ABSTRAK

Beton porous merupakan solusi konstruksi ramah lingkungan untuk mengatasi genangan air dan penurunan muka air tanah. Penelitian eksperimental ini bertujuan mengevaluasi pengaruh penambahan *Sikacim Concrete Additive* dengan variasi kadar 0,5%, 0,7%, 0,9%, dan 1,1% terhadap kuat tekan dan porositas beton porous berbasis zeolit alam Pahae. Pengujian dilakukan di Laboratorium FT Unimed dengan mengacu pada standar ACI 522R-10. Hasil penelitian menunjukkan kuat tekan optimum sebesar 2,59 MPa dicapai pada kadar *Sikacim* 0,7%, sementara penambahan kadar 0,9% dan 1,1% justru menurunkan kuat tekan menjadi 2,33 MPa dan 1,55 MPa. Sebaliknya, porositas berbanding terbalik dengan kuat tekan, di mana nilai porositas optimum sebesar 18,82% diperoleh pada kadar *Sikacim* 0,5% (memenuhi standar ACI 522R-10 yaitu 15%–30%). Secara keseluruhan, penambahan *Sikacim* efektif meningkatkan kuat tekan beton porous zeolit, namun dosis penggunaannya harus dikontrol ketat karena kelebihan dosis dapat membuat campuran terlalu encer dan menurunkan kekuatan beton secara drastis.

Kata Kunci: Beton Porous, *Sikacim*, Zeolit Pahae, Kuat Tekan, Porositas.

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ABSTRACT

Pervious concrete is an environmentally friendly construction solution to mitigate water ponding and groundwater depletion. This experimental study aims to evaluate the effect of adding Sikacim Concrete Additive at dosage variations of 0.5%, 0.7%, 0.9%, and 1.1% on the compressive strength and porosity of pervious concrete incorporating Pahae natural zeolite. Testing was conducted at the FT Unimed Laboratory in reference to the ACI 522R-10 standard. The results showed that the optimum compressive strength of 2.59 MPa was achieved at a 0.7% Sikacim dosage, whereas increasing the dosage to 0.9% and 1.1% decreased the compressive strength to 2.33 MPa and 1.55 MPa, respectively. Conversely, porosity was inversely proportional to compressive strength, with the optimum porosity of 18.82% obtained at a 0.5% Sikacim dosage (meeting the ACI 522R-10 standard range of 15%–30%). Overall, the addition of Sikacim is effective in increasing the compressive strength of zeolite-based pervious concrete; however, the dosage must be strictly controlled, as an excessive amount can cause segregation (making the mixture too wet) and drastically reduce concrete strength.

Keywords: *Pervious Concrete, Sikacim, Pahae Zeolite, Compressive Strength, Porosity.*

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