

**MECHANICAL PROPERTIES OF POLYPROPYLENE WITH
KENAF FIBER WOOD FLOUR COMPOSITE**

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ABSTRACT

MECHANICAL PROPERTY OF POLYPROPYLENE WITH KENAF FIBER WOOD FLOUR COMPOSITE

As industry attempts to lessen the dependence on petroleum based fuels and products there is an increasing need to investigate more environmentally friendly, sustainable materials to replace existing materials. The research done in this study has proven the ability to successfully fabricate kenaf–polypropylene composites into sheet form. Kenaf fiber used was in form of flour or wood powder. The PP/kenaf composite shows the increase the impact strength at 10% to 30% by weight of the polypropylene powder. The use of coupling agent Maleic Anyhdride enabled successful fiber–matrix adhesion and increased the mechanical property of the PP/kenaf composite,

CHAPTER 1

INTRODUCTION

The most simple definition of a polymer is something made of many units. The units or “monomers” are small molecules that usually contain ten or less atoms in a row. Carbon and hydrogen are the most common atoms in monomers, but oxygen, nitrogen, chlorine, fluorine, silicon and sulfur may also be present. Examples of polymers include plastics, DNA and proteins. A simple example is polypropylene whose repeating unit structure were in figure 1.

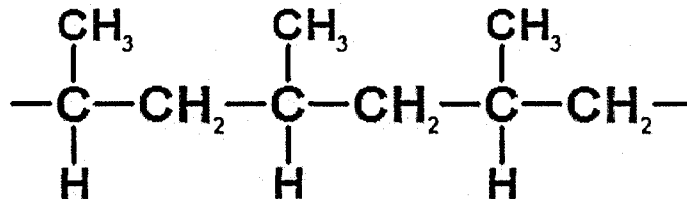


Figure 1.0 : Polypropylene repeating unit structure.

Polypropylene is one of the most popular and versatile thermoplastic polymer. It provides many advantages with regard to its low cost, recyclability and high thermal stability. Beside that, PP can be incorporated with many types of reinforcement for producing various kinds of composites. Nowadays, composites have been used in the plastic industries. Usually reinforcing material been used are mineral filler and fibers.

Composite have been widely used nowadays due to the environmental problem arise in the utilization of synthetic polymer