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Effect of Different Filler Loading on Flexural Properties and Water Absorption Behavior of Kenaf Core Fiber Reinforced Polypropylene Composite

Abstract

In this investigation, kenaf core fiber (KCF) reinforced polypropylene (PP) composite was prepared via extrusion and compression moulding. The effect of different ratio of KCF filler with PP on flexural properties of composite had been investigated. PP and KCF filler were prepared with different filler loading of 5, 10, 15, 20 and 25 wt% using twin-screw extruder at temperature 180 °C and rotor speed of 70 rpm, followed by compression moulding at the same temperature. The flexural tests were conducted to evaluate the flexural properties of the composite. The results obtained showed that the incorporation of KCF in PP increased the flexural strength and flexural modulus of the composite. The water absorption behaviour of the composite was also investigated. It was found that water absorption of composites increased with increasing of fiber content.