EFFECT OF ALLOYING ELEMENT Zn AND Ni AND MILLING TIME ON MECHANICAL ALLOYING PROCESS TO MICRO STRUCTURE AND MAGNETIC PROPERTIES OF BARIUM HEXAFERRITE AS RADAR ABSORBENT MATERIAL (RAM)

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Abstrak

Radar Absorbent Material, or RAM, is one type of material used in stealth technology to disguise an object from radar detection. The ability of radar absorbing materials to the wave at a certain frequency depending on its composition. One material that is often used as RAM is Barium Hexaferrite. On this research studying about the effect of addition alloying elements Zn, Ni powder to Barium Hexaferrite. The addition of alloying elements increase the absorptive capacity of Barium Hexaferrite. The addition of alloying elements Zn and Ni powder made by mechanical Aloying, with a variation of milling time 16, 28 and 36 hours and use BPR 15:1. Then after milling the powder was annealing at temperature of 1200 ºC for 1.5 hours. Further testing SEM, XRD and VSM to determine the microstructure, phases and the magnetization of the powder Barium Hexaferrit alloying elements that have been given. In this study are expected to provide data about the best alloying elements that can produce Barium Hexaferrite with the optimum absorption of microwaves.

Keyword: Barium Hexaferrite, Alloying Elements, Milling Time
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