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Advantages and Applications of Natural Fiber Reinforced Hybrid Polymer Composites in Automobiles: A Literature Review

[Sarita Choudhary](#) , [Jyotirmoy Haloi](#), [Manoj Kumar Sain](#) & [Praveen Saraswat](#)

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Abstract

Composite materials have been identified as the most promising and popular material due to their wide applications and unique properties. Natural or synthetic fiber reinforced composites are gaining traction due to increasing market demand for materials having high specific strength for customized purposes. Due to the fact that the

performance of composite materials is largely determined by their constituent materials and manufacturing procedures, it is needed to investigate the mechanical and tribological properties of various fibers available worldwide. There is a need also to investigate the classification of natural fibers with their fabrication in order to determine the material's optimal characteristic for the intended use. The aim of this work is to deliver a state of art summary of hybrid fiber reinforced polymer composites, their broad range of properties, usefulness, classification, and numerous fiber composite manufacturing procedures for key applications. Due to their superior performance in a wide diversity of applications, fiber reinforced composite materials have emerged as a viable alternative to solo metals or alloys. Hybridization has the potential to significantly enhance the mechanical characteristics of uni-fiber reinforced polymer composites.

Keywords

Composite materials

Hybridization

Fiber reinforced polymer

Literature review

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Author information

Authors and Affiliations

**Department of Mechanical Engineering,
University of Engineering & Management,
Jaipur, India**

Sarita Choudhary & Jyotirmoy Haloi

**Department of Mechanical Engineering, Swami
Keshvanand Institute of Technology,
Management & Gramothan, Jaipur, India**

Manoj Kumar Sain & Praveen Saraswat

Corresponding author

Correspondence to [Sarita Choudhary](#).

Editor information

Editors and Affiliations

**Department of Mechanical Engineering,
National Institute of Technology, Kurukshetra,**

Haryana, India

Ravi Pratap Singh

**Department of Mechanical Engineering,
National Institute of Technology, Kurukshetra,
Haryana, India**

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