

Title (en)

Method for producing a moulded part from high-strength steel

Title (de)

Verfahren zur Herstellung eines Formteiles aus hochfestem oder höchstfestem Stahl

Title (fr)

Procédé de fabrication d'une pièce moulée en acier très résistant ou extrêmement résistant

Publication

EP 2586881 A2 20130501 (DE)

Application

EP 11009503 A 20111201

Priority

DE 102011117265 A 20111028

Abstract (en)

The method comprises heating a circuit board (1) made of hardenable steel to an austenitizing temperature before a forming process, where the heated circuit board is hot-formed in a material-deforming tool and is hardened in the tool or subsequent to a molding process by a rapid cooling so that a ferritic structure of a heated starting material is converted into a martensitic structure, and pressing the circuit board during a transformation so that portions or zones (2, 3, 4) are produced with different material thicknesses. The pretreated circuit board is again heated to the temperature. The method comprises heating a circuit board (1) made of hardenable steel to an austenitizing temperature, before a forming process, where the heated circuit board is hot-formed in a material-deforming tool and is hardened in the tool or subsequent to a molding process by a rapid cooling so that a ferritic structure of a heated starting material is converted into a martensitic structure, and pressing the circuit board during a transformation so that portions or zones (2, 3, 4) are produced with different material thicknesses. The pretreated circuit board is again heated to the austenitizing temperature and is subsequently hot formed in the forming tool. The circuit board is provided, before the forming process, with an aluminum-silicon-coating or a zinc-nickel-coating. An independent claim is included for a hot-formed component made of high-strength or high-fixed steel.

Abstract (de)

Um ein Verfahren zur Herstellung eines Formteiles aus vorzugsweise hochfestem oder höchstfestem Stahl, wobei eine Platine (1) aus härtbarem Stahl auf Austenitisierungstemperatur erwärmt wird, die erwärmte Platine (1) in einem Umformwerkzeug warmumgeformt und im Werkzeug oder anschließend an den Formgebungsvorgang durch schnelle Abkühlung gehärtet wird, so dass das ferritische Gefüge des erwärmten Ausgangsmaterials in martensitisches Gefüge umgewandelt wird, zu schaffen, bei dem besonders hoch beanspruchbare Zonen am fertigen Formteil ausgebildet sind, dass dabei kostengünstig und einfach herstellbar ist, wird vorgeschlagen, dass während der Umformung die Platine (1) gleichzeitig verpresst wird, so dass Abschnitte oder Zonen (2,3,4) mit unterschiedlicher Materialdicke erzeugt werden.

IPC 8 full level

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CPC (source: EP)

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Cited by

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