

# **DEVELOPMENT OF ECOFRIENDLY TEXTILE COMPOSITES FROM CALOTROPIS GIGANTEA BAST FIBRE**

**T.KARTHIK & P.GANESAN**

Department of Textile Technology, PSG College of Technology, Coimbatore, India

## **ABSTRACT**

In the latest years industry is attempting to decrease the dependence on petroleum based fuels and products due to the increased environmental consciousness. This necessitates an investigation on investigate environmentally friendly, sustainable materials to replace existing ones. Calotropis Gigantea is a soft shrub that can grow in dry habitats and in excessively drained soils. In this work, stem fibre of Calotropis Gigantea and PLA have been used as a reinforcement and matrix respectively and are compared with Flax / PLA composites. The chemical treatments such as alkali treatment and acetylation were done to improve the mechanical properties of the composites. The results showed that the mechanical properties of Calotropis Gigantea were less than the flax fibre composites which is expected due to better flax fibre properties compared Calotropis Gigantea. The suitable coupling agent and its concentration can be used out to improve its mechanical properties. The Calotropis Gigantea composites can be used as low end applications in automotive industry.

**KEY WORDS:** Ecofriendly, Calotropis Gigantea, Fibre-Reinforced Composite, Thermoplastics.