

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

Muralishwara K K<sup>1</sup>

<sup>1</sup> Manipal University

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

1. Add citations to the first couple of paragraphs in the Introduction chapter.
2. Figure 1.2 is not marked in the actual figure. The two can be better placed.
3. Figure captions can be centrally aligned.
4. What is the reason for NaOH treatment with a concentration of 20% for 3 hours? Are there any previous studies conducted, or are there any papers you referred to?
5. Details about the epoxy and curing agent must be added in the Materials section.
6. The composite fabrication method is hand layup and compression molding, not compression molding alone.
7. Total 3 layers of fibers, or 3 each of sisal and sugar palm? Better insert a figure showing the stacking sequence. Since the amount of sisal and sugar palm varies, the number of layers must also vary. Please clarify through a clear sketch.
8. All the tests/methods come under chapter 2, but you have made them as separate chapters. Please look into this.
9. Clarity of the tensile test specimens must be enhanced.
10. Why only stress-strain curves of 3 samples? Please inform the number of tensile test samples. It must be 20, I believe, but you can just show curves of, say, 5 and give average values of 20 with standard deviation when it comes to strength and modulus.
11. Include force-deflection curves of the flexural tests also.
12. Include bar graphs of tensile strength and modulus, and also impact strength. Include standard deviations. There is a major inconsistency in the way results are presented.
13. A graph of moisture absorption vs. square root of immersion time is a must. Does it obey Fick's law or not? What is the saturation moisture uptake? Why is immersion only for 4 days? In 4 days, is saturation achieved? Why did you not calculate the diffusion coefficient as well? Conduct immersion till saturation. Calculate the diffusion coefficient using Fick's law. Discuss the mechanism of moisture absorption. There is scope for a lot of discussion here.
14. References of only 10 is meagre. At least 50 references can easily be provided. Overall analysis and discussion on the results obtained must enhance. For this, the results must be presented properly.
15. Overall, major changes or incorporations are needed.