

CHARACTERIZATION OF ABS COMPOSITES

REINFORCED SHORT GLASS FIBER

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ABSTRACT

Acrylonitrile Butadiene Styrene (ABS) has several mechanical applications such as gears, bearings, washers etc. In these applications, wear is the primary cause of failure. In this study ABS from e-waste was reinforced with short glass fibers (SGFs). The effects of SGF concentration, on the mechanical properties of the composites were examined. Increasing the SGF concentration at a weight ratio of 5 and, 30% resulted in improved tensile strength, tensile modulus, but drastically lowered the strain-at-break. Extrusion process was used for reinforcement and bonding between ABS and SGF which are supported by scanning electron micrographs of the ABS/ SGF composites, which exhibited an improved adhesion between the SGFs and ABS matrix.

KEY WORDS: ABS, Short Glass Fiber, Reinforcement, Composites, Polymer