

Title (en)

Method for thermal treatment of castings by infrared radiation

Title (de)

Verfahren zur Wärmebehandlung von Gussteilen mittels Infrarotstrahlen

Title (fr)

Procédé de traitement thermique de pièces moulées moyennant du rayonnement infrarouge

Publication

EP 2311996 A2 20110420 (DE)

Application

EP 10013748 A 20101018

Priority

- DE 102009049785 A 20091019
- DE 102010009118 A 20100224

Abstract (en)

The method for the heat treatment of light metal-die casting part by solution annealing, cooling and ageing, is claimed, where the casting parts are solution annealed by infrared radiation in a mold for 1-5 minutes, then quenched for 2-5 minutes during spraying and aged. An aluminum- or magnesium die-cast alloy is used as alloy and the die cast part is solution annealed after the removal of the mold. The infrared radiation with wavelength of 2-3.5 μm is used for cast- or die-casting part. The cast or die-cast part is quenched after heating at solution annealing temperature. The method for the heat treatment of light metal-die casting part by solution annealing, cooling and ageing, is claimed, where the casting parts are solution annealed by infrared radiation in a mold for 1-5 minutes, then quenched for 2-5 minutes during spraying and aged. An aluminum- or magnesium die-cast alloy is used as alloy and the die cast part is solution annealed after the removal of the mold. The infrared radiation with wavelength of 2-3.5 μm is used for cast- or die-casting part. The cast or die-cast part is quenched after heating at solution annealing temperature in water, polymer or air. Punching is carried out in smooth condition of the die-cast parts after the quenching and before the ageing. An independent claim is included for a device for the heat treatment of light metal-pressure castings part.

Abstract (de)

Ein Verfahren zur Wärmebehandlung von Gussteilen, insbesondere von Leichtmetall-Druckgussteilen durch Lösungsglühen, Abkühlen und Auslagern, wobei die Gussteile direkt nach der Entnahme aus der Form, oder direkt in der Form vor der Entnahme mittels Infrarotstrahlen für ein bis fünf Minuten lösungsgeglüht, danach für zwei bis fünf Minuten abgeschreckt und warm ausgelagert werden.

IPC 8 full level

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Cited by

DE102011119002A1; DE102011105447B4; CN115786827A; CN114182183A; CN103786031A; DE102011114768B4; CN105385823A; DE102011105447A1; WO2013020786A1

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