

# Boundary element analysis of adhesively bonded joints

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## Abstract

Boundary element method has proven to have very good resolution of large stress gradients, yet its application in analysis of bonded joints is practically non-existent even though large stress gradients exist in the bonded region and bonded joints are one of the critical technology in modern design. This paper describes application of boundary element method to bonded joints, the numerical modeling considerations which have limited this application, how these limitations can be overcome, and the future research that is needed for the growth of the boundary element methodology for bonded joint application. Numerical results of single, double lap joints with several spew angles demonstrate the potential of boundary element method in analysis of bonded joints.