

## **Development of Short-Carbon-Fiber-Reinforced Polypropylene Composite for Car Bonnet**

### **ABSTRACT**

In this paper, short-carbon-fiber-reinforced polypropylene (SCF/PP) composites were prepared with melt blending and hot-pressing techniques. The tensile properties, flexural properties, hardness, and work of fracture (WOF) of this composite were investigated. Thermal stability of the composite was studied via the thermal gravimetric analysis (TGA). Finally, the mechanical properties of this composite were compared to mechanical properties of steel car bonnet in order to choose for car bonnet application. The properties of the composite prepared by 10% SCF/PP is comparable with the properties of carbon steel.

**Keyword:** Composites, Flexural, Izod impact test, Short carbon fibers, Work of fracture (WOF)