

Title (en)

PROCESS FOR MANUFACTURING PISTONS, PISTON RODS, AS WELL AS CYLINDERS FOR HYDRAULIC OR PNEUMATIC UNITS

Title (de)

VERFAHREN ZUM HERSTELLEN VON KOLBEN UND KOLBENSTANGEN SOWIE ZYLINDERN FÜR HYDRAULIK- ODER PNEUMATIKAGGREGATE

Title (fr)

PROCEDE PERMETTANT DE PRODUIRE DES PISTONS, DES TIGES DE PISTON, AINSI QUE DES CYLINDRES POUR UNITES HYDRAULIQUES ET PNEUMATIQUES

Publication

EP 0708698 B1 19971008 (DE)

Application

EP 93914547 A 19930714

Priority

AT 9300119 W 19930714

Abstract (en)

[origin: WO9502486A1] A process is disclosed for manufacturing pistons and piston rods, as well as cylinder for hydraulic or pneumatic units. The sliding surface of a finely trimmed cylindrical semi-finished product made of an aluminium alloy is hard anodized, the thus hard anodized product is rotated around its axis and the thus formed ceramic sliding surface layer is machined in several successive grinding processes by flat grinding media having grains of different, decreasing sizes.

IPC 1-7

B24B 1/00

IPC 8 full level

B24B 5/00 (2006.01); **B23P 15/10** (2006.01); **B24B 1/00** (2006.01); **B24B 19/10** (2006.01); **B24B 21/02** (2006.01); **B24B 33/00** (2006.01)

CPC (source: EP US)

B24B 1/00 (2013.01 - EP US); **B24B 19/10** (2013.01 - EP US); **B24B 21/02** (2013.01 - EP US); **B24B 33/00** (2013.01 - EP US)

Cited by

DE102009027647A1; WO2011006753A1

Designated contracting state (EPC)

AT DE ES FR GB IT NL SE

DOCDB simple family (publication)

WO 9502486 A1 19950126; DE 59307522 D1 19971113; EP 0708698 A1 19960501; EP 0708698 B1 19971008; JP H09500062 A 19970107; US 5842911 A 19981201

DOCDB simple family (application)

AT 9300119 W 19930714; DE 59307522 T 19930714; EP 93914547 A 19930714; JP 50423095 A 19930714; US 58311696 A 19960116