

# Review of: "Investigation of Mechanical Properties of Sisal Fiber and Sugar Palm Fiber Reinforced Hybrid Composites"

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**Potential competing interests:** No potential competing interests to declare.

## Review Report

The manuscript titled "Investigation of Mechanical Properties of Sisal Fiber and Sugar Palm Fiber Reinforced Hybrid Composites" investigates the mechanical and impact properties of composite materials, with a focus on hybrid reinforcement. The key points include the utilization of sisal and sugar palm fibers in different ratios, the fabrication process using compression molding, and the assessment of mechanical properties through tensile, flexural, and impact tests. The study concludes with the notable finding that the composite with a sisal fiber 20% and sugar palm fiber 10% combination exhibits superior tensile properties and lower water absorption compared to other composites. After careful review, I recommend the manuscript for publication with the following suggestions.

## Suggestions for Improvement:

1. **Motivation and Context:** The manuscript could benefit from a clearer motivation and contextualization of the chosen problem. Providing a more detailed explanation of why this study is important and relevant to the field would enhance the introduction.
2. **Language Quality:** Thoroughly proofread and edit the manuscript for language quality. Some sentences are convoluted, hindering comprehension. Improving the overall English language quality will enhance the manuscript's clarity. For example, consider revising "This research addresses that specimen-2 with sisal 20% and sugar palm fiber 10% absorbs less water compared to other composites" for better language flow.
3. **Inclusion of Scale in Figures 5, 6:** Incorporate a scale in Figures 5, 6 to provide a reference for readers. This addition aids in the accurate interpretation of the figures.
4. **Elaboration of Results Discussion:** Elaborate further on the discussion of results. Explain the implications of the findings, how they relate to existing literature, and their significance in the broader context. Ensure that all figures and tables are adequately referenced in the text.
5. **Conclusion Recapitulation:** In the conclusion section, reiterate the main findings, emphasizing their practical implications and potential avenues for future research. This recapitulation reinforces the significance of the study.
6. **Consistency in units (N/mm<sup>2</sup> and MPa)** needs to be maintained throughout the manuscript.
7. To further enhance the literature review, I recommend the following research articles to be added to the introduction section.

- a. DOI:[10.1002/pc.27889](https://doi.org/10.1002/pc.27889)
  - b. DOI:[10.1177/07316844231171707](https://doi.org/10.1177/07316844231171707)
  - c. DOI:[10.1080/15440478.2023.2168823](https://doi.org/10.1080/15440478.2023.2168823)
  - d. DOI:[10.1002/pc.27141](https://doi.org/10.1002/pc.27141)
8. Provide additional justification for the chosen proportions in hybrid composites in the Materials and Methods section.
  9. Enhance the discussion of water absorption results by delving into the practical implications for each composite sample.