

SKRIPSI

**ANALISA PENGUJIAN MEKANIK MATERIAL
BIOKOMPOSIT *BOVINE HYDROXYPATITE* (BHA)/TEPUNG
JAGUNG/*SHELLAC***

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***ANALYSIS OF MECHANICAL TESTING MATERIAL BIOKOMPOSIT
FROM BOVINE HYDROXYAPATITE (BHA) / CORNSTARCH / SHELLAC***

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Abstract

The material that was developed as a substitute for metal implants for bone fractures is an implant made from bioceramic hydroxyapatite (HA). Hydroxyapatite is more flexible and easy to integrate with bone. This study aims to determine the potential of Bovine Hydroxyapatite (BHA) from cow bone mixed with corn flour and shellac as a bone filler application. The testing stage in BHA/cornstarch/shellac includes SEM observation, SEM EDX, hardness test, compressive strength test and porosity test. The result of SEM observation resulted from the most porous at 75/25/shellac variation, observation of SEM EDX specimen BHA/cornstarch/shellac after sintering process produces element free from element C (carbon), it is caused by evaporation of cornstarch and shellac during Sintering process takes place. On mechanical testing, hardness and compressive strength of 95:5/shellac variation of 76,42 HVN and 1,26 MPa and porosity of 75:25/shellac variation is 46,76%. The addition of %v cornstarch resulted in decreased mechanical properties and increased porosity in BHA/cornstrach/shellac specimens.

Keyword : Bovine Hydroxyapatite, Shellac, Cornstarch, Mechanical Testing