

Title (en)  
MARTENSITIC STAINLESS STEEL

Title (de)  
MARTENSITISCHER NICHTROSTENDER STAHL

Title (fr)  
ACIER INOXYDABLE MARTENSITIQUE

Publication  
**EP 1826285 A1 20070829 (EN)**

Application  
**EP 05799225 A 20051026**

Priority  
• JP 2005019685 W 20051026  
• JP 2004335241 A 20041119

Abstract (en)  
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  
**C21D 6/00** (2006.01); **C22C 38/00** (2006.01); **C22C 38/58** (2006.01)

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**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)

Cited by  
US8038811B2; EP4006177A4

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DE FR

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