

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI – 590 018



A
PROJECT REPORT
ON

“Production and Evaluation of Wear Characteristics of Aluminium Matrix
Composite Reinforced with Boron Carbide”

Submitted in partial fulfillment of the requirements for the award of the degree of

BACHELOR OF ENGINEERING
IN
MECHANICAL ENGINEERING

Submitted by:

BHARATH N M (1SV18ME002)

KIRTHEESH R (1SV18ME004)

RAVI R (1SV19ME402)

Under the Guidance of:

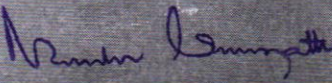
Mr. SANTHOSH T U BE, M Tech, (Ph D)

Assistant Professor

Department of Mechanical Engineering

SIET, Tumkur




PRINCIPAL
SIET, TUMAKURU



Department of Mechanical Engineering
Shridevi Institute of Engineering and Technology

(Recognized by Government of Karnataka, affiliated to VTU, Belagavi & Approved by AICTE, New Delhi)

Sira Road, TUMAKURU – 572 106

2021 – 22

CERTIFICATE

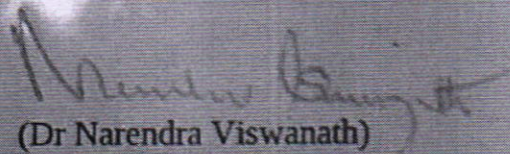
This is to certify that the Project Work entitled "Production and Evaluation of Wear Characteristics of Aluminium Matrix Composite Reinforced with Boron Carbide" is carried out by Mr Bharath N M (1SV18ME002), Mr Kirtheesh R (1SV18ME004) and Mr Ravi R (1SV19ME402), bonafide students of the Department of Mechanical Engineering in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Mechanical Engineering of the Visvesvaraya Technological University, Belagavi during the year 2021 - 22. It is also certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.



(Mr Santhosh T U)
Project Guide



(Mr B H Vasudevamurthy)
Head of the Department



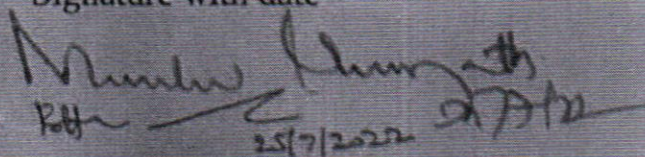
(Dr Narendra Viswanath)
Principal

External Viva

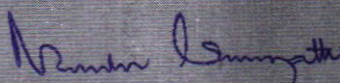
Names of the Examiners

1. Dr NARENDRA VISWANATH
2. Mr. B. H. VASUDEVAMURTHY

Signature with date



25/7/2022

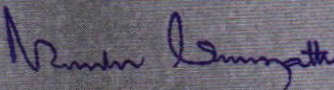


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ABSTRACT

The importance of materials in modern world can be realized from the fact that much of the research is being done to apply new materials to different components. However, it is natural for a design engineer to rely on trusted and tested materials, but now the world is changing. Today composite materials have changed all the material engineering. The evolution of composite materials has given an opportunity to various designers to use new and better materials resulting in cost reduction, increase in efficiency and better utilization of available resources. Composite materials are finding their applications in aerospace industry, automobile sector, manufacturing industries etc.

Composite materials are made from two or more constituent's materials with significantly different physical or chemical properties. Composite materials are highly utilized in various fields like Aerospace structure, marine, Automobile, etc. The present study deals with investigation of effect of reinforcement Boron carbide particulate on mechanical properties of Aluminium alloy LM25 composites, fabricated by stir casting method, specimens were prepared by varying weight fraction of the Boron carbide as 0wt%, 2wt%, 4wt% and 6wt%. The mechanical properties like Hardness, Tensile strength, and compression strength were improved when compared to the base metal.


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