

Title (en)
Method and system for producing a cast component

Title (de)
Verfahren und Anlage zur Herstellung eines Gussbauteils

Title (fr)
Connecteur de soupape pour tuyaux médicaux

Publication
EP 2128276 A1 20091202 (DE)

Application
EP 09160644 A 20090519

Priority
DE 102008024524 A 20080521

Abstract (en)
The casting is heat-treated after casting and extraction from the mold. After reaching a desired temperature (T s) during this treatment, it is immediately cooled. Alternatively before cooling it is held at T s for a time interval (t h) lasting preferably 3 minutes. The interval is no more than 5 minutes. Further optional corresponding holding times of up to 30, 60, 90 or 120 seconds are quoted. The desired temperature is preferably in the range 490-540 [deg] C. This temperature (T s) is reached at 2-12 K/s, preferably 4-8 K/s. Flowing hot air is used for heating. Several nozzles produce the hot air flows. The air temperature is preferably 100-300[deg] C above the desired temperature (T s) which is to be reached. The preferred air temperature is in the range 600-720[deg] C. Subsequent forced convective cooling is to a preferred temperature of 100-150[deg] C. Several air flows from nozzles are used. The heat treatment commences within 15 seconds to 15 minutes of extraction from the mold. The heat treatment commences when the temperature of the casting (T a) is in the range 50°C-400[deg] C. A T4, T6, T7 or O heat treatment is used. The aluminum alloy used, is of a type which hardens by hot aging. The magnesium content of the aluminum alloy is 0.06-0.6 wt%, preferably 0.08-0.18 wt%. The cast component is at least partially heat-treated. An independent claim IS INCLUDED FOR the corresponding die-casting and heat treatment plant.

Abstract (de)
Die Erfindung betrifft ein Verfahren zur Herstellung eines Gussbauteils (10), insbesondere eines Druckgussbauteils, insbesondere aus einer Aluminiumlegierung, bei welchem das Gussbauteil (10) im Anschluss an den Gießprozess und das Entformen aus seiner Gießform (12) zumindest partiell einem Wärmebehandlungsverfahren unterzogen wird, wobei dass das Gussbauteil (10) bei der Wärmebehandlung nach Erreichen einer Solltemperatur (T s) unmittelbar abgekühlt oder vor dem Abkühlen während einer Haltezeit (t h) von bis zu 3 min wärmebehandelt wird. Darüber hinaus betrifft die Erfindung eine Anlage zum Herstellen eines derartigen Gussbauteils (10).

IPC 8 full level
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CPC (source: EP US)
B22D 47/00 (2013.01 - EP US); **C21D 1/34** (2013.01 - EP US); **C21D 1/62** (2013.01 - EP US); **C22F 1/04** (2013.01 - EP US); **C22F 1/05** (2013.01 - EP US); **C22F 1/06** (2013.01 - EP US)

Citation (applicant)
EP 0997550 B1 20021009 - ALCAN TECH & MAN AG [CH]

Citation (search report)
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