

Title (en)

Method for producing a hot-forming tool and hot-forming tool with wear protection

Title (de)

Verfahren zur Herstellung eines Warmformwerkzeugs und Warmformwerkzeug mit Verschleißschutz

Title (fr)

Procédé de fabrication d'un outil de formage à chaud et outil de formage à chaud doté d'une protection contre l'usure

Publication

EP 2335842 A3 20130807 (DE)

Application

EP 10014558 A 20101112

Priority

DE 102009058657 A 20091216

Abstract (en)

[origin: EP2335842A2] The tool (1) has an upper tool (3) and a lower tool (4) with a base body (6) made of non-ferrous metal or aluminum alloy, and a molded bellow (7) arranged at the base body, where the molded bellow limits a molded cavity (8) of the tool. The molded bellow is formed as a detachable wear protective plate that is connected with the base body by soldering or adhesive. The base body has cooling channels (5) made of copper, stainless steel, aluminum or steel, and the molded bellow has a wear protective coating made of steel. Independent claims are also included for the following: (1) a method for manufacturing a thermoforming tool (2) a method for separating a wear protective plate from a base body.

IPC 8 full level

B21D 37/16 (2006.01); **B21D 37/20** (2006.01)

CPC (source: EP)

B21D 37/16 (2013.01); **B21D 37/20** (2013.01)

Citation (search report)

- [XA] EP 1640131 A1 20060329 - BENTELER MASCHB GMBH [DE]
- [I] DE 29508449 U1 19950817 - FRAUNHOFER GES FORSCHUNG [DE]
- [I] WO 2007091957 A1 20070816 - HYDROFORMING DESIGN LIGHT AB [SE], et al
- [I] JP S60244432 A 19851204 - SUZUKI MOTOR CO
- [I] DE 2548815 A1 19770505 - HRB TOOLING AB
- [I] DE 102008016118 A1 20090924 - VOLKSWAGEN AG [DE]
- [I] JP S58110139 A 19830630 - NISSAN MOTOR
- [A] DE 102005055611 A1 20060601 - IFF GMBH [DE]

Cited by

EP3590622A1; WO2018138076A1

Designated contracting state (EPC)

AL 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 RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2335842 A2 20110622; EP 2335842 A3 20130807; CN 102139326 A 20110803; CN 102139326 B 20140910;
DE 102009058657 A1 20110622

DOCDB simple family (application)

EP 10014558 A 20101112; CN 201010588730 A 20101215; DE 102009058657 A 20091216