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Mechanical Properties of Palm Oil-Based Resin Containing Unsaturated Polyester

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Abstract : In this study, new palm oil-based polymer systems have been produced by blending unsaturated polyester (UPE) and maleinated, acrylated epoxidized palm oil (MAEPO). The MAEPO/UPE ratio was varied between 10/90 and 40/60 wt%. The influences of various loadings of MAEPO (10, 20, 30, and 40 wt%) on tensile, flexural and impact properties of resulting polymer systems were investigated. The results revealed that, these bio-based polymer systems exhibit mechanical properties comparable to those of petroleum-based polymers.

Keywords : palm oil, bio-based resin, renewable resources, unsaturated polyester resin
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