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## **Optimization of Tensile and Impact Behaviours of Randomly Oriented Short Sisal Fiber Reinforced Epoxy Composites Using Response Surface Methodology**

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**Abstract :** The sisal-epoxy composites were fabricated with varying fiber length of 10 mm to 75 mm and fiber loading of 10 % to 50 % by weight as per Response Surface Design. The Response and Contour plots were generated and studied with reference to the ANOVA and Sequential Sum of Squares fit using Response Surface Analysis. The better value of tensile and impact behaviours were determined in nonwoven randomly oriented sisal fiber reinforced epoxy composites using Response Surface Optimization. The multi objective optimization of tensile and impact behaviours were found using Design Expert software package by giving equal weightage to the individual responses.

**Keywords:** Tensile, Impact Behaviour, Sisal Fiber Reinforced Epoxy Composites, Response Surface Methodology.

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