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.

The research:

Investigation of the Mechanical Properties of Sisal Fiber and Sugar Palm Fiber Reinforced Hybrid Composites:

The study investigates the mechanical (tensile, flexural, and impact) and physical properties (water absorption) of a hybrid composite comprising sisal and palm fibers (various contents) at a maximum fiber loading of 30 wt.%.

Comments:

Introduction

“Improve thermal and mechanical properties”: The findings did not take into consideration the thermal properties.

Some abbreviations are not defined or understood, e.g., CG, K, SCG, and so on.

MWCNT ?

- In the manuscript, fibre and fiber are used interchangeably. This needs to be homogenized.

Materials and methods section:

The fibers are defined, but it is more important to identify the source of the fibers used in the study, as the inherent properties of natural fibers depend a lot on growth conditions that are influenced by environmental conditions.

What was the basis for the treatment of the fibers with 20% NaOH?

- Regarding the increase in the strength of the fibers after treatment, please add the numerical data.
- The epoxy resin used, please indicate the brand used.
- Flexural test: What is the basis for using l = 127 mm since the necessary span L = 85 mm based on the thickness of the panel?
- It is also not clear why 50 mm was used since the standard stipulates l = 80 mm for the Izod test.

Water absorption test

After 24 ? Unit is missing.

Results section:

Tensile strength: Please check the last statement, ‘of’ written in superscript.

With regards to the tensile strength results, the outcome for the research is not adequately discussed and is lacking any meaningful contribution. What may have been the reasons for the obtained results? Any prior literature about the performance of such fibrous reinforcement, not in a hybrid form, from previous literature should be correlated, for instance.

Is there any need to add the first sentence under the flexural strength results? This was already stated under the methods section. As a matter of fact, the first 6 statements seem redundant to the results as they are based on the method used. Perhaps it should be mentioned whether the number of samples (also should be under the methods section, not mentioned yet in this work) or if something extraordinary was noticed during the test. Similar points as mentioned under the tensile strength, the flexural strength result is not analysed or adequately discussed.

Error bars are not presented for the flexural test results, so it is impossible to see if these outcomes are substantial, especially when comparing the outcomes from sample 1 with sample 2 and sample 2 with sample 3.

Figure 10: The numerical labels in the figure create a rather unnecessary view. Error bars are missing. Results are not adequately discussed. No literature references. Do these values represent a good outcome? How about in comparison to the non-hybrid fibers? Etc.

In general, the results do not present a statistical overview to substantiate the outcomes. The missing error bars also create some conjecture as to whether these outcomes are reliable.

The citation for this work is inadequate.