

Title (en)

HIGH-MN STEEL AND METHOD FOR MANUFACTURING SAME

Title (de)

STAHL MIT HOHEM MN-GEHALT UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)

ACIER À HAUTE TENEUR EN MN ET PROCÉDÉ DE FABRICATION D'UN TEL ACIER

Publication

EP 3926057 A4 20220518 (EN)

Application

EP 20756282 A 20200210

Priority

- JP 2019022910 A 20190212
- JP 2020005017 W 20200210

Abstract (en)

[origin: EP3926057A1] Provided is high-Mn steel having high strength, and excellent low-temperature toughness and ductility, the high-Mn steel having a chemical composition containing, in mass%, C:0.10-0.70%, Si:0.10-0.90%, Mn:20-30%, P:0.030% or less, S:0.0070% or less, Al:0.01—0.07%, Cr:1.8—7.0%, Ni:0.01% or more and less than 1.0%, Ca:0.0005-0.010% or less, N:0.0050-0.0500%, O:0.0050% or less, Ti:0.0050% or less and Nb:0.0050% or less, satisfying $Ca/S \geq 1.0$, with the balance being Fe and inevitable impurities; a microstructure containing austenite as a matrix; a yield stress of 400MPa or more; and an average Charpy impact absorbed energy at -196°C of 100J or more for a full-sized test piece and 20J or more for a half-sized test piece.

IPC 8 full level

C22C 38/58 (2006.01); **C21D 1/02** (2006.01); **C21D 6/00** (2006.01); **C21D 8/02** (2006.01); **C21D 9/46** (2006.01); **C22C 38/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/06** (2006.01); **C22C 38/42** (2006.01); **C22C 38/44** (2006.01); **C22C 38/46** (2006.01); **C22C 38/48** (2006.01); **C22C 38/50** (2006.01)

CPC (source: EP KR)

C21D 1/02 (2013.01 - EP); **C21D 6/002** (2013.01 - EP); **C21D 6/004** (2013.01 - EP); **C21D 6/005** (2013.01 - EP); **C21D 8/02** (2013.01 - EP); **C21D 8/0205** (2013.01 - EP); **C21D 8/021** (2013.01 - EP); **C21D 8/0226** (2013.01 - EP KR); **C21D 8/0247** (2013.01 - EP); **C21D 8/0263** (2013.01 - EP); **C21D 9/46** (2013.01 - EP); **C22C 38/001** (2013.01 - EP KR); **C22C 38/002** (2013.01 - EP); **C22C 38/005** (2013.01 - EP); **C22C 38/02** (2013.01 - EP); **C22C 38/06** (2013.01 - EP); **C22C 38/42** (2013.01 - EP KR); **C22C 38/44** (2013.01 - EP KR); **C22C 38/46** (2013.01 - EP KR); **C22C 38/48** (2013.01 - EP KR); **C22C 38/50** (2013.01 - EP KR); **C21D 2211/001** (2013.01 - EP KR)

Citation (search report)

- [XJ] JP 2017155300 A 20170907 - NIPPON STEEL & SUMITOMO METAL CORP
- [IJ] WO 2018199145 A1 20181101 - JFE STEEL CORP [JP]
- [A] JP 2007126715 A 20070524 - SUMITOMO METAL IND
- [A] JP 2017071817 A 20170413 - NIPPON STEEL & SUMITOMO METAL CORP
- [AD] JP 2016084529 A 20160519 - NIPPON STEEL & SUMITOMO METAL CORP
- [A] JP S60128242 A 19850709 - NIPPON STEEL CORP
- See also references of WO 2020166538A1

Designated contracting state (EPC)

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