

Title (en)

HYBRID FORMING METHOD AND CORRESPONDING FORMING DEVICE

Title (de)

HYBRIDES FORMVERFAHREN UND ENTSPRECHENDE FORMVORRICHTUNG

Title (fr)

PROCÉDÉ DE FORMAGE HYBRIDE ET DISPOSITIF DE FORMAGE CORRESPONDANT

Publication

**EP 3924117 A1 20211222 (FR)**

Application

**EP 20709285 A 20200211**

Priority

- FR 1901446 A 20190213
- FR 2020050247 W 20200211

Abstract (en)

[origin: WO2020165538A1] Disclosed is a method for hybrid forming of a material blank, in which: - the material blank (2) to be deformed is placed between a die (6) and a blank holder (4); - the material blank (2) is deformed by stamping using at least one punch (26, 32) in order to obtain a pre-stamped material blank (2); - a cavity, in which both the at least one punch (26, 32) having pre-stamped the material blank (2) as well as at least one pair of electrodes (36) are located, is filled with liquid, - the pre-stamped material blank (2) is placed in contact with the liquid of the cavity, and - at least one electrical discharge is generated between at least one pair of electrodes (36) in such a way as to deform the material blank (2) against the die (6). [Fig. 1]

IPC 8 full level

**B21D 22/22** (2006.01); **B21D 26/10** (2006.01); **B21D 26/12** (2006.01)

CPC (source: EP US)

**B21D 22/22** (2013.01 - EP); **B21D 26/10** (2013.01 - EP); **B21D 26/12** (2013.01 - EP US)

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)

**FR 3092504 A1 20200814; FR 3092504 B1 20210122;** CN 113412169 A 20210917; CN 113412169 B 20231103; EP 3924117 A1 20211222;  
JP 2022523181 A 20220421; JP 7418456 B2 20240119; US 11897017 B2 20240213; US 2022126350 A1 20220428;  
WO 2020165538 A1 20200820

DOCDB simple family (application)

**FR 1901446 A 20190213;** CN 202080012999 A 20200211; EP 20709285 A 20200211; FR 2020050247 W 20200211;  
JP 2021547810 A 20200211; US 202017430663 A 20200211