

Title (en)  
HARD-CHROME PLATED LAYER

Title (de)  
GALVANISCHE HARTCHROMSCHICHT

Title (fr)  
COUCHE DE CHROME DURE GALVANIQUE

Publication  
**EP 1114209 B1 20040804 (DE)**

Application  
**EP 00943813 A 20000615**

Priority  
• DE 19931829 A 19990708  
• EP 0005524 W 20000615

Abstract (en)  
[origin: US6503642B1] In an electrodeposited hard-chromium coat, particularly for a piston ring, which is substantially formed of an electrolyte containing hexavalent chromium, wherein there are cracks in the coat and diamond particles are embedded in these cracks, the diamond particles have a size ranging from 0.25 to 0.5 µm.

IPC 1-7  
**C25D 15/02**; **C25D 7/10**

IPC 8 full level  
**C25D 5/14** (2006.01); **C25D 5/18** (2006.01); **C25D 7/00** (2006.01); **C25D 7/10** (2006.01); **C25D 15/02** (2006.01)

CPC (source: EP US)  
**C25D 5/18** (2013.01 - EP US); **C25D 5/617** (2020.08 - EP US); **C25D 5/625** (2020.08 - EP US); **C25D 15/02** (2013.01 - EP US);  
**Y10S 428/926** (2013.01 - EP US); **Y10S 428/935** (2013.01 - EP US); **Y10T 29/49281** (2015.01 - EP US); **Y10T 428/12458** (2015.01 - EP US);  
**Y10T 428/12479** (2015.01 - EP US); **Y10T 428/12486** (2015.01 - EP US); **Y10T 428/12639** (2015.01 - EP US); **Y10T 428/12847** (2015.01 - EP US)

Cited by  
DE102012204156A1; DE102007038188A1; DE102008017270B3; DE102011084051B4; US8337687B2; US8277953B2; US8110087B2;  
DE102011084051A1; WO2013135325A1; DE102011084052A1; DE102011084052B4; EP2660362B1

Designated contracting state (EPC)  
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**US 6503642 B1 20030107**; AT E272734 T1 20040815; BR 0006828 A 20010605; BR 0006828 B1 20110823; DE 19931829 A1 20010118;  
DE 50007283 D1 20040909; EP 1114209 A1 20010711; EP 1114209 B1 20040804; ES 2223540 T3 20050301; JP 2003504517 A 20030204;  
JP 4406520 B2 20100127; PT 1114209 E 20041029; WO 0104386 A1 20010118

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