

COCONUT HUSK FIBRE REINFORCED POLYPROPYLENE
COMPOSITE

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ABSTRACT

COCONUT HUSK FIBER REINFORCED POLYPROPYLENE COMPOSITE

Polypropylene composite were formulated by using coconut husk fiber. The potential of CHF as reinforcement fiber in the plastic composite has been investigate and the affect on the mechanical properties was studied by using universal testometric and impact test machine. The effect of the maleic anhydride as coupling agent in the PP/CHF composite was studied. The composites were also characterized by using FTIR and the morphology of the PP/CHF composite was studied by using SEM. It was found that tensile strength and the impact strength of the PP/CHF reduced as the increased of the fiber loading but PP/CHF treated with maleic anhydride composite results in increased of the impact strength but decrease of the tensile strength with the increased of fiber loading. Furthermore, the Young's modulus increased when the percentage of fiber loading increased.

CHAPTER 1

INTRODUCTION

At the beginning of the 21st century, plastics are leading material providing uncountable useful and inexpensive item for modern living. Plastic has become the most common engineering materials over the decade. They are often not only inexpensive than other materials, but their properties often make them better. Light weight make plastics perfectly matched with the modern information-age uses of cell-phone, bank card and laptop, and even where more comfort it at stake, no one can deny plastics are outstanding performers. Their low cost and versatility have also allowed an unpredicted range of application. Plastics may never shed the guilty by association burden, because their low manufacturing cost will always allow the mass production of object of disputable beauty. Today the total volume of plastics produced worldwide has surpassed that of steel and continues increase.

The technology plastic growth is very faster, and then the technology of composite come to make the properties of the plastic is more than virgin plastic material where some of the composite have strength up too metal strength but give advantage in the lightness, low cost and have more low density. Hence, the composite materials have the high potential to replace widely used of steel and aluminum with better performance.