

Title (en)

HEAT TREATMENT OF MARTENSITIC STAINLESS STEEL AFTER REMELTING UNDER A LAYER OF SLAG

Title (de)

WÄRMEBEHANDLUNG VON MARTENSITISCHEM EDELSTAHL NACH DEM UMSCHMELZEN UNTER EINER SCHLACKESCHICHT

Title (fr)

TRAITEMENTS THERMIQUES D'ACIERS MARTENSITIQUES INOXYDABLES APRES REFUSION SOUS LAITIER

Publication

**EP 2488671 A1 20120822 (FR)**

Application

**EP 10781971 A 20101011**

Priority

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- FR 2010052142 W 20101011

Abstract (en)

[origin: WO2011045515A1] The invention relates to a method for producing a martensitic stainless steel that includes a step in which an ingot of the steel is remelted under a layer of slag, a subsequent step in which the ingot is cooled and at least one austenitic thermal cycle consisting in heating the ingot above the austenitic temperature thereof, followed by a cooling step. During each of the cooling steps, if the cooling step is not followed by an austenitic thermal cycle, the ingot is maintained at a holding temperature within the ferrite-pearlite transformation nose region for a holding time greater than that required to transform the austenite as completely as possible into a ferrite-pearlite structure in the ingot at the holding temperature, whereby the ingot is maintained at the holding temperature once the temperature of the coolest point in the ingot has reached said holding temperature. Moreover, during each of the cooling steps, if the cooling step is followed by an austenitic thermal cycle, before the minimum temperature of the ingot drops below the martensitic transformation start temperature  $M_s$ , the ingot is either: maintained at a temperature above the heating-induced austenitic transformation finish temperature  $A_{c3}$  for the entire duration between these two austenitic thermal cycles, or maintained at the holding temperature within the ferrite-pearlite transformation nose region, as above.

IPC 8 full level

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