

Title (en)
DEEP-DRAWN PARTS MADE OF SPRING SHEET STEEL WHICH ARE ESPECIALLY USED AS A LIGHTWEIGHT STRUCTURAL MEMBER OR A VEHICLE BODY PART, AND A METHOD FOR THE PRODUCTION THEREOF

Title (de)
ZIEHTEILE AUS FEDERSTAHLBLECH, INSBESONDERE ALS LEICHTBAU- ODER KAROSSERIETEIL UND VERFAHREN ZU IHRER HERSTELLUNG

Title (fr)
PIECES EMBOUTIES EN TOLE D'ACIER A RESSORT, S'UTILISANT NOTAMMENT COMME ELEMENT DE CONSTRUCTION LEGERE OU ELEMENT DE CARROSSERIE

Publication
EP 1069962 B1 20020515 (DE)

Application
EP 99907622 A 19990311

Priority
• DE 19815022 A 19980403
• EP 9901578 W 19990311

Abstract (en)
[origin: DE19815022A1] The invention relates to deep-drawn parts made of sheet steel, especially used for motor vehicle bodies, and a method for the production of such deep-drawn parts. According to the invention, spring sheet steel which is already hardened in the initial state, namely austempered spring sheet steel, e.g. CK60 or C63 or 67SiCr5, is used for deep-drawing body parts in order to be able to easily manufacture deep-drawn parts which exhibit a high level of strength but, however, have a reduced weight and are less sensitive to denting. The stretching limit of the heat-treated sheet bar material ranges from 800 to 1800 N/mm<2>. The tensile strength lies above said range. By virtue of these strength values, sheet bars with a sheet steel thickness ranging from approximately 0.3 mm to 0.6 mm can be used, whereby the weight can be reduced by approximately 20 to 60 % of the present weight of parts. The inventive deep-drawn part is thus a lightweight structural member. In addition to austempering, the spring sheet metal can be hardened, for example, by cold rolling or by heat treatment.

IPC 1-7
B21D 53/88; **C21D 9/48**; **B62D 25/00**

IPC 8 full level
B21D 53/88 (2006.01); **B62D 25/00** (2006.01); **C21D 9/46** (2006.01); **C21D 9/48** (2006.01)

CPC (source: EP US)
C21D 9/46 (2013.01 - EP US)

Designated contracting state (EPC)
DE ES FR GB IT

DOCDB simple family (publication)
DE 19815022 A1 19991021; DE 59901460 D1 20020620; EP 1069962 A1 20010124; EP 1069962 B1 20020515; ES 2177249 T3 20021201; US 6364973 B1 20020402; WO 9951376 A1 19991014

DOCDB simple family (application)
DE 19815022 A 19980403; DE 59901460 T 19990311; EP 9901578 W 19990311; EP 99907622 A 19990311; ES 99907622 T 19990311; US 64760801 A 20010327