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EXPLORING MECHANICAL CHARACTERISTICS OF BIOCOMPOSITES WITH DAMMAR MATRIX

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Abstract

This study presents an analysis of mechanical properties derived from tensile tests conducted on three sets of test specimens composed of a bioresin blend. The bioresin formulation consisted of Dammar at volumetric ratios of 50%, 60%, and 70%, combined with epoxy resin and its associated strengthener to facilitate rapid polymerization. The primary focus was to investigate the impact of varying epoxy resin proportions on the mechanical behaviour of the bioresin.

In the subsequent part of the research, we determined characteristic curves, tensile strength, elasticity modulus, and elongation at the point of fracture for composite materials. These composites featured the same bioresin matrix as investigated in the initial phase, with the addition of reinforcing agents such as cotton, linen, and hemp.

Key words: bioresin, biocomposite, cotton, flax, hemp, mechanical properties

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