

# **EFFECT OF EGG SHELL POWDER AND STONE DUST ON CBR VALUE AND SHEAR PARAMETERS OF CLAYEY SOIL.**

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## **ABSTRACT**

Industrialization and rapid growth in population cause generation of large quantities of solid wastes. Accumulation of huge solid waste is a dramatic problem faced by the whole world as well as this huge waste require large area of land to disposal. All these bulk wastes from industrial domestic actives are discharged either treated or without treated over the ground which may lead to change in properties of soil causing improvement of degradation of engineering behavior of soil. If there is improvement in engineering properties then it is a value addition to the solid waste as this will help in safe disposal of effluent, using as a stabilizer and return income. Based on the feasibility, suitability Engineers try to utilize the solid waste materials in civil engineering construction. The main intention of the proposed study is to examine the suitability of solid waste such as Egg Shell in the process of soil stabilization so that it can replace the conventional industrial Lime. The properties of Egg shells is very much similar to the industrial lime so it can be a good replacement of industrial lime. The influence of ESP on clay was observed through a series of laboratory tests such as Standard proctor Test, California bearing ratio test and direct shear test. From the experimental work it is revealed that inclusion of ESP in the soil considerable improves the CBR value and increase the angle of internal friction of the soil. For experimental work soil sample was collected from village Majra, Mohali and egg shells collected from local food joints. Soil samples were prepared at maximum dry density corresponding to its optimum moisture content in the CBR mould with and without ESP. The percentage of ESP by dry weight of soil was taken as 2, 4,6,8,12,16 and 20 %. The percentage of stone dust used was 10, 20 and 30 %. The CBR values of virgin soil, soil mixed with ESP and SD were determined. Both ESP and SD improve the CBR

value of clay soil during the experimental work. Angle of internal friction is also increased with increase of ESP and SD.