

**PENGARUH PERSENTASE SERAT SABUT PINANG (*Areca Catechu L.*)  
TERHADAP SIFAT MEKANIK DAN FISIK PAPAN GIPSUM-BETON**

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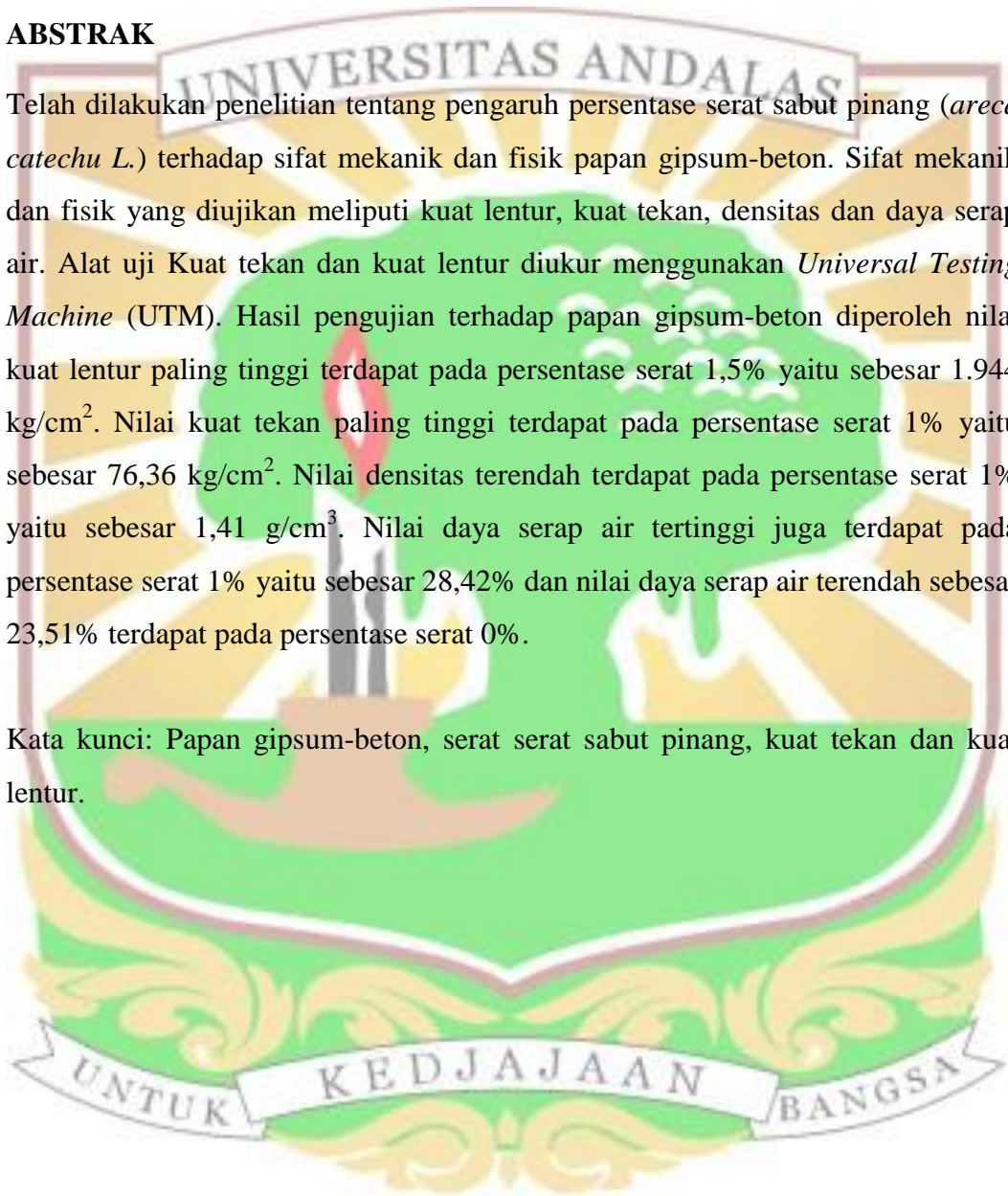
**JURUSAN FISIKA  
FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM  
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**ABSTRAK**

Telah dilakukan penelitian tentang pengaruh persentase serat sabut pinang (*areca catechu L.*) terhadap sifat mekanik dan fisik papan gipsum-beton. Sifat mekanik dan fisik yang diujikan meliputi kuat lentur, kuat tekan, densitas dan daya serap air. Alat uji Kuat tekan dan kuat lentur diukur menggunakan *Universal Testing Machine* (UTM). Hasil pengujian terhadap papan gipsum-beton diperoleh nilai kuat lentur paling tinggi terdapat pada persentase serat 1,5% yaitu sebesar 1.944 kg/cm<sup>2</sup>. Nilai kuat tekan paling tinggi terdapat pada persentase serat 1% yaitu sebesar 76,36 kg/cm<sup>2</sup>. Nilai densitas terendah terdapat pada persentase serat 1% yaitu sebesar 1,41 g/cm<sup>3</sup>. Nilai daya serap air tertinggi juga terdapat pada persentase serat 1% yaitu sebesar 28,42% dan nilai daya serap air terendah sebesar 23,51% terdapat pada persentase serat 0%.

Kata kunci: Papan gipsum-beton, serat serat sabut pinang, kuat tekan dan kuat lentur.



**THE INFLUENCE OF PERCENTAGE OF COIR FIBER ARECA NUT  
(*Areca Catechu L.*) ON MECHANICAL AND PHYSICAL QUALITY OF  
THE GYPSUM BOARDS-CONCRETE**

**ABSTRACT**

The research about the influence of the percentage of coir fiber areca nut (*areca catechu L.*) on the mechanical and physical quality of gypsum board-concrete. Mechanical and physical quality of the tested include flexural strength, compressive strength, density and water absorption. The instrument to compressive strength and flexural strength were measured using a Universal Testing Machine (UTM). The test results of gypsum-concrete flexural strength values obtained the highest percentage of fibers present in 1.5% that is equal to 1,944 kg/cm<sup>2</sup>. The compressive strength is highest in the percentage of fiber 1% that is equal to 76.36 kg/cm<sup>2</sup>. The lowest density for the percentage of fiber 1% is equal to 1.41 g/cm<sup>3</sup>. The value of the highest water absorption is also available on the percentage of fiber 1% is equal to 28.42% and the lowest water absorption of 23.51% found in the percentage of fiber 0%.

keywords: gypsum board-concrete, coir fiber areca nut, compressive strength and flexural strength.

