

ABSTRACT

SAMUEL RICARDO BENTO. *The Effect of Marble Powder Usage as A Filler for Asphalt Concrete Wearing Course Towards Marshall's Parameter*, Thesis, Jakarta: Civil Engineering, faculty of engineering, State University of Jakarta, January 2016.

Along with the rise of the traffic volume which causes road damage due to heavy load and humidity, there must be an improvement to the quality of the road, such as replacing the road material with a new material which is a waste that can't be used again. This research uses marble powder waste as a filler in Laston napless layer compound. The aim of this research is to examine if there is a difference between asphalt concrete that uses marble powder as its filler and asphalt concrete that uses cement as its filler in Marshall's parameter.

This research uses experimental method that examines Marshall parameter on five variations of asphalt level, which are 4%, 5%, 6%, 7% and 8% with 6 (six) samples of specimen on each variation.

Marshall method resulting the maximum asphalt level at 6% percentage with it's stability value which is 819,791 kilograms, flow value 3 milimeters, Void in Mineral Aggregates (VMA) value 19,037%, Void Filled with Bitumen (VFB) value 69,624%, Void In the Mix (VIM) value 5,056% and Marshall Quotient (MQ) value 275,904. Based on the result of this research, it can be concluded that the marble powder can be used as a filler in Laston napless layer compound for heavy traffic class with 6% of asphalt level.

Keyword: *Marble powder, Laston AC-WC, Marshall Parameter, Filler*