

## ABSTRACT

Aluminum metal matrix composite has the potential to replace conventional materials because of obtaining superior properties such as high specific strength, high stiffness, high hardness, high wear resistance, and low density. In the past three decades, composite materials were playing a vital role in various sectors, especially in aeronautical, avionics, and automotive sectors. The present works deal with the mechanical behavior of aluminum metal matrix mixed with Silicon carbide in the ratio of Aluminium (6063) 90% and Silicon carbide 10% were prepared by sand casting method.

### INTRODUCTION

#### 1.1 OBJECTIVE

#### 1.2 RAW MATERIAL PREPARATION

#### 1.3 ABOUT ALUMINIUM 6063

#### 1.3.1 PHYSICAL CHARACTERISTICS

#### 1.3.2 CHEMICAL CHARACTERISTICS

#### 1.3.3 MECHANICAL CHARACTERISTICS

#### 1.3.4 THERMAL CHARACTERISTICS

#### 1.3.5 ELECTRICAL CHARACTERISTICS

#### 1.3.6 CORROSION CHARACTERISTICS

#### 1.3.7 WELDABILITY CHARACTERISTICS