

Title (en)

METHOD FOR PRODUCING A COMPONENT BY HOT FORMING A PRE-PRODUCT MADE OF STEEL

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES BAUTEILS DURCH WARMUMFORMEN EINES VORPRODUKTES AUS STAHL

Title (fr)

PROCÉDÉ DE FABRICATION D'UNE PIÈCE STRUCTURALE PAR FORMAGE À CHAUD D'UN PRODUIT SEMI-FINI EN ACIER

Publication

**EP 3004401 A1 20160413 (DE)**

Application

**EP 14731900 A 20140430**

Priority

- DE 102013009232 A 20130528
- DE 2014000233 W 20140430

Abstract (en)

[origin: WO2014190957A1] The invention relates to a method for producing a component by hot forming a pre-product made of steel. The pre-product is heated to a forming temperature and is then reshaped, said component having a bainitic microstructure with a minimum tensile strength of 800 MPa after the forming process. In the process, the pre-product with the specified alloy composition is heated to a temperature below the Ac1 transformation temperature, said pre-product already consisting of a steel with a microstructure made of at least 50% bainite.

IPC 8 full level

**C21D 7/13** (2006.01); **C21D 1/34** (2006.01); **C21D 1/673** (2006.01); **C21D 8/02** (2006.01); **C21D 8/10** (2006.01); **C21D 9/08** (2006.01); **C21D 9/46** (2006.01); **C22C 38/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/08** (2006.01); **C22C 38/12** (2006.01); **C22C 38/14** (2006.01); **C22C 38/16** (2006.01); **C23C 2/06** (2006.01); **C23C 2/12** (2006.01)

CPC (source: EP RU US)

**C21D 1/34** (2013.01 - RU); **C21D 1/673** (2013.01 - EP RU US); **C21D 7/13** (2013.01 - EP US); **C21D 8/0205** (2013.01 - EP US); **C21D 8/105** (2013.01 - EP US); **C21D 9/08** (2013.01 - EP US); **C21D 9/46** (2013.01 - EP US); **C22C 38/001** (2013.01 - EP US); **C22C 38/002** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP RU US); **C22C 38/06** (2013.01 - EP US); **C22C 38/08** (2013.01 - EP US); **C22C 38/12** (2013.01 - EP US); **C22C 38/14** (2013.01 - EP US); **C22C 38/16** (2013.01 - EP US); **C22C 38/32** (2013.01 - RU); **C22C 38/38** (2013.01 - RU); **C22C 38/42** (2013.01 - US); **C22C 38/44** (2013.01 - US); **C22C 38/46** (2013.01 - US); **C22C 38/48** (2013.01 - US); **C22C 38/50** (2013.01 - US); **C22C 38/54** (2013.01 - RU US); **C22C 38/58** (2013.01 - RU US); **C23C 2/06** (2013.01 - US); **C23C 2/12** (2013.01 - US); **C21D 1/34** (2013.01 - EP US); **C21D 2211/002** (2013.01 - EP US); **C21D 2211/008** (2013.01 - EP US)

Cited by

US11220721B2; WO2018134186A1

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)

**DE 102013009232 A1 20141204**; EP 3004401 A1 20160413; EP 3004401 B1 20170531; KR 20160014658 A 20160211; RU 2015155181 A 20170630; RU 2015155181 A3 20180314; RU 2664848 C2 20180823; US 2016130675 A1 20160512; WO 2014190957 A1 20141204

DOCDB simple family (application)

**DE 102013009232 A 20130528**; DE 2014000233 W 20140430; EP 14731900 A 20140430; KR 20157035944 A 20140430; RU 2015155181 A 20140430; US 201414890369 A 20140430