

## **ABSTRACT**

*The current state of the art with regards to the production of metallic foams is reviewed, with melt-based processes identified as the most promising for cost-effective large-scale production. The potential for metal carbonates as an alternative to currently-used titanium hydride foaming agents is explored, with calcium carbonate identified as the most suitable. Characteristic features of the compressive deformation of metallic foams based on magnesium as alloying agent are described in the context of use as an impact-absorbing material, from the experiment has known compressive strength aluminium for each 4% Mg, 6% Mg and 8% Mg is 38.95 MPa, 45.19 MPa and 50.82 Mpa. And density for each composition is 2.62 gr/cm<sup>3</sup>, 1.94 gr/cm<sup>3</sup> and 3.44 gr/cm<sup>3</sup>. Research about magnesium contained on aluminium alloy pursue to investigating influenced for mechanical strength and physical character of aluminium foam product, and make some variable for magnesium content having involved in strength of product and physical characterization. By the product of aluminium foam investigated that aluminium with 4 % content of Mg have good cells rather than aluminium with 6 % and 8 % content of Mg.*

**Keyword :** *aluminium foam, CaCO<sub>3</sub>, aluminium magnesium, cellular metal*