Influence of Chemical Treatment of Electrolytic Galvanized Sheet on Adhesive Bond Strength

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A chemical cleaning of an adhesive bonded surface is a significant technological factor at a creation of an adhesive bond. Owing to the fact that producers do not provide information about releasing of harmful substances into the atmosphere mass values of a flow of pollutants were experimentally tested in various chemical environments serving for an adhesive bonded surface treatment. A piece of knowledge of the mass flow of the pollutants which are released into the space is a possible solution which is dealt with in this paper. There is a difference in the individual chemical treatments influence on the adhesive bond strength. The scanning electron microscopy was used for the evaluation of the influence of the chemical treatment of the adhesive bonded material on the adhesive bond quality. The adhesive bond strength was determined depending on the chemical treatment of the surface on the base of mechanical tests. The adhesive bonded surface treatment did not change the fracture surface. The optimum values of the adhesive bond strength and the lowest values of the evaporation in the environment at the same time were reached at perchlorethylene and toluene.

Keywords: Adhesive bond, chemical treatment, scanning electron microscopy, two-component epoxy adhesives

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