



SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution



Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A+' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF CIVIL ENGINEERING

19CEB301- SOIL MECHANICS

III YEAR V SEM

UNIT 1 – INTRODUCTION

Topic 5 : SOIL CLASSIFICATION





CLASSIFICATION OF SOILS



SOIL	GROUP SYMBOL	TYPICAL NAMES
Gravel	GW	Well graded Gravel
	GP	Poorly graded Gravel
	GM	<u>Silty</u> Gravel
	GC	Clayey Gravel
Sand	SW	Well graded Sand
	SP	Poorly graded Sand
	SM	<u>Silty</u> Sand
	SC	Clayey Sand
Silt	ML	Low Plastic Silt
	MH	High Plastic Silt
Clay	CL	Low Plastic Clay
	CH	High Plastic Clay
Organic Clay	OL	Low Plastic Organic Clay
	OH	High Plastic Organic Clay



IS CLASSIFICATION SYSTEM



	0.0002	0.006	0.02	0.06	0.2	0.6	2.0 mm	
Clay (Size)	Fine	Med.	Coarse	Fine	Med.	Coarse	Gravel	
(Colloids)	Silt (Size)			Sand				

(c) M.I.T. Classification

	0.002 mm	0.075	0.425	2	4.75	20	80	300	
Clay (Size)	Silt (Size)	Fine	Med.	Coarse	Fine	Coarse	Cobble	Boulder	
		Sand			Gravel				

(d) I.S. Classification (IS : 1498-1970)

GRAIN-SIZE CLASSIFICATION SCALES.



BASED ON LIQUID LIMIT



If the Point Plot

Below A-Line

Above A-Line

WL < 35%

ML or OL

CL

WL 35% to 50%

MI or OI

CI

WL > 50%

MH or OH

CH



ASSESSMENT



- ❖ Into how many types soil is classified as per IS Code ?
- ❖ When is dual classification adopted ?
- ❖ How will you classify soil based on liquid limit ?



REFERENCES



- ❖ Coduto, D.P., “Geotechnical Engineering Principles and Practices”, Prentice Hall of India Private Limited, New Delhi, 2002
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- ❖ Das, B.M, “Principles of Geotechnical Engineering”, (fifth edition), Thomas Books/ cole, 2002



THANK YOU