

Title (en)

METHOD, CASTING MOLD AND DEVICE FOR PRODUCING A VEHICLE WHEEL

Title (de)

VERFAHREN, GIESSFORM UND VORRICHTUNG ZUR HERSTELLUNG EINES FAHRZEUGRADS

Title (fr)

PROCÉDÉ, MOULE DE COULÉE ET DISPOSITIF POUR LA FABRICATION D'UNE ROUE DE VÉHICULE

Publication

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Application

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Abstract (en)

[origin: WO2019048675A1] The invention relates to a method for producing a vehicle wheel (2) from a light metal material, in which the light metal material is introduced in liquid form into a mold cavity (14) of a casting mold (3). The vehicle wheel (2) is produced by means of pressurized casting, wherein the casting mold (3) is temperature-controlled in different regions to different temperatures.

IPC 8 full level

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Citation (opposition)

Opponent : Bühler AG

- JP H01237067 A 19890921 - HONDA MOTOR CO LTD
- DE 9421365 U1 19951123 - BBS KRAFTFAHRZEUGTECHNIK [DE]
- US 6763879 B1 20040720 - MACHESKE ROBERT L [US], et al
- US 2017120322 A1 20170504 - ZHU LIN [CN], et al
- EP 1970143 A2 20080917 - BUEHLER DRUCKGUSS AG [CH]
- EP 1970146 A1 20080917 - BUEHLER DRUCKGUSS AG [CH]
- WO 03045609 A2 20030605 - BUEHLER DRUCKGUSS AG [CH], et al
- WO 2004007119 A1 20040122 - BUEHLER DRUCKGUSS AG [CH], et al
- WO 2009043192 A2 20090409 - BUEHLER DRUCKGUSS AG [CH], et al
- EP 2643110 B1 20150107 - IND FRIGO S R L [IT]
- YING-CHUN WANG, DA-YONG LI, YING-HONG PENG, XIAO-QIN ZENG: "Numerical simulation of low pressure die casting of magnesium wheel", INT J ADV MANUF TECHNOL, vol. 32, 1 January 2007 (2007-01-01), pages 257 - 264, XP002787654, DOI: 10.1007/s00170-005-0325-1
- NOGOWIZIN BORIS: "Theorie und Praxis des Druckgusses", 1 January 2011, article "Kapitel 12 (auszug)", pages: 685 - 723, XP093130427
- BARZ J., HORSTKAMP B., MOLLER K.: "Entlüftungssysteme für Vakuum Druckguss - Entlüftungsleistung und Betriebserfahrungen", DRUCKGUSSPRAXIS, 1 May 2006 (2006-05-01), pages 1 - 5, XP093130428
- BRUNHUBER ERNST: "Praxis der Druckgussfertigung, 3. Auflage", 1 January 1980, pages: 28 - 41, 48, 49, 258 - 275, 306 - 309, XP093130430
- GÖSSL WOLFGANG: "Untersuchung zur Kühlwirkung in Druckgussformen", MASTERARBEIT MONTANUNIVERSITÄT LEOBEN, 1 October 2011 (2011-10-01), XP093130432
- ANONYMOUS: "Neue Wege der Leichtmetall-Felgenherstellung", GIESSEREI-PRAXIS SPECIAL, 1 October 2001 (2001-10-01), pages 1 - 23, XP093130434

Cited by

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