

Title (en)

HIGH TENSILE STEEL EXCELLENT IN HIGH TEMPERATURE STRENGTH AND METHOD FOR PRODUCTION THEREOF

Title (de)

HOCHZUGFESTER STAHL MIT HERVORRAGENDER HOCHTEMPERATURFESTIGKEIT UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

ACIER A HAUTE RESISTANCE PRESENTANT UNE EXCELLENTE RESISTANCE AUX TEMPERATURES ELEVEES ET PROCEDE DE PRODUCTION DE CELUI-CI

Publication

EP 1493828 A4 20110105 (EN)

Application

EP 03715623 A 20030328

Priority

- JP 0304040 W 20030328
- JP 2002094834 A 20020329
- JP 2002095162 A 20020329
- JP 2002144203 A 20020520
- JP 2002313067 A 20021028
- JP 2003086307 A 20030326
- JP 2003086308 A 20030326

Abstract (en)

[origin: WO03087414A1] A high tensile steel excellent in high temperature strength, characterized in that it has the chemical composition, in mass %: C: 0.005 % or more and less than 0.08 %, Si: 0.5 % or less, Mn: 0.1 to 1.6 %, P: 0.02 % or less, S: 0.01 % or less, Mo: 0.1 to 1.5 %, Nb: 0.03 to 0.3 %, Ti: 0.025 % or less, B: 0.0005 to 0.003 %, Al: 0.06 % or less, N: 0.006 % or less, and balance: Fe and inevitable impurities, and preferably, the rate of reduction of the stress thereof from an ordinary temperature to a high temperature (yield stress at a high temperature/yield stress at an ordinary temperature): p satisfies $p \geq -0.0029 \times T + 2.80$, wherein T represents the temperature (°C) of a steel product, in the range of T of 600 to 800 °C; and a method for producing the high tensile steel. The high tensile steel (a steel plate, a steel pipe, a shaped steel product or a wire) has a low content of alloy carbon, and is excellent in the high temperature strength in a temperature range of 600 to 800 °C for a relatively short time of about one hour, and thus can be used for general structures in wide fields of building, civil engineering, marine structures, shipbuilding, storage tanks and the like.

IPC 8 full level

C21C 3/00 (2006.01); **C21D 8/00** (2006.01); **C22C 38/00** (2006.01); **C22C 38/12** (2006.01)

CPC (source: EP KR)

C21D 8/0263 (2013.01 - EP KR); **C21D 9/46** (2013.01 - EP KR); **C22C 38/004** (2013.01 - EP KR); **C22C 38/02** (2013.01 - EP KR); **C22C 38/04** (2013.01 - EP KR); **C22C 38/12** (2013.01 - EP KR); **C22C 38/14** (2013.01 - EP KR); **C21D 2211/002** (2013.01 - EP KR); **C21D 2211/005** (2013.01 - EP KR)

Citation (search report)

- [A] JP H1068044 A 19980310 - NIPPON STEEL CORP
- [A] JP H10259448 A 19980929 - KOBE STEEL LTD
- See references of WO 03087414A1

Cited by

EP1978121A4; WO2006011617A1; US8246768B2

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

WO 03087414 A1 20031023; CN 1643167 A 20050720; EP 1493828 A1 20050105; EP 1493828 A4 20110105; KR 100630402 B1 20061002; KR 20040089746 A 20041021; TW 200305650 A 20031101; TW I235769 B 20050711

DOCDB simple family (application)

JP 0304040 W 20030328; CN 03807395 A 20030328; EP 03715623 A 20030328; KR 20047015211 A 20030328; TW 92107293 A 20030331