Thermal stability of natural fiber reinforced biodegradable composites

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**ABSTRACT**

Polymer composites reinforced with natural fibers are being increasingly developed by researcher and scientist in the recent field of material science due to their various applications in aerospace, marine and industries. The hydrophilic natural fibers are incompatible with the hydrophobic polymer matrices this leads to less interfacial bonding between fibers and matrix. In this study fibers were collected from desert plant *prosopis juliflora* and NaOH treatment was done to increase interfacial bonding of fiber-Matrix. *prosopis* *juliflora* fiber reinforced phenol formaldehyde composites were prepared with different fiber loading and then characterized by thermo gravimetric analysis. This paper describes thermal properties of composites materials by Thermo gravimetric analysis TGA and Differential scanning calorimetric DSC analysis of composite materials with different heating rates and hence establishes a connection between temperature and physical properties of substances.

Keywords :- Natural fibers , TGA Thermo gravimetric analysis , DSC Differential scanning calorimetric ,PJ prosopis juliflora