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A Study On Permeability Properties Of Soil Using E-Waste

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Abstract : Soil is considered by the engineer as a complex material and is formed by the disintegration of rocks due to physical, chemical and biological weathering .Soil particles consists of a mixture of mineral particles , organic matters ,air and liquids . Soils are different types based on the colour, profile, texture, composition and properties. Based on the properties of the soil it is classified as coarse gravel, fine gravel sand silt and clay ¹. This Classification helps to identify the types of soil and its properties in regard to construction purpose. E-waste represent the discarded electrical electronic waste which have reached their end- of- life period. India has generated 0.6 million tons of e-waste in 2014 which may increases to 1.85 million tons by 2015- 2016². Just 2.5% of total e-waste is recycled and the remaining wastes are disposed either by incineration or dumping. Permeability is the property of soil which represents ability to transmit the fluid through the porous medium. It is the soil characteristics that governs the rate of air and water movement. The objective of present study is to find the feasibility of using e-waste in soil to enhance the permeability. The properties of low permeability soils are replaced by non-recycle able e-waste through various percentage up to 20%.

Keywords : Soil, E-waste, Permeability.

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