

Ecological Natural Fibre Reinforced Hybrid Composites - ECO-Composite



The widespread use of synthetic glass and carbon fibres in the composite manufacturing industry offers strength and rigidity but poses environmental challenges. Synthetic fibres and resins are derived from petrochemicals, are difficult to recycle, and may pose environmental or health risks during production. Natural fibres, such as sisal and flax, present a more sustainable alternative, especially when paired with biodegradable resins. **Flax** derived from the **Linseed plant**, has strong mechanical properties but is costly to cultivate, while **Sisal** extracted from the **Agave Sisalana** plant is cheaper and easier to grow but harder to process. **Hybrid composites** using both fibres can enhance performance, lower costs, and improving sustainability. The project **ECO-Composite** developed **Hybrid Flax/Sisal bio-based composites** and investigates the mechanical, environmental, and processing aspects of such hybrid applications to support greener industrial materials.

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