

**THE EFFECT OF DIFFERENT CHEMICAL TREATMENT ON THE
PROPERTIES OF RICE HUSK / POLYPROPYLENE COMPOSITE**

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ABSTRACT

THE EFFECT OF DIFFERENT CHEMICAL TREATMENT ON THE PROPERTIES OF RICE HUSK / POLYPROPYLENE COMPOSITE

In this research, rice husk (RH) reinforced polypropylene (PP) composites were prepared by compounding method using a melt mixer. The compatibility between RH and PP are the major problem to obtain good properties composite. Therefore, RH was suggested to be treated with chemicals (sodium hydroxide, acrylic acid and 3-APE silane) before being compounded to improve the affinity and surface adhesion. Rice husk was chemically treated with those chemicals in order to enhance the mechanical properties of RH/PP composites. Tensile and impact test were done to determine the effect of chemical treatment on the mechanical properties of the composite. These mechanical properties and characterization of RH/PP composites were studied. The result showed the highest increment of tensile strength was at 59% for AA RH/PP composite and 46% for silane RH/PP composite. While for impact strength the highest increment showed by NaOH RH/PP and AA RH/PP composites at 47% and 45% respectively. Characterization studied by Fourier Transform Infrared (FTIR) showed the bonding between RH and PP was improved by removing some fibre components after chemical treatment with NaOH, AA and silane.