

Title (en)

METHOD OF PHOSPHATING METAL SURFACES

Title (de)

VERFAHREN ZUR PHOSPHATIERUNG VON METALLOBERFLÄCHEN

Title (fr)

PROCEDE POUR LA PHOSPHATATION DE SURFACES METALLIQUES

Publication

EP 0866888 B1 19990616 (DE)

Application

EP 96938047 A 19961102

Priority

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- EP 9604767 W 19961102

Abstract (en)

[origin: DE19544614A1] The invention concerns a method of phosphating metal surfaces consisting at least partially of iron or steel using low-zinc technology, in which the metal surfaces are brought into contact with aqueous acidic phosphating solutions at between 30 and 65 DEG C for between 1 and 8 minutes. The phosphating solutions contain: between 0.4 and 2.0 g/l Zn; between 7 and 25 g/l P2O5; between 0.005 and 0.5 g/l peroxide (calculated as H2O2); and between 0.01 and 10 g/l formate (calculated as formate ion). The phosphating solutions are free from chlorate and added nitrite, the weight ratio of free P2O5 to total P2O5 therein is set at a value of between 0.03 and 0.20, and the amount of free acid is set at a value of between 0.5 and 2.5. Additionally, the phosphating solutions can contain up to 30 g/l nitrate and manganese, magnesium, calcium, lithium, tungstate, vanadate, molybdate or combinations thereof, optionally also nickel and/or cobalt each in amounts of up to 3 g/l, and optionally also up to 0.030 g/l copper. The weight ratios of Mn : Zn, Mg : Zn, Ca : Zn and optionally of Ni and/or Co : Zn should be at most 2 : 1 in each case. The method is suitable in particular for preparing metal surfaces for subsequent electrophoretic enamelling, in particular cathodic electrophoretic enamelling.

IPC 1-7

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IPC 8 full level

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