TRIBOLOGICAL ANALYSIS OF TAMARIND FILLER REINFORCED POLYMER COMPOSITE

A PROJECT REPORT

Submitted by

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BONAFIDE CERTIFICATE

Certified that this project report **"TRIBOLOGICAL ANALYSIS OF TAMARIND FILLER REINFORCED POLYMER COMPOSITE"** is the bonafide work of **"V.ABINESH (112818114001),CHATTU GUNAKAR REDDY (112818114008), CHITTIBOINA MURALI KRISHNA (112818114009),KANDERI NAVEEN (112818114008)"**, who carried out theproject work under my supervision.

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ABSTRACT

Polymer matrix composites are very popular in the applications of lightweight aircraft, marine and automobile structures. Particularly, epoxy resin based reinforced composites are the prepared choice because of the superior physical, thermal, electrical and mechanical properties, ease of processing, excellent wettability with various reinforcements, less moisture pick up, low density, and ductile nature of the epoxy resin. In accordance with that,the present work is aimed to study the tribological properties of tamarind filler reinforced polymer composite. At first Epoxy resin polymer matrix composite was prepared by filling varying % of tamarind powder using hand lay up technique. While preparation of the polymer matrix composite a brief study on the process of preparation and composition was studied. After that tests for tribological properties was carried out. Tribological properties wear resistance study was carried out using a pin-on-disc wear tester. According to the observations the concentration of filler material best suited for different purposes was determine.

The aim of this study is to develop a new class of composites which would be more commercially available and environmentally sustainable via reduced resource depletion, as there has been global interest in utilization of natural resources. The tribological behavior of epoxy resin LY556-based composites filled with tamarind seed powder in different volume fractions of fillers (jute fiber) was studied as per standards.

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