

Title (en)

METHOD OF POST WELD HEAT TREATMENT OF A LOW ALLOY STEEL PIPE

Title (de)

VERFAHREN ZUR WÄRMENACHBEHANDLUNG EINES NIEDRIGLEGIERTEN STAHLROHRES

Title (fr)

PROCÉDÉ DE TRAITEMENT THERMIQUE APRÈS SOUDAGE D'UN TUYAU EN ACIER FAIBLEMENT ALLIÉ

Publication

EP 2803741 A1 20141119 (EN)

Application

EP 12864721 A 20121217

Priority

- JP 2012004204 A 20120112
- JP 2012082608 W 20121217

Abstract (en)

A low alloy steel subjected to post weld heat treatment, containing, by mass percent, of C: 0.01 to 0.15%, Si: 3% or less, Mn: 3% or less, and Al: 0.08% or less, one or more kinds of elements selected from Ti, V and Nb: the range satisfying Formula (1), and the balance being Fe and impurities, wherein in the impurities, N: 0.01% or less, P: 0.05% or less, S: 0.03% or less, and O: 0.03% or less: where, the symbol of element in the formula represents the content (mass%) of each element. In the alloy steel, a HAZ subjected to PWHT, especially short-time PWHT, has excellent hydrogen embrittlement resistance in wet hydrogen sulfide environments or the like.

IPC 8 full level

C22C 38/00 (2006.01); **C21D 9/08** (2006.01); **C21D 9/50** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/08** (2006.01); **C22C 38/12** (2006.01); **C22C 38/14** (2006.01); **C22C 38/18** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP US)

C21D 9/08 (2013.01 - EP US); **C21D 9/50** (2013.01 - EP US); **C22C 38/00** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/002** (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 38/08** (2013.01 - EP US); **C22C 38/12** (2013.01 - EP US); **C22C 38/14** (2013.01 - EP US); **C22C 38/18** (2013.01 - EP US); **C22C 38/22** (2013.01 - US); **C22C 38/24** (2013.01 - US); **C22C 38/26** (2013.01 - US); **C22C 38/28** (2013.01 - US); **C22C 38/32** (2013.01 - US); **C22C 38/38** (2013.01 - US); **C22C 38/42** (2013.01 - US); **C22C 38/44** (2013.01 - US); **C22C 38/48** (2013.01 - US); **C22C 38/54** (2013.01 - 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)

EP 2803741 A1 20141119; **EP 2803741 A4 20151202**; **EP 2803741 B1 20190807**; AU 2012365129 A1 20140717; AU 2012365129 B2 20151105; BR 112014017219 A2 20170613; BR 112014017219 A8 20170704; CA 2861740 A1 20130718; CA 2861740 C 20160906; CN 104040005 A 20140910; JP 2013142190 A 20130722; JP 5370503 B2 20131218; MX 2014007692 A 20140821; US 2015047749 A1 20150219; WO 2013105396 A1 20130718

DOCDB simple family (application)

EP 12864721 A 20121217; AU 2012365129 A 20121217; BR 112014017219 A 20121217; CA 2861740 A 20121217; CN 201280066898 A 20121217; JP 2012004204 A 20120112; JP 2012082608 W 20121217; MX 2014007692 A 20121217; US 201214371044 A 20121217