Title (en)

Method of fabricating a hollow steel body with an inner- and/or outer profiling.

Title (de)

Verfahren zum Herstellen eines Hohlkörpers aus Stahl mit einer Innen- und/oder Aussenprofilierung.

Title (fr)

Procédé de fabrication d'un objet creux en acier avec un profil interne et/ou externe.

Publication

EP 0633078 A1 19950111 (DE)

Application

EP 94110048 A 19940629

Priority

DE 4323167 A 19930710

Abstract (en)

A hollow cylindrical preform made of steel contg. at least 0.2 wt % C and at least 3 wt % carbide forming elements such as Cr, Mo and B is heated in an inert atmosphere to its austenising temp and then cooled to a metastable austenite range which is below the recrystallisation temp. and above the martensite forming temp. It is then pressure rolled to produce the required profile and rapidly cooled to below the martensite forming temp. After martensitic transformation it is tempered at 400-600 deg C to precipitate the special carbides before being cooled to room temp. Pref., the forming tool, ie the roller is preheated prior to rolling. The temp. of the preform is constantly measured during rolling and the difference between the nominal and optimal temps is used to regulate the rolling speed during forming.

Abstract (de)

Die Erfindung betrifft ein Verfahren zum Herstellen eines Hohlkörpers aus Stahl mit einer Innen- oder Außenprofilierung durch Drückwalzen, insbesondere zur Herstellung eines Zahnkranzes, aus einem hohlzylindrischen oder topfförmigen Rohling, wobei das Drückwalzen mit einem Austenitformhärten kombiniert erfolgt.

IPC 1-7

B21H 5/02; C21D 8/10; C21D 1/22

IPC 8 full level

B21J 1/06 (2006.01); **B21H 5/02** (2006.01); **B21K 1/76** (2006.01); **C21D 1/22** (2006.01); **C21D 1/74** (2006.01); **C21D 8/10** (2006.01); **C21D 9/08** (2006.01); **C22C 38/00** (2006.01); **C22C 38/22** (2006.01); C21D 1/18 (2006.01); C21D 9/32 (2006.01)

CPC (source: EP)

B21C 5/003 (2013.01); **B21H 5/02** (2013.01); **C21D 1/22** (2013.01); **C21D 8/105** (2013.01); C21D 1/18 (2013.01); C21D 9/32 (2013.01); C21D 2211/008 (2013.01)

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Designated contracting state (EPC)

AT BE CH DE DK ES FR GB GR IE IT LI NL PT SE

DOCDB simple family (publication)

EP 0633078 A1 19950111; **EP 0633078 B1 19961023**; AT E144445 T1 19961115; DE 4323167 C1 19940519; DE 59400878 D1 19961128; ES 2095110 T3 19970201; JP H07185714 A 19950725

DOCDB simple family (application)

EP 94110048 A 19940629; AT 94110048 T 19940629; DE 4323167 A 19930710; DE 59400878 T 19940629; ES 94110048 T 19940629; JP 15399494 A 19940706