

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

Levent Urtekin¹

¹ Ahi Evran University

Potential competing interests: Minor revision.

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

This article investigates the mechanical and tribological effects of MoS₂ reinforcement in the AZ91 magnesium alloy. The authors performed lots of modern experimental techniques to identify the mechanical properties of the reinforced AZ91 magnesium alloy. There are some recommendations for the authors as listed below:

1) The introduction of the article should be expanded. Not only mechanical but also the literature on tribological properties of the AZ91 magnesium alloy should be mentioned. At least, two important works can be cited: Investigation of tribological and mechanical properties of biodegradable AZ91 alloy produced by cold chamber high-pressure casting method (https://www.imim.pl/files/archiwum/Vol1_2021/26.pdf) and

Experimental investigation on wire electric discharge machining of biodegradable AZ91 Mg alloy (<https://link.springer.com/article/10.1007/s11665-021-05939-2>).

2) Figure 1, Figure 2, Figure 3, Figure 4, and Figure 5 have low quality, and they don't have any scale on the figures.

3) There are some points which should be given more information about the process parameters. How did you specify the rotational speed, transverse speed, axial force, and number of passes?

4) "The sample processed at 1100 rpm demonstrated the highest surface zone hardness." Do you mention why it happened, especially at 1100 rpm?

5) In Figure 3, the sample at 1100 rpm showed some fluctuations during the tensile test. Why did it happen?

6) In Figure 7, it says that EDS results are shown, but in Figure 7, they show only the fracture of tensile tests.

7) There are some grammar errors in the text. From the introduction to the conclusion chapters, it needs proofreading.

Minor revision.

