

Title (en)
METHOD FOR PRODUCING A HOT PRESS HARDENED COMPONENT AND USE OF A STEEL PRODUCT FOR PRODUCING A HOT PRESS HARDENED COMPONENT

Title (de)
VERFAHREN ZUM HERSTELLEN EINES WARMPRESSGEHÄRTETEN BAUTEILS UND VERWENDUNG EINES STAHLPRODUKTS FÜR DIE HERSTELLUNG EINES WARMPRESSGEHÄRTETEN BAUTEILS

Title (fr)
PROCÉDÉ DE FABRICATION D'UNE PIÈCE TREMPÉE À CHAUD SOUS PRESSE ET UTILISATION D'UN PRODUIT EN ACIER POUR LA FABRICATION D'UNE PIÈCE TREMPÉE À CHAUD SOUS PRESSE

Publication
EP 2446064 B1 20200422 (DE)

Application
EP 10725185 A 20100617

Priority
• EP 2010058527 W 20100617
• DE 102009030489 A 20090624

Abstract (en)
[origin: WO2010149561A1] The invention relates to a method, by means of which high-strength components protected against corrosive attack can be simply produced. To this end, the method comprises the following steps: a) providing a steel product generated at least in segments from a stainless steel having the following composition (indicated in % by weight) C: 0.010-1.200 %, P: up to 0.1 %, S: up to 0.1 %, Si: 0.10-1.5 %, Cr: 10.5-20.0 % and optionally one or more elements from the group "Mn, Mo, Ni, Cu, N, Ti, Nb, B, V, Al, Ca, As, Sn, Sb, Pb, Bi, H" at the proportion of Mn: 0.10-3.0 %, Mo: 0.05-2.50 %, Ni: 0.05-8.50 %, Cu: 0.050-3.00 %, N: 0.01-0.2 %, Ti: up to 0.02 %, Nb: up to 0.1 %, B: up to 0.1 %, V: up to 0.2 %, Al: 0.001-1.50 %, Ca: 0.0005-0.003 %, As: 0.003-0.015 %, Sn: 0.003-0.01 %, Sb: 0.002-0.01 %, Pb: up to 0.01 %, Bi: up to 0.01 %, H: up to 0.0025 %, remainder iron and unavoidable contaminants; b) heating the steel product through to an austenizing temperature above the Ac3 temperature of the stainless steel; c) hot press curing the heated steel product to form the component in a press tool; and d) cooling at least one segment of the component obtained at a cooling speed high enough that a hardened microstructure forms in the rapidly cooled segment.

IPC 8 full level
C21D 1/06 (2006.01); **C21D 1/18** (2006.01); **C21D 1/673** (2006.01); **C21D 6/00** (2006.01); **C22C 38/20** (2006.01)

CPC (source: EP KR US)
C21D 1/06 (2013.01 - EP KR US); **C21D 1/18** (2013.01 - EP KR US); **C21D 1/673** (2013.01 - EP KR US); **C21D 6/00** (2013.01 - KR); **C21D 6/001** (2013.01 - KR); **C21D 6/002** (2013.01 - EP KR US); **C21D 6/004** (2013.01 - KR); **C21D 6/005** (2013.01 - KR); **C21D 6/008** (2013.01 - KR); **C22C 38/20** (2013.01 - EP US); **C22C 38/58** (2013.01 - KR)

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 SE SI SK SM TR

DOCDB simple family (publication)
DE 102009030489 A1 20101230; BR PI1011811 A2 20160329; BR PI1011811 B1 20180123; CN 102803519 A 20121128; CN 102803519 B 20150819; EP 2446064 A1 20120502; EP 2446064 B1 20200422; JP 2012530847 A 20121206; JP 5755644 B2 20150729; KR 101708446 B1 20170220; KR 20120039533 A 20120425; KR 20170010090 A 20170125; MX 2011013403 A 20120411; US 2012273092 A1 20121101; US 9534268 B2 20170103; WO 2010149561 A1 20101229

DOCDB simple family (application)
DE 102009030489 A 20090624; BR PI1011811 A 20100617; CN 201080028297 A 20100617; EP 10725185 A 20100617; EP 2010058527 W 20100617; JP 2012516652 A 20100617; KR 20117029445 A 20100617; KR 20177001332 A 20100617; MX 2011013403 A 20100617; US 201013375643 A 20100617