ABSTRACT

THE EFFECT OF THE COMPACTION TEMPERATURE VARIETY ON THE VALUE OF *MARSHALL* STABILITY ON *LASTON* (AC-WC)

By

Serli Carlina

The increasing of the traffic as the central public transportation must be served and supported by a quality road infrastructure so that the traffic will be safe and comfortable.

This research was conducted to determine the effect of compaction temperature variety on *Marshall Stability* values to the *Asphalt Concrete Wearing Course (AC-WC)* with the hard grading on the upper and middle limits refers to the specifications of Highways in 2010. Based on the experimental results the optimum bitumen content values were used for the upper limit was 6,65% for the substance of the asphalt and the middle limit was 6,45%. After that, the substance will be compacted by the temperature 100ºC, 115ºC, 130ºC, 145ºC and 160ºC.

From the results of the analysis showed that the upper limit and the middle limit met up the specifications on the compaction temperature 145ºC and 160ºC because the value of stability, VMA, VIM, flow, VFA, and MQ have fulfilled the standard. Meanwhile, the temperature of 100ºC, 115ºC and 130ºC does not met up with the specifications. It caused by the values of MQ followed the conditions of *flow* and *stability* of VIM value, the more increase of the compaction temperature, the lower VIM value will be at the same time the hot asphalt substance which has made will be easier to envelope the aggregate. The other hand, the low compaction temperature asphalt will be hard to envelope the aggregate asphalt. So, those cannot be mixing homogeneously.

Keywords: Temperature, *Asphalt Concrete Wearing Course (AC-WC),* Specification of Highways in 2010.