

Title (en)

LOW YIELD RATIO DUAL PHASE STEEL LINEPIPE WITH SUPERIOR STRAIN AGING RESISTANCE

Title (de)

DUALPHASENSTAHLLEITUNGSROHR MIT KLEINEM STRECKGRENZENVERHÄLTNIS UND ÜBERLEGENER RECKALTERUNGSBESTÄNDIGKEIT

Title (fr)

TUYAU DE CANALISATION EN ACIER BIPHASÉ À FAIBLE RAPPORT D'ÉCOULEMENT AYANT UNE RÉSISTANCE SUPÉRIEURE AU VIEILLISSEMENT APRÈS ÉCROUissage

Publication

EP 2089556 B1 20190501 (EN)

Application

EP 07841597 A 20070830

Priority

- US 2007077202 W 20070830
- US 85021606 P 20061006

Abstract (en)

[origin: WO2008045631A2] A steel composition and method from making a dual phase steel therefrom. In at least one embodiment, the dual phase steel comprises carbon in an amount of about 0.05% by weight to about 0.12 wt%; niobium in an amount of about 0.005 wt % to about 0.03 wt%; titanium in an amount of about 0.005 wt% to about 0.02 wt%; nitrogen in an amount of about 0.001 wt% to about 0.01 wt%; silicon in an amount of about 0.01 wt% to about 0.5 wt%; manganese in an amount of about 0.5 wt% to about 2.0 wt%; and a total of molybdenum, chromium, vanadium and copper less than about 0.15 wt%. The steel has a first phase consisting of ferrite and a second phase comprising one or more constituents selected from the group consisting of carbide, pearlite, martensite, lower bainite, granular bainite, upper bainite, and degenerate upper bainite. A solute carbon content in the first phase is about 0.01 wt% or less.

IPC 8 full level

C22C 38/00 (2006.01); **C21D 8/02** (2006.01); **C21D 9/08** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/08** (2006.01); **C22C 38/12** (2006.01); **C22C 38/14** (2006.01)

CPC (source: EP KR)

C21D 8/0205 (2013.01 - EP); **C21D 8/0226** (2013.01 - EP KR); **C21D 9/085** (2013.01 - EP); **C22C 38/001** (2013.01 - EP KR); **C22C 38/02** (2013.01 - EP KR); **C22C 38/04** (2013.01 - EP KR); **C22C 38/08** (2013.01 - EP KR); **C22C 38/12** (2013.01 - EP KR); **C22C 38/14** (2013.01 - EP KR); **C21D 2211/005** (2013.01 - KR)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2008045631 A2 20080417; **WO 2008045631 A3 20090416**; CN 101611163 A 20091223; CN 101611163 B 20130109; EP 2089556 A2 20090819; EP 2089556 A4 20111005; EP 2089556 B1 20190501; JP 2010506044 A 20100225; JP 2014062333 A 20140410; JP 5745222 B2 20150708; JP 5860907 B2 20160216; KR 20090078807 A 20090720

DOCDB simple family (application)

US 2007077202 W 20070830; CN 200780043094 A 20070830; EP 07841597 A 20070830; JP 2009531512 A 20070830; JP 2014002721 A 20140109; KR 20097008671 A 20070830