

Title (en)  
DUPLEX STAINLESS STEEL

Title (de)  
DUPLIXEDELSTAHL

Title (fr)  
ACIER INOXYDABLE A DEUX COUCHES

Publication  
**EP 1645650 A1 20060412 (EN)**

Application  
**EP 04746980 A 20040629**

Priority  
• JP 2004009511 W 20040629  
• JP 2003188045 A 20030630

Abstract (en)  
A duplex stainless steel having excellent pitting resistance and weldability and particularly a duplex stainless steel which does not form minute intermetallic compounds even in a weld heat affected zone is provided. It has a chemical composition comprising C: at most 0.03%, Si: at most 1.0%, Mn: at most 1.5%, P: at most 0.040%, S: at most 0.008%, Cr: 23.0 - 27.0%, Mo: 2.0 - 4.0%, Ni: 5.0 - 9.0%, W: greater than 1.5% up to 5.0%, N : 0.24 - 0.35%, and a remainder of Fe and impurities and satisfying the relationships  $PREW = Cr + 3.3 ( Mo + 0.5 W ) + 16 N$  is at least 40 and  $Mo + 1.1 Ni \leq 12.5 Mo \leq 0.8 Ni \leq 1.6$  wherein the number of coarse inclusions having the following definition observed in a cross section is at most 10 per mm<sup>2</sup>. Here, coarse inclusions are defined as inclusions containing at least 20 mass % of Al and having a major diameter of at least 5 micrometers.

IPC 1-7  
**C22C 38/00**; **C22C 38/44**; **C22C 38/54**

IPC 8 full level  
**C22C 38/00** (2006.01); **C22C 38/44** (2006.01); **C22C 38/54** (2006.01)

CPC (source: EP US)  
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Cited by  
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**EP 1645650 A1 20060412**; **EP 1645650 A4 20070725**; AU 2004252373 A1 20050106; AU 2004252373 B2 20070222; BR PI0412092 A 20060905; CN 100497704 C 20090610; CN 1816640 A 20060809; JP 4265605 B2 20090520; JP WO2005001151 A1 20060810; KR 100704201 B1 20070409; KR 20060026898 A 20060324; NO 20056009 L 20060111; US 2006191605 A1 20060831; WO 2005001151 A1 20050106

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