

Title (en)

STEEL FOR MACHINE STRUCTURE EXCELLING IN MACHINABILITY AND STRENGTH PROPERTY

Title (de)

STAHL FÜR MASCHINENKONSTRUKTION MIT HERVORRAGENDER BEARBEITBARKEIT UND FESTIGKEIT

Title (fr)

ACIER POUR STRUCTURE MÉCANIQUE PRÉSENTANT UNE EXCELLENTE USINABILITÉ ET UNE EXCELLENTE PROPRIÉTÉ DE RÉSISTANCE

Publication

EP 2060647 A1 20090520 (EN)

Application

EP 07860545 A 20071225

Priority

- JP 2007075350 W 20071225
- JP 2006347928 A 20061225

Abstract (en)

The invention provides a machine structural steel excellent in machinability and strength properties that has good machinability over a broad range of machining speeds and also has high impact properties and high yield ratio, which machine structural steel comprises, in mass%, C: 0.1 to 0.85%, Si: 0.01 to 1.5%, Mn: 0.05 to 2.0%, P: 0.005 to 0.2%, S: 0.001 to 0.15%, total Al: greater than 0.05% and not greater than 0.3%, Sb: less than 0.0150% (including 0%), and total N: 0.0035 to 0.020%, solute N being limited to 0.0020% or less, and a balance of Fe and unavoidable impurities.

IPC 8 full level

C22C 38/00 (2006.01); **C21D 1/28** (2006.01); **C21D 6/02** (2006.01); **C21D 7/13** (2006.01); **C21D 8/00** (2006.01); **C22C 38/60** (2006.01)

CPC (source: EP KR US)

C21D 1/28 (2013.01 - EP KR US); **C21D 6/02** (2013.01 - EP KR US); **C21D 7/13** (2013.01 - EP KR US); **C21D 8/005** (2013.01 - EP KR US); **C22C 38/001** (2013.01 - KR); **C22C 38/002** (2013.01 - KR); **C22C 38/005** (2013.01 - KR); **C22C 38/008** (2013.01 - KR); **C22C 38/02** (2013.01 - KR); **C22C 38/04** (2013.01 - KR); **C22C 38/06** (2013.01 - KR); **C22C 38/60** (2013.01 - KR); **C21D 2211/004** (2013.01 - EP US); **C21D 2211/005** (2013.01 - EP US)

Cited by

CN113913704A; EP2520682A4; EP2927340A1; EP3266899A3

Designated contracting state (EPC)

DE FR GB IT

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

EP 2060647 A1 20090520; **EP 2060647 A4 20160713**; **EP 2060647 B1 20171115**; AU 2007342838 A1 20080717; AU 2007342838 B2 20100401; AU 2010200638 A1 20100311; AU 2010200638 B2 20130502; BR 122013026772 B1 20180109; BR PI0710842 A2 20110823; BR PI0710842 B1 20180911; CN 101410541 A 20090415; CN 101410541 B 20111116; JP 4568362 B2 20101027; JP WO2008084749 A1 20100430; KR 101162743 B1 20120705; KR 20080102382 A 20081125; KR 20110133501 A 20111212; US 2009274573 A1 20091105; US 2010124515 A1 20100520; WO 2008084749 A1 20080717

DOCDB simple family (application)

EP 07860545 A 20071225; AU 2007342838 A 20071225; AU 2010200638 A 20100219; BR 122013026772 A 20071225; BR PI0710842 A 20071225; CN 200780010959 A 20071225; JP 2007075350 W 20071225; JP 2008519751 A 20071225; KR 20087021626 A 20071225; KR 20117027724 A 20071225; US 22589707 A 20071225; US 65747310 A 20100120