

ABSTRAK**Pengaruh *Filler* Serbuk Keramik Dan Gypsum Pada Campuran Ac-Wc Dengan Sistem *Warm Mix* Serta Penambahan Zat *Additive Antistripping Agent*****Oleh: Beny/41116010001****Dosen Pembimbing: Mukhlisya Dewi Ratna Putri, M.T.**

Dengan adanya isu lingkungan dan efek rumah kaca meluas, dampak yang akan diterima menjadi sebuah perhatian. Dengan itu pencampuran *warm mix* diharapkan menjadi jalan tengah antara *hot mix* dan *cold mix* dalam menanggulangi dampak tersebut. Serta penambahan zat *additive antistripping agent* untuk meningkatkan mutu aspal serta daya lekat agregat terhadap aspal dan kedap dengan air serta tahan terhadap cuaca yang sering berganti. Pada perkerasan aspal beton terdiri dari komponen aspal dan agregat yang bisa menimbulkan rongga-rongga pada perkerasan. *filler* sebagai bahan pengisi yang sifatnya halus dan dapat mengisi rongga atau pori. Berdasarkan permasalahan limbah keramik sisa pabrikasi dan limbah gypsum hasil dari PLTU maupun sisa produksi pupuk diindonesia yang memberikan peluang alternative sebagai *filler*. Dengan tujuan untuk memanfaatkan limbah tersebut.

Pada pengujian metode *marshall* ini dilakukan 3 tahap berupa pengujian dengan *filler* semen tanpa zat *additive* untuk nilai KAO, dengan zat *additive* untuk penentuan KAO *additive* dan dengan variasi *filler* serbuk keramik dan serbuk gypsum untuk menghasilkan parameter *marshall*. Pengujian ini dilakukan pada campuran aspal Ac-Wc. Benda uji dilakukan menggunakan kadar aspal 5%, 5.5%, 6%, 6.5%, 7% dan zat additive 0.1%, 0.2%, 0.3%, 0.4%, 0.5%, serta variasi *filler* serbuk keramik dan serbuk gypsum 0;100, 20;80, 50;50, 80;20, 100;0.

Hasil *marshall test* KAO 6.3%, zat additive 0.27%, Pada keseluruhan variasi *filler* pada rendaman 30 menit dan 60 menit diperoleh nilai VMA, Stabilitas, Kelelehan dan MQ yang memenuhi syarat sedangkan nilai VIM dan VFA tidak memenuhi syarat. Serta Hasil IKS keseluruhan variasi *filler* memenuhi syarat.

Kata Kunci: *Ac-Wc, Warm Mix, Zat Additive Antistripping Agent, Filler, Keramik, Gypsum, KAO, Marshall Test, VIM, VMA, VFA, Stabilitas, Kelelehan, MQ.*

ABSTRACT***Effect of Ceramic and Gypsum Filler on Ac-Wc Mixture with Warm Mix System and Addition of Additive Antistripping Agent******By: Beny/41116010001******Counselor: Mukhlisya Dewi Ratna Putri, M.T.***

As environmental issues and the greenhouse effect are widespread, the impact that will be received is a concern. With that, warm mix mixing is expected to be a middle way between hot mix and cold mix in overcoming this impact. As well as the addition of an additive antistripping agent to improve the quality of the asphalt and the adhesion of the aggregate to asphalt and impermeable to water and to withstand the changing weather. On asphalt concrete pavement consists of asphalt and aggregate components which can cause cavities on the pavement. filler as a filler which is fine and can fill in cavities or pores. Based on the problem of ceramic waste from manufacturing residues and gypsum waste from PLTU and residual fertilizer production in Indonesia, it provides alternative opportunities as fillers. With the aim of utilizing this waste.

In testing the Marshall method, it was carried out in 3 stages, in the form of testing with cement fillers without additives for the value of KAO, with additives for the determination of KAO additives and with variations in the filler of ceramic powder and gypsum powder to produce Marshall parameters. This test was carried out on the Ac-Wc asphalt mixture. Test specimens were carried out using asphalt levels of 5%, 5.5%, 6%, 6.5%, 7% and additives 0.1%, 0.2%, 0.3%, 0.4%, 0.5%, as well as variations of filler ceramic powder and gypsum powder 0; 100, 20; 80, 50; 50, 80; 20, 100; 0.

The results of the KAO marshall test were 6.3%, the additive was 0.27%. In the overall variation of the fillers in the 30 minute and 60 minute immersion, the VMA, Stability, Melting and MQ values were obtained that met the requirements, while the VIM and VFA values did not meet the requirements. As well as the IKS results all filler variations meet the requirements.

Keywords: *Ac-Wc, Warm Mix, Additive Antistripping Agent, Filler, Ceramics, Gypsum, KAO, Marshall Test, VIM, VMA, VFA, Stability, Flow, MQ.*