

# MECHANICAL CHARACTERIZATION OF A HIGH TEMPERATURE EPOXY ADHESIVE

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## ABSTRACT

*It is well known that, in order to properly design a joint the adhesive behaviour has to be characterized. Thus, to determine the stresses and strains in adhesive joints in a variety of configurations, it is necessary to know the adhesive mechanical properties. In this work, the performance of a high temperature epoxy adhesive has been studied through bulk specimens and adhesive joint tests. In order to obtain a tensile strength profile of the adhesive, bulk specimens of cured adhesive were produced and tested in tension at RT and high temperatures (100°C, 125°C, 150°C and 200°C). The thick adherend shear test (TAST) was performed in order to measure the shear properties. In addition, single lap joints (SLJs) were fabricated and tested to assess the adhesives performance in a joint. The results showed that the failure loads of both the bulk test and joint test specimens vary with temperature and this needs to be considered in any design procedure.*

**KEY WORDS:** Epoxy adhesive, high temperature, lap-shear strength.

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