

Review of: "The Influence of Hot Extrusion on The Mechanical and Wear Properties of an Al6063 Metal Matrix Composite Reinforced With Silicon Carbide Particulates"

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Potential competing interests: No potential competing interests to declare.

Comments on Manuscript Number: DLUOH9 on paper titled "The Influence of Hot Extrusion on the Mechanical and Wear Properties of an Al6063 Metal Matrix Composite Reinforced with Silicon Carbide Particulates."

Authors have studied the hot extrusion process and its effect on the mechanical and wear behavior of the Al6063 alloy. This study is towards the improvement of mechanical properties through the hot deformation process. The manuscript needs further strengthening in the abstract, introduction, and results sections, and also with discussions on observations with supporting results. Following are comments that must be addressed before the paper is accepted for publication.

Comments:

1. Authors should state the important results obtained in the abstract and specify the innovations obtained.
2. The principles and rules of writing in the text should be considered. "Composites can be fabricated by liquid metallurgy or solid metallurgy."
3. The introduction part should be rewritten, and the order of the sentences should be changed. For example, the sentence "It is critical to avoid the reinforced material forming an intermetallic compound with the matrix element" should come after the first paragraph.
4. What were the weight percentage, shape, and dimensions of the reinforcement?
5. The dimensions of the mold are not defined.
6. Stirring can affect the size and shape of the second phase. The author should specify it in the text.
7. What was the dimension of the metal before and after extrusion?
8. The rate of the tensile test and the number of samples for each test (compression and Vickers) are not defined.
9. The authors use SEM for microstructural observation, but the model and condition of the device have not been specified.
10. What method is used to determine the density?
11. Figures and graphs are of very poor quality.
12. Authors must give mention of how instrumental error is calculated during the determination of porosity and density, and also other properties such as tensile and compression tests.
13. Has an extensometer been used to measure the Young's modulus?

14. One of the important factors in the properties of composites is the interface between the matrix and the second phases. Here, the authors must specify the properties of the interface after hot deformation and also melting by SEM or other equipment.

The structure of the article and some sentences is not appropriate.

