

## Mechanical Characterization of Hemp Cotton Hybrid Composites: Effect of Surface Treatment

Hiral H. Parikh \*, Shrey Patel

School of Engineering and Technology Navrachana University, Vadodara &ndash; 391410, Gujarat, INDIA

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### ARTICLE INFO

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#### *Keywords:*

Natural Fiber Reinforced  
Polymer Matrix Composites  
Surface Treatment  
Mechanical Characterization

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### ABSTRACT

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Over a past few decade there have been extensive research noted on fiber reinforce polymer matrix composites, moreover in recent years there has been remarkable study on natural fiber polymer matrix composites due to its capability to sustain against the synthetic fibers and conventional materials. This helps in achieving more desirable material properties for an existing application. In line with this in the present study the composite with the treated and untreated hemp – cotton hybrid mat and epoxy resin prepared with hand layup compression moulding technique. The prepared composites were tested for the tensile strength, flexural strength, impact strength and hardness using American society of testing and materials (ASTM) standards. The test results reveals that the treated fiber composites exhibits significant increase in the tensile strength and hardness while there was a reduction in flexural strength. The focus of the study was to compare the mechanical properties of these composites with the various materials to identify which materials could completely or partially replaced.

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\* Corresponding author:

E-mail address: dollyshah\_3@yahoo.com