

Title (en)

HIGH MANGANESE STEEL HAVING EXCELLENT OXYGEN CUTTING PROPERTIES, AND MANUFACTURING METHOD THEREFOR

Title (de)

MANGANREICHER STAHL MIT AUSGEZEICHNETEN SAUERSTOFFSCHNEIDEIGENSCHAFTEN UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

ACIER À HAUTE TENEUR EN MANGANÈSE AYANT D'EXCELLENTE PROPRIÉTÉS DE COUPE À L'OXYGÈNE ET PROCÉDÉ DE FABRICATION S'Y RAPPORTANT

Publication

**EP 3872214 A1 20210901 (EN)**

Application

**EP 19876472 A 20191025**

Priority

- KR 20180128502 A 20181025
- KR 20190118923 A 20190926
- KR 2019014184 W 20191025

Abstract (en)

The high manganese steel having excellent oxygen cutting properties, according to one aspect of the present invention, comprises 0.1-0.5 wt% of carbon (C), 20-26 wt% of manganese (Mn), 0.05-0.4 wt% of silicon (Si), at most 2.0 wt% of aluminum (Al), and at most 4 wt% of chromium (Cr), with the remainder being Fe and other unavoidable impurities, and has a cutting sensitivity (Sc), calculated according to [relational expression 1] below, of at least 430 and may comprise at least 95 area% of austenite as a microstructure. [Relational expression 1] Cutting sensitivity (Sc) =  $1742 - 662*[C] - 19.2*[Mn] + 1.6*[Al] - 140*[Cr]$  (In [relational expression 1], [C], [Mn], [Al], and [Cr] represent the respective percentages by weight of C, Mn, Al, and Cr included in the steel and, if the elements concerned are not included, represent 0.)

IPC 8 full level

**C22C 38/38** (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 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/32** (2006.01)

CPC (source: EP KR)

**C21D 1/02** (2013.01 - EP); **C21D 6/00** (2013.01 - EP); **C21D 6/002** (2013.01 - EP); **C21D 6/005** (2013.01 - EP); **C21D 8/02** (2013.01 - EP); **C21D 8/0205** (2013.01 - EP); **C21D 8/0226** (2013.01 - EP KR); **C21D 8/0263** (2013.01 - EP KR); **C21D 9/46** (2013.01 - EP); **C22C 38/02** (2013.01 - EP KR); **C22C 38/04** (2013.01 - EP KR); **C22C 38/06** (2013.01 - EP KR); **C22C 38/32** (2013.01 - EP KR); **C22C 38/38** (2013.01 - EP KR); **C21D 2211/001** (2013.01 - EP KR); **C21D 2261/00** (2013.01 - EP)

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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**EP 3872214 A1 20210901**; **EP 3872214 A4 20210901**; CN 112912526 A 20210604; CN 112912526 B 20220802; KR 102245226 B1 20210428; KR 20200047316 A 20200507

DOCDB simple family (application)

**EP 19876472 A 20191025**; CN 201980069176 A 20191025; KR 20190118923 A 20190926