

## **The effect of sintering temperature on mechanical properties of Al/SiC composites**

### **Abstract**

This paper presents the investigation of the effect of sintering temperature on mechanical properties of Al/SiC composites. The composites were produced via conventional powder metallurgy processing. The particle size of Al and SiC powders are 63  $\mu\text{m}$  and 37  $\mu\text{m}$  respectively. The sintering temperatures exerted on the samples were 550, 570, 590, 610, 630 and 650°C at a fixed time of 1 h. The compressive, hardness and impact tests were performed on the sintered samples to characterize their mechanical properties. It was found that as the sintering temperature increase, the mechanical properties of the samples were also increased at earlier temperature and show a decrease trend thereafter. Similarly, this trend was also observed in the density test. Furthermore, microscopic observations showed that the porosity level decrease as the sintering temperature increase excluding at the temperature of 650°C.

### **Keywords**

Aluminium based composite; Mechanical property; Powder metallurgy; Sintering temperature