

## **Characterization and Properties of Recycled Polypropylene/Coconut Shell Powder Composites: Effect of Sodium Dodecyl Sulfate Modification**

### **Abstract**

This research work focuses on the utilization of coconut shell powder (CSP) as filler in recycled polypropylene (rPP). Sodium Dodecyl Sulfate (SDS) was used as coupling agent in these composites. The effect of filler content and SDS on tensile properties, thermal properties, water absorption and morphology of rPP/CSP composites were investigated. In this study, modified rPP/CSP composites with SDS show significant increased tensile properties, thermal stability, crystallinity and low water absorption compared to unmodified rPP/CSP composites. Those improvements were contributed by the coupling effect of SDS.

### **Keywords**

Coconut shell powder; Composites; Recycled polypropylene; Sodium dodecyl sulfate