

عنوان مقاله:

Influence of Short Glass Fiber Particles Addition on the Vibration Properties of Polypropylene

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خلاصه مقاله:

In this paper, vibration characteristics of polypropylene (PP) reinforced with Short Glass Fibers (SGFs) were studied. A series of composites with varying degree of fiber weight percentage (15-45 wt.%) were prepared using the melt-compounding technique with a twin-screw extruder and injection molded machine. Free vibration behavior of samples with free-clamp Boundary condition was studied by using of Operational Modal Analysis (OMA) technique. The experimental observations show that addition of SGF particles to PP increase the natural frequency (stiffness) significantly and decrease the damping factor of neat PP. Scanning electron microscopy was applied to assess the fracture surface morphology and dispersion of the particles. The observations show that the particles are well dispersed in the polymer matrix.

کلمات کلیدی:

Vibration properties, Damping ratio, Polypropylene, Short Glass Fiber Particles

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