

PENGARUH KUAT TEKAN *PAVING BLOCK* DENGAN SUBSTITUSI LIMBAH BUBUT ALUMINIUM PERSENTASE 3%, 5%, DAN 7%

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ABSTRAK

Tujuan penelitian ini untuk mengetahui daya serap air dan kuat tekan bata beton (*paving block*) dengan sistematika limbah aluminium (limbah bubuk) dihaluskan menjadi serbuk lalu dihitung dan dicampurkan sesuai persentase rencana kemudian disubstitusikan ke dalam semen sebagai bahan dari pembuatan *paving block*.

Metode yang digunakan dengan peraturan SNI 03-0690-1996 dengan *mix design* mortar dan pembuatan cetakan *paving block* dengan cara press manual. Pembuatan pembuatan batu beton (*paving block*) ini menggunakan *mix design* mortar dengan substitusi limbah bubuk aluminium sebagai pengganti semen, dengan persentase substitusi 3%, 5% dan 7%. Dari analisis dan perhitungan *paving block* dengan substitusi limbah aluminium presentase 3%, 5% dan 7% didapatkan bata *paving block* dengan tampak yang baik, sedikit kerusakan dan tebal *paving block* sesuai SNI 03-0690-1996 yaitu 6cm dengan toleransi 8%. Kuat tekan maksimal dari hasil pengujian *paving block* normal sebesar 37,05 MPa, kuat tekan maksimal dari hasil pengujian *paving block* sebesar 35,25 MPa dengan presentase substitusi limbah bubuk sebesar 5%. Sedangkan penyerapan air maksimum dari hasil pengujian *paving block* normal sebesar 3.84%, penyerapan air maksimum dari hasil pengujian *paving block* sebesar 3.94%, dengan presentase substitusi limbah bubuk sebesar 5%.

Kata Kunci: Daya Serap Air, Kuat Tekan, Limbah Aluminium, *Paving Block*.

THE EFFECT OF STRONG PAVING BLOCK PRESS WITH ALUMINIUM LATHE WASTE SUBSTITUTION PERCENTAGE 3%, 5%, AND 7%

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ABSTRACT

The purpose of this study was to determine the water absorption and compressive strength of concrete bricks (paving blocks) with aluminium waste systematics (waste lathe) crushed into powder and then calculated and mixed according to the percentage plan then substituted into cement as a material for making paving blocks.

The method used is according to SNI 03-0690-1996 regulations with a mix design mortar and the manufacture of paving block moulds by manual press. The manufacture of concrete blocks (paving blocks) uses a mix design mortar with the substitution of waste aluminium lathe as a substitute for cement, with substitution percentages of 3%, 5% and 7%. From the analysis and calculation of paving blocks with a percentage of aluminium waste substitution of 3%, 5% and 7%, paving blocks with good looks, little damage and thickness of paving blocks according to SNI 03-0690-1996 are 6cm with a tolerance of 8%. The maximum compressive strength from the normal paving block test results is 37.05 MPa, the maximum compressive strength from the paving block test results is 35.25 MPa with a percentage of lathe waste substitution of 5%. While the maximum water absorption from the normal paving block test results is 3.84%, the maximum water absorption from the paving block test results is 3.94%, with the percentage of substitution of lathe waste at 5%.

Keywords: Water Absorption, Compressive Strength, Aluminium Waste, Paving Block.