

Mechanical properties of mica-filled polycarbonate/poly (acrylonitrile-butadiene-styrene) composites.

ABSTRACT

The present study investigated the effect of untreated and treated mica fillers on the mechanical properties of Polycarbonate (PC)/Poly(Acrylonitrile-Butadiene-Styrene) (ABS) composites. PC/ABS/mica composites were prepared by using twin screw extruder and test samples by injection molding. Results indicated that incorporation of mica in PC/ABS (70/30) causes decreases in tensile stress, elongation at break, and on impact properties. It was observed that surface treatment of mica by a coupling agent on PC/ABS 70/30 composite displays increases in tensile stress, elongation at break, and on flexural strength and impact properties. Treated mica is utilized as filler in PC/ABS blends to enhance its application in electronic and automotive sectors.

Keyword: Blends; Composites; Mechanical properties; Morphology; Polycarbonate.