

## PENGARUH ADITIF BaCO<sub>3</sub> PADA KRISTALINITAS DAN SUSEPTIBILITAS BARIUM FERIT DENGAN METODA METALURGI SERBUK ISOTROPIK

<b>Title</b>	PENGARUH ADITIF BaCO <sub>3</sub> PADA KRISTALINITAS DAN SUSEPTIBILITAS BARIUM FERIT DENGAN METODA METALURGI SERBUK ISOTROPIK
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<b>Accreditation</b>	
<b>Abstract</b>	Influences of concentration of BaCO <sub>3</sub> on crystallinities and susceptibilities of barium ferrites using isotropic powder metallurgy method of fabrication is studied based on the characterization of X-Ray Diffraction (XRD), crystallite size distributions and hysteresis curve of Vibrating Sample Magnetometer (VSM). In this study, Fe <sub>2</sub> O <sub>3</sub> of Cilacap iron sands are doped with BaCO <sub>3</sub> with various concentrations of 15%, 30% and 45% at 1100 °C of sintering temperature. The results show that the addition of BaCO <sub>3</sub> affects the formation of the multi-phase barium ferrite crystals and widen the crystallite size distribution, as well as lowering the saturations and the magnetic remanences. The optimum composition for barium ferrite magnets is obtained for 15% of BaCO <sub>3</sub> , with the highest mass susceptibility of 2.4 × 10 <sup>-6</sup> M <sup>3</sup> /Kg. Keywords: Barium hexaferrites, isotropic powder metallurgy, crystal characterizations, permanent magnets
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