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Temperature effect on the strength of adhesively bonded single lap joints

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The purpose of this paper is to study some of the factors that affect the shear strength of Single Lap Joints (SLJ). Based in work conditions for different applications, tests were made in order to define the influence of geometry and temperature on the strength of SLJ under shear load. The adhesive used to make the joints was the epoxy adhesive ARC858 and it was tested under temperatures ranging between 21°C and 70°C and overlap length of 12.5mm and 18.75mm. Results of those tests showed that shear strength increased due to geometry with an overlap of 18.75mm and a great shear strength loss ranging from 30°C to 50°C. The failure mechanism was adhesive failure.