

Title (en)

DEVICE AND METHOD FOR TREATING A METAL PART

Title (de)

VORRICHTUNG UND VERFAHREN ZUR BEHANDLUNG EINES METALLTEILS

Title (fr)

DISPOSITIF ET PROCÉDÉ POUR LE TRAITEMENT D'UNE PIECE METALLIQUE

Publication

EP 3558586 A1 20191030 (FR)

Application

EP 17838053 A 20171222

Priority

- FR 1663372 A 20161226
- FR 2017053837 W 20171222

Abstract (en)

[origin: WO2018122523A1] The invention concerns a device (100) for treating a metal part (1) having an outer surface (1-1), comprising: - a chamber (11), - a vibration module (12) comprising: ■ a generator (12-1) for generating an electric signal at ultrasonic frequency, ■ a converter (12-2) for converting said electric signal into a mechanical vibration, said mechanical vibration being transmitted to a sonotrode (12-4), ■ the sonotrode (12-4) positioned in said chamber facing the outer surface of the metal part, - projectiles (13) positioned inside the chamber for impacting against the outer surface of the metal part, said projectiles being moved by the vibration of the sonotrode and comprising a plurality of abrasive media which, when moved by the vibration of the sonotrode, introduce residual compressive stresses and improve the surface condition of the metal part.

IPC 8 full level

B24C 1/10 (2006.01); **B24B 1/04** (2006.01); **B24C 1/08** (2006.01); **B24C 5/00** (2006.01)

CPC (source: EP US)

B24C 1/08 (2013.01 - EP US); **B24C 1/10** (2013.01 - EP US); **B24C 5/005** (2013.01 - EP US); **B24C 9/003** (2013.01 - US); **C21D 7/06** (2013.01 - 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 3061055 A1 20180629; **FR 3061055 B1 20190726**; CN 110177651 A 20190827; CN 110177651 B 20220218; EP 3558586 A1 20191030; JP 2020503182 A 20200130; US 2020122296 A1 20200423; WO 2018122523 A1 20180705

DOCDB simple family (application)

FR 1663372 A 20161226; CN 201780083591 A 20171222; EP 17838053 A 20171222; FR 2017053837 W 20171222; JP 2019534868 A 20171222; US 201716473539 A 20171222