Thanradee Kortangsumpan 2009: Cold Mix Pavement Recycling with Asphalt Emulsion. Master of Engineering (Civil Engineering), Major Field: Civil Engineering, Department of Civil Engineering. Thesis Advisor: Associate Professor Piphat Sornwong, M.Eng. 143 pages.

The purpose of the research, cold mix pavement recycling with asphalt emulsion between emulsified asphalt type CMS-2 and CSS-1, That to be informed the property of old pavement, to compare between old and improve of pavement and design old pavement to recycling with asphalt emulsion to use in the work of highway engineering. This research use the pavement from Nakhonrachasima-Chaiyaphoom at sta. 183+000 and then the old pavement is mixed by emulsified asphalt type CMS-2 and CSS-1 at mix ratio are 0:100, 25:75, 50:50, 75:25 and 100:0. After that to be test engineering property in the laboratory such as; Unconfined compressive test, Indirect tensile test and Resilient Modulus by the dry density of sample are 90, 95 and 100 percent by maximum density. The sample test in soak condition, unsoak condition and at 40 celcious degree of temperature.

The result of Unconfined compressive test the mix ratio of old pavement aggregate with CMS-1 is 50:50 and CSS-2 is 25:75 have the highest compressive strength. The highest Indirect tensile strength of emulsified asphalt type CMS-1 is mix ratio 100:0 and emulsified asphalt type CSS-2 is mix ratio 75:25. Then the Resilient Modulus in soak condition higher than unsoak condition but the Resilient Modulus at 40 celcious degree of temperature is decrease.

The conclusion of research, the property of engineering while the same mix ratio that to cement with emulsified asphalt type CMS-1 is better than emulsified asphalt type CSS-2.

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