

Title (en)
METHOD FOR MANUFACTURING HIGH-PURITY STEEL CASTING, AND TUNDISH

Title (de)
VERFAHREN ZUR HERSTELLUNG VON HOCHREINEM STAHLGUSS UND GIESSWANNE

Title (fr)
PROCÉDÉ DE FABRICATION D'UN ACIER MOULÉ DE GRANDE PURETÉ ET PANIER DE COULÉE

Publication
EP 2837441 A4 20150701 (EN)

Application
EP 13806075 A 20130610

Priority

- JP 2012136779 A 20120618
- JP 2012261788 A 20121130
- JP 2013003632 W 20130610

Abstract (en)

[origin: EP2837441A1] The flotation separation of inclusions in molten steel is performed with increased certainty and efficiency in comparison to conventional methods using a tundish having a weir consisting of a wall part and an eave-shaped part horizontally extending from the top edge of the wall part. Using a tundish 1 in which a weir 7 consisting of a wall part 8 extending so as to surround a molten steel charging position, an eave-shaped part 9 horizontally extending from the top edge of the wall part and at least one notch 12 is placed at a position between the molten steel charging position 5 and a molten steel discharge port 6, a steel cast piece 14 is continuously cast under conditions such that the height H of the upper surface of the molten steel in the tundish and the flow rate Q of the molten steel charged from the ladle into the tundish satisfy expression (1) below, where h represents the height of the weir, S represents the area of the upper opening of the weir, L represents the distance between the front edge on the molten steel charging position side of the eave-shaped part and the surface on the short side of the tundish, and W represents the distance between the front edge on the molten steel charging position side of the eave-shaped part and the surface on the long side of the tundish.

$$3.50 \leq H - h \times S \times Q^{1.37} - 0.6 + 7 L \times S \times Q^{1.37} + 7 W \times S \times Q^{1.37} \leq 9.50$$

IPC 8 full level
B22D 41/00 (2006.01); **B22D 1/00** (2006.01); **B22D 11/17** (2006.01)

CPC (source: CN EP KR)
B22D 1/005 (2013.01 - EP); **B22D 11/10** (2013.01 - KR); **B22D 11/11** (2013.01 - KR); **B22D 11/17** (2013.01 - CN EP);
B22D 41/00 (2013.01 - KR); **B22D 41/003** (2013.01 - CN EP); **B22D 41/08** (2013.01 - KR); **B22D 41/58** (2013.01 - KR)

Citation (search report)

- No further relevant documents disclosed
- See references of WO 2013190799A1

Cited by
US11400513B2

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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 2837441 A1 20150218; **EP 2837441 A4 20150701**; BR 112014030786 A2 20170627; BR 112014030786 B1 20220920;
CN 104364032 A 20150218; CN 104364032 B 20170222; IN 9141DEN2014 A 20150522; JP 5807719 B2 20151110;
JP WO2013190799 A1 20160208; KR 101684382 B1 20161208; KR 20150006859 A 20150119; WO 2013190799 A1 20131227

DOCDB simple family (application)
EP 13806075 A 20130610; BR 112014030786 A 20130610; CN 201380030077 A 20130610; IN 9141DEN2014 A 20141031;
JP 2013003632 W 20130610; JP 2014520920 A 20130610; KR 20147032641 A 20130610