

Title (en)

FREE-CUTTING STAINLESS STEEL AND PROCESS FOR PRODUCING THE SAME

Title (de)

NICHTTOSTENDER AUTOMATENSTAHL UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

ACIER INOXYDABLE DE DECOUPE LIBRE ET SON PROCÉDÉ DE FABRICATION

Publication

EP 2048257 A4 20121128 (EN)

Application

EP 07791987 A 20070730

Priority

- JP 2007065314 W 20070730
- JP 2006208017 A 20060731

Abstract (en)

[origin: EP2048257A1] The present invention relates the free-cutting stainless steel that have not only of excellent machinability but also environment-friendliness and corrosion resistance and excellent mechanical property and methods of manufacturing free-cutting stainless steel. Free-cutting stainless steel produced by adding a free-cutting additive is characterized in that the free-cutting additive thereof is h-BN (hexagonal boron nitride) particles dispersed and precipitated homogeneously in the stainless steel. A method of manufacturing free-cutting stainless steel produced by adding a free-cutting additive is characterized in that free-cutting stainless steel where h-BN particles are precipitated is heated to dissolve the h-BN particles into steel matrix, quenched and subsequently tempered to disperse and precipitate h-BN particles homogeneously again as free-cutting additive or in that free-cutting stainless steel where h-BN particles are precipitated is heated to dissolve the h-BN particles into steel matrix and subsequently subjected to slow cooling to disperse and precipitate h-BN particles homogeneously again.

IPC 8 full level

C22C 38/00 (2006.01); **C21C 7/00** (2006.01); **C21C 7/04** (2006.01); **C21D 1/18** (2006.01); **C21D 6/00** (2006.01); **C21D 8/00** (2006.01)

CPC (source: EP)

C21D 6/00 (2013.01); **C22C 1/1068** (2013.01); **C22C 38/02** (2013.01); **C22C 38/04** (2013.01); **C22C 38/40** (2013.01); **C21D 2211/004** (2013.01)

Citation (search report)

- [A] JP 2003129191 A 20030508 - NISSHIN STEEL CO LTD
- [A] JP 2001329335 A 20011127 - KOBE STEEL LTD
- [A] JP H06145889 A 19940527 - DAIDO STEEL CO LTD
- [A] JP H04365835 A 19921217 - NIPPON STEEL CORP
- See references of WO 2008016158A1

Cited by

CN102959111A; EP2537952A4; CN102906290A; EP2565286A4

Designated contracting state (EPC)

DE FR SE

DOCDB simple family (publication)

EP 2048257 A1 20090415; **EP 2048257 A4 20121128**; **EP 2048257 B1 20140219**; JP 5142289 B2 20130213; JP WO2008016158 A1 20091224; WO 2008016158 A1 20080207

DOCDB simple family (application)

EP 07791987 A 20070730; JP 2007065314 W 20070730; JP 2008527817 A 20070730