

Title (en)

HIGH-STRENGTH ELECTRICAL-RESISTANCE-WELDED STEEL PIPE AND MANUFACTURING METHOD THEREFOR

Title (de)

HOCHFESTES WIDERSTANDSGESCHWEISSTES STAHLROHR UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

TUBE D'ACIER À HAUTE RÉSISTANCE SOUDÉ PAR RÉSISTANCE ÉLECTRIQUE ET SON PROCÉDÉ DE FABRICATION

Publication

EP 2551366 B1 20170517 (EN)

Application

EP 11759643 A 20110323

Priority

- JP 2011015076 A 20110127
- JP 2010068499 A 20100324
- JP 2011057928 W 20110323

Abstract (en)

[origin: EP2551366A1] A high-strength electric resistance welded steel tube suitable for use in shock absorbing members of automobiles is provided. The high-strength electric resistance welded steel tube has a composition including, in terms of percent by mass, C: 0.05 to 0.20%, Si: 0.5 to 2.0%, Mn: 1.0 to 3.0%, P: 0.1% or less, S: 0.01% or less, Al: 0.01 to 0.1%, N: 0.005% or less, and the balance being Fe and unavoidable impurities; and a structure which is a dual phase structure including a ferrite phase and a martensite phase, with a volume ratio of the martensite phase being 20 to 60%, wherein a tensile strength TS is 1180 MPa or more, an elongation El in a tube axis direction is 10% or more, and a yield ratio is less than 90%; and after application of a 2% prestrain and baking finishing that includes a heat treatment of 170°C × 10 min, a strength increase (BH value) is 100 MPa or more and a yield ratio is 90% or more.

IPC 8 full level

B21C 37/08 (2006.01); **C21D 8/02** (2006.01); **C21D 9/08** (2006.01); **C21D 9/46** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01)

CPC (source: EP KR US)

B21C 37/08 (2013.01 - EP US); **C21D 8/02** (2013.01 - KR); **C21D 8/0205** (2013.01 - EP US); **C21D 9/08** (2013.01 - EP US); **C21D 9/46** (2013.01 - EP KR US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP KR US); **C22C 38/58** (2013.01 - KR); **C21D 2211/005** (2013.01 - EP US); **C21D 2211/008** (2013.01 - EP US)

Cited by

EP3476953A4; US11332812B2

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 2551366 A1 20130130; **EP 2551366 A4 20150715**; **EP 2551366 B1 20170517**; CN 102822374 A 20121212; CN 102822374 B 20141217; JP 2012167358 A 20120906; JP 4957854 B1 20120620; KR 101315568 B1 20131008; KR 20120123602 A 20121108; US 2013160889 A1 20130627; WO 2011118841 A1 20110929

DOCDB simple family (application)

EP 11759643 A 20110323; CN 201180015165 A 20110323; JP 2011057928 W 20110323; JP 2011063779 A 20110323; KR 20127026473 A 20110323; US 201113636857 A 20110323