

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.

1. More details for the fabrication of SiC-Al alloy composite should be provided. For example, what is the particle size of SiC? What is the crystal structure of SiC? Alpha-SiC or beta-SiC? The details for the extrusion process.
2. Suggesting the authors to provide the relative density based on the theoretical density which can be calculated by combining the density of raw materials with their weight fraction.
3. It is better to unify the terms "weight percentage" and "weight fraction."
4. In P5: "Density improves further in postcast processing by 1.2%," please confirm whether such a value is the same for all composites with different SiC content. "This is due to strain hardening and the atomic compacting of composites"; by using this to explain the density improvement is unsuitable. The strain hardening is not conducive to the density improvement. How does the "reinforcing element at the atomic level" influence the porosity?
5. It is better to provide the micrographs on the finely polished surface of composites, showing the distribution of SiC particles and pores.
6. Please provide the detailed geometric size of the specimen for the mechanical test.
7. In P6: "The mechanical testing data were used to calculate the tensile properties and the strength of the composites," the tensile properties actually already include the strength of the composites. Why did the difference become small for the tensile strength of composites with 2% and 8% SiC, but the E didn't follow this tendency?
8. Did the authors try to compare the measured elastic modulus with the theoretical value based on the rule of mixtures? From the difference of the two values, make a deep analysis.
9. It is better to supplement the typical stress-strain curves for both tensile and compressive tests.
10. The number of graphs is wrong.
11. In P10: the figure is meaningless.
12. It is hard to read Graph 9.
13. The key issue is that the authors only presented the results. It is a lack of deep discussion and analysis of mechanisms.