

Title (en)  
METHOD FOR PRODUCING PARTIALLY HARDENED STEEL COMPONENTS

Title (de)  
VERFAHREN ZUM HERSTELLEN PARTIELL GEHÄRTETER STAHLBAUTEILE

Title (fr)  
PROCÉDÉ DE FABRICATION DE COMPOSANTS EN ACIER PARTIELLEMENT TREMPÉS

Publication  
**EP 2411548 A1 20120201 (DE)**

Application  
**EP 10711386 A 20100326**

Priority  
• EP 2010054019 W 20100326  
• DE 102009015013 A 20090326

Abstract (en)  
[origin: WO2010109012A1] The invention relates to a method for producing partially hardened steel components, a billet made of hardenable sheet steel being subjected to a temperature increase which suffices for quench hardening and, after having reached a desired temperature and optionally after a desired holding time, the billet being transferred into a forming tool in which the billet is formed into a component and at the same time quench-hardened, or the billet being cold-formed and the component obtained by the cold forming process being subsequently subjected to a temperature increase, said temperature increase being conducted such that a temperature of the component is achieved which is required for quench hardening, and the component subsequently being transferred into a tool in which the heated component is cooled and thereby quench-hardened, characterized in that during the heating of the billet or the component, for the purpose of increasing the temperature to a temperature required for hardening, absorption compounds are present in regions that are to have lower hardness and/or higher ductility and/or spaced apart from each other with a small gap, wherein the absorption compounds are dimensioned with respect to the expansion and thickness thereof, the thermal conductivity thereof and the thermal capacity thereof and/or with respect to the emission level thereof such that the thermal energy in the ductile remaining region and acting on the component flows through the component into the absorption compound.

IPC 8 full level  
**C21D 1/673** (2006.01); **C21D 9/46** (2006.01)

CPC (source: EP US)  
**C21D 1/673** (2013.01 - EP US); **C21D 9/0068** (2013.01 - EP US); **C21D 1/70** (2013.01 - EP US); **C21D 2221/00** (2013.01 - EP US)

Citation (search report)  
See references of WO 2010109012A1

Designated contracting state (EPC)  
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)  
**WO 2010109012 A1 20100930**; CN 102365375 A 20120229; CN 102365375 B 20140730; DE 102009015013 A1 20101125; DE 102009015013 B4 20110512; EP 2411548 A1 20120201; EP 2411548 B1 20130626; ES 2429021 T3 20131112; US 2012097298 A1 20120426; US 8597441 B2 20131203; ZA 201105487 B 20120829

DOCDB simple family (application)  
**EP 2010054019 W 20100326**; CN 201080013788 A 20100326; DE 102009015013 A 20090326; EP 10711386 A 20100326; ES 10711386 T 20100326; US 201013258085 A 20100306; ZA 201105487 A 20110726