

Title (en)

HIGH-STRENGTH AUSTENITIC STAINLESS STEEL HAVING EXCELLENT HOT WORKABILITY

Title (de)

HOCHFESTER AUSTENITISCHER ROSTFREIER STAHL MIT AUSGEZEICHNETER WARMUMFORMBARKEIT

Title (fr)

ACIER INOXYDABLE AUSTÉNITIQUE À HAUTE RÉSISTANCE PRÉSENTANT UNE EXCELLENTE APTITUDE AU FAÇONNAGE À CHAUD

Publication

EP 4249623 A1 20230927 (EN)

Application

EP 21894941 A 20211029

Priority

- KR 20200158160 A 20201123
- KR 2021015395 W 20211029

Abstract (en)

Disclosed is a high-strength austenitic stainless steel having excellent hot workability. The high-strength austenitic stainless steel having excellent hot workability according to the present disclosure includes, in percent by weight (wt%), 0.01 to 0.035% of C, 0.5% or less of Si, 0.5 to 1.5% of Mn, 17 to 22% of Cr, 6 to 11% of Ni, 1% or less of Mo, 1% or less of Cu, 0.1 to 0.22% of N, and the balance of Fe and inevitable impurities, wherein a value of Formula (1) below 1.9 or more, or a precipitation temperature of chromium nitride satisfies a value represented by Formula (2) below or less. $3 \times \text{Cr} + \text{Mo} + 5 \times \text{Si} - 2 \times \text{Ni} - \text{Mn} - 70 \times \text{C} + \text{N} - 271180 + 36 \times \text{C} + 12 \times \text{Mo} + 17 \times \text{Cu} + 411 \times \text{N} - 35 \times \text{Mn}$

IPC 8 full level

C22C 38/44 (2006.01); **C22C 38/42** (2006.01); **C22C 38/50** (2006.01); **C22C 38/54** (2006.01)

CPC (source: EP KR US)

C21D 8/0226 (2013.01 - US); **C21D 8/0273** (2013.01 - US); **C21D 9/46** (2013.01 - US); **C22C 38/001** (2013.01 - EP US); **C22C 38/002** (2013.01 - US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - US); **C22C 38/42** (2013.01 - EP KR US); **C22C 38/44** (2013.01 - EP KR US); **C22C 38/50** (2013.01 - EP KR US); **C22C 38/54** (2013.01 - EP KR US); **C21D 2211/001** (2013.01 - KR US)

Citation (search report)

See references of WO 2022108170A1

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)

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DOCDB simple family (application)

EP 21894941 A 20211029; CN 202180077816 A 20211029; JP 2023530184 A 20211029; KR 20200158160 A 20201123; KR 2021015395 W 20211029; US 202118037473 A 20211029