

Title (en)

METHODS FOR IMPROVING THE THERMAL TREATMENT OF CASTINGS

Title (de)

VERFAHREN ZUR VERBESSERUNG DER WÄRMEBEHANDLUNG VON GUSSTEILEN

Title (fr)

PROCÉDÉS POUR AMÉLIORER LE TRAITEMENT THERMIQUE DE PIÈCES COULÉES

Publication

**EP 3362205 A4 20190403 (EN)**

Application

**EP 16862710 A 20161025**

Priority

- US 201562251139 P 20151105
- US 2016058602 W 20161025

Abstract (en)

[origin: WO2017078968A1] A method for improving the thermal treatment of castings that includes obtaining a plurality of untreated castings of a given design, capturing three dimensional surface measurements of the untreated castings to determine a baseline shape, obtaining a first support fixture having a first support profile configured to support the castings during thermal treatment, and then applying a thermal treatment protocol to a first casting while supported on the first support fixture. The method further includes capturing a three dimensional surface measurement of the first casting to determine its post-treatment shape, comparing the baseline shape with the post-treatment shape of the first casting, and identifying a dimensional distortion that is the result of inadequate support or positioning during the thermal treatment protocol. The method continues with obtaining a second support fixture with a second support profile different from the first support profile, applying the thermal treatment protocol to a second casting while supported on the second support fixture, capturing a three dimensional surface measurement of the second casting to determine its post-treatment shape, comparing the baseline shape with the post-treatment shape of the second casting, and then identifying a reduction in the dimensional distortion to verify that the dimensional distortion is at least partially due to inadequate support or positioning during the thermal treatment protocol.

IPC 8 full level

**C21D 9/00** (2006.01); **C21D 11/00** (2006.01); **F27D 5/00** (2006.01)

CPC (source: EP US)

**C21D 9/0025** (2013.01 - EP US); **C21D 11/00** (2013.01 - EP US)

Citation (search report)

- [XYI] DE 102009040322 A1 20110324 - AUDI AG [DE]
- [Y] DE 102008056511 A1 20100520 - AUDI AG [DE]
- [Y] US 2010224293 A1 20100909 - WANG QIGUI [US], et al
- See references of WO 2017078968A1

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

DOCDB simple family (publication)

**WO 2017078968 A1 20170511**; CN 108472719 A 20180831; EP 3362205 A1 20180822; EP 3362205 A4 20190403; JP 2018537290 A 20181220; JP 6622913 B2 20191218; MX 2018005095 A 20180815; US 2018237884 A1 20180823

DOCDB simple family (application)

**US 2016058602 W 20161025**; CN 201680072670 A 20161025; EP 16862710 A 20161025; JP 2018522779 A 20161025; MX 2018005095 A 20161025; US 201815956836 A 20180419