

## **THE EFFECT OF TiC ADDITION ON MAGNETIC PROPERTIES OF ATOMISED NDFeB PERMANENT MAGNETIC POWDER**

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### **ABSTRACT**

NdFeB permanent magnetic materials with and without TiC addition were prepared by inert gas atomization. The powders produced were characterized using particle size analyzer, scanning electron microscope (SEM), X-ray diffraction (XRD) and optical microscope. The magnetic properties such as remanence (Br), coercivity (Hc) and maximum energy product (BH max) of the powders were obtained using vibratory sample magnetometer (VSM). It was found that the gas atomization process produced spherical powder for both materials. However the NdFeB powder with TiC addition has smaller grain size compared to the powder without TiC. It was also found that the magnetic properties of the powder containing TiC is higher compared to the powder without TiC. The reasons for the difference in properties for both powders were discussed.

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