

**PENGARUH PERSENTASE SEKAM PADI DENGAN
TAMBAHAN SERAT PINANG TERHADAP SIFAT FISIK DAN
MEKANIK PAPAN BETON RINGAN**

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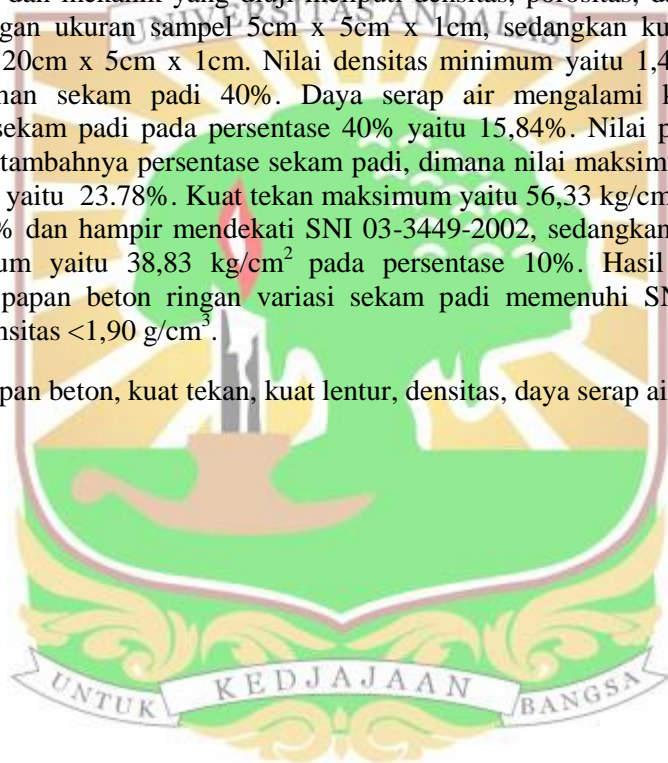
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ABSTRAK

Telah dilakukan penelitian tentang pengaruh persentase sekam padi dengan tambahan serat pinang terhadap sifat fisik dan mekanik papan beton ringan. Penelitian bertujuan untuk mengetahui persentase maksimum dan pengaruh sekam padi dengan tambahan serat pinang pada papan beton ringan terhadap sifat fisik dan mekanik. Persentase sekam padi yang digunakan adalah 0%, 10%, 20%, 30% dan 40%. Pengujian yang dilakukan yaitu sifat fisik dan mekanik yang diuji meliputi densitas, porositas, daya serap air dan kuat tekan dengan ukuran sampel 5cm x 5cm x 1cm, sedangkan kuat lentur dengan ukuran sampel 20cm x 5cm x 1cm. Nilai densitas minimum yaitu 1,48 g/cm³ terdapat pada penambahan sekam padi 40%. Daya serap air mengalami kenaikan dengan bertambahnya sekam padi pada persentase 40% yaitu 15,84%. Nilai porositas semakin naik seiring bertambahnya persentase sekam padi, dimana nilai maksimum terdapat pada persentase 40% yaitu 23,78%. Kuat tekan maksimum yaitu 56,33 kg/cm² pada persentase sekam padi 10% dan hampir mendekati SNI 03-3449-2002, sedangkan untuk nilai kuat lentur maksimum yaitu 38,83 kg/cm² pada persentase 10%. Hasil pengujian yang diperoleh dari papan beton ringan variasi sekam padi memenuhi SNI 03-3449-2002 dengan nilai densitas <1,90 g/cm³.

Kata kunci: papan beton, kuat tekan, kuat lentur, densitas, daya serap air dan porositas



EFFECT OF RICE HUSK PERCENTAGE WITH ADDITION OF ARECA FIBER ON PHYSICAL AND MECHANICAL PROPERTIES OF LIGHTWEIGHT CONCRETE BOARD

ABSTRACT

Research about the effect of the percentage of rice husk with additional areca fiber on the physical and mechanical properties of lightweight concrete boards has been carried out. The study aimed to determine the maximum percentage and influence of rice husk with additional areca fiber on lightweight concrete boards on physical and mechanical properties. The percentage of rice husk used was 0%, 10%, 20%, 30% and 40%. Tests carried out are physical and mechanical properties including density, porosity, water absorption and compressive strength with a sample size of 5cm x 5cm x 1cm, while the flexural strength with a sample size of 20cm x 5cm x 1cm. The minimum density value of $1,48 \text{ g / cm}^3$ is found in the addition of 40% rice husk. Water absorption has increased with the increase in rice husk at a percentage of 40%, which is 15,84%. The value of porosity increases as the percentage of rice husk increases, where the maximum value is at the percentage of 40%, namely 23,78%. The maximum compressive strength is $56,33 \text{ kg/cm}^2$ in the percentage of 10% rice husk and is almost close to SNI 03-3449-2002, while for the maximum flexural strength value is $38,83 \text{ kg/cm}^2$ at a percentage of 10%. The test results obtained from lightweight concrete board variations of rice husk meet SNI 03-3449-2002 with a density value of $<1,90 \text{ g/cm}^3$.

Keywords: concrete board, compressive strength, flexural strength, density, water absorption and porosity.

