

Title (en)

Method for producing a molded part having at least two structure zones with different ductilities

Title (de)

Verfahren zur Herstellung eines Formteiles mit mindestens zwei Gefügebereichen unterschiedlicher Duktilität

Title (fr)

Procédé pour produire une pièce moulée ayant au moins deux domaines de structure avec des ductilités différentes

Publication

EP 2365100 A3 20140219 (DE)

Application

EP 10401175 A 20101015

Priority

DE 102010010156 A 20100304

Abstract (en)

[origin: EP2365100A2] The method involves conveying a succession of hardenable steel blanks having regions through furnace (2) such that blanks reach an outlet of furnace with each both of respective regions heated to austenitization temperature. The blanks are positioned with regions (5) in the chamber of holding unit (7) and regions (4) outside the chamber. The regions (5) are heated and maintained at temperature and regions (4) are cooled with air to temperature at which microstructures become ferritic-pearlitic while holding the regions inside and outside the chamber. An independent claim is included for apparatus for making shaped object with different ductility and microstructures from semi-finished portions.

IPC 8 full level

C21D 1/673 (2006.01); **C21D 1/84** (2006.01); **C21D 9/00** (2006.01); **C21D 9/46** (2006.01); **F27B 9/24** (2006.01)

CPC (source: EP US)

C21D 1/673 (2013.01 - EP US); **C21D 1/84** (2013.01 - EP US); **C21D 9/0062** (2013.01 - EP US); **C21D 9/46** (2013.01 - EP US); **C21D 2221/00** (2013.01 - EP US)

Citation (search report)

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- [Y] US 2007257407 A1 20071108 - DANGER ELISABETH [DE], et al
- [A] EP 2110448 A2 20091021 - SCHWARTZ EVA [DE]
- [Y] US 3138200 A 19640623 - CARROLL CONE

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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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2365100 A2 20110914; **EP 2365100 A3 20140219**; **EP 2365100 B1 20160518**; **EP 2365100 B8 20160921**; CN 102191362 A 20110921; CN 102191362 B 20150819; DE 102010010156 A1 20110908; DE 202010018370 U1 20160128; ES 2587188 T3 20161021; HU E029747 T2 20170428; PL 2365100 T3 20161130; US 2011214786 A1 20110908; US 8460484 B2 20130611

DOCDB simple family (application)

EP 10401175 A 20101015; CN 201010587438 A 20101210; DE 102010010156 A 20100304; DE 202010018370 U 20101015; ES 10401175 T 20101015; HU E10401175 A 20101015; PL 10401175 T 20101015; US 201113040288 A 20110304