

PREPARATION AND MECHANICAL CHARACTERIZATION OF POLYESTER RESIN/CHINA CLAY NANOCOMPOSITES

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ABSTRACT

China clay reinforced polyester nanocomposites were successfully fabricated by open molding method. Different percentage of nanoclay and polyester resin with a fixed percentage of styrene monomer (10 weight percent of polyester resin) was taken to prepare nanocomposites. Mechanical properties such as compressive, flexural and tensile strength, and rebound hardness of composites were investigated. Results indicated that the flexural and tensile strength of the composites decreased and E-modulus increased with the increase of clay content. Compressive strength and rebound hardness were increased with the increase of clay content in the composites.

Keywords: Composites, Polyester, China clay, Mechanical properties, Nanocomposites.