

Title (en)
STRENGTH MEMBER AND MANUFACTURING METHOD THEREFOR

Title (de)
STÄRKEELEMENT UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
ÉLÉMENT DE RENFORT ET SON PROCÉDÉ DE FABRICATION

Publication
EP 2966186 A4 20161123 (EN)

Application
EP 14760929 A 20140307

Priority
• JP 2013047106 A 20130308
• JP 2014056057 W 20140307

Abstract (en)
[origin: EP2966186A1] A strength member and a manufacturing method thereof in which settling resistance and yield strength can be substantially improved without reducing cost advantages or adding substantial process changes, is provided. A strength member comprises, by mass %, 0.5 to 0.7 % of C, 1.0 to 2.0 % of Si, 0.1 to 1.0 % of Mn, 0.1 to 1.0 % of Cr, 0.035 % or less of P, 0.035 % or less of S, and the balance of Fe and inevitable impurities, wherein an area ratio of bainite is 65 % or more, and an average dislocation density of a freely selected cross section is $2.0 \times 10^{16} \text{ m}^{-2}$ or less.

IPC 8 full level
C22C 38/00 (2006.01); **C21D 7/06** (2006.01); **C21D 7/10** (2006.01); **C21D 9/02** (2006.01); **C22C 38/34** (2006.01); **F16F 1/02** (2006.01)

CPC (source: EP)
C21D 1/20 (2013.01); **C21D 7/06** (2013.01); **C21D 7/10** (2013.01); **C21D 9/02** (2013.01); **C22C 38/00** (2013.01); **C22C 38/02** (2013.01); **C22C 38/04** (2013.01); **C22C 38/18** (2013.01); **C22C 38/34** (2013.01); **C21D 2211/002** (2013.01); **C21D 2211/004** (2013.01)

Citation (search report)
• [X] EP 2412840 A1 20120201 - NHK SPRING CO LTD [JP]
• [A] US 4174981 A 19791120 - CASSELL RALPH M [US]
• [J] PESICKA J ET AL: "THE EVOLUTION OF DISLOCATION DENSITY DURING HEAT TREATMENT AND CREEP OF TEMPERED MARTENSITE FERRITIC STEELS", ACTA MATERIALIA, ELSEVIER, OXFORD, GB, vol. 51, 1 January 2003 (2003-01-01), pages 4847 - 4862, XP003035794, ISSN: 1359-6454, DOI: 10.1016/S1359-6454(03)00324-0
• See references of WO 2014136966A1

Cited by
EP4223890A4

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

DOCDB simple family (publication)
EP 2966186 A1 20160113; **EP 2966186 A4 20161123**; **EP 2966186 B1 20191016**; CN 105008572 A 20151028; ES 2765274 T3 20200608; JP 6284279 B2 20180228; JP WO2014136966 A1 20170216; WO 2014136966 A1 20140912

DOCDB simple family (application)
EP 14760929 A 20140307; CN 201480012993 A 20140307; ES 14760929 T 20140307; JP 2014056057 W 20140307; JP 2015504458 A 20140307