MANUFACTURE OF BAMBOO THERMOPLASTIC COMPOSITE USING POLYETHYLENE AS MATRIX

by

AZWIN BINTI ALIAS

Under the supervision of

Dr. Jamaludin Kasim

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Universiti Teknologi MARA

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ABSTRACT

This thesis is to study on the Malaysian bamboo, in scientific name, *Gigantochloa scortechinii,* which is to determine the effect of mechanical and water absorption properties and its suitability as a new material for manufacture of bamboo thermoplastics composite as a new product. The effectiveness of a MAPP as a coupling agent in bamboo flour/polyethylene composite has been evaluated. The composite panels were made with 10 to 50% bamboo flour, with the MAPP being incorporated in the panels at a level of 0 to 4% MAPP. As the addition of MAPP is increase, the MOR values also increase except for the MOE and WA value which is inversely proportional due to MOR value. The effectiveness of MAPP is believed to be the result of efficient incorporation at the bamboo/polyethylene interface, thus providing effective coupling of the polar bamboo component to the polymer matrix.

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