

Title (en)
Gravity casting apparatus with tilting die and method for gravity casting with tilting die

Title (de)
Vorrichtung und Verfahren zum Schwerkraftgiessen mit kippbarer Kokille

Title (fr)
Dispositif et procédé de coulée par gravité utilisant un moule basculant

Publication
EP 1481749 A1 20041201 (EN)

Application
EP 04012069 A 20040521

Priority
IT PD20030115 A 20030527

Abstract (en)
Gravity casting apparatus with tilting die comprises at least one tilting axis passing through center of inlet region of die; molten mass feed mechanism constituted by pressurized dosing furnaces which can be connected functionally to inlet region of die by corresponding feed channel that draws from below the level of the molten mass present inside the pressurized furnace. Gravity casting apparatus with tilting die comprises die-casting machine(s) (11) with which a corresponding die (12) is associated, feed mechanism (13) for feeding the molten mass in the casting inlet region (14) of the die and cooling mechanism (20) for cooling the die before the casting step, which are associated with distributing mechanism for distributing release agent inside impression(s) provided inside the die. The die-casting machine comprises an opening/closing device (30) and a tilting mechanism for tilting the die about at least one horizontal tilting axis. The tilting axis passes through the center of the inlet region of the die. The molten mass feed mechanism is constituted by pressurized dosing furnace(s) (15) which can be connected functionally to the inlet region of the die by a corresponding feed channel that draws from below the level of the molten mass present inside the pressurized furnace. The end part of the channel (19) directly connected to the inlet region is oriented downward along the direction in which the molten mass is fed. Independent claims are also included for: (a) a method for gravity casting with tilting die comprising distributing a release agent onto the walls of impression(s) formed inside the die while the die is open; closing the die; moving a casting inlet region of the die and a source for feeding molten mass mutually closer; pouring molten mass into the die through the inlet region and simultaneously tilting the die with a preset direction of rotation about a preset horizontal tilting axis that passes through the center of the inlet region; moving the casting inlet region of the die and the molten mass supply source mutually apart, once pouring has ended; waiting for a preset solidification time; and opening the die and cooling it; and (b) a die-casting machine for tilting dies comprising an die opening/closing device and a tilting mechanism, wherein at least one tilting axis passes through the center of a casting inlet region of the die in order to feed molten mass.

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Citation (search report)
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• [XA] DE 2833569 A1 19800228 - ENGSTFELD WILH GMBH & CO
• [A] WO 02055237 A1 20020718 - SINTOKOGIO LTD [JP], et al
• [A] PATENT ABSTRACTS OF JAPAN vol. 0186, no. 63 (M - 1723) 14 December 1994 (1994-12-14)

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