

RELATIONSHIP BETWEEN COMPECTIVE EFFORT, HYDRAULIC CONDUCTIVITY AND SHEAR STRENGTH OF COMPECTED SOILS

Major Project - II

Submitted in fulfilment of the requirement
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Submitted By:

Abhinava Singh

(University Roll No: 01/GTE/2010)

Under the Guidance of

Prof. A.K. Gupta

(Professor & Head, Deptt. of Civil Engg.)

&

Prof. Kongan Aryan

(Assistant Professor)



DEPARTMENT OF CIVIL ENGINEERING
DELHI TECHNOLOGICAL UNIVERSITY
(Formerly Delhi College of Engineering)

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Certificate

This is declare that the major project - II entitled “**Relationship between Compective Effort, Hydraulic Conductivity and Shear Strength of Compacted soils**” is a bonafide record of work done by me for partial fulfilment of award of degree in M. Tech Civil Engineering (Geotechnical Engineering) at Delhi Technological University (Formerly Delhi college of Engineering), Delhi.

This project has been carried out under the supervision of **Prof. A.K. Gupta, & Prof. Kongan Aryan**, Department of Civil Engineering, Delhi Technological University (Formerly Delhi College of Engineering), Delhi.

The work embodied in this major project has not been submitted to any other Institute/University for the award of any other Degree or Diploma.

(ABHINAVA SINGH)
University Roll No: 01/GTE/2010

(Prof. A.K. Gupta)
Department of Civil Engineering
Delhi Technological University,
(Formerly Delhi College of Engineering),
Delhi.

(Prof. Kongan Aryan)
Department of Civil Engineering
Delhi Technological University,
(Formerly Delhi College of Engineering),
Delhi.

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(ABHINAVA SINGH)

Roll No: 01/GTE/2010

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LIST OF SYMBOLS

A = Area of Specimen
A₀ = Area of cross section
A` = Corrected area
c = Cohesion of soil
C= Hazen's empirical coefficient
C_w= Undrained shear strength of compacted soil in the SPT
C_{opt} = Undrained shear strength at w_{opt}
D₁₀ = Diameter of the 10 percentile grain size of material
E = Work done
h = Hydraulic head,
H = Rammer Height
K=Hydraulic conductivity
L = Length of soil
L₀ = Initial length of soil
LL = Liquid limit
N_B = Number of blows per layer
N_L = Number of layers
P = Axial force
PI = Plasticity index
PL = Plastic limit
q_u = Unconfined compressive strength
Q = Volume of Water
s_u= Undrained shear strength
u = Pore water pressure
V_m = Volume of mould
V = Volume of compacted soil
w = Moisture content
W = Weight of soil

LIST OF SYMBOLS

W_m = Weight of empty mould

W_r = Rammer Weight

z = Vertical distance

τ = Shear strength

σ = Normal stress on the plane of shearing

Φ = Friction angle

σ' = Total water pressure

ϵ = Strain of soil

ρ_d = Dry density of soil

ρ = Bulk density of soil