Dampak perubahan suhu terhadap nilai modulus resilien dan ketahanan dari pengaruh perendaman pada aspal campuran panas dengan variasi penambahan crumb rubber = The impact of temperature change on resilient modulus value and its endurance from immersion impact on hot mix asphalt with additional crumb rubber variation

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Abstrak

Tujuan dari penelitian ini adalah untuk mengetahui kinerja laboratorium campuran beraspal Asphalt Concrete Wearing Course AC-WC menggunakan bahan tambah serbuk ban bekas crumb rubber sebanyak 5, 10, dan 15. Hasil analisa Marshall menunjukkan peningkatan Kadar Aspal Optimum seiring dengan bertambahnya crumb rubber. Nilai stabilitas Marshall terbesar pada penambahan 5 crumb rubber yaitu 1287 kg. Pengujian perendaman Marshall menunjukkan bahwa Indeks Kekuatan Sisa IKS terbesar yaitu 93,91. Hasil pengujian Modulus Resilien menggunakan UMATTA menunjukkan nilai Modulus Resilien terbesar pada penambahan 5 crumb rubber yaitu 2656 MPa pada suhu 25°C, dan nilai Modulus Resiliennya mengalami penurunan sebesar 21,01 akibat perendaman.

.....The aim of this research is to investigate the performance of lab mix Asphalt Concrete Wearing Course AC WC using 5, 10, and 15 crumb rubber as additional material. The result of Marshall analysis showed that optimum asphalt level was increasing along with the increasing of crumb rubber. The highest Marshall stability value of 1287 kg was found on 5 additional crumb rubber. Marshall immersion value showed that the highest residual strength index was 93,91. The results of Resilient Modulus testing using UMATTA showed that the highest Resilient Modulus on 5 additional crumb rubber was 2656 MPa on 25°C temperature, and its Resilient Modulus value was decreasing up to 21,01 because of the immersion.