

Title (en)  
HIGH-MN STEEL AND METHOD FOR MANUFACTURING SAME

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

Title (fr)  
ACIER RICHE EN MN, ET PROCÉDÉ DE FABRICATION DE CELUI-CI

Publication  
**EP 3722448 B1 20240306 (EN)**

Application  
**EP 18886695 A 20181206**

Priority

- JP 2017235188 A 20171207
- JP 2018044941 W 20181206

Abstract (en)  
[origin: EP3722448A1] Provided is a high-Mn steel which not only has high strength and excellent low-temperature toughness but also has excellent CTOD property at low temperatures. The high-Mn steel has a chemical composition containing, in mass%, C: 0.10 % or more and 0.70 % or less, Si: 0.05 % or more and 0.50 % or less, Mn: 20 % or more and 30 % 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, Ni: 0.01 % or more and less than 0.1 %, Ca: 0.0005 % or more and 0.0050 % or less, N: 0.0050 % or more and 0.0500 % or less, O: 0.0050 % or less, Ti: less than 0.0050 %, and Nb: less than 0.0050 %, the balance consisting of Fe and inevitable impurities, and a microstructure having austenite as a base phase, where the austenite has a grain size of 1  $\mu\text{m}$  or more and a standard deviation of 9  $\mu\text{m}$  or less.

IPC 8 full level  
**C22C 38/00** (2006.01); **C21D 6/00** (2006.01); **C21D 8/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP KR US)  
**C21D 6/005** (2013.01 - EP US); **C21D 8/02** (2013.01 - EP); **C21D 8/0205** (2013.01 - US); **C21D 8/0226** (2013.01 - KR US); **C21D 8/0273** (2013.01 - KR); **C21D 9/46** (2013.01 - US); **C22C 38/00** (2013.01 - EP); **C22C 38/001** (2013.01 - KR US); **C22C 38/002** (2013.01 - US); **C22C 38/005** (2013.01 - US); **C22C 38/02** (2013.01 - US); **C22C 38/04** (2013.01 - EP); **C22C 38/06** (2013.01 - US); **C22C 38/42** (2013.01 - US); **C22C 38/44** (2013.01 - KR US); **C22C 38/46** (2013.01 - KR US); **C22C 38/48** (2013.01 - KR US); **C22C 38/50** (2013.01 - KR US); **C22C 38/58** (2013.01 - EP KR US); **C21D 2211/001** (2013.01 - EP US)

Designated contracting state (EPC)  
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