Title (en)

METAL SUBSTRATES HAVING A SCRATCH-PROOF AND EXTENSIBLE CORROSION PROTECTION LAYER AND METHOD FOR THE PRODUCTION THEREOF

Title (de)

METALLSUBSTRATE MIT KRATZFESTER UND DEHNBARER KORROSIONSSCHUTZSCHICHT UND VERFAHREN ZU DEREN HERSTELLUNG

Title (fr)

SUBSTRATS MÉTALLIQUES AVEC COUCHE ANTICORROSION RÉSISTANTE AUX RAYURES ET EXTENSIBLE ET PROCÉDÉ POUR SA FABRICATION

Publication

EP 2424683 B1 20160302 (DE)

Application

EP 10718958 A 20100430

Priority

- EP 2010055897 W 20100430
- DE 102009002780 A 20090430

Abstract (en)

[origin: WO2010125178A1] The invention relates to a method for coating the surface of a metal substrate, comprising the following steps: A. providing the metal substrate an optionally cleaning the substrate surface to be coated, B. coating the substrate surface optionally cleaned in step A in a plasma polymerization reactor by means of plasma polymerization, - in step B, one or more organosilicon compounds and (a) no further or (b) further compounds being used as precursor(s) for the plasma, and in step B, the metal substrate being arranged in the plasma polymerization reactor in such a way that the metal substrate is connected as a cathode, characterized in that the method is conducted in such a way that the coating produced by the method has - an elongation to microcracking = 1.5%, preferably = 2.5%, - a yellow index determined according to ASTM D 1925 = 4, preferably = 3, further preferred = 2.5, and - a hardness to be measured by means of nanoindentation in the range of 2.5 to 10 GPA, preferably 3.1 to 10 GPa, further preferred 3.1 to 6 GPa, and preferably - a thermal conductivity = 5 W/m-K, preferably = 2.5 W/m-K, and/or - a dielectric strength of 10 to 100 kV/mm, preferably = 40 kV/mm, with the stipulation that the metal substrate is not a light metal substrate and with the stipulation that for the case of an elongation to microcracking of the coating = 2.2%, the hardness to be measured by means of nanoindentation is = 6 GPa.

IPC 8 full level

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Citation (opposition)

Opponent : BSH Hausgeräte GmbH

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