ABSTRACT

THE IMPACT OF ADDING A LAYER OF POLYETHYLENE TEREPTHALATE IN A MIXTURE OF AC-BC IN TERMS OF AGGREGATE GRADATION UPPER AND MIDDLE ORDER TO INCREASE THE VALUE OF STABILITY

By

KIKI LOLITA SARI

With increasing mobility requires the provision of infrastructure that is safe, convenient, and efficient. However, with the increasing need for the amount of asphalt is difficult to be met by Pertamina emphasis will demand the use of bitumen by improving the quality of asphalt. Improving the quality of asphalt is done by providing additional material such as polyethylene terepthalate type of polymer material which is kind of usual inorganic waste we produce in our daily life.

This study was conducted by reviewing the impact of addition a layer of polyethylene terepthalate in a mixture of AC-BC on aggregate gradation upper limit for the test object group 1 and the central limit for the test object group 2. Next, calculate the optimum bitumen content and continued with the manufacture of test specimens to determine the optimum bitumen content after analysis process by perfoming the measurement process, weighing process, and testing with a marshall test.

From the analysis results obtained value of the optimum bitumen content that meets the requirement sixth criteria for both groups of test specimens of asphalt mixture according to specifications clan Bina Marga 2010 are 6,44%. After that, followed the variation with the addition of polyethylene terepthalate grading percent 1 %, 3 %, 5 %, 7 %, 9 %, calculated on the weight of the asphalt. From process of analyzing the result of the test, measurement, and the calculation, the addition of 3 % which is the most optimum value in terms of the stability of the highest, and meets the specification requirements of existing 6.

Keywords: Polyethylene Terepthalate, Asphalt Concrete-Binder Course (AC-BC), Increase value of stability, Specifications 2010.