

Title (en)  
FERRITIC HEAT-RESISTANT STEEL

Title (de)  
FERRITISCHER HITZEBESTÄNDIGER STAHL

Title (fr)  
ACIER REFRACTAIRE A BASE DE FERRITE

Publication  
**EP 1988182 A4 20131016 (EN)**

Application  
**EP 07708086 A 20070206**

Priority  
• JP 2007051968 W 20070206  
• JP 2006029009 A 20060206

Abstract (en)  
[origin: EP1988182A1] Disclosed is a ferritic heat-resistant steel which has the following chemical composition (by weight) : C: 0.01-0.10%; Si: 0.30-1.0%; P: 0.02 or less; S: 0.010% or less; Mn: 0.2-1.2%; Ni: 0.3% or less; Cr: 8.0-11.0%; Mo: 0.1-1.2%; W: 1.0-2.5%; V: 0.10-0.30%; Nb: 0.02-0.12%; Co: 0.01-4.0%; N: 0.01-0.08%; B: not less than 0.001% and less than 0.010%; Cu: 0.3% or less; and Al: 0.010% or less, provided that the chemical composition satisfies the following equations:  $Mo(\%) + 0.5 \times W(\%) = 1.0-1.6$ , and  $C(\%) + N(\%) = 0.02-0.15\%$ , and which comprises a tempered martensite single-phase tissue produced by thermal refining. The steel shows an excellent long-term creep rupture strength even when used at a steam temperature around 650°C and also has excellent steam oxidizability. When the value represented by the equation:  $Al(\%) + 0.1 \times Ni(\%)$  is adjusted to 0.02 or less, the creep strength can be more stabilized.

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

CPC (source: EP US)  
**C21D 8/105** (2013.01 - EP US); **C21D 9/08** (2013.01 - EP US); **C21D 9/085** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - US); **C22C 38/22** (2013.01 - EP US); **C22C 38/24** (2013.01 - EP US); **C22C 38/26** (2013.01 - EP US); **C22C 38/30** (2013.01 - EP US); **C22C 38/42** (2013.01 - US); **C22C 38/44** (2013.01 - US); **C22C 38/46** (2013.01 - US); **C22C 38/48** (2013.01 - US); **C22C 38/52** (2013.01 - US); **C22C 38/54** (2013.01 - US); **F22B 37/04** (2013.01 - EP US); **F22B 37/10** (2013.01 - EP US); **C21D 2211/005** (2013.01 - EP US); **C21D 2211/008** (2013.01 - EP US)

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