IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 2, August 2023

Mechanical Characterization of Al6061 Alloy Reinforced with SiC and Gr through Stir Casting Method

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Abstract: *Hence, this project work focuses on the development of composites of the Aluminium Alloy 6061 metal matrix hybrid composite. The objective was to evaluate the physical properties of the aluminium alloy (Al6061) in the presence of Silicon Carbide (SiC) and Graphite (Gr) with their variations to study the microstructure and mechanical characteristics. In this study, electric arc resistance furnace is utilized to prepare the aluminium alloy-based metal matrix hybrid composites with variable weight fractions of 0, 2, 4, 6 and 8% SiC/Gr particles (40 to 50 microns). Based on the ASTM standard, the manufactured aluminium alloy-based metal matrix hybrid composites endure the evaluation of microstructure and mechanical characteristics.*

Keywords: Al6061; SiC; Gr; Hybrid composites.

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