

FURTHER WORK ON FABRICATION OF PRESSURELESS MADE POLYMER BONDED NdFeB MAGNET USING EPOXY RESIN TOUGHENED WITH REACTIVE LIQUID NATURAL RUBBER AS THE BINDER

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ABSTRACT

The paper presents the fabrication of pressureless bonded NdFeB magnet using a binder constituting of a toughened epoxy resin using reactive liquid natural rubber as the toughening additive. The effects of the additive on the magnetic and physical properties of the pressureless bonded NdFeB magnet are discussed. The production of the pressureless magnet involves mixing the NdFeB powder with the toughened epoxy resin and consolidating the mixture at room temperature without applying pressure. The result shows that the magnetic properties of the pressureless bonded NdFeB magnet using toughened epoxy resin as a binder exhibits superior magnetic and physical properties to that of its counterpart, the pressureless bonded NdFeB magnet using conventional epoxy resin binding material and to that of the ferrite magnet. Nevertheless, these properties are comparably lower to that of the compacted NdFeB permanent magnet.

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