

Title (en)
HEAVY-WALLED STEEL PLATE HAVING 450MPA-GRADE TENSILE STRENGTH AND EXCELLENT RESISTANCE TO HYDROGEN INDUCED CRACKING AND METHOD FOR MANUFACTURING SAME

Title (de)
DICKWANDIGE STAHLPLATTE MIT 450MPA-GRAD-ZUGFESTIGKEIT UND HERVORRAGENDER BESTÄNDIGKEIT GEGEN WASSERSTOFFINDUZIERTER RISSBILDUNG SOWIE VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)
MATÉRIAU D'ACIER À PAROI ÉPAISSE DOTÉ D'UNE RÉSISTANCE À LA TRACTION DE 450 MPA ET D'UNE EXCELLENTE RÉSISTANCE À LA FISSURATION INDUITE PAR HYDROGÈNE, ET PROCÉDÉ DE FABRICATION D'UN TEL MATÉRIAU D'ACIER À PAROI ÉPAISSE

Publication
EP 3561106 A1 20191030 (EN)

Application
EP 17882598 A 20171124

Priority
• KR 20160176896 A 20161222
• KR 2017013550 W 20171124

Abstract (en)
The present disclosure relates to a heavy-wall steel plate having 450MPa-grade tensile strength and excellent resistance to hydrogen induced cracking, and a method for manufacturing the same. The heavy-wall steel plate includes, by weight, carbon (C): 0.03% to 0.06%, silicon (Si): 0.2% to 0.4%, manganese (Mn): 1.0% to 1.6%, phosphorus (P): 0.03% or less, sulfur (S): 0.003% or less, aluminum (Al): 0.06% or less, nitrogen (N): 0.01% or less, copper (Cu): 0.05% to 0.4%, nickel (Ni): 0.05% to 0.5%, calcium (Ca): 0.0005% to 0.003%, a balance of iron (Fe), and other unavoidable impurities, wherein a thickness of the heavy-wall steel plate is 40 mm or more.

IPC 8 full level
C22C 38/04 (2006.01); **C21D 1/28** (2006.01); **C21D 8/02** (2006.01); **C22C 38/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/06** (2006.01); **C22C 38/08** (2006.01); **C22C 38/12** (2006.01); **C22C 38/14** (2006.01); **C22C 38/16** (2006.01)

CPC (source: EP KR US)
C21D 1/28 (2013.01 - EP KR US); **C21D 6/004** (2013.01 - US); **C21D 6/005** (2013.01 - US); **C21D 6/008** (2013.01 - US); **C21D 8/0205** (2013.01 - US); **C21D 8/0226** (2013.01 - EP KR US); **C21D 8/0263** (2013.01 - EP KR US); **C21D 9/46** (2013.01 - KR US); **C22C 38/001** (2013.01 - EP KR); **C22C 38/002** (2013.01 - KR US); **C22C 38/02** (2013.01 - EP KR US); **C22C 38/04** (2013.01 - EP KR); **C22C 38/06** (2013.01 - EP KR US); **C22C 38/08** (2013.01 - EP KR); **C22C 38/12** (2013.01 - EP); **C22C 38/14** (2013.01 - EP); **C22C 38/16** (2013.01 - EP KR); **C22C 38/42** (2013.01 - US); **C22C 38/44** (2013.01 - US); **C22C 38/46** (2013.01 - US); **C22C 38/48** (2013.01 - US); **C22C 38/50** (2013.01 - US); **C22C 38/58** (2013.01 - US); **C21D 2211/005** (2013.01 - EP US); **C21D 2211/009** (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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 3561106 A1 20191030; **EP 3561106 A4 20191030**; CN 110114490 A 20190809; JP 2020503445 A 20200130; KR 101889189 B1 20180816; KR 20180073256 A 20180702; US 2019382865 A1 20191219; WO 2018117449 A1 20180628; WO 2018117449 A8 20190103

DOCDB simple family (application)
EP 17882598 A 20171124; CN 201780079763 A 20171124; JP 2019533605 A 20171124; KR 20160176896 A 20161222; KR 2017013550 W 20171124; US 201716471268 A 20171124