



**GEOTECHNICAL TESTING REPORT  
ON STABILIZED SOIL CORE SAMPLES**

**CONSULTANCY SERVICES**

**GEOTECHNICAL ENGINEERING DIVISION**

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*Job No. 3380/D*

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## **INTRODUCTION**

M/S Vishwa Samudra Engineering private Limited, Nellore with their technical partners M/S Avani Ecoprojects Private Limited, Hyderabad have executed using recycling technology at different locations like Krishnapatnam in Nellore district, from NTR Marg between Telugu talli flyover to Necklace Road circle towards lake and also from Unani Hospital, Moula-Ali to NCL Apartments, Moula-Ali using an additive with brand name of StabilRoad. In this connection Sri Srinivas Vallabhaneni, Director of Avani Ecoprojects Private Limited, Hyderabad has requested the Geotechnical Engineering Division of National Institute of Technology – Warangal to test the influence of Stabilroad technology on the unconfined compressive strength of locally available murrum soil on the compressive strength of the stabilized soil samples.

**Preparation of Test Specimens:** In order to understand the influence of Stabilroad technology on the unconfined compressive strength of locally available murrum soil, the laboratory testing is carried out. The properties of murrum soil are presented in Table-1.

**Table-1 Properties of Soil used for the study**

S.No.	Property	Value
1.	Grain size Distribution	
	Gravel (%)	16
	Sand (%)	70
	Silt + Clay (%)	14
2.	Atterberg Limits	
	Liquid limit (%)	30
	Plastic limit (%)	15
3.	IS Classification	SC
4.	Compaction Properties	
	Optimum Moisture Content (%)	11
	Maximum Dry Density(g/cc)	1.88
5	California Bearing Ratio	
	Unsoaked (%)	16.05
	Soaked (%)	8.5

The mix proportion that is used in the preparation of the soil is as follows

Cement @ 10% by weight of soil and stabilroad @ 0.4% by weight of soil

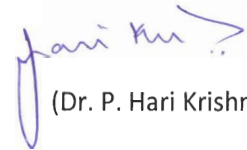
The test specimens of 38 mm diameter and 76 mm height are prepared and cured in a desiccator by sealing them in polythene bags. These specimens are tested at 7 days, 14 days and 28 days curing period.

**OBSERVATIONS:**

The average compressive strength of 3 test specimens at each curing period is as below:

Unconfined compressive strength	@ 7 days curing period	= 18.0 kg/cm <sup>2</sup>
	@ 14 days curing period	= 34.2 kg/cm <sup>2</sup>
	@ 28 days curing period	= 71.1 kg/cm <sup>2</sup>

The water absorption of these specimens is ranging from 11% to 15%.



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