

Title (en)

METHOD FOR THE PRODUCTION AND REMOVAL OF A TEMPORARY PROTECTIVE LAYER FOR A CATHODIC COATING

Title (de)

VERFAHREN ZUM ERZEUGEN UND ENTFERNEN EINER TEMPORÄREN SCHUTZSCHICHT FÜR EINE KATHODISCHE BESCHICHTUNG

Title (fr)

PROCÉDÉ DE PRODUCTION ET D'ÉLIMINATION D'UNE COUCHE DE PROTECTION TEMPORAIRE POUR UN REVÊTEMENT CATHODIQUE

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Application

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Abstract (en)

[origin: US2011139308A1] The invention relates to a method for the production and removal of a temporary protective layer for a cathodic coating, particularly for the production of a hardened steel component with an easily paintable surface, wherein a steel sheet made of a hardenable steel alloy is subjected to a preoxidation, wherein said preoxidation forms a FeO layer with a thickness of 100 nm to 1,000 nm and subsequently a melt dip coating is conducted, wherein, during the melt dip coating, a zinc layer is applied having a thickness of 5 to 20 µm, preferably 7 to 14 µm, on each side, wherein the melt dip process and the aluminum content of the zinc bath is adjusted such that, during the melt dip coating, an aluminum content for the barrier layer results of 0.15 g/m² to 0.8 g/m² and the steel sheet or sheet components made therefrom is subsequently heated to a temperature above the austenitizing temperature and is then cooled at a speed greater than the critical hardening speed in order to cause hardening, wherein oxygen-affine elements are contained in the zinc bath for the melt dip coating in a concentration of 0.10 wt.-% to 15 wt.-% that, during the austenitizing on the surface of the cathodic protective layer, form a thin skin comprised of the oxide of the oxygen-affine elements and said oxide layer is blasted after hardening by irradiation of the sheet component with dry ice particles.

IPC 8 full level

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