

ABSTRAK

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Judul : Analisis pengaruh limbah bubuk plastik *polypropylene body* kendaraan sebagai bahan tambah terhadap kuat tekan dan absorpsi *paving block*

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Permasalahan limbah plastik telah menjadi persoalan utama lingkungan saat ini, maka dari itu pada penelitian ini dilakukan pembuatan *paving block* dengan bahan tambah limbah bubuk plastik *polypropylene body* kendaraan dengan tujuan Memperoleh pengaruh limbah bubuk plastik sebagai bahan tambah pada campuran *Paving Block* terhadap kuat tekan dan *Paving Block*, Melihat hasil kuat tekan optimum dan minimum pengujian kuat tekan, dan kuat tekan kubus, Melihat perbandingan antara kuat tekan *block* dan kuat tekan kubus *paving block*, Melihat hasil absorpsi atau penyerapan *paving block*. Pengujian yang dilakukan dalam penelitian ini meliputi pengujian material, pengujian kuat tekan, pengujian kuat tekan kubus dan pengujian absorpsi atau penyerapan *paving block*. Material yang dipakai dalam penelitian ini adalah, abu batu, pasir jilupang, pasir kalimantan, *screening*, bubuk plastik *polypropylene body* kendaraan, semen dan air dengan. Dengan variasi campuran 1%, 2%, 3%, 5% bubuk plastik *polypropylene*. Pengujian material dilakukan di laboratorium bahan bangunan Institut Teknologi Indonesia pembuatan sampel uji dilakukan di pabrik yang berlokasi di Gunung sindur Bogor Jawa Barat. Hasil dari penelitian ini menunjukkan bahwa bubuk plastik *polypropylene body* kendaraan dapat mengurangi kuat tekan *paving block* sebesar 4,42% penurunan tertinggi pada variasi 3% sebesar 7,7%, penurunan terendah pada variasi 5% sebesar 2,6%. Hasil pengujian kuat tekan kubus mengalami penurunan kekuatan sebesar 13,6% penurunan tertinggi variasi 2% sebesar 20,4%, penurunan terendah pada variasi 1% sebesar 5,2%. Perbandingan kekuatan antara kuat tekan *block* dengan kuat tekan kubus menyatakan bahwa kuat tekan kubus mengalami penurunan kekuatan sebesar 39,4%. Pada pengujian absorpsi menunjukkan bahwa penambahan bubuk plastik dapat mengurangi penyerapan sebesar 7,7%.

Kata kunci : *paving block, polypropylene, kuat tekan, kuat tekan kubus, absorpsi penyerapan.*

ABSTRACT

The problem of plastic waste has become a major environmental problem today, therefore in this study, the manufacture of paving blocks with added ingredients of polypropylene body plastic powder waste was carried out with the aim of obtaining the effect of plastic powder waste as an added ingredient in the Paving Block mixture on compressive strength and Paving Block, Seeing the results of the optimum and minimum compressive strength of compressive strength testing, and compressive strength of cubes, Seeing the comparison between the compressive strength of the block and the compressive strength of the paving block cube, Seeing the results of absorption or absorption of paving blocks. The tests carried out in this study include material testing, compressive strength testing, cube compressive strength testing and absorption testing or absorption of paving blocks. The materials used in this research are stone ash, jilupang sand, Kalimantan sand, screening, vehicle body polypropylene plastic powder, cement and water. With a mixture variation of 1%, 2%, 3%, 5% polypropylene plastic powder. Material testing was carried out at the building materials laboratory of the Indonesian Institute of Technology. The manufacture of test samples was carried out at the factory located in Gunung sindur Bogor, West Java. The results of this research show that the vehicle body polypropylene plastic powder can reduce the compressive strength of paving blocks by 4.42%, the highest decrease in the 3% variation by 7.7%, the lowest decrease in the 5% variation by 2.6%. The test results of the compressive strength of the cube decreased in strength by 13.6%, the highest decrease in the 2% variation was 20.4%, the lowest decrease in the 1% variation was 5.2%. Comparison of the strength between the compressive strength of the block and the compressive strength of the cube states that the compressive strength of the cube has decreased by 39.4%. Absorption testing shows that the addition of plastic powder can reduce absorption by 7.7%.

Keywords: *paving block, polypropylene, compressive strength, cube compressive strength, absorption absorption.*