

Title (en)
METHOD FOR SMELTING HIGH-ALUMINUM-LOW-SILICON ULTRAPURE FERRITIC STAINLESS STEEL

Title (de)
VERFAHREN ZUM SCHMELZEN VON ULTRAREINEM FERRITISCHEM EDELSTAHL MIT HOHEM ALUMINIUM- UND GERINGEM SILICIUMGEHALT

Title (fr)
PROCÉDÉ POUR LA FUSION D'ACIER INOXYDABLE FERRITIQUE ULTRAPUR À HAUTE TENEUR EN ALUMINIUM ET FAIBLE TENEUR EN SILICIUM

Publication
EP 2772554 A4 20151111 (EN)

Application
EP 12843727 A 20120106

Priority
• CN 201110327941 A 20111025
• CN 2012070096 W 20120106

Abstract (en)
[origin: EP2772554A1] A method for smelting high-aluminum-low-silicon ultrapure ferritic stainless steel is disclosed in the present invention. First, vacuum oxygen decarburization (VOD) and free decarburization treatment for the molten ferritic stainless steel are performed in VOD furnace, then a reduction process of VOD vacuum treatment process is improved, and measures such as preliminary deoxidation, final deoxidation, vacuum breaking, addition of high-density aluminum iron, control of the basicity of slag, followed by wire feeding treatment as well as protective casting in a continuous casting process are taken so as to obtain the high-aluminum-low-silicon ultrapure ferritic stainless steel during the continuous casting treatment, such that acid pickling performance of the ultrapure ferritic stainless steel is improved, the purity of the molten steel and the castable performance in the continuous casting process are further improved, meanwhile the method effectively suppresses the formation of the harmful inclusion of the magnesia aluminum spinel, effectively remove the inclusion of Al_2O_3 , suppress oxidation of titanium in titanium-containing steel, and avoid blockage of a tundish nozzle in the continuous casting process.

IPC 8 full level
C21C 7/10 (2006.01); **C21C 7/06** (2006.01)

CPC (source: EP)
C21C 7/06 (2013.01); **C21C 7/0685** (2013.01); **C21C 7/10** (2013.01)

Citation (search report)
• No further relevant documents disclosed
• See references of WO 2013060101A1

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

DOCDB simple family (publication)
EP 2772554 A1 20140903; EP 2772554 A4 20151111; EP 2772554 B1 20170301; CN 102329920 A 20120125; CN 102329920 B 20130424; IN 1547CHN2014 A 20150508; JP 2015501382 A 20150115; JP 5833767 B2 20151216; KR 101787179 B1 20171115; KR 20140092800 A 20140724; WO 2013060101 A1 20130502

DOCDB simple family (application)
EP 12843727 A 20120106; CN 201110327941 A 20111025; CN 2012070096 W 20120106; IN 1547CHN2014 A 20140226; JP 2014537454 A 20120106; KR 20147003789 A 20120106