

Title (en)

Purging plug for blowing gas into a metal treatment recipient

Title (de)

Spülstein zum Einblasen von Gas in einen Metallbehandlungsbehälter

Title (fr)

Bouchon de purge par gaz de soufflage dans un récipient de traitement métallique

Publication

EP 2111938 B1 20170419 (EN)

Application

EP 08155102 A 20080424

Priority

EP 08155102 A 20080424

Abstract (en)

[origin: EP2111938A1] A purging plug (1) for blowing gas to be attached to an opening (41) of a molten metal treatment recipient, comprises a core (2) having a shape extended along a longitudinal axis (40) from a bottom side (5) to a top side (6), wherein the core is substantially made of a first material, wherein the first material has a first permeability, and a surrounding layer (4) arranged around the core in direction of the longitudinal axis from the bottom side to the top side, wherein the surrounding layer is substantially made of a second material, wherein the second material has a second permeability, the second permeability being of higher value than the first permeability. The purging plug further comprises at least one gas passage duct (7) allowing a gas to flow through the gas passage duct from the bottom side to the top side, the gas passage duct being formed according to one of the following configurations: the at least one gas passage duct is formed as an interstice (7) between the core and the surrounding layer; the at least one gas passage duct is formed as a channel (308) in the core; or the at least one gas passage duct is formed as an interstice between the core and the surrounding layer and at least a further gas passage duct is formed as a channel in the core.

IPC 8 full level

B22D 1/00 (2006.01); **C21C 5/48** (2006.01)

CPC (source: EP)

B22D 1/005 (2013.01); **C21C 5/48** (2013.01); **C21C 5/34** (2013.01); **C21C 2250/08** (2013.01); **C22B 9/05** (2013.01)

Citation (opposition)

Opponent : Refractory Intellectual Property GmbH & Co. KG

- WO 03103877 A1 20031218 - VESUVIUS CRUCIBLE CO [US], et al
- EP 1797976 A2 20070620 - PA HA GE FEUERFESTE ERZEUGNISS [DE]
- DE 3727938 C1 19880908 - DIDIER WERKE AG
- US 2003111778 A1 20030619 - ARAMAKI KEIZO [JP], et al
- DE 19504941 A1 19960822 - KNOELLINGER HORST [DE]
- DE 19846524 A1 20000413 - KNOELLINGER KERAMISCHE ERZEUGN [DE]
- EP 0490062 A1 19920617 - DIDIER WERKE AG [DE]
- RU 2132395 C1 19990627 - OTKRYTOE AKTSIONERNOE OBSHCHE
- JP H09272915 A 19971021 - TOKYO YOGYO KK
- EP 1101825 A1 20010523 - VEITSCH RADEX GMBH [AT]
- W. HAMMERER ET AL.: "Gasspülsteine für Stahlpfannen", RADEX RUNDSCHAU, vol. 4, December 1992 (1992-12-01), pages 217 - 226, XP000770551

Cited by

CN105087869A; CN105087870A

Designated contracting state (EPC)

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