Effect of Chemical Treatments of Fillers on the Physical Property of PP-composites

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Hybrid filler reinforced composites are considered as a high performance materials. However, the decline of mechanical properties by insufficient interfacial adhesions between matrix polymer and fillers limits their applications. This study aimed to find optimum concentrations of the silane (triethoxyvinylsilane) coupling agent for fillers in composites by measuring tensile strength. We also investigated the effects of chemically modified fillers in composites on water absorption and thermal behavior. Alkali treatment of the wood fibers increased tensile strength of the composites, and talc increased the tensile strength. Coupling agent had its own optimum amount for wood fibers and talc to obtain the highest tensile strength.