

Title (en)

Method and apparatus for punching aluminium sheet metal parts

Title (de)

Verfahren und Vorrichtung zum Lochen von Blechformteilen aus einem Aluminiumwerkstoff

Title (fr)

Procédé et dispositif de poinçonnage des pièces en tôle d' aluminium

Publication

EP 1103317 A3 20020206 (DE)

Application

EP 00125744 A 20001124

Priority

DE 19957076 A 19991126

Abstract (en)

[origin: EP1103317A2] The hole forming process involves producing a thickening (7) along the hole circumference by a preliminary deformation. The aluminum sheet component (3) is deformed between a holding-down device (1) and a die (2) When the component is deformed by a punch (5), material is forced out of the hole region into the die.

IPC 1-7

B21D 28/26

IPC 8 full level

B21D 28/24 (2006.01)

CPC (source: EP)

B21D 28/24 (2013.01)

Citation (search report)

[X] PATENT ABSTRACTS OF JAPAN vol. 002, no. 138 (M - 040) 16 November 1978 (1978-11-16)

Cited by

CN109940086A; CN109500219A; US7308814B2

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)

EP 1103317 A2 20010530; EP 1103317 A3 20020206; EP 1103317 B1 20060118; DE 19957076 A1 20010607; DE 19957076 B4 20061019; DE 50012075 D1 20060406; ES 2257256 T3 20060801; PT 1103317 E 20060531

DOCDB simple family (application)

EP 00125744 A 20001124; DE 19957076 A 19991126; DE 50012075 T 20001124; ES 00125744 T 20001124; PT 00125744 T 20001124