

PERBEDAAN PERSENTASE BUSA LERAK PADA BATA BETON RINGAN *FOAM* DI TINJAU DARI SIFAT FISIK DAN MEKANIK

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Abstrak

Tujuan penelitian adalah : (1) Menyelidiki perbedaan kuat tekan bata beton ringan *foam* dengan perbandingan semen dan pasir serta kandungan *foam* yang berbeda, (2) Menyelidiki perbedaan berat jenis bata beton ringan *foam* dengan perbandingan semen dan pasir serta kandungan *foam* yang berbeda, (3) Menyelidiki perbedaan daya serap air bata beton ringan *foam* dengan perbandingan semen dan pasir serta kandungan *foam* yang berbeda, (4) Menyelidiki berapa nilai maksimal kuat tekan bata beton ringan *foam* dengan perbandingan semen dan pasir serta kandungan *foam* yang berbeda. Penelitian ini menggunakan metode kuantitatif eksperimen dan teknik analisis data menggunakan analisis T-Test. Perbandingan bata beton ringan *foam* menggunakan semen dan pasir 1:1, 1:2 dan *foam* lerak 30% dan 40% dari volume mortar. Variabel yang membedakan dalam penelitian adalah (1) variabel terikat: kuat tekan, berat jenis dan daya serap air bata beton ringan *foam*, (2) variabel bebas: variasi busa lerak 30% dan 40% dengan perbandingan semen dan pasir 1:1 dan 1:2. Hasil penelitian antara lain, (1) Kuat tekan bata beton ringan *foam* dengan persentase busa lerak 30 % lebih tinggi dari pada busa lerak 40 %, perbedaan kuat tekan pada campuran 1pc:1ps sebesar 5,8658 MPa (75,34 %) dan 1pc:2ps sebesar 1,4648 MPa (57,14 %), (2) Berat jenis bata beton ringan *foam* dengan persentase busa lerak 30 % lebih tinggi dari pada busa lerak 40 %, perbedaan berat jenis pada campuran 1pc:1ps sebesar 268 kg/m³ (16 %) dan 1pc:2ps sebesar 292 kg/m³ (18,91 %), (3) Daya serap air bata beton ringan *foam* dengan persentase busa lerak 30 % lebih tinggi dari pada busa lerak 40 %, perbedaan daya serap air pada campuran 1pc:1ps sebesar 4,676 % dan 1pc:2ps sebesar 2,849 %, (4) Kuat tekan maksimal sebesar 7,7856 MPa pada persentase busa lerak sebesar 30% dengan perbandingan 1pc:1ps.

Kata Kunci : busa lerak, bata beton ringan *foam*, kuat tekan, berat jenis, daya serap air.

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**DIFFERENCE OF FLAT FOAM PERCENTAGE IN LIGHT WEIGHT CONCRETE
FOAM IN THE REVIEW OF PHYSICAL AND MECHANICAL PROPERTIES**

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Abstract

The objectives of the study are (1) Investigate the difference in compressive strength of lightweight foam concrete brick with a comparison of cement/sand and foam content different, (2) Investigate differences in the density of foam lightweight concrete bricks with a comparison of cement/sand and foam content different, (3) Investigate the difference in absorption of foam lightweight concrete bricks with a comparison of cement/sand and foam content different, (4) Investigate the maximum value of foam lightweight concrete brick compressive strength with a comparison of cement/sand and foam content different. This study uses quantitative experiment method and data analysis technique using T-Test analysis. Comparison of lightweight foam concrete bricks using 1: 1, 1: 2 cement and sand and lerak foam 30% and 40% of the volume mortar. The distinguish variables in the study are (1) the dependent variable: compressive strength, density and water absorbability of lightweight concrete bricks foam, (2) independent variable : variation of lerak foam 30% and 40% with a ratio of cement and sand 1: 1 and 1: 2. Research results include, (1) Compressive strength of lightweight foam concrete brick with the percentage of lerak foam 30% higher than lerak foam 40%, the difference in compressive strength on the mixture of 1pc: 1ps is 5.8658 MPa (75.34%) and 1pc: 2ps of 1.4648 MPa (57.14%), (2) The weight of lightweight foam concrete brick with the percentage of lerak foam is 30% higher than the 40% lerak foam, the difference in density in the 1pc: 1ps mixture is 268 kg / m³ (16%) and 1pc: 2ps of 292 kg / m³ (18.91%), (3) Water absorption of foam lightweight concrete bricks with a percentage of lerak foam 30% higher than lerak foam 40%, difference in water absorption in a mixture of 1pc: 1ps of 4.676% and 1pc: 2ps of 2.849%, (4) The maximum compressive strength is 7.7856 MPa in the percentage of lerak foam of 30% with a ratio of 1pc: 1ps.

Keywords : lerak foam, lightweight concrete brick foam, compressive strength, density, water absorption.

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