

Effect of Marble Dust and Banana Peel Powder in Strength Improvement of Clayey Soil

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Abstract: *Effect of industrial and agricultural waste has been increasing day by day also the cost of products using for significant soil stabilization. To avoid the failures in in engineering structures soil must be stabilized to required amount, especially weak soil like clayey soil. Changes in soil properties by chemical and physical means in order to enhance the engineering properties of soil. Construction on clayey soil is challenging and cost hiking procedure. This research paper mainly focus on the stabilization of medium clay using waste marble dust and banana peel powder. Marble dust (MD) is one of the harmful waste product formed due to the industrial application of marble stone cutting and polishing. Peel from the banana can cause lots of pollution in air and water in its unprocessed form. Marble dust contains lime, calcium, silica elements and banana peel contain potassium, calcium elements which impart the strength of soil. Consumption of food and its waste generation is increased day by day Marble dust is added in 2%, 4%, 6%, 8%, 10%, 12%, 14%, and 16% by the weight of sample and Banana peel powder (BPP) is added by 1%, 2%, 3%, 4%, 5%, 6%, 7% and 8% by the weight of soil. Studies of index and engineering properties of each sample and mixture is carried out. Settlement analysis of each sample is carried out using plate load test. A comparative study is conducted to evaluate the effect of marble and banana peel powder in the clay.*

Keywords: Banana Peel Powder, Marble Dust, Clayey soil, Steel tank, Steel Plate

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