

Title (en)  
MARTENSITIC STAINLESS STEEL

Title (de)  
MARTENSITISCHER NICHTROSTENDER STAHL

Title (fr)  
ACIER INOXYDABLE MARTENSITIQUE

Publication  
**EP 1826285 A4 20090408 (EN)**

Application  
**EP 05799225 A 20051026**

Priority  
• JP 2005019685 W 20051026  
• JP 2004335241 A 20041119

Abstract (en)  
[origin: EP1826285A1] Martensitic stainless steel according to the invention contains, by mass, 0.001% to 0.01% C, at most 0.5% Si, 0.1% to 3.0% Mn, at most 0.04% P, at most 0.01% S, 10% to 15% Cr, 4% to 8% Ni, 2.8% to 5.0% Mo, 0.001% to 0.10% Al, at most 0.07% N, 0% to 0.25% Ti, 0% to 0.25% V, 0% to 0.25% Nb, 0% to 0.25% Zr, 0% to 1.0% Cu, 0% to 0.005% Ca, 0% to 0.005% Mg, 0% to 0.005% La, and 0% to 0.005% Ce, with the balance being Fe and impurities, and the steel satisfies Expressions (1) and (2) and has a yield stress in the range from 758 MPa to 860 MPa. In this way, in the martensitic stainless steel according to the invention, the tempering temperature range at which a yield stress in the range from 758 MPa to 860 MPa can be obtained is increased, 922.6 - 554.5 #¢ C - 50.9 #¢ Mn + 2944.8 #¢ P + 1.056 #¢ Cr - 81.1 #¢ Ni + 95.8 #¢ Mo - 125.1 #¢ Ti # 1584.9 #¢ A #¢ 1 # 376.1 #¢ N #¥ 600 30 #¢ C + 0.5 #¢ Mn + Ni + 0.5 #¢ Cu # 1.5 #¢ Si # Cr # Mo + 7.9 #¥ 0

IPC 8 full level  
**C22C 38/00** (2006.01); **C21D 6/00** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP US)  
**C21D 1/25** (2013.01 - EP US); **C21D 6/004** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/44** (2013.01 - EP US); **C21D 2211/008** (2013.01 - EP US)

Citation (search report)  
• [X] JP H05156409 A 19930622 - NIPPON STEEL CORP  
• [A] US 6129999 A 20001010 - UEDA MASAKATSU [JP], et al  
• [PA] EP 1584699 A1 20051012 - SUMITOMO METAL IND [JP]  
• [A] EP 1026273 A1 20000809 - SUMITOMO METAL IND [JP]  
• [E] EP 1652950 A1 20060503 - SUMITOMO METAL IND [JP]  
• [A] JP 2000192196 A 20000711 - SUMITOMO METAL IND  
• See references of WO 2006054430A1

Cited by  
EP4006177A4; US8038811B2

Designated contracting state (EPC)  
DE FR

DOCDB simple family (publication)  
**EP 1826285 A1 20070829; EP 1826285 A4 20090408; EP 1826285 B1 20121003**; CN 100549204 C 20091014; CN 101061245 A 20071024; JP 2006144069 A 20060608; JP 4337712 B2 20090930; US 2008213120 A1 20080904; WO 2006054430 A1 20060526

DOCDB simple family (application)  
**EP 05799225 A 20051026**; CN 200580039655 A 20051026; JP 2004335241 A 20041119; JP 2005019685 W 20051026; US 79101505 A 20051026