

Thesis Title	The Stress-Strain and Strength Characteristic of Rice Husk Ash Stabilized with Sand and Cement
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Abstract

The objective of this research is to study the characteristics of stress-strain and strength of rice husk ash stabilized with sand and cement. Rice Husk Ash was mixed with sand at the proportions of 100:0, 90:10, 80:20, 70:30 and 60:40 and with cement at the percentage of 0, 3, 5, 7 and 9 by weight of dry soil and statically compacted in the mold to have a unit weight required. Then, the specimens were tested by Direct Shear Test Method following ASTM D 3080 to determine the shear strength parameters (cohesion and angle of internal friction) after curing for different periods of time.

The test result shows that cohesion and angle of internal friction of rice husk ash (RHA) are 0.330 ksc. and 45 degree or so, respectively. The cohesion of RHA mixed with cement trends to increase with increasing of sand and cement proportion. The RHA-Sand proportion of 60:40 gives the highest cohesion 3.818 ksc. when it was mixed with cement content of 9 percent. The angle of internal friction of RHA trend to increase when it is mixed with cement but the angle of internal friction do not show the trend of obvious increase with cement content. The angle of internal friction of every proportion of RHA mixed with sand and cement are in range of 47-50 degree. For strain, the test results show that RHA mixed with sand at proportion of 100:0, 90:10 and 80:20 have strain at failure that show the trend of decrease with cement content. But at proportion of 70:30 and 60:40, the strain at failure show the trend of increase with cement content. For compaction test, the test result shows that Maximum Dry

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Density(MDD) of RHA are 0.725 T/m^3 and when it was mixed with sand at the proportion of 60:40, it gives the highest of MDD of 1.015 T/m^3 .

Keywords : Rice Husk Ash / Cement Stabilization / Light weight Materials