

Title (en)  
PROCESS FOR PHOSPHATIZING ZINC-ELECTROPLATED METAL OBJECTS

Publication  
**EP 0111246 B1 19881117 (DE)**

Application  
**EP 83112008 A 19831130**

Priority  
DE 3245411 A 19821208

Abstract (en)  
[origin: ES8406564A1] A process for phosphating zinc-plated metal articles, particularly electrolytically zinc-plated steel sheets, by treatment thereof for a short period with an acidic phosphating solution which, in addition to zinc and phosphate ions, can contain other metal cations and/or anions of oxygen-containing acids having an accelerating effect, wherein the phosphating solution has a content of Zn<sup>2+</sup>-cations of between about 1 and 2.5 g/l, a free acid content in the range from 0.8 to 3 points, and the acid ratio of total acid to free acid in the range from 5 to 10. The phosphating treatment is carried out for a period of time not in excess of about 5 seconds.

IPC 1-7  
**C23C 22/12**; **C23C 22/13**

IPC 8 full level  
**C23C 22/12** (2006.01); **C23C 22/13** (2006.01)

CPC (source: EP KR US)  
**C23C 22/12** (2013.01 - EP KR US); **C23C 22/13** (2013.01 - EP US)

Cited by  
EP0359296A1; EP0258922A1; EP0219779A3; EP0370535A1; GB2204067A; GB2204067B; EP0175606A1; FR2569203A1; US6461450B1; WO9102829A3; WO9945171A1

Designated contracting state (EPC)  
AT BE CH DE FR GB IT LI LU NL SE

DOCDB simple family (publication)  
**EP 0111246 A2 19840620**; **EP 0111246 A3 19860108**; **EP 0111246 B1 19881117**; AT E38692 T1 19881215; AU 2217283 A 19840614; AU 561151 B2 19870430; CA 1205727 A 19860610; DE 3245411 A1 19840705; DE 3245411 C2 19880331; DE 3378481 D1 19881222; ES 527886 A0 19840801; ES 8406564 A1 19840801; JP S59116383 A 19840705; KR 840007037 A 19841204; KR 910002568 B1 19910426; US 4497668 A 19850205; ZA 839106 B 19840725

DOCDB simple family (application)  
**EP 83112008 A 19831130**; AT 83112008 T 19831130; AU 2217283 A 19831207; CA 442768 A 19831207; DE 3245411 A 19821208; DE 3378481 T 19831130; ES 527886 A 19831207; JP 23261883 A 19831208; KR 830005789 A 19831207; US 55487983 A 19831125; ZA 839106 A 19831207