Research of Loading of Structural Bonds Created with One-Component Epoxy Adhesives

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An adhesive bonding technology is a method of a connecting which is used at a construction of coach-works, agricultural machines etc. This method is suitable for workings with a serial production. Many research projects dealt with a preparation of adhesive bonds, degradation aspects etc. An area, which has not been properly investigated at present, is an influence of a loading speed on strength of the adhesive bond and a destruction time of the adhesive bond. Adhesive bonds are loaded by a different intensity and a speed at a practice.
The research focused on an evaluation of the influence of the loading speed at a temperature 22 ± 2 °C on the shear tensile strength, the time needed for the destruction and a failure area. Second part of the research was focused on the influence of a bending moment. This bending moment can be minimalized by using so-called underlaying sheet of metal. The underlaying sheet of metal was of a thickness corresponding to a thickness of the adhesive bonded material. Also a behaviour of the adhesive bonded material was observed within the research.

Keywords: Adhesive bond, bending moment, loading speed, time

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