

### Physical properties of recycled polypropylene/wood flour composites

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Wood plastic composites (WPCs) are composed of woody materials and polymer resins. WPCs are environmentally friendly because they can be manufactured using waste woody materials and recycled thermoplastics. However, work done on using recycled plastics to produce WPCs is still limited. Therefore, in this study, WPCs with different compositions were prepared by melt-blending followed by compression molding using 2 commercially available recycled polypropylenes, one from PP based car bumpers and the other from PP based disposable food trays, and 6 coupling agents and their physical properties were investigated. Mechanical properties of the WPCs were investigated by UTM and izod impact tester and water absorption characteristics of the WPCs were tested. The WPC prepared using the recycled PP from car bumpers and a maleic anhydride PP coupling agent with high maleic anhydride content showed reasonable physical properties, though its physical properties were still 7~16% lower compared to the WPC prepared using a virgin PP.