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CHARACTERIZATION OF POLYETHYLENE TEREPHTHALATE FIBER REINFORCED EPOXY NANO COMPOSITES

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Abstract

An economical and viable option to conventional and high cost materials is the use of fiber glass/epoxy composites, but for impact applications their toughness still has to be enhanced. The toughness and other mechanical properties can be improved by using very small amount of PET into an epoxy system. In the present work epoxy modified with MMT Clay (3 wt % of Epoxy) & PET fiber is manufactured using hand layup method. The nano composites have been characterized using Impact, Tensile, Bending and Microhardness tests. The mechanical properties are compared with those found for PET introduced epoxy nano composites. The mechanical test shows that the presence of 1 wt% PET fiber largely increases impact strength and flexural strength. Micro hardness decreased at PET fiber loading.