

Title (en)
METHOD FOR MANUFACTURING HIGH MANGANESE STEEL INGOT

Title (de)
VERFAHREN ZUR HERSTELLUNG VON STAHLBLÖCKEN MIT HOHEM MANGANGEHALT

Title (fr)
PROCÉDÉ DE FABRICATION D'UN LINGOT D'ACIER À HAUTE TENEUR EN MANGANÈSE

Publication
EP 3633051 A4 20200408 (EN)

Application
EP 18806216 A 20180521

Priority
• JP 2017103666 A 20170525
• JP 2018019526 W 20180521

Abstract (en)
[origin: EP3633051A1] Provided is a method for refining a high manganese steel by which when refining a high manganese steel containing 5% by mass or more of manganese, high manganese yield can be obtained, and high productivity can be performed. The method includes, when refining a steel containing 5% by mass or more of manganese, a decarburization step (step S100) of performing a decarburization treatment on a hot metal (molten metal (2)) in a converter (1) to make the hot metal into a molten steel (molten metal (2)) having a low carbon concentration, a reduction step (step S102) of performing a reduction treatment on the molten steel by adding a manganese source and a silicon source to the molten steel kept in the converter (1) after the decarburization step, and a degassing step (step S104) of performing a vacuum degassing treatment on the molten steel by a vacuum degassing device (5) after the reduction step, in which, in the reduction step, the manganese source is added in accordance with a target manganese concentration in the steel, and the silicon source is added so as to satisfy Formula (1).

IPC 8 full level
C21C 1/00 (2006.01); **C21C 5/28** (2006.01); **C21C 7/00** (2006.01); **C21C 7/06** (2006.01); **C21C 7/068** (2006.01); **C21C 7/10** (2006.01)

CPC (source: EP KR)
C21C 1/00 (2013.01 - EP); **C21C 5/28** (2013.01 - EP); **C21C 7/0068** (2013.01 - KR); **C21C 7/06** (2013.01 - EP); **C21C 7/064** (2013.01 - KR); **C21C 7/068** (2013.01 - EP); **C21C 7/10** (2013.01 - EP KR)

Citation (search report)
• [X1] US 2016053350 A1 20160225 - HAN WOONG-HEE [KR], et al
• [X1] US 2011000339 A1 20110106 - ROSE LUTZ [DE], et al
• [A] EP 0714989 A1 19960605 - NIPPON STEEL CORP [JP]
• [A] DONG SIK KIM ET AL: "IMPROVEMENT OF CLEANLINESS OF 16 % CR FERRITIC STAINLESS STEEL IN AOD PROCESSES// AMELIORATION DE LA PROPRETE D'ACIER INOXYDABLE FERRITIQUE A 16 % DE CR AU CONVERTISSEUR AOD", REVUE DE METALLURGIE- CAHIERS D'INFORMATIONS TECHNIQUES., vol. 101, no. 4, 1 April 2004 (2004-04-01), pages 291 - 299, XP001196043, ISSN: 0035-1563
• See references of WO 2018216660A1

Designated contracting state (EPC)
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EP 3633051 A1 20200408; **EP 3633051 A4 20200408**; **EP 3633051 B1 20211117**; CN 110621793 A 20191227; JP 6551626 B2 20190731; JP WO2018216660 A1 20190627; KR 102315999 B1 20211021; KR 20190142355 A 20191226; TW 201900897 A 20190101; TW I685577 B 20200221; WO 2018216660 A1 20181129

DOCDB simple family (application)
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