

Review of: "Investigating the Mechanical and Tribological Effects of MoS₂ Reinforcement in AZ91 Magnesium Alloy: A Comprehensive Experimental Study"

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Potential competing interests: No potential competing interests to declare.

The study attempts to report the effect of MoS₂ reinforcements on the mechanical and tribological properties of magnesium alloys. Though the authors are appreciated for undertaking an experimental study, there are concerns prevailing in the manuscript. Few of them are given below.

1. The use of acronyms in the title is not recommended.
2. Abstract: This section should be modified and improved in a crisper fashion. It is recommended to provide the novelty, work attempted, and the salient findings of the study.
3. Introduction: The novelty or research gap of the study is to be highlighted. The existing methods, their weaknesses, and the advantages of the proposed method need to be supplied.
4. Materials and Methods: It is recommended to provide complete details of the materials and methods adopted. Providing complete details will aid future researchers in repeating the experiment and benefiting from it.
5. How the parameters in Table 2 were fixed.
6. While measuring the hardness, authors are expected to provide the load applied and the dwell time. Similarly, how many measurements were recorded for each sample.
7. The quality of the microstructure is poor. It is recommended to provide the scale bar in all microstructure images.
8. It is recommended to mark salient features on the microstructures. Similarly, the microstructural features should be discussed in the manuscript.
9. Instead of merely presenting the results, authors are recommended to provide significant discussion on the results. Also, comparing the results with published literature is mandatory.
10. Conclusion: Only the salient contributions should be presented.
11. References: The latest reference is from 2018, stating that the articles published in the last six years are not considered. Authors are directed to read the latest research articles before undertaking research. It is recommended to make a good literature review before starting the study.