

Title (en)
METHOD FOR PRODUCING CORES AND MOLDS IN SAND CASTING

Title (de)
VERFAHREN ZUR HERSTELLUNG VON KERNEN UND FORMEN IM SANDFORMVERFAHREN

Title (fr)
PROCÉDÉ DE PRODUCTION DE NOYAUX ET DE MOULES EN FONTE AU SABLE

Publication
EP 4021662 A1 20220706 (DE)

Application
EP 20771195 A 20200827

Priority
• DE 102019123374 A 20190830
• DE 2020100761 W 20200827

Abstract (en)
[origin: WO2021037313A1] The invention relates to a method for producing cores and molds in sand casting, comprising at least the following steps: A) providing a molding tool having a cavity replicating the molded part, B) mixing the heat-curing molding material, wherein the molding material is formed at least from the following components: - a two-component, phenol- and formaldehyde-free, polyurethane-based binder, containing a resin component as a mixture of two or more compounds which are hydrogen-active in relation to isocyanates containing hydroxyl and/or mercapto and/or amino and/or carbamide groups having an OH, SH and NH functionality from 1.5 to 8 and equivalent weights from 9 to 2,000 g/val of the individual components and an average H-functionality from 1.8 to 4.0 and an average equivalent weight from 90 to 200 g/val of the resin components and a hardener component containing one or more diisocyanates or polyisocyanates, - one or more thermally activatable catalysts having activation temperatures between 50 and 170 °C and containing polyurethane reaction-promoting Brønsted bases and/or Lewis acids and their associated blocking agents, and - one or more fire-resistant, pourable filler material/materials, C) introducing the molding material into the molding tool, D) curing the heat-curing molding material in the molding tool using a warm box process or a hot air process with the heatable molding tool or hot air at temperatures between 90 and 170 °C, preferably between 100 and 130 °C, and E) removing the produced molded part from the molding tool.

IPC 8 full level
B22C 1/22 (2006.01); **B22C 9/02** (2006.01); **B22C 9/10** (2006.01)

CPC (source: EP)
B22C 1/2273 (2013.01); **B22C 9/02** (2013.01); **B22C 9/10** (2013.01)

Citation (search report)
See references of WO 2021037313A1

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)
WO 2021037313 A1 20210304; DE 102019123374 A1 20210304; EP 4021662 A1 20220706

DOCDB simple family (application)
DE 2020100761 W 20200827; DE 102019123374 A 20190830; EP 20771195 A 20200827