

# **Analisis Pemanfaatan Limbah Abu Cangkang Sawit Terhadap Karakteristik Campuran Aspal Beton Lapis Aus (AC-WC) Menggunakan Aspal Modifikasi Polimer**

Solehan Andika

---

## **INTISARI**

Mobilitas penduduk Indonesia terus meningkat. Diperlukan peningkatan kualitas maupun kuantitas perkerasan jalan untuk memenuhi kebutuhan masyarakat. Limbah abu sawit menjadi limbah potensial di beberapa daerah dan salah satunya adalah Provinsi Banten.

Penelitian ini bertujuan untuk mengetahui pengaruh pemanfaatan limbah abu sawit terhadap karakteristik aspal beton lapis aus (AC-WC) dalam pengujian *Marshall* dengan kadar aspal 5%, 5,5%, 6%, 6,5% dan 7% menggunakan aspal polimer starbit e-55. Variasi kadar *filler* abu sawit yang digunakan yaitu 3%, 4%, 5% dan 6%.

Hasil yang didapatkan dari penelitian ini menunjukkan bahwa penambahan limbah abu sawit sebagai *filler* dapat meningkatkan stabilitas hanya pada kadar *filler* 3%. Namun stabilitas terus mengalami penurunan pada kadar *filler* 4%, 5%, dan 6%. Pada benda uji tanpa penambahan *filler* abu sawit didapat stabilitas tertinggi yaitu 2358,4 kg pada kadar aspal 6,5%. Sedangkan benda uji dengan penambahan *filler* abu sawit 3% memiliki stabilitas sebesar 2503,03 kg pada kadar aspal 6,5%. Untuk nilai Flow pada benda uji terus mengalami penurunan seiring dengan meningkatnya penambahan *filler* abu sawit. Nilai flow terendah sebesar 2,1 pada penambahan *filler* abu sawit sebesar 6% dengan kadar aspal 5%.

Kata kunci : AC-WC, Aspal Polimer, Abu Sawit, Karakteristik *Marshall*

# **Analysis of Utilization of Palm Oil Ash Waste Against the Characteristics of Asphalt Concrete Wearing Course Using Modified Polymer Asphalt**

Solehan Andika

---

## **ABSTRACT**

Indonesia's population mobility continues to increase. It is necessary to increase the quality and quantity of pavement to meet the needs of the community. Palm oil ash waste is a potential waste in several regions and one of them is Banten Province.

This study aims to determine the effect of utilization of palm ash waste on the characteristics of wear-coated asphalt concrete (AC-WC) in Marshall testing with asphalt content of 5%, 5.5%, 6%, 6.5% and 7% using starbit e polymer asphalt -55. Variations in palm oil ash filler levels used were 3%, 4%, 5% and 6%.

The results obtained from this study indicate that the addition of palm oil ash waste as a filler can increase stability only at 3% filler levels. However, stability continued to decline at filler levels of 4%, 5%, and 6%. In the specimen without the addition of palm oil ash filler the highest stability was obtained at 2358.4 kg at asphalt content of 6.5%. While the specimen with the addition of 3% palm oil ash filler has a stability of 2503.03 kg at asphalt content of 6.5%. For the value of flow in the test object continues to decrease along with the increase in the addition of palm ash filler. The lowest flow value is 2.1 at the addition of 6% palm ash filler with 5% asphalt content.

**Keyword :** *AC-WC, Polymer Asphalt, Palm Oil Ash, Marshall Characteristic*