

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 3617337 A1 20200304 (EN)

Application
EP 18790123 A 20180425

Priority
• JP 2017087702 A 20170426
• JP 2018016764 W 20180425

Abstract (en)
Provided is a method of further imparting excellent ductility to high-Mn steel exhibiting excellent low-temperature toughness in a base metal and a heat-affected zone after welding. The high-Mn steel has a chemical composition containing, in mass%, C: 0.10 % to 0.70 %, Si: 0.05 % to 1.0 %, Mn: 15 % to 30 %, P: 0.030 % or less, S: 0.0070 % or less, Al: 0.01 % to 0.07 %, Cr: 0.5 % to 7.0 %, N: 0.0050 % to 0.0500 %, O: 0.0050 % or less, Ti: less than 0.005 %, and Nb: less than 0.005 %, with the balance being Fe and inevitable impurities, has a microstructure containing austenite as a matrix phase, and, in the microstructure, nonmetallic inclusions with an area fraction of less than 5.0 %, and exhibits a yield stress of 400 MPa or more and an absorbed energy (\sqrt{E} of 100 J or more.

IPC 8 full level
C22C 38/00 (2006.01); **C21D 8/02** (2006.01); **C22C 38/38** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP KR)
C21D 8/02 (2013.01 - EP KR); **C21D 8/0205** (2013.01 - EP); **C21D 8/0226** (2013.01 - EP); **C21D 9/46** (2013.01 - EP); **C22C 38/00** (2013.01 - EP); **C22C 38/001** (2013.01 - EP); **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 38/20** (2013.01 - EP); **C22C 38/22** (2013.01 - EP); **C22C 38/24** (2013.01 - EP); **C22C 38/26** (2013.01 - EP); **C22C 38/28** (2013.01 - EP); **C22C 38/38** (2013.01 - EP KR); **C22C 38/42** (2013.01 - EP); **C22C 38/48** (2013.01 - EP); **C22C 38/50** (2013.01 - EP); **C22C 38/58** (2013.01 - EP KR)

Designated contracting state (EPC)
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Designated extension state (EPC)
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