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Design of Composite Joints from Carbon Fibre for Automotive Parts

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Abstract : One of the most important issues in the composite technology is the repairing of parts of aircraft structures which is manufactured from composite materials. In such applications and also for joining various composite parts together, they are fastened together either using adhesives or mechanical fasteners. The tensile strength of these joints was carried out using Universal Testing Machine (UTM). A parametric study was also conducted to compare the performance of the hybrid joint with varying adherent thickness, adhesive thickness and overlap length. The composition of the material is combination of epoxy resin and carbon fibre under the method of reinforcement. To utilize the full potential of composite materials as structural elements, the strength and stress distribution of these joints must be understood. The study of tensile strength in the members involved under various design conditions and various joints were took place.

Keywords : carbon fiber, FRP composite, MMC, automotive
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