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Thermal analysis of Fiber Reinforced Low Density Poly-Ethylene Composites

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Abstract: Fiber-reinforced polymer is a composite material made of a polymer matrix reinforced with fibers. The fibers are usually glass, carbon, basalt or <http://en.wikipedia.org/wiki/Aramid> kevlar although other fibers such as paper or wood or asbestos have been used. Polymeric materials reinforced with synthetic fibres such as glass, carbon, and aramid provide advantages of high stiffness and strength to weight ratio as compared to conventional construction materials. The main objective of this work is to get a better understanding of Thermal properties of Low Density Polyethylene (LDPE) Resin composites reinforced with different fibers such as Glass, Carbon and Kevlar. Epoxy resin act as a bond for fiber laminates and the LDPE act as a filler material. The properties of LDPE composites were analyzed by TGA and DA.

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