International Journal of ChemTech Research
CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.13 No.04, pp 420-427, 2020

Synthesis and Characterization of Glass Reinforced Composites from Polyurethanes/Epoxy Resin

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Abstract : Polyurethanes (PUTs) were prepared by the polycondensation reaction of Disperse Dyes containing Polyols and Hexamethylene diisocyanate (HMDI). All the PUTs were characterized by elemental analysis, spectral studies, end group determination and thermogravimetry. Further reaction of PUTs was carried out with an epoxy resin (i.e. DGEBA). The curing study of prepared resins was monitored by DSC. All the glass fiber reinforced composites have been laminated and characterized by chemical, mechanical and electrical properties. The unreinforced cured resins were subjected to thermogravimetric analysis (TGA).
Key words : Polyurethane, epoxy resin (DGEBA), number average molecular weight, thermogravimetry, Differential Scanning Calorimetry (DSC), Composite.

Medha Joshi *et al* /International Journal of ChemTech Research, 2020,13(4): 420-427.

DOI= http://dx.doi.org/10.20902/IJCTR.2019.130411

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