

Effect of Fly Ash as Filler on Glass Fiber Reinforced Epoxy Composites

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Abstract: This study focuses on investigating the influence of percentage variation of filler content on the mechanical properties of glass fiber reinforced epoxy composites using fly ash, a waste by-product from coal combustion in thermal power plants. The CAD model is designed following ASTM D 3039 standards, and three different specimens with varying filler contents (10%, 30%, and 40%) are numerically analyzed using ANSYS 16.0. A pure composite specimen is also included for comparison. The results indicate that the pure composite material exhibits higher strength enhancements compared to the specimens with filler content variations.

Keywords: Epoxy Composite, Fly ash filler material, FEM, UTM Experimentation

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