

Title (en)  
Martensitic free cutting stainless steel

Title (de)  
Martensitischer rostfreier Automatenstahl

Title (fr)  
Acier de décolletage inoxydable martensitique

Publication  
**EP 1918408 A2 20080507 (EN)**

Application  
**EP 07019360 A 20071002**

Priority  
• JP 2006271360 A 20061003  
• JP 2007174797 A 20070703

Abstract (en)  
The present invention relates to a martensitic free cutting stainless steel, comprising, by weight percent: C: 0.10 to 1.20 %, Si: 0.10 to 2.00 %, Mn: 0.80 to 2.00 %, S: 0.10 to 0.30 %, Cr: 10.5 to 18.0 %, Pb: 0.03 to 0.30 %, Te: 0.01 to 0.10 %, B: 0.0005 to 0.010 %, and O: 0.005 to 0.030 %, with the remainder being substantially Fe and inevitable impurities; contents of P and N are: P: 0.005 to 0.10 %, and N:  $\leq 0.050$  %; wherein respective formulae of  $3.0 \leq [\text{Mn}]/[\text{S}] \leq 15.0$ ,  $0.10 \leq [\text{Te}]/[\text{S}]$ , and  $10 \leq [\text{S}]/[\text{O}] \leq 40$  are satisfied; and wherein a sulfide having a circle equivalent diameter of 2.0  $\mu\text{m}$  or more and an aspect ratio of 10 or less is present in a total amount of 0.50 to 10 % by area ratio.

IPC 8 full level  
**C22C 38/00** (2006.01); **C21D 6/00** (2006.01); **C21D 9/18** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/20** (2006.01); **C22C 38/22** (2006.01); **C22C 38/32** (2006.01); **C22C 38/34** (2006.01); **C22C 38/38** (2006.01); **C22C 38/42** (2006.01); **C22C 38/44** (2006.01); **C22C 38/54** (2006.01); **C22C 38/58** (2006.01); **C22C 38/60** (2006.01)

CPC (source: EP US)  
**C21D 6/002** (2013.01 - EP US); **C21D 9/18** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/002** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/20** (2013.01 - EP US); **C22C 38/22** (2013.01 - EP US); **C22C 38/32** (2013.01 - EP US); **C22C 38/34** (2013.01 - EP US); **C22C 38/38** (2013.01 - EP US); **C22C 38/42** (2013.01 - EP US); **C22C 38/44** (2013.01 - EP US); **C22C 38/54** (2013.01 - EP US); **C22C 38/58** (2013.01 - EP US); **C22C 38/60** (2013.01 - EP US); **C21D 2211/008** (2013.01 - EP US)

Designated contracting state (EPC)  
DE FR SE

Designated extension state (EPC)  
AL BA HR MK RS

DOCDB simple family (publication)  
**EP 1918408 A2 20080507**; **EP 1918408 A3 20101027**; **EP 1918408 B1 20141126**; CN 101158011 A 20080409; CN 101158011 B 20120926; JP 2008111186 A 20080515; JP 5135918 B2 20130206; US 2008089804 A1 20080417

DOCDB simple family (application)  
**EP 07019360 A 20071002**; CN 200710164219 A 20070930; JP 2007174797 A 20070703; US 90552207 A 20071002