

Title (en)
CHROMIUM-FREE CONVERSION-COATING TREATMENT OF ALUMINIUM

Title (de)
CHROMFREIE KONVERSIONSBEHANDLUNG VON ALUMINIUM

Title (fr)
TRAITEMENT DE REVETEMENT PAR CONVERSION SANS CHROME POUR L'ALUMINIUM

Publication
EP 0700452 A1 19960313 (DE)

Application
EP 94916970 A 19940517

Priority
• DE 4317217 A 19930524
• EP 9401600 W 19940517

Abstract (en)
[origin: CA2163621A1] The invention concerns a method of pretreating aluminum or aluminum alloy surfaces before application of a permanent corrosion-protective conversion coating treatment, in particular before phosphating in acidic phosphating baths containing zinc, a chromating treatment, or a chromate free treatment. The method is characterized in that the surfaces are brought into contact with acidic aqueous treatment solutions containing complex fluorides of the elements boron, silicon, titanium, zirconium, or hafnium, alone or in mixtures with each other, at total concentrations between 100 and 4000 mg/L and at a pH between 0.3 and 3.5. Following the pretreatment, the aluminum or aluminum alloy parts may, after shaping if necessary, be joined by adhesive bonding and/or welding to each other or to parts made of steel, zinc plated and/or zinc alloy plated steel, and/or aluminum or aluminum alloy plated steel.

IPC 1-7
C23C 22/78

IPC 8 full level
C23C 22/12 (2006.01); **C23C 22/24** (2006.01); **C23C 22/34** (2006.01); **C23C 22/48** (2006.01); **C23C 22/73** (2006.01); **C23C 22/78** (2006.01)

CPC (source: EP KR US)
C23C 22/34 (2013.01 - EP US); **C23C 22/73** (2013.01 - EP US); **C23C 22/76** (2013.01 - KR); **C23C 22/78** (2013.01 - EP US);
C23C 22/80 (2013.01 - KR)

Citation (search report)
See references of WO 9428193A1

Cited by
WO2006084491A1; DE102014225237B3; US10400337B2; WO0068458A1; US10125424B2; US10920324B2; US7709058B2;
DE102016217507A1; WO2017046139A1

Designated contracting state (EPC)
BE DE ES FR GB IT NL PT SE

DOCDB simple family (publication)
DE 4317217 A1 19941201; AU 675328 B2 19970130; AU 6844294 A 19941220; CA 2163621 A1 19941208; CA 2163621 C 20041026;
DE 59403473 D1 19970828; EP 0700452 A1 19960313; EP 0700452 B1 19970723; ES 2104390 T3 19971001; JP 3476824 B2 20031210;
JP H08510505 A 19961105; KR 100326612 B1 20021130; KR 960702539 A 19960427; US 5584946 A 19961217; WO 9428193 A1 19941208

DOCDB simple family (application)
DE 4317217 A 19930524; AU 6844294 A 19940517; CA 2163621 A 19940517; DE 59403473 T 19940517; EP 9401600 W 19940517;
EP 94916970 A 19940517; ES 94916970 T 19940517; JP 50017895 A 19940517; KR 19950705193 A 19951121; US 54568495 A 19951122