

Title (en)

HEAT TREATED COLD ROLLED STEEL SHEET AND A METHOD OF MANUFACTURING THEREOF

Title (de)

WÄRMEBEHANDELTES KALTGEWALZTES STAHLBLECH UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)

TÔLE D'ACIER LAMINÉE À FROID ET TRAITÉE THERMIQUEMENT ET PROCÉDÉ DE FABRICATION DE CELLE-CI

Publication

EP 4176092 A1 20230510 (EN)

Application

EP 21736390 A 20210701

Priority

- IB 2020056330 W 20200706
- IB 2021055898 W 20210701

Abstract (en)

[origin: WO2022008949A1] A cold rolled steel sheet having a composition comprising of 0.05 % \leq Carbon \leq 0.15 %, 1.8% \leq Manganese \leq 2.7%, 0.1% \leq Silicon \leq 1%, 0.01% \leq Aluminum \leq 0.8%, 0.1% \leq Chromium \leq 0.9%, 0% \leq Phosphorus \leq 0.09%, 0.0001% \leq Titanium \leq 0.1%, 0.0005% \leq Boron \leq 0.003%, 0.01% \leq Niobium \leq 0.1%, 0 % \leq Sulfur \leq 0.09 %, 0 % \leq Nitrogen \leq 0.09%, 0% \leq Vanadium \leq 0.2%, 0% \leq Molybdenum \leq 0.2%, 0% \leq Nickel \leq 2%, 0% \leq Copper \leq 2%, 0% \leq Calcium \leq 0.005%, 0% \leq Cerium \leq 0.1%, 0% \leq Magnesium # 0.05%, 0% \leq Zirconium # 0.05%, the remainder being composed of iron and unavoidable impurities caused by processing, the microstructure of said steel sheet comprising in area fraction, 40% to 60% martensite, 5 to 40% of inter-critical ferrite, a cumulated amount of 10 to 35% of transformed ferrite and bainite and 0% to 5% of residual austenite.

IPC 8 full level

C21D 8/02 (2006.01); **C21D 1/20** (2006.01); **C21D 6/02** (2006.01); **C22C 38/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/06** (2006.01); **C22C 38/22** (2006.01); **C22C 38/26** (2006.01); **C22C 38/28** (2006.01); **C22C 38/32** (2006.01); **C22C 38/38** (2006.01); **C23C 2/02** (2006.01); **C23C 2/06** (2006.01)

CPC (source: EP KR US)

B21B 1/22 (2013.01 - US); **B21B 3/02** (2013.01 - US); **C21D 1/20** (2013.01 - EP); **C21D 6/002** (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 8/0236** (2013.01 - EP KR US); **C21D 8/0247** (2013.01 - EP KR); **C21D 8/0263** (2013.01 - EP KR US); **C21D 9/46** (2013.01 - KR US); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/002** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP KR US); **C22C 38/22** (2013.01 - EP); **C22C 38/26** (2013.01 - EP KR); **C22C 38/28** (2013.01 - EP KR); **C22C 38/32** (2013.01 - EP KR); **C22C 38/38** (2013.01 - EP KR); **C22C 38/44** (2013.01 - US); **C22C 38/48** (2013.01 - US); **C22C 38/50** (2013.01 - US); **C22C 38/58** (2013.01 - KR US); **C23C 2/02** (2013.01 - EP KR US); **C23C 2/0224** (2022.08 - EP KR US); **C23C 2/024** (2022.08 - EP KR US); **C23C 2/06** (2013.01 - EP KR); **B21B 2001/221** (2013.01 - US); **C21D 2211/001** (2013.01 - US); **C21D 2211/002** (2013.01 - EP KR US); **C21D 2211/005** (2013.01 - EP KR US); **C21D 2211/008** (2013.01 - EP KR US)

Citation (search report)

See references of WO 2022009032A1

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

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BA ME

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KH MA MD TN

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