

Title (en)

METHOD OF REFINING METAL SURFACE AND METAL PRODUCT BY THE METHOD

Title (de)

VERFAHREN ZUR VERFEINERUNG VON METALLFLÄCHEN UND DURCH DAS VERFAHREN ERZEUGTES METALLPRODUKT

Title (fr)

PROCEDE POUR AFFINER UNE SURFACE METALLIQUE ET ARTICLE DE METAL AINSI TRAITE

Publication

**EP 1577402 A4 20060705 (EN)**

Application

**EP 03768204 A 20031225**

Priority

- JP 0316669 W 20031225
- JP 2002374610 A 20021225
- JP 2003421143 A 20031218

Abstract (en)

[origin: WO2004059015A1] A method of refining a metal surface capable of producing crystal grains with grain sizes of less than 1  $\mu\text{m}$  on the surface part of a metal product and the metal product treated by the method. Shot materials or impact objects are projected or impacted against the surface of the metal product with a power per unit area adjusted to produce the crystal grains with grain sizes of less than 1  $\mu\text{m}$  on the surface part of the metal product.

IPC 1-7

**C21D 7/06**; B24C 1/10

IPC 8 full level

**B24C 1/10** (2006.01); **C21D 7/06** (2006.01)

CPC (source: EP US)

**C21D 7/06** (2013.01 - EP US)

Citation (search report)

- [X] WO 0210463 A1 20020207 - UNIV TROYES TECHNOLOGIE [FR], et al
- [X] WO 0210462 A1 20020207 - UNIV TROYES TECHNOLOGIE [FR], et al
- [X] TAO N R ET AL: "Surface nanocrystallization of iron induced by ultrasonic shot peening", NANOSTRUCTURED MATERIALS, ELSEVIER, NEW YORK, NY, US, vol. 11, no. 4, June 1999 (1999-06-01), pages 433 - 440, XP004178991, ISSN: 0965-9773
- [A] ALTENBERGER I ET AL: "CYCLIC DEFORMATION AND NEAR SURFACE MICROSTRUCTURES OF SHOT PEENED OR DEEP ROLLED AUSTENITIC STAINLESS STEEL AISI 304", MATERIALS SCIENCE AND ENGINEERING A: STRUCTURAL MATERIALS: PROPERTIES, MICROSTRUCTURE & PROCESSING, LAUSANNE, CH, vol. A264, no. 1/2, 31 May 1999 (1999-05-31), pages 1 - 16, XP000998517, ISSN: 0921-5093
- See references of WO 2004059015A1

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DE102006008170A1; DE102006008170B4

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

**EP 1577402 A1 20050921**; **EP 1577402 A4 20060705**; AU 2003292784 A1 20040722; CN 100560750 C 20091118; CN 1732274 A 20060208; JP WO2004059015 A1 20060427; US 2006289090 A1 20061228; WO 2004059015 A1 20040715

DOCDB simple family (application)

**EP 03768204 A 20031225**; AU 2003292784 A 20031225; CN 200380107755 A 20031225; JP 0316669 W 20031225; JP 2004562930 A 20031225; US 54053405 A 20050624