

## SUMMARY

**Faris Adhi Wicaksana**, *Department of Mechanical Engineering, Faculty of Engineering, Brawijaya University, November 2015, The Influence Of Casting Temperature Against The Density and Compressive Strength of Aluminum (6061) Foam, Supervisor: Yudy Surya Irawan and Tjuk Oerbandono.*

*At this time, the need for the goods or products has increased, using particular metal was forced to modify the material, and one is metal foam. One type of metal foam that is used is aluminum foam. Aluminum foam is a light material result of engineering, which has high strength and stiffness with low density. The special characteristic of this material is capable of absorbing energy. Manufacture of aluminum foam can be done in various ways, one of which with the addition of blowing agent. Currently, a lot of aluminum foam manufactured by  $\text{CaCO}_3$  as blowing agent, but in use of  $\text{CaCO}_3$  as blowing agent still require further research.*

*This research aims to check the influence of casting temperature in the manufacture of aluminum foam. In this study, casting temperature varied i.e  $750^\circ\text{C}$ ,  $800^\circ\text{C}$  and  $850^\circ\text{C}$ , then using Calcium carbonate powder ( $\text{CaCO}_3$ ) as a blowing agent and alumina powder ( $\text{Al}_2\text{O}_3$ ) as the gas bubbles stabilizer. After that, the density and compressive strength will be tested to know the difference on each variation.*

*As the results obtained that the higher the casting temperature resulted in the greater size of the pores formed and the pores are not formed in all parts so that affect density and compressive strength. The results of the analysis showed that the highest density values  $0,81 \text{ gr/cm}^3$  on the specimen with the casting temperature  $750^\circ\text{C}$  and highest compressive strength values  $78,121 \text{ MPa}$  on the specimen with the casting temperature  $800^\circ\text{C}$ .*

**Keywords:** *aluminium foam, casting temperature, density, compressive strength*