INTISARI

Beton konvensional bersifat kedap air sehingga kuat dan tahan lama, namun sifatnya yang kedap air menyebabkan limpasan permukaan apabila terjadi curah hujan tinggi. Beton porous hadir sebagai salah satu solusi untuk permasalahan tersebut. Beton porous merupakan campuran semen, air, dan agregat kasar tanpa pasir sehingga sifatnya berpori dan berporositas tinggi. Maka dari itu, beton porous juga mendukung pembangunan berkelanjutan. Penelitian ini menganalisis pengaruh variasi ukuran agregat kasar (6,4–4,75 mm dan 6,4–9,5 mm) serta penambahan aditif DIFA (0,5% dan 1,5% dari berat semen) terhadap kuat tekan dan laju *infiltrasi* beton porous. Hasil uji pada benda uji umur 28 hari menunjukkan bahwa penambahan DIFA cenderung menurunkan kuat tekan dan laju *infiltrasi*, baik pada campuran agregat B maupun kombinasi agregat A dan B, dengan kuat tekan tertinggi (57,61 kg/cm²) pada campuran tanpa DIFA dan menurun menjadi 46,35 kg/cm² pada kadar DIFA 1,5%. Penurunan laju *infiltrasi* juga terjadi karena pori-pori lebih terisi, serta agregat berukuran kecil memperlambat *infiltrasi*, sedangkan agregat besar dan seragam meningkatkan aliran air. Secara keseluruhan, penggunaan aditif DIFA dan variasi agregat menurunkan kuat tekan dan laju *infiltrasi* beton porous.

Kata Kunci : Beton porous, DIFA *Stabilizer*, Kuat Tekan, *Infiltrasi*, Variasi Agregat Kasar.

ABSTRACT

Conventional concrete is waterproof, making it strong and durable; however, its waterproof nature causes surface runoff during heavy rainfall. Pervious concrete emerges as one of the solutions to this problem. Pervious concrete is a mixture of cement, water, and coarse aggregates without sand, thus it is porous and has high porosity. Therefore, pervious concrete also supports sustainable development. This research analyzes the effect of variations in coarse aggregate size (6.4–4.75 mm and 6.4–9.5 mm) and the addition of DIFA additive (0.5% and 1.5% of cement weight) on the compressive strength and infiltration rate of porous concrete. Test results on specimens aged 28 days indicate that the addition of DIFA tends to decrease the compressive strength and infiltration rate, in both aggregate mix B and the combination of aggregate A and B, with the highest compressive strength (57.61 kg/cm²) in the mixture without DIFA, decreasing to 46.35 kg/cm² at a DIFA content of 1.5%. The decrease in infiltration rate also occurs due to the pores being more filled, and smaller aggregates slowing down the infiltration, while larger and uniform aggregates enhance water flow. Overall, the use of DIFA additive and aggregate variation reduces the compressive strength and infiltration rate of porous concrete.

Keywords: *Porous concrete, DIFA Stabilizer, Compressive Strength, Infiltration, Coarse Aggregate Variation.*