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.

Dear Pr Alberto Bedogni

The manuscript structure was not well organized at all. There were no line numbers, and therefore, I must reject it. This is due to the following points:

1-In order for your article to be better seen in search engines, it is necessary to minimize the commonality of the words used in the article title and keywords.

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

Keywords: Al6063, silicon carbide, hot extrusion, scanning electron microscope.

2>The author must explain his research method in an appropriate flowchart.

3>Some dictation errors occurred. For example:

20 seconds. The specimens were prepared as per the IS1757 standard for the charpy impact test. The notch is located at

the reinforcing element at the atomic level and the particulate nature of reinforcements. Mohanakumar et al. [17] reported

From the above graph, 8-13 wear rates for the developed composite system under as-cast and hot extruded conditions,

4>The author claimed the below sentence. I saw a decrease on Graph 11! The author must explain why it happened?

The wear rate is linearly reduced with an increase in reinforcement percentage; also, the hot extruded composite shows a significant impact on improving the wear rate of the developed composite.

5>Each reference should be discussed individually and what effect it had on your research. For example, in the following sentence, which ref corresponds to which of the elements.

researchers have attempted to develop metal matrix composites with widely available reinforcements such as graphite, silicon carbide, titanium carbide, tungsten, boron, Al_2O_3, Al-Mg, ZA27, and TiB2[7][8][9][10].

6>The author must search for more refs because he claims the below sentences. It is not a complete literature review because FGM is a type of material which is a non-uniform dispersion of particles.

Composites can be fabricated by liquid metallurgy or solid metallurgy; many researchers prefer liquid metallurgy over solid metallurgy because it is inexpensive and more cost-effective for mass production. Stir casting is the simplest and least expensive method of processing [2]. Non-uniform dispersion of particulates due to poor wettability and gravity-regulated segregation is a common problem with the stir casting technique. It is critical to avoid the reinforced material forming an intermetallic compound with the matrix element [3][4].

7>Graphs 9 and 12 must be merged and expanded for other parameters. It is helpful for decision-making about what the best parameter is and how much the parameter affects.

8>The conclusion must be explained using scientific words. The author must present his findings by values (quantitative expressions) not by using qualitative expressions, such as decrease, increase, highest, improve, and so on.

- The density of the composites increased proportionally to the percentage of reinforcement. The highest density was observed with 8% reinforcement. In hot extruded Al 6063, the volume of voids or porosity was found to be reduced by 54%.
- The mechanical properties of the composites improve significantly with the addition of reinforcements before extrusion. The hot extrusion samples showed even more improvement.
- In the hot extruded composite, the grains were noticeably refined, and the reinforcement layers were considerably dissolved, reflecting the effective diffusion and doping of reinforcement atoms into the Al 6063 matrix.
- The wear rate of the composites decreased as the reinforcement quantity increased, as the form and quantity of reinforcement demonstrated the tribological advantage of materials.
- Topographic analysis of the worn surfaces of sliding wear observed under SEM and the optical specimen under sliding wear revealed less wear and tear.

Sincerely yours,

Seyed Ebrahim Vahdat