

Title (en)  
Treatment by carboxylation of metal surfaces, use of this process as temporary protection against corrosion and manufacturing process of a shaped sheet coated with a carboxylated conversion coating

Title (de)  
Behandlungsverfahren der metallischen Oberflächen durch Carboxylierung, Benutzung dieses Verfahrens für den zeitweiligen Korrosionsschutz und Verfahren zur Herstellung eines geformten carboxylierten Bleches

Title (fr)  
Procédé de traitement par carboxylation de surfaces métalliques, utilisation de ce procédé pour la protection temporaire contre la corrosion, et procédé de fabrication d'une tôle mise en forme ainsi carboxylatée

Publication  
**EP 1801262 A1 20070627 (FR)**

Application  
**EP 05292773 A 20051222**

Priority  
EP 05292773 A 20051222

Abstract (en)  
Conversion process comprises carboxylation of a metallic surface e.g. zinc, iron, aluminum, copper, lead and their alloys, galvanized steels, electrozincated, aluminized, coppered, under oxidizing conditions with an aqueous/organic water bath containing a mixture of organic acids comprising 10-18 carbon atoms. Conversion process comprises carboxylation of a metallic surface e.g. zinc, iron, aluminum, copper, lead and their alloys or galvanized, electrozincated, aluminized or coppered steels under oxidizing with an aqueous/organic water bath containing a mixture of organic acids comprising 10-18 carbon atoms in a binary or ternary form, where respective proportions of for the binary acid mixture is  $x+5:y+5$  molar ratio, where x and y are two acids in a mixture in the eutectic composition and for a ternary mixture  $x+3:y+3:z+3$  molar ratio, x, y and z are three acids in a mixture in the eutectic composition in which the concentration of the mixture is  $\geq 20$  g/l.

IPC 8 full level  
**C23C 22/48** (2006.01); **B21D 22/20** (2006.01); **C10M 173/02** (2006.01); **C23C 22/50** (2006.01); **C23C 22/53** (2006.01); **C23C 22/56** (2006.01)

CPC (source: EP KR US)  
**C10M 173/02** (2013.01 - KR); **C23C 22/48** (2013.01 - EP KR US); **C23C 22/50** (2013.01 - EP KR US); **C23C 22/53** (2013.01 - EP KR US); **C23C 22/56** (2013.01 - EP KR US)

Citation (applicant)  
WO 02077324 A2 20021003 - USINOR [FR], et al

Citation (search report)  
• [A] FR 2141934 A1 19730126 - AMCHEM PROD  
• [A] GB 2268512 A 19940112 - HENKEL CORP [US]  
• [A] US 4373050 A 19830208 - STEINBRECHER LESTER, et al  
• [A] GB 792813 A 19580402 - AMERICAN CHEM PAINT CO  
• [A] EP 0301120 A1 19890201 - AKAD WISSENSCHAFTEN DDR [DD]  
• [A] EP 0897969 A1 19990224 - LORRAINE LAMINAGE [FR]

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA HR MK YU

DOCDB simple family (publication)  
**EP 1801262 A1 20070627; EP 1801262 B1 20081126**; AR 058727 A1 20080220; AT E415504 T1 20081215; AT E488618 T1 20101215; BR PI0621113 A2 20111129; CA 2632928 A1 20070712; CA 2632928 C 20110809; CN 101448974 A 20090603; CN 101448974 B 20110914; DE 602005011317 D1 20090108; DE 602006018357 D1 20101230; EP 1963545 A1 20080903; EP 1963545 B1 20101117; ES 2318436 T3 20090501; ES 2355438 T3 20110325; JP 2009520879 A 20090528; JP 4981062 B2 20120718; KR 101033913 B1 20110511; KR 20080088596 A 20081002; MA 30081 B1 20081201; MX 2008007702 A 20080912; PL 1801262 T3 20090529; PL 1963545 T3 20110729; RU 2008130099 A 20100127; RU 2384653 C1 20100320; TW 200728499 A 20070801; TW I376428 B 20121111; UA 86726 C2 20090512; US 2009242079 A1 20091001; US 8273189 B2 20120925; WO 2007077336 A1 20070712; ZA 200805274 B 20090624

DOCDB simple family (application)  
**EP 05292773 A 20051222**; AR P060105769 A 20061226; AT 05292773 T 20051222; AT 06847093 T 20061220; BR PI0621113 A 20061220; CA 2632928 A 20061220; CN 200680052258 A 20061220; DE 602005011317 T 20051222; DE 602006018357 T 20061220; EP 06847093 A 20061220; ES 05292773 T 20051222; ES 06847093 T 20061220; FR 2006002814 W 20061220; JP 2008546519 A 20061220; KR 20087016185 A 20061220; MA 31067 A 20080620; MX 2008007702 A 20061220; PL 05292773 T 20051222; PL 06847093 T 20061220; RU 2008130099 A 20061220; TW 95148238 A 20061221; UA A200808303 A 20061220; US 42125309 A 20090409; ZA 200805274 A 20080618