

ABSTRACT

Transportation has an important role in supporting activities in developing countries. Tenggarong is a district and capital city of Kutai Kartanegara district of East Kalimantan which has a potential area and continues to grow with an area of 398.10 km². Several roads in Tenggarong City, which are mostly located adjacent to the Mahakam river, have problems with mahakam river water that mostly caused by tidal floods that inundate road construction. Asphalt Concrete -Wearing Course (AC-WC) is a waterproof and weatherproof layer. The purpose of this research is to know the influence of Mahakam River water immersion to AC-WC mixture with Asphalt Pen 60/70 asphalt and Starbit E-60 asphalt.

This research was conducted with 4 step, that is first stage determining KAO using Pen 60/70 asphalt and Starbit E-60 asphalt. The second step is to simulate the immersion of sample specimens against the Mahakam river water with a predetermined time of 0 hours, 24 hours, 48 hours, and 72 hours. The third step is to test Marshall Standard, Immersion testing, Indirect Tensile Strength Testing, and Cantabro Loss testing at KAO. The fourth step is to do the analyst for the conclusion.

Marshall characteristic test results are significantly decreased value of Stability, Flow, and Marshall Quotient (MQ) as the duration of the immersion increases. The Index of Retained Strength score showed significant difference of 3.72% on Pen 60/70 asphalt and 2.28% on Starbit E-60 asphalt. Indirect Tensile Strength values decreased by 34.92% on Pen 60/70 and 32.01% asphalt on Starbit E-60 asphalt. Cantabro value increased significantly by 64.55% on asphalt Pen 60/70 and 54,81% on Starbit E-60 asphalt. Overall, the conclusions obtained are a mixture of asphalt concrete with Starbit E-60 is more resistant to Mahakam river water bath than mixed with Pen 60/70.

Key Word : AC-WC, Mahakam River, Marshall, Immersion, Indirect Tensile Strength, dan Cantabro.