Title (en)

FERRITIC STAINLESS STEEL FOR EXHAUST GAS PASSAGE MEMBER

Title (de)

FERRITISCHER NICHTROSTENDER STAHL FÜR ABGASPASSAGENBAUELEMENT

Title (fr)

ACIER INOXYDABLE FERRITIQUE POUR UN ÉLÉMENT DE PASSAGE DE GAZ D'ÉCHAPPEMENT

Publication

EP 2112245 B1 20150603 (EN)

Application

EP 08710877 A 20080131

Priority

- JP 2008051981 W 20080131
- JP 2007024253 A 20070202

Abstract (en)

[origin: EP2112245A1] Provided is a stainless steel for exhaust gas path members, which has a composition including, in terms of % by mass, at most 0.03 % of C, at most 1 % of Si, at most 1.5 % of Mn, at most 0.6 % of Ni, from 10 to 20 % of Cr, from more than 0.5 to 0.7 % of Nb, from 0.05 to 0.3 % of Ti, from more than 1 to 2 % of Cu, at most 0.2 % of V, at most 0.03 % of N, from 0.0005 to 0.02 % of B, and optionally at most 0.1 % of Al, and further optionally at least one of Mo, W, Zr and Co in an amount of at most 4 % in total, with a balance of Fe and inevitable impurities, and which has a texture where the Cu phase and the Nb compound phase having a major diameter of at least 0.5 μm are controlled to be in an amount of at most 10 grains/25 μm 2 each. The stainless steel exhibits excellent thermal fatigue resistance when applied to exhaust gas path members of both cases where the maximum ultimate temperature is high and low, and has excellent low-temperature toughness.

IPC 8 full level

C22C 38/00 (2006.01); **C21D 6/00** (2006.01); **C21D 8/02** (2006.01); **C21D 9/46** (2006.01); **C22C 38/32** (2006.01); **C22C 38/54** (2006.01); **F01N 13/16** (2010.01)

CPC (source: EP KR US)

C21D 6/002 (2013.01 - EP KR US); **C21D 8/0273** (2013.01 - EP US); **C21D 9/46** (2013.01 - EP KR US); **C22C 38/04** (2013.01 - KR); **C22C 38/18** (2013.01 - EP US); **C22C 38/20** (2013.01 - EP US); **C22C 38/24** (2013.01 - EP US); **C22C 38/26** (2013.01 - EP US); **C22C 38/28** (2013.01 - EP US); **C22C 38/42** (2013.01 - KR); **C22C 38/48** (2013.01 - KR); **C22C 38/50** (2013.01 - KR); **C22C 38/54** (2013.01 - KR); **F01N 13/16** (2013.01 - EP KR US)

Cited by

EP2602351A4; EP2628814A4; EP2980251A4; EP2966187A4; EP2557189A4; EP2824208A4; US10260134B2; US10385429B2; EP2864518A4; EP2546378A4; WO2013104357A1; US9885099B2; US10030282B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)

EP 2112245 A1 20091028; **EP 2112245 A4 20100616**; **EP 2112245 B1 20150603**; CN 101611162 A 20091223; CN 102392194 A 20120328; ES 2542693 T3 20150810; JP 2008189974 A 20080821; JP 5010301 B2 20120829; KR 101473205 B1 20141216; KR 20090109540 A 20091020; US 2010050617 A1 20100304; WO 2008093888 A1 20080807

DOCDB simple family (application)

EP 08710877 A 20080131; CN 200880003793 A 20080131; CN 201110319621 A 20080131; ES 08710877 T 20080131; JP 2007024253 A 20070202; JP 2008051981 W 20080131; KR 20097015121 A 20080131; US 44929508 A 20080131