

ABSTRACT

FABRICATION AND CHARACTERIZATION OF CALCIUM ALUMINATE CERAMICS USING RAW MATERIAL OF EGG SHELL AND ALUMINA COMMERCIAL WITH SOLID STATE REACTION TECHNIQUE

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In this research fabrication and characterization of calcium aluminate ceramics by using raw material of egg shell and alumina commercial with a solid state reaction technique was done. XRD characterization result showed that the formation of calcium aluminate phase is formed corundum, grossite and calcium aluminum oxide. SEM characterization result showed that grain boundaries disappeared, pores that became small and homogeneous. FTIR characterization result showed that the functional group is formed Ca-O, Al-O and OH. Then evaluation of physical properties showed that if heating temperature that was applied in the sample was higher, it causes density, shrinkage and resistivity will be more increases where as the porosity of the sample decrease.

Key words: calcium aluminate, solid state reaction, FTIR, SEM, XRD, physical properties.