

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

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Application  
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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.

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