

## **Effects of Acetic Anhydride on the Properties of Polypropylene(PP)/Recycled Acrylonitrile Butadiene(NBRr)/Rice Husk Powder(RHP) Composites**

### **Abstract**

PP/NBRr/RHP composites were prepared by incorporation of rice husk powder at different loadings into PP/NBRr matrix with an internal mixer at 180°C for 9 min and 50 rpm rotor speed. The effects of rice husk powder filler loading and acetic anhydride treatment on properties of PP/NBRr/RHP composites were investigated for processing torque, mechanical properties, water absorption, swelling behavior, FTIR and SEM. Acetic anhydride-treated RHP caused a significant increase in mechanical properties, stabilization torque, water and oil resistance of the PP/NBRr/RHP composites. Results from FTIR and SEM observations indicate that better adhesion was observed for all acetic anhydride-treated composites.

### **Keywords**

Acetic anhydride; Morphology; Polypropylene; Recycled acrylonitrile butadiene rubber; Rice husk powder; Tensile properties