

Title (en)

HOT-CURING MOULD MATERIAL FOR PRODUCING CORES AND MOULDS IN THE SAND CASTING PROCESS

Title (de)

WARMHÄRTENDER FORMSTOFF ZUR HERSTELLUNG VON KERNEN UND FORMEN IM SANDFORMVERFAHREN

Title (fr)

MATIÈRE À MOULER THERMODURCISSABLE CONÇUE POUR PRODUIRE DES NOYAUX ET DES MOULES DANS LE CADRE DE PROCÉDÉS DE MOULAGE EN SABLE

Publication

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Application

**EP 20771194 A 20200827**

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Abstract (en)

[origin: WO2021037312A1] The invention relates to a hot-curing mould material for producing cores and moulds in the sand casting process. This mould material comprises natural and/or ceramic sands and a two-component polyurethane binder free from phenolic resin, and also a heat-activatable catalyst. Said binder takes the form of a two-component polyurethane-based binder, comprising - a two-component phenol- and formaldehyde-free polyurethane-based binder comprising a resin component in the form of a mixture of two or more compounds which are hydrogen-active in respect of isocyanates and which have hydroxyl and/or mercapto and/or amino and/or carbamide groups, with an OH, SH and NH functionality of 1.5 to 8 and equivalent weights of 9 to 2000 g/equiv. of the individual constituents and with an average H functionality of 1.8 to 4.0 and an average equivalent weight of 90 to 200 g/equiv. of the resin component, and comprising a curing component with one or more diisocyanates or polyisocyanates, - a curing component consisting of one or more diisocyanates or polyisocyanates. The at least one thermally activatable catalyst, the activation temperature of which lies between 50 and 170 °C, comprises Brønsted bases and/or Lewis acids which promote the polyurethane reaction and also their associated blocking agents. The mould material comprises one or more refractory and pourable fillers having a medium particle size range from 0.1 to 0.9 mm, and comprises 0.3 to 4.0 % of the binder described, based on the mould base material, and 0.1 to 2.5 % of thermally activatable catalyst, based on the resin component of the binder.

IPC 8 full level

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