

INVESTIGATION OF TENSILE STRENGTH OF NOTCHED FIBER-REINFORCED COMPOSITE SPECIMEN FOR VARIOUS LAYUP PATTERN

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ABSTRACT

For a variety of reasons, high-performance composite systems are often designed with different shapes and size discontinuities. Under different working loads, the areas near these notches become vital regions. The double-edge-notched Carbon fiber Specimen is investigated using a combination of analytical well as finite element (FE) simulation techniques to check the Tensile strength Stress concentration factor and delamination in this research study. In notched composites, the occurrence of subcritical damage has a considerable impact on the overall strength of the component. This experiment is a thorough investigation of three separate carbon fiber layups, which were examined in tension using a triangular, rectangular, and circular double-edge-notched specimen. Static analysis of carbon fiber plate having triangular and circular double-edge-notched specimen will be performed using ANSYS19 software. Comparative analysis will be done with FEA Experimental results using MCDM Techniques. Conclusion and future scope will be suggested.

KEYWORDS: *Composite; Carbon Fiber; Failure Mode; FEA; MCDM Techniques*

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