing high elongation under tensile load

Title (de)

Rostfreier austenoferritischer Stahl mit sehr niedrigem Nickelgehalt und hoher Zugverformung

Title (fr)

Acier inoxydable austéno-ferritique à très bas nickel et présentant un fort allongement en traction

Publication

EP 0889145 B1 20030319 (FR)

Application

EP 98401308 A 19980602

Priority

FR 9708180 A 19970630

Abstract (en)

[origin: EP0889145A1] A novel austenitic-ferritic stainless steel, with low nickel content and high tensile elongation, has the composition (by wt.) less than 0.04% C, 0.4-1.2% (exclusive) Si, 2-4% (exclusive) Mn, 0.1-1% (exclusive) Ni, 18-22% (exclusive) Cr, 0.05-4% (exclusive) Cu, less than 0.03% S, less than 0.1% P, 0.1-0.3% (exclusive) N and less than 3% Mo. The steel has a two phase structure containing 30-70% austenite and has a Creq/Nieq ratio of 2.3-2.75, where Creq = Cr% + Mo% + 1.5Si% and Nieq = Ni% + 0.33Cu% + 0.5Mn% = 30C% + 30N%. The austenite stability of the steel is controlled by an IM index of 40-115, where IM = 551 - 805(C + N)% - 8.52Si% - 8.57Mn% - 12.51Cr% - 36Ni% - 34.5Cu% - 14Mo%.

IPC 1-7

C22C 38/58; **C22C 38/00**

IPC 8 full level

C22C 38/00 (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP US)

C22C 38/00 (2013.01 - EP US); **C22C 38/58** (2013.01 - EP US); **Y10T 29/5183** (2015.01 - EP US); **Y10T 428/12861** (2015.01 - EP US); **Y10T 428/12951** (2015.01 - EP US); **Y10T 428/12958** (2015.01 - EP US); **Y10T 428/12965** (2015.01 - EP US); **Y10T 428/12979** (2015.01 - EP US)

Cited by

EP2172574A4; EP3434802A1; RU2691446C1; WO2017017107A1

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU NL PT SE

DOCDB simple family (publication)

EP 0889145 A1 19990107; **EP 0889145 B1 20030319**; AT E234945 T1 20030415; AU 6984598 A 19990107; AU 738930 B2 20010927; BR 9802386 A 19990706; CA 2239478 A1 19981230; CA 2239478 C 20090407; CN 1078262 C 20020123; CN 1209465 A 19990303; DE 69812234 D1 20030424; DE 69812234 T2 20040205; DK 0889145 T3 20030721; ES 2193488 T3 20031101; FR 2765243 A1 19981231; FR 2765243 B1 19990730; ID 20517 A 19990107; JP H1171643 A 19990316; KR 19990007429 A 19990125; PT 889145 E 20030630; TW 474997 B 20020201; US 6096441 A 20000801; ZA 985176 B 19990108

DOCDB simple family (application)

EP 98401308 A 19980602; AT 98401308 T 19980602; AU 6984598 A 19980602; BR 9802386 A 19980629; CA 2239478 A 19980603; CN 98115200 A 19980629; DE 69812234 T 19980602; DK 98401308 T 19980602; ES 98401308 T 19980602; FR 9708180 A 19970630; ID 980850 A 19980610; JP 18230898 A 19980629; KR 19980024973 A 19980629; PT 98401308 T 19980602; TW 87109004 A 19980606; US 10742298 A 19980630; ZA 985176 A 19980615