

**EXPERIMENTATION AND STRENGTH ANALYSIS OF  
HYBRIDALUMINIUM 6061 METAL MATRIX COMPOSITE  
REINFORCED WITH SiC AND FLYASH**

**A Project report submitted**

**In the partial fulfillment of the requirements for award of Degree of**

**BACHELOR OF TECHNOLOGY**

**IN**

**MECHANICAL ENGINEERING**

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# AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Permanently Affiliated to JNTU-KAKINADA and Approved by AICTE)

(An N.B.A Accredited institution)

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## DEPARTMENT OF MECHANICAL ENGINEERING CERTIFICATE

This project is to certify that report is entitled “**EXPERIMENTATION AND STRENGTH ANALYSIS OF HYBRID ALUMINIUM 6061 METAL MATRIX COMPOSITE REINFORCED WITH SiC AND FLYASH**” was carried out by M.HEMA SATYASAI (17815A0332), R.MANIKANTA (17815A0351), G.PAWANKUMAR (17815A0315), T.DURGA PRASAD (17815A0363), Y. VIJAY KUMAR (16811A0396) in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in “**MECHANICAL ENGINEERING**” To JNTUK university at AVANTHI INSTITUTE OF ENGINEERING & TECHNOLOGY, NARSIPATNAM, during the academic years 2016-2020

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# **EXPERIMENTATION AND STRENGTH ANALYSIS OF HYBRID ALUMINIUM 6061 METAL MATRIX COMPOSITE REINFORCED WITH SiC AND FLYASH**

## **ABSTRACT**

Aluminum Hybrid Reinforcement Technology is a response to the dynamic ever-increasing service requirement of industries such as transportation, aerospace, automobile, and marine, due to its attractive properties like high ductility, highly conductivity, light weight, and high strength to weight ratio. In this evolution, an attempt has been made to investigate Al6061 hybrid metal matrix composite reinforced with the ceramic powders SiC, (1, 2, and 3 wt.%) is fabricated by using stir casting method.

The present experimental study aims at learning the mechanical behavior of hybrid metal matrix composites, according to the ASTM standards for different experiments. For Tensile test & flexural test samples were cut in Dog-bone shape and flat bar shape respectively. As well as hardness and impact test specimen are prepared according to standards. After that experiment is performed under Universal testing machine (UTM). ILSS (flexural strength) & Ultimate Tensile strength were observed and compared to base values of Aluminium to perceive the change in strength.

**Keywords : Al6061, SiC, Fly Ash, Stir Casting**