

Title (en)

METHOD FOR PURIFYING HIGH-PURITY ALUMINIUM BY DIRECTIONAL SOLIDIFICATION AND SMELTING FURNACE THEREFOR

Title (de)

VERFAHREN ZUR REINIGUNG VON HOCHREINEM ALUMINIUM DURCH GERICHTETE VERFESTIGUNG UND SCHMELZOFEN DAFÜR

Title (fr)

PROCÉDÉ DE PURIFICATION D'ALUMINIUM DE HAUTE PURETÉ PAR SOLIDIFICATION DIRECTIONNELLE ET FOUR DE FUSION POUR LA MISE EN UVRE DE CE PROCÉDÉ

Publication

EP 2743359 A4 20150128 (EN)

Application

EP 11870784 A 20111214

Priority

- CN 201110224938 A 20110808
- CN 2011083992 W 20111214

Abstract (en)

[origin: EP2743359A1] Provided is a method for preparing high-purity aluminum by directional solidification, comprising the steps of: providing 4N to 5N aluminum as raw material, heating the same to a temperature of 670 °C to 730 °C, maintaining the temperature for 7 minutes to 80 minutes, cooling the bottom of chamber (3) to allow the aluminum liquid crystallizing in a direction from the bottom to top of the chamber (3) for 1 hour to 8 hours to obtain a crystalline ingot, during the crystallization process of a finished product of crystalline ingot, stirring and heating the aluminum liquid, maintaining a particular temperature gradient of the aluminum liquid, and removing a portion of the crystalline ingot from one end of the ingot, the remaining portion being the high-purity aluminum. Also provided is a smelting furnace, comprising a shell (1), a heating device (2), a chamber (3), a temperature measurement device, a stirring device and a cooling device (6).

IPC 8 full level

C22B 21/06 (2006.01); **C22B 9/02** (2006.01); **F27B 7/06** (2006.01)

CPC (source: EP KR US)

B22D 27/045 (2013.01 - US); **C22B 9/02** (2013.01 - KR US); **C22B 21/06** (2013.01 - EP KR US); **F27B 14/00** (2013.01 - EP US); **F27B 14/06** (2013.01 - EP US); **F27D 27/00** (2013.01 - EP US); **F27B 2014/002** (2013.01 - EP US)

Citation (search report)

- No further relevant documents disclosed
- See references of WO 2013020339A1

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