

Title (en)
HIGH-STRENGTH STEEL MEMBER

Title (de)
HOCHFESTES STAHELEMENT

Title (fr)
ÉLÉMENT EN ACIER HAUTEMENT RÉSISTANT

Publication
EP 3643803 A4 20201028 (EN)

Application
EP 18820105 A 20180622

Priority

- JP 2017123347 A 20170623
- JP 2018023905 W 20180622

Abstract (en)
[origin: EP3643803A1] A high-strength steel member having a predetermined chemical composition, having a tensile strength of 1,000 MPa or higher, containing 0.10% or more of, in terms of percent (%) by area, at least one Ti precipitate that has an average size of from 30 to 200 nm in terms of an average equivalent circle diameter and is selected from the group consisting of a Ti carbide, a Ti nitride, and a composite compound thereof, at a location of 1 mm in depth from a surface of the steel member, and containing 0.5 ppm by mass or more of non-diffusible hydrogen that is released in a temperature range of from 400 to 800°C in a thermal desorption hydrogen analysis.

IPC 8 full level
C22C 38/00 (2006.01); **C21D 1/06** (2006.01); **C21D 6/00** (2006.01); **C21D 8/06** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/20** (2006.01); **C22C 38/22** (2006.01); **C22C 38/24** (2006.01); **C22C 38/26** (2006.01); **C22C 38/28** (2006.01); **C22C 38/32** (2006.01); **C22C 38/38** (2006.01); **C22C 38/50** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP KR US)
C21D 1/06 (2013.01 - EP KR); **C21D 6/002** (2013.01 - EP US); **C21D 6/005** (2013.01 - EP US); **C21D 6/008** (2013.01 - EP US); **C21D 8/06** (2013.01 - EP KR); **C21D 8/065** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/004** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US); **C22C 38/20** (2013.01 - EP US); **C22C 38/22** (2013.01 - EP US); **C22C 38/24** (2013.01 - EP US); **C22C 38/26** (2013.01 - EP US); **C22C 38/28** (2013.01 - EP US); **C22C 38/32** (2013.01 - EP US); **C22C 38/38** (2013.01 - EP); **C22C 38/44** (2013.01 - KR); **C22C 38/50** (2013.01 - EP US); **C22C 38/58** (2013.01 - EP KR)

Citation (search report)

- [X] US 6085692 A 20000711 - ADAMS KENNETH P [US]
- [A] JP 2015178673 A 20151008 - KOBE STEEL LTD
- [A] JP 2014101565 A 20140605 - JFE BARS & SHAPES CORP
- [A] JP 2002069572 A 20020308 - NIPPON STEEL CORP, et al
- [A] WO 2011077904 A1 20110630 - YAMAHA MOTOR CO LTD [JP], et al
- See references of WO 2018235962A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
EP 3643803 A1 20200429; **EP 3643803 A4 20201028**; CN 110651061 A 20200103; JP 6816826 B2 20210120; JP WO2018235962 A1 20200326; KR 20190139941 A 20191218; US 2020131609 A1 20200430; WO 2018235962 A1 20181227

DOCDB simple family (application)
EP 18820105 A 20180622; CN 201880033310 A 20180622; JP 2018023905 W 20180622; JP 2019525717 A 20180622; KR 20197033299 A 20180622; US 201816624122 A 20180622