

Title (en)

PROCESS FOR PHOSPHATING GALVANISED STEEL SURFACES

Title (de)

VERFAHREN ZUM PHOSPHATIEREN VON VERZINKTEN STAHL OBERFLÄCHEN

Title (fr)

PROCEDE DE PHOSPHATATION DE SURFACES EN ACIER GALVANISEES

Publication

EP 0662164 B1 19960508 (DE)

Application

EP 93920771 A 19930920

Priority

- DE 4232292 A 19920928
- EP 9302538 W 19930920

Abstract (en)

[origin: US5503733A] PCT No. PCT/EP93/02538 Sec. 371 Date Mar. 28, 1995 Sec. 102(e) Date Mar. 28, 1995 PCT Filed Sep. 20, 1993 PCT Pub. No. WO94/08074 PCT Pub. Date Apr. 14, 1994. The invention relates to a process for phosphating galvanized steel surfaces, preferably electrolytically or hot-dip galvanized surfaces of steel strip, by treating them in a bath or spray with acidic aqueous phosphating solutions, wherein the workpieces are given a d.c. cathodic treatment at the same time. In the process, (a) the phosphating solutions contain Zn⁺² cations in the range from 0.1 to 5 g/l, PO₄⁻³ anions in the range from 5 to 50 g/l, NO₃⁻ anions in the range from 0.1 to 50 g/l, Mn⁺² cations in the range from 0.1 to 5 g/l, and Cu⁺² cations in the range from 0.001 to 1 g/l; (b) the following conditions are used: pH of the phosphating solution in the range from 1.5 to 4.5, temperature of the phosphating solution in the range from 10 DEG to 80 DEG C., treatment time in the range from 1 to 300 sec; and (c) the workpieces are also cathodically treated with a direct current with a density in the range from 0.01 to 100 mA/cm² during phosphating.

IPC 1-7

C25D 11/36

IPC 8 full level

C25D 11/36 (2006.01)

CPC (source: EP US)

C25D 11/36 (2013.01 - EP US)

Cited by

EA012533B1; WO2006122651A1

Designated contracting state (EPC)

AT BE DE

DOCDB simple family (publication)

US 5503733 A 19960402; AT E137815 T1 19960515; DE 4232292 A1 19940331; DE 59302529 D1 19960613; EP 0662164 A1 19950712; EP 0662164 B1 19960508; WO 9408074 A1 19940414

DOCDB simple family (application)

US 40694395 A 19950328; AT 93920771 T 19930920; DE 4232292 A 19920928; DE 59302529 T 19930920; EP 9302538 W 19930920; EP 93920771 A 19930920