

Title (en)
HIGH-MN STEEL AND PRODUCTION METHOD THEREFOR

Title (de)
STAHL MIT HOHEM MN-GEHALT UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
ACIER RICHE EN MN ET SON PROCÉDÉ DE PRODUCTION

Publication
EP 3677700 B1 20230510 (EN)

Application
EP 18851150 A 20180829

Priority
• JP 2017168857 A 20170901
• JP 2018032022 W 20180829

Abstract (en)
[origin: EP3677700A1] Provided is high-Mn steel excellent in low-temperature toughness which can suppress costs of materials and production, the steel including: a chemical composition containing, in mass%, C: 0.100% or more and 0.700% or less, Si: 0.05% or more and 1.00% or less, Mn: 20.0% or more and 35.0% or less, P: 0.030% or less, S: 0.0070% or less, Al: 0.01% or more and 0.07% or less, Cr: 0.5% or more and 7.0% or less, N: 0.0050% or more and 0.0500% or less, O: 0.0050% or less, Ti: 0.0050% or less, and Nb: 0.0050% or less with the balance being Fe and inevitable impurities; and a microstructure having austenite as a matrix phase, in which the microstructure has a Mn segregation portion with a Mn concentration of 16% or more and 38% or less, and the high-Mn steel has an average KAM value of 0.3 or more.

IPC 8 full level
C22C 38/00 (2006.01); **C21D 8/02** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/38** (2006.01)

CPC (source: EP KR)
C21D 8/02 (2013.01 - EP); **C21D 8/0226** (2013.01 - EP KR); **C21D 8/0263** (2013.01 - KR); **C22C 38/00** (2013.01 - EP); **C22C 38/001** (2013.01 - EP); **C22C 38/02** (2013.01 - EP); **C22C 38/04** (2013.01 - EP); **C22C 38/06** (2013.01 - EP); **C22C 38/22** (2013.01 - KR); **C22C 38/24** (2013.01 - KR); **C22C 38/38** (2013.01 - EP KR); **C21D 2211/001** (2013.01 - EP)

Cited by
EP4249621A4; US11959157B2

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 3677700 A1 20200708; **EP 3677700 A4 20200708**; **EP 3677700 B1 20230510**; BR 112020003351 A2 20200818; CN 111051553 A 20200421; CN 111051553 B 20220412; JP 2021036077 A 20210304; JP 6856129 B2 20210407; JP 7063364 B2 20220509; JP WO2019044928 A1 20200326; KR 102355570 B1 20220125; KR 20200033901 A 20200330; MY 194444 A 20221130; PH 12020550068 A1 20210208; SG 11202001418Y A 20200330; WO 2019044928 A1 20190307

DOCDB simple family (application)
EP 18851150 A 20180829; BR 112020003351 A 20180829; CN 201880055742 A 20180829; JP 2018032022 W 20180829; JP 2019539597 A 20180829; JP 2020184625 A 20201104; KR 20207004808 A 20180829; MY PI2020000867 A 20180829; PH 12020550068 A 20200228; SG 11202001418Y A 20180829