

# UTILIZATION OF SPEN BLEACHING EARTH WASTE AS A REPLACEMENT FOR PART OF THE FILLER ON LASTON AC-BC ASPHALT

Name : Sarah Desniarti Silalahi  
Student ID Number : 4103191254  
Advisor : Lizar, M.T

## ABSTRACT

SBE is a non-B3 solid waste from the palm oil refining process which is also found in other purified vegetable oils. In Indonesia, there are 65 cooking oil processing industries with a total production capacity of 9.9 million tons / year. If around 40% of the total cooking oil production capacity uses SBE as an absorbent with a dose of about 1% CPO weight, then SBE is produced as much as 1.18 million tons / month. On the other hand, SBE contains The compound SiO<sub>2</sub> (silica dust) is one of the constituent materials for portland cement, so it is necessary to conduct research on the processing and utilization of SBE waste as an asphalt mixture material so that SBE waste can be reduced in existence so as to reduce environmental pollution. This study aims to analyze the ideal percentage of SBE that can be used to replace stone ash, so that this SBE waste can be used in the AC-BC layer asphalt mixture. The specifications in the implementation of this test refer to the general specifications of Bina Marga 2018. Compaction of the test object was carried out 2×50 impacts assuming that the test in the designation was on medium traffic. Before testing the characteristics of the concrete asphalt mixture is carried out, first test the characteristics of the base material and determine the Optimum Asphalt Content (KAO). The results of this study showed that the Optimum Asphalt Content (KAO) was 5.6%, after obtaining KAO, the next was carried out the manufacture and testing of test objects with SBE variations was 20%, 22%, 24%, 26% and 28%, changes in each variation in SBE levels were obtained the most effective variations used as a substitute for stone ash, namely in variations of 24% SBE because in this variation the overall marshall characteristics met specifications with stability values = 1,165.18 kg, flow= 3.90mm, VMA= 23.44%, VIM= 4.63%, VFA= 80.25% and MQ= 300.13kg/mm

**Keywords: AC-BC, SBE, Marshall characteristics**