

## ABSTRACT

*The recent news about an upcoming cement shortage and increasing production of green house gases had alerted every country in the world to help contribute solving these problems. For this reason, the idea of testing soils and assessing which of the varying percentages of clay and sand will be the best for stabilized rammed earth construction in the Philippines in terms of its compressive strength and total cost analysis.*

*Five 6 inches diameter by 12 inches height stabilized rammed earth cylinder with different proportions of sand and clay for the mixture of soil, water and cement were made and tested at the Cavite Testing Center. The soil passed Sieve No. 4 in accordance to the ASTM D698 while the 300 psi minimum compressive strength of the specimen was based from the ASTM C39. The optimum water content for each stabilized rammed earth mixture was also obtained. Miniature walls with five types of mixtures having a 500x200x300mm dimensions were prepared for aesthetics observation. Cost estimates of a standard one-storey residential building using the conventional method and the rammed earth method was prepared for labor and materials cost comparison.*

*In conclusion, the samples having 30% clay and 70% sand obtained the highest compressive strength, having an average of 450 Psi (3.1 MPa). Its optimum water content is 12.2% of the total amount of the mixture. The stabilized rammed earth method is more beneficial for the target consumers, as the cost will be 46.93% lower if it is the method used. This type of construction method can help the earth by decreasing the consumption of cement which generates Carbon Dioxide during its production.*