

Comparison of variables influence on adhesive bonds strength calculations

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In the sphere of the metal sheet bonding namely single overlapped adhesive bonds are used. Their production costs less and they confirm strength requirements in many cases. The great part of the single overlapped adhesive bonds research was focused on a geometrical setting of adhesive bonds, an adhesive layer thickness and on mechanical properties of adherents. The analysis of the adhesive bonds strength calculations is ignored. The calculations stated according to the standards are often simplified and they do not take into the regard an adhesive bonded material and an adhesive layer thickness. The aim of the research is to define if the adhesive bond strength calculated according to the standard ČSN EN 1465 is the same as the reduced strength according to Mohr's and Guess state of stress theory regarding the adherent deformation and the adhesive layer thickness in the calculation. The issue is solved by the experimental research and statistical testing.

Keywords: adhesive layer thickness, bonding material, reduced tensile shear strength, tensile shear strength

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