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Res. Agr. Eng.

Müller M., Herák D.:

Dimensioning of the bonded lap joint

1 (301 / (311 = 1191)

Bonded joint is a complex assembly, which creation and following use is limited by a range of factors. The primary factors are the properties of the bonded material and of the adhesive. The stress distribution in the bonded joint is substantially influenced by the bonded joint geometry and by the deformation characteristics. Laboratory experiments are intent on the above mentioned influences for bonded lap joints, which are very used in practice. The geometrical parameters of bonded joints are substantial for the constructional parameters and for costs determination. At the lower lapping length the failure of the bonded joint occurs and the maximum loading capacity of the bonded material is not fully utilized. On the contrary when using the lapping length over its optimum value the failure of the bonded material occurs. At the same time the total weight of the bonded assembly increases. Therefore it is important to determine the bonded joint optimum values which secure the reliability and which do not increase the production costs.

Keywords:

deformation; lapping length; epoxy adhesives; bonding technology; loading force

[fulltext]

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