Influence of Drying Process of Liquid Contaminants on Adhesive Bond Strength

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Regarding effects of environment factors on adhesive bonds belongs among key requirements influencing the adhesive bond strength. The aim of experiments was to set an influence of liquid contaminants on changes of the adhesive bond strength and to set whether a degradation process is an irreversible change that means whether degradation adhesives will restore their strength characteristics depending on the time. The adhesive bonds were placed into three liquid contaminants for the time 1, 2 and 3 months. The testing process was performed after removing specimens from the liquid contaminant (marked as 0), then after 24, 72 and 163 h. A considerable fall of the adhesive bond strength has already occurred in the first phase of the testing that means after 1 month of the contamination. The rate of the adhesive bond strength fall caused by the degradation process is in the interval 10 till 92 %. This undesirable process can be subsequently suppressed by a drying process of the liquid contaminant. The experiment results certified in most cases a positive influence of the drying process of the liquid contaminants on the adhesive bond strength.

Keywords: Adhesive bond, degradation, exposing, two-component epoxy, testing

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