

Title (en)

Method of manufacturing a tin layer on the internal surface of copper alloy hollow elements

Title (de)

Verfahren zur Erzeugung einer Zinnschicht auf der inneren Oberfläche von Hohlbauteilen aus Kupferlegierungen

Title (fr)

Procédé de fabrication d'une couche d'étain sur la surface interne d'éléments creuses comportant un alliage de cuivre

Publication

EP 1120477 A3 20020612 (DE)

Application

EP 00128764 A 20001230

Priority

DE 10003582 A 20000128

Abstract (en)

[origin: DE10003582A1] Production of a tin layer on the inner surface of hollow copper alloy parts comprises reducing the lead content of the inner surface by treating with an aqueous reduction solution based on an acid and then chemically plating the hollow parts with tin. The aqueous reduction solution is hydrogen acid. Preferred Features: The aqueous reduction solution is a non-oxidizing hydrogen acid which is free from chloride and sulfate.

IPC 1-7

C23C 18/24; C23C 18/31; B05D 7/22; E03B 7/09

IPC 8 full level

A61K 31/44 (2006.01); **B05D 7/22** (2006.01); **B32B 7/04** (2006.01); **C22C 9/04** (2006.01); **C23C 18/18** (2006.01); **C23C 18/24** (2006.01); **C23C 18/31** (2006.01); **E03B 7/09** (2006.01)

CPC (source: EP US)

C23C 18/1844 (2013.01 - EP US); **C23C 18/31** (2013.01 - EP US)

Citation (search report)

- [YD] US 2282511 A 19420512 - CLEMENT BRADLEY JOHN
- [YD] WO 9706313 A1 19970220 - EUROPA METALLI SPA [IT], et al
- [AD] EP 0683245 A1 19951122 - IMI YORKSHIRE FITTINGS [GB]

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 1120477 A2 20010801; EP 1120477 A3 20020612; EP 1120477 B1 20050525; AT E296364 T1 20050615; DE 10003582 A1 20010802; DE 50010390 D1 20050630; DK 1120477 T3 20050926; ES 2238967 T3 20050916; HU 0100444 D0 20010328; HU P0100444 A2 20011228; HU P0100444 A3 20030228; JP 2001288577 A 20011019; PT 1120477 E 20050831; US 2001010834 A1 20010802; US 6572754 B2 20030603

DOCDB simple family (application)

EP 00128764 A 20001230; AT 00128764 T 20001230; DE 10003582 A 20000128; DE 50010390 T 20001230; DK 00128764 T 20001230; ES 00128764 T 20001230; HU P0100444 A 20010126; JP 2001018310 A 20010126; PT 00128764 T 20001230; US 77233101 A 20010129