ABSTRAK

Mia Ovelia Sianturi : Tinjauan Kekuatan *Paving Block* Berpori Menggunakan Material Zeolit sebagai Substitusi Semen. Skripsi. Fakultas Teknik. Universitas Negeri Medan. 2022.

Paving block berpori merupakan jenis *paving block* non pasir yang terbentuk dari komposisi semen, air, zeolit dan agregat kasar. Zeolit adalah komposit alumina silika terhidrasi yang memuat kation atau alkali tanah. Penelitian ini dilakukan untuk mengetahui nilai daya serap air dan laju infiltrasi yang dihasilkan oleh proporsi campuran *paving block* berpori dan untuk mengetahui pengaruh penambahan variasi komposisi zeolit 0%, 0,75%, 1%, 1,25% terhadap kuat tekan *paving block* berpori. Penelitian ini menggunakan metode eksperimen dan pengujian benda uji menggunakan SNI 03-06-1996 dan ACI R-10. Proporsi untuk campuran *paving block* berpori adalah 1 PC : 3 BP, dengan faktor air semen 0,4. Benda uji berjumlah 36 dengan ukuran 5 x 5 x 5 cm untuk pengujian kuat tekan dan 12 benda uji dengan ukuran 20 x 10 x 8 cm untuk pengujian daya serap air dan laju infiltrasi. Pengujian kuat tekan benda uji dilakukan setelah umur 7, 14 dan 28 hari sedangkan pengujian daya serap air dan laju infiltrasi dilakukan setelah umur 21 hari. Berdasarkan hasil analisa data penelitian diperoleh nilai kuat tekan optimum terjadi pada variasi zeolit 1% yaitu 12,69 MPa memenuhi syarat mutu D sehingga bisa digunakan untuk perkerasan taman.

Kata kunci : *Paving block* berpori, Zeolit, Kuat Tekan.

ABSTRACT

Mia Ovelia Sianturi ***: Overview of the Strength of Hollow Block Paving Porous Zeolite as a Cement Substitution. Essay. Faculty of Engineering. Medan State University. 2022.***

Porous paving block is a type of non-sand paving block formed from the composition of cement, water, zeolite and coarse aggregate. Zeolites are hydrated silica alumina composites containing cations or alkaline earths. This research was conducted to determine the value of water absorption and infiltration rate produced by the proportion of the porous paving block mixture and to determine the effect of adding variations in the composition of zeolite 0%, 0.75%, 1%, 1.25% to the compressive strength of porous paving blocks.This research used experimental method and the test object was tested using SNI 03-06-1996 and ACI R-10. The proportion for the porous paving block mixture is 1 PC : 3 BP , with a water cement factor of 0.4. There are 36 specimens with a size of 5 x 5 x 5 cm for testing compressive strength and 12 specimens with a size of 20 x 10 x 8 cm for testing water absorption and infiltration rate. The compressive strength test of the specimens was carried out after the age of 7, 14 and 28 days, while the water absorption and infiltration rate tests were carried out after the age of 21 days. Based on the results of the analysis of research data, it was found that the optimum compressive strength value occurred at 1% zeolite variation, namely 12.69 MPa, which met the quality requirements of D so that it could be used for garden pavements

Keywords : Paving block porous, Zeolite, Compressive Strengthb