

Title (en)

Method for forming complex cast parts and cast part consisting of an AlCu alloy

Title (de)

Verfahren zum Herstellen von komplex geformten Gussteilen und Gussteil bestehend aus einer AlCu-Legierung

Title (fr)

Procédé de fabrication de pièces moulées de forme complexe et pièce moulée constituée d'un alliage AlCu

Publication

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Application

EP 15151960 A 20150121

Priority

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Abstract (en)

[origin: WO2016116805A1] The invention thus provides a method for the practical, operationally reliable production of castings from an AlCu alloy, which consists of (in % by weight) Cu: 6 - 8%, Mn: 0.3 - 0.55%, Zr: 0.15 - 0.25%, Fe: up to 0.25%, Si: up to 0.125%, Ti: 0.05-0.2%, V: up to 0.04%, the remainder Al and unavoidable impurities. A molten material obtained in accordance with this alloying specification is kept at 730 to 810°C for 4 - 12 hours and then vigorously mixed at least once. The molten material is subsequently cast batchwise to form the respective casting, which is then solution-annealed at 475 - 545°C for 1 - 16 hours. Starting from the solution-annealing temperature, the casting is quenched to at most 300°C, with a cooling rate of 0.75 - 15 K/s being adopted when the temperature range from 500 - 300°C is passed through in the course of the quenching. After that, the casting is artificially aged at 150 - 300°C over a period of 1 - 10 h. Finally, the casting is cooled down to room temperature.

IPC 8 full level

C22C 21/12 (2006.01); **C22F 1/057** (2006.01)

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Cited by

CN106702230A; CN116288085A; CN106702229A; US11242587B2

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