

ABSTRACT

This work examines the experimental exploration of utilizing Al-Si-Nickel composite material for car bumper applications. This work aims in assessing the mechanical properties such as tensile strength, hardness, and impact resistance for the Al-Si Nickel composite material to determine its suitability for enhancing bumper performance. The composite material of various composition is fabricated using the stir casting process and the testing were done. This investigation contributes to advancing the understanding of composite materials for automotive applications, particularly in enhancing safety and durability in car bumpers.

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