

Abstract

The invention relates to a method for coating metallic surfaces of substrates with surfaces of aqueous compositions, hereinafter also referred to as coating compositions, in the form of a dispersion and/or a suspension containing at least one stabilized binder and a gelling agent and with the cations dissolved out of the metallic surface in a pretreatment stage and/or during the contacting, and the invention relates to such a coating based on an ionogenic gel, in which the coating is formed by:

- I. Providing a substrate with a cleaned metallic surface,
- II. Contacting and coating the metallic surface with a first aqueous composition in the form of a dispersion or suspension,
- III. Optionally rinsing the organic coating,
- IV. Optionally drying the organic coating and
- V. Coating with at least one additional coating composition before drying and crosslinking all applied layers, wherein the stabilized binder must fulfill the following conditions:
 - a) an aqueous mixture of deionized water, 0.2% to 2% by weight of the gelling agent and 5% to 20% by weight of the stabilized binder
 - b) is adjusted to a pH of 1 to 7;
 - c) a cleaned substrate is immersed in the mixture according to b) for at least 1 minute at room temperature and
 - d) a check is performed on whether an organic coating of at least 1 μm has been deposited, wherein
 - e) an additional test without a gelling agent is performed by preparing a mixture of deionized water and 5% to 20% by weight of the dispersion to be tested;
 - f) the mixture prepared under e) is also adjusted to a pH of 1 to 7 and
 - g) the test described under c) and d) is repeated.