## Effect of Coupling Agent on the Properties of Durian Skin Fibre Reinforced Polypropylene Composite

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**Abstract :** Durian skin is a newly explores natural fibre potentially reinforced polyolefin for diverse applications. In this work, investigation on the effect of coupling agent, maleic anhydride polypropylene (MAPP) on the mechanical, morphological and thermal properties of polypropylene (PP) reinforced with durian skin fibre (DSF) was conducted. The presence of 30 wt% DSF significantly reduced the tensile strength of PP-DSF composite. Interestingly, even though the same trend goes to PP-DSF with the presence of MAPP, the reduction is only about 4% relative to unreinforced PP and 18% higher than PP-DSF without MAPP (untreated composite or UTC). The used of MAPP in treated composite (TC) also increased the tensile modulus, flexural properties and degradation temperature. The enhanced mechanical properties are consistent with good interfacial interaction as evidenced under scanning electron microscopy.

Keywords : durian skin fiber, coupling agent, mechanical properties, thermogravimetry analysis

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