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Fractural behaviour analysis of areca nut fiber reinforced with epoxy resin

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Arecanut is the one that belongs to the palm family, this tree grows up to a height of 10 to 20 meters from which the areca nut fiber is obtained. This can be prepared at low cost and it can be used for broad range of applications as it act as a fiber-reinforced composite with different resins. It is widely used in the construction process, automobile industry, marine industry, and aerospace industry. In this study, composites were prepared using the epoxy resin of about 85% of weight content. The areca nut fiber-reinforced epoxy resin is done with the help of a physical treatment process through mixing. After obtaining the composites were prepared by compression mold and the mechanical properties are studied for preparing the fractural surface analysis was done through a Charpy tensile and impact loading test. The fractural surface analysis is done by using the SEM process for the fiber content of 5, 15, and 25% with the fiber orientations of 30x, 100x, and 300x. The outcome from the fractural analysis from tensile load testing where the fibers were broken easily. But in the case of impact load testing the fibers shows a good bond between the composite matrix and the fiber.

Topics

[Aerospace engineering](#), [Composite materials](#), [Materials forming](#), [Chemical compounds](#), [Industry](#)

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