

Title (en)
PROCESS FOR SELECTIVE PHOSPHATING OF A COMPOSITE METAL CONSTRUCTION

Title (de)
VERFAHREN ZUR SELEKTIVEN PHOSPHATIERUNG EINER VERBUNDMETALLKONSTRUKTION

Title (fr)
PROCÉDÉ DE PHOSPHATATION SÉLECTIVE D'UNE CONSTRUCTION MÉTALLIQUE COMPOSITE

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Abstract (en)
[origin: WO2019158508A1] The present invention relates to a process for chemical pretreatment and selective phosphating of a composite metal construction containing at least one part made of aluminium and at least one part made of zinc and optionally a further part made of iron which comprises (I) in a first step the treatment of the composite metal construction with an aqueous zinc phosphating composition which effects on the parts made of zinc and iron the formation of a surface-covering crystalline zinc phosphate layer having a coating weight in the range from 0.5 to 5g/m² but does not produce a zinc phosphate layer having a coating weight of at least 0.5g/m² on the aluminium parts and subsequently - with an intermediate water washing cycle - comprises (II) in a second step the application of an aqueous acidic passivating composition having a pH in the range from 2.0 to 5.5 on the composite metal construction, wherein the acidic passivating composition removes from the parts made of zinc and iron not more than 50% of the crystalline zinc phosphate but forms a passive layer, which is not a surface-covering crystalline phosphate layer, on the aluminium parts, wherein the zinc phosphating composition in step (I) contains a content of sodium and/or potassium ions and of aluminium ions, wherein the zinc phosphating composition in step (I) has a temperature in the range from 20°C to 65°C and contains a content of free fluoride which is at least 5 mg/l but is not more than 200 mg/l, wherein the zinc phosphating composition contains at least 0.04 g/l but not more than 3.2 g/l of boron in the form of water-soluble inorganic compounds calculated as BF₄ and wherein the pointage of the free acid with added KCl in the zinc phosphating composition is at least 0.6 points. The present invention further relates to a corresponding zinc phosphating composition, to a concentrate for the production thereof, to a corresponding composite metal construction and to the use thereof.

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