

Title (en)  
LOW ALLOYED STEEL WITH HIGH YIELD STRENGTH AND HIGH SULFIDE STRESS CRACKING RESISTANCE

Title (de)  
NIEDRIGLEGIERTER STAHL MIT HOHER DEHNGRENZE UND HOHER SULFID-SPANNUNGSRISSBESTÄNDIGKEIT

Title (fr)  
ACIER FAIBLEMENT ALLIÉ À LIMITE D'ÉLASTICITÉ ÉLEVÉE ET HAUTE RÉSISTANCE À LA FISSURATION SOUS CONTRAINTE PAR LES SULFURES

Publication  
**EP 2593574 B1 20170322 (FR)**

Application  
**EP 11720496 A 20110519**

Priority  
• FR 1054418 A 20100604  
• EP 2011058134 W 20110519

Abstract (en)  
[origin: WO2011151186A1] Steel containing, by weight: 0.3 to 0.5% C; 0.1 to 1% Si; 1% Mn or less; 0.03% P or less; 0.005% S or less; 0.3 to 1% Cr; 1 to 2% Mo; 0.3 to 1% W; 0.03 to 0.25% V; 0.01 to 0.15% Nb; 0.01 to 0.1% Al, the balance of the chemical composition of the steel consisting of Fe and impurities or residuals resulting from or as a necessary consequence of the smelting and casting processes carried out on the steel. The steel serves for manufacturing weldless pipes for hydrocarbon wells, the yield strength of the steel after heat treatment being equal to or greater than 862 MPa, or even equal to or greater than 965 MPa.

IPC 8 full level  
**C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/12** (2006.01); **C22C 38/22** (2006.01); **C22C 38/24** (2006.01); **C22C 38/26** (2006.01)

CPC (source: EP US)  
**C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/12** (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)

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)  
**FR 2960883 A1 20111209**; **FR 2960883 B1 20120713**; AR 081190 A1 20120704; AU 2011260493 A1 20130110; AU 2011260493 B2 20150730; BR 112012030817 A2 20161101; BR 112012030817 A8 20180327; CA 2801012 A1 20111208; CA 2801012 C 20180501; CN 102939400 A 20130220; CN 102939400 B 20160803; EA 023196 B1 20160531; EA 201270785 A1 20130430; EP 2593574 A1 20130522; EP 2593574 B1 20170322; JP 2013534563 A 20130905; JP 5856608 B2 20160210; MX 2012014058 A 20121217; MX 347581 B 20170502; MY 161469 A 20170414; SA 111320502 B1 20140910; UA 106660 C2 20140925; US 2013061988 A1 20130314; US 9273383 B2 20160301; WO 2011151186 A1 20111208

DOCDB simple family (application)  
**FR 1054418 A 20100604**; AR P110101661 A 20110513; AU 2011260493 A 20110519; BR 112012030817 A 20110519; CA 2801012 A 20110519; CN 201180027251 A 20110519; EA 201270785 A 20110519; EP 11720496 A 20110519; EP 2011058134 W 20110519; JP 2013512825 A 20110519; MX 2012014058 A 20110519; MY P12012005239 A 20110519; SA 111320502 A 20110601; UA A201213859 A 20110519; US 201113698909 A 20110519