EFFECT OF COPOLYMER MALEIC ANHYDRIDE GRAFTED POLYPROPYLENE (MAGPP) IN WOOD COMPOSITE OF CELLULOSE FROM OIL PALM FROND AS A FILLER

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EFFECT OF COPOLYMER MALEIC ANHYDRIDE GRAFTED POLYPROPYLENE (MAgPP) IN WOOD COMPOSITE OF CELLULOSE FROM OIL PALM FROND AS A FILLER

The use of cellulose from Oil Palm Frond (OPF) as a filler in Polypropylene matrix to prepare Wood Plastic Composite (WPC) has been reported. In order to improve interfacial adhesion, Maleic Anhydride Grafted Polypropylene (MAgPP) was used to evaluate the chemical and physical properties of the WPC. The presence of MAgPP at a different percentage (0 %, 1 %, 2 % and 3 %) on the tensile strength (TS), water absorption (WA) and thickness swelling (TS) were tested. The sample was characterized using Fourier Transform Infrared (FTIR). This study was determined that all sample properties were significantly influenced by the presence of MAgPP. The tensile strength results displayed an increment with the uses of MAgPP while the modulus of elasticity decreases. The WA and TS result decreased with the presence of MAgPP in comparison without the presence of MAgPP. The FTIR analysis confirmed the purity of the cellulose. This study suggests the uses of cellulose from OPF as a filler and application of MAgPP to improve the interfacial adhesion in the production of WPC are suitable and recommended.