

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

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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

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