Pengaruh Penambahan Biji Plastik PP Sebagai Pengganti Sebagian Agregat Pada Campuran Laston AC – WC

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ABSTRAK

Indonesia merupakan salah satu negara penghasil sampah plastik terbesar di dunia. Maka dari itu di perlukan pengolahan sampah plastik yang baik agar tidak merusak lingkungan, salah satunya dengan cara mencampurkan sampah plastik yang telah diolah menjadi biji plastik ke dalam campuran aspal beton (Laston). Tujuan dari penelitian ini untuk mengetahui pengaruh dari penambahan biji plastik pada campuran Laston AC – WC. Metode penelitian ini yaitu mengganti sebagian agregat yang tertahan saringan 2.36 mm dengan biji plastik jenis *Polypropylene* (PP) dengan variasi biji plastik PP sebesar 15%, 30%, dan 45%.

Dari hasil pengujian dan analisis *Marshall* pada variasi biji plastik PP sebesar 0% dengan KAO 5.90% didapat nilai VIM, stabilitas, dan *flow* sebesar 4.35%, 1178.17 kg dan 3.45 mm. Pada variasi biji plastik 15% dengan KAO 6% didapat nilai VIM, stabilitas, dan *flow* sebesar 4.55%, 1157.6 kg dan 3.50 mm. Pada variasi biji plastik PP sebesar 30% dengan KAO 6.15% didapat nilai VIM, stabilitas, dan *flow* sebesar 4.63%, 1316.62 kg, dan 3.57 mm. Pada variasi biji plastik PP sebesar 45% dengan KAO 6.2% didapat nilai VIM, stabilitas, dan *flow* sebesar 4.72%, 1222.4 kg, dan 3.60 mm.

Kata Kunci: Laston AC – WC, Biji Plastik PP, Karakteristik *Marshall*

Effect Addition of PP Plastic Pellets as a Substitute Aggregate in the AC-WC Mixture

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ABSTRACT

Indonesia is one of the largest plastic waste producing countries in the world. Therefore, good plastic waste processing is needed so as not to damage the environment, one of which is by mixing plastic waste that has been processed into plastic pellets into the concrete asphalt mixture (Laston). The purpose of this study was to determine the effect of adding plastic pellets to the Laston AC - WC mixture. This research method is to replace some of the aggregate that is held in the 2.36 mm sieve with polypropylene (PP) plastic pellets with variations of PP plastic pellets of 15%, 30%, and 45%.

From the results of Marshall testing and analysis, the variation of PP plastic pellets was 0% with KAO 5.90%, the VIM, stability, and flow values were 4.35%, 1178.17 kg and 3.45 mm. In the variation of 15% plastic pellets with 6% KAO, the VIM, stability, and flow values were obtained at 4.55%, 1157.6 kg and 3.50 mm. In the variation of PP plastic pellets of 30% with KAO 6.15%, the VIM, stability and flow values were 4.63%, 1316.62 kg, and 3.57 mm. In the PP plastic pellet variation of 45% with KAO 6.2%, the VIM, stability, and flow values were 4.72%, 1222.4 kg, and 3.60 mm.

Keywords: Laston AC - WC, PP Plastic Pellets, Marshall Characteristics