

Title (en)
METHOD FOR PRESS QUENCHING COMPONENTS CONSISTING OF SHEET STEEL

Title (de)
VERFAHREN ZUM PRESSHÄRTEN VON BAUTEILEN AUS STAHLBLECH

Title (fr)
PROCEDE POUR PRODUIRE DES COMPOSANTS TREMPES EN FEUILLES D'ACIER

Publication
EP 1786936 B1 20110713 (DE)

Application
EP 05770058 A 20050809

Priority
• EP 2005008641 W 20050809
• DE 102004038626 A 20040809

Abstract (en)
[origin: US8613819B2] The invention relates to a method for producing quenched components consisting of sheet steel, comprising the following steps: a) shaped parts are formed from sheet steel; b) the end of the shaped part is cut and the sheet steel is optionally punched or provided with a desired hole pattern prior to, during, or after the forming of the shaped part; c) at least some sections of the shaped part are subsequently heated to a temperature that permits the steel material to austenitize; and d) the component is then transferred to a quenching die, where it is subjected to a quenching process, during which the component is cooled and thus quenched by the contact of the quenching die with some sections of the component and the compression of said sections. The invention is characterized in that the component is supported by the quenching die in the vicinity of the positive radii and that some sections of said component are clamped in a secure manner without distortion in the vicinity of the cut edges. In the sections of the component that are not clamped, the latter is separated from a quenching-die half by a gap.

IPC 8 full level
C21D 1/673 (2006.01); **B21D 22/02** (2006.01); **B21D 22/26** (2006.01); **C21D 8/00** (2006.01)

CPC (source: EP KR US)
B21D 22/02 (2013.01 - KR); **B21D 22/26** (2013.01 - EP KR US); **C21D 1/673** (2013.01 - EP KR US); **C21D 7/13** (2013.01 - EP US); **C21D 8/00** (2013.01 - KR); **C21D 8/04** (2013.01 - EP US); **C21D 9/0068** (2013.01 - EP US); **C21D 1/18** (2013.01 - EP US)

Cited by
DE102014203767A1; EP3060687B1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
US 2009211669 A1 20090827; US 8613819 B2 20131224; AT E516373 T1 20110715; BR PI0513941 A 20080520; BR PI0513941 B1 20150422; CA 2575940 A1 20060216; CA 2575940 C 20110405; CN 101120105 A 20080206; CN 101120105 B 20100505; DE 102004038626 B3 20060202; EP 1786936 A2 20070523; EP 1786936 B1 20110713; JP 2008509284 A 20080327; KR 101011192 B1 20110126; KR 20070049657 A 20070511; WO 2006015849 A2 20060216; WO 2006015849 A3 20060420; ZA 200700110 B 20080528

DOCDB simple family (application)
US 65914805 A 20050809; AT 05770058 T 20050809; BR PI0513941 A 20050809; CA 2575940 A 20050809; CN 200580026959 A 20050809; DE 102004038626 A 20040809; EP 05770058 A 20050809; EP 2005008641 W 20050809; JP 2007525241 A 20050809; KR 20077005476 A 20050809; ZA 200700110 A 20070104