

Uji marshall pada campuran panas polimer sbr terhadap beton aspal antara agregat dengan aspal konvensional non lokal = Marshall test in hotmix sbr polymer against concrete asphalt between aggregate with non local conventional asphalt

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Abstrak

Telah dilakukan penelitian mengenai Polimer SBR untuk mengetahui pengaruhnya terhadap hotmix menggunakan Aspal Non-lokal (Esso). Agregat yang tercampur dengan komposisi optimum, dipanaskan hingga suhu 150oC lalu dicampurkan dengan Aspal, kemudian diaduk. Saat suhu turun hingga 80oC, Polimer SBR dimasukkan ke dalam hotmix dan diaduk kembali. Setelah itu, dimasukkan ke dalam cetakan dan dilakukan pemadatan 2x75 kali tumbukan hingga dilakukan pengujian Marshall.

Hasil pengujian Marshall yang mencampurkan hotmix dengan Polimer SBR dengan komposisi 1% dan 2% variasi 1:0, 1:1, 1:3, dan 1:6, yakni nilai Stabilitas berada antara 200-350 Kg, nilai Kelelahan berada antara 4,8-5,8 mm, VIM berada antara 11-18 %, VMA berada antara 18-24 %, dan nilai MQ berada antara 30-107 Kg/mm. Polimer SBR ini terlihat berpengaruh pada hotmix terhadap peningkatan kelelahan, namun stabilitas justru menurun. Hal ini karena Polimer SBR bersifat merekat, yang akan memberikan kelenturan yang lebih baik.

.....This work has been performed to evaluate the influence of SBR Polymer on asphalt hotmix using imported asphalt, so called ESSO asphalt. Using technical standard compositions of aggregates and Esso asphalt were heated separately until 150oC and then mixed together until the homogeneity reached.

Following this mixtured procedure, this materials were cooled in air until the temperature reached to 80oC and then compacted for Marshall test. The SBR Polymer composition were variated by persentage 1% and 2% and by ration between SBR Polymer and water of 1:0, 1:1, 1:3 and 1:6 were compacted using Proctor standard procedure.

The Mashall test shows the results: stability between 200-350 Kg, flow between 4.8-5.8 mm, VIM between 11-18 %, VMA between 18-24 %, and MQ value between 30-107 Kg/mm. The work concluded that the influence of SBR Polymer addition on Esso asphalt hotmix shows the increasing of the flow but decreases the stability due to the adhesive properties of the SBR polymer and therefore increase the ductility of the asphalt concrete.