

# **An Investigation of Asphaltic Concrete Mix (ACW 14) with Addition of Natural Rubber**

Prepared by: Low Jin Yan

## **ABSTRACT**

---

Asphaltic concrete is commonly known as pavement but in engineering term it is often called bituminous mixture or bituminous asphalt concrete. There are several methods been used to mixed asphalt and aggregate such as hot mix asphalt concrete, warm mix asphalt concrete and cold mix asphalt concrete. The different types of asphaltic concrete contain different characteristics in terms of braking efficiency, roadway noise, permeability and durability.

The main objective of methodology is to investigate the effect on hot mix asphaltic concrete (ACW 14) after the adding of natural rubber into it. It will discuss about all the procedures and laboratory methods that were used in this research. All the laboratory works were carried out according to Malaysia Road Works specifications of JKR/SPJ/rev2008, American Association of state highway and Transportation Officials (AASHTO) and American Society for Testing and Materials (ASTM) at INTI International University Highway and Traffic Engineering laboratory.

From the data obtained we can find out that mixture for 6% bitumen content with additional of 6% natural rubber meets almost all the requirement of specification stated in JKR/SPJ/rev2008 except for the VTM which supposed to be in the range of 3%-5% but the value is 5.02 which slightly over the maximum limit.

In conclusion, the addition of natural rubber into asphaltic concrete mix is suitable as it can improve the pavement's resistance of bleeding, reduce cracking due to low temperature and reduce rutting due to high stiffness.