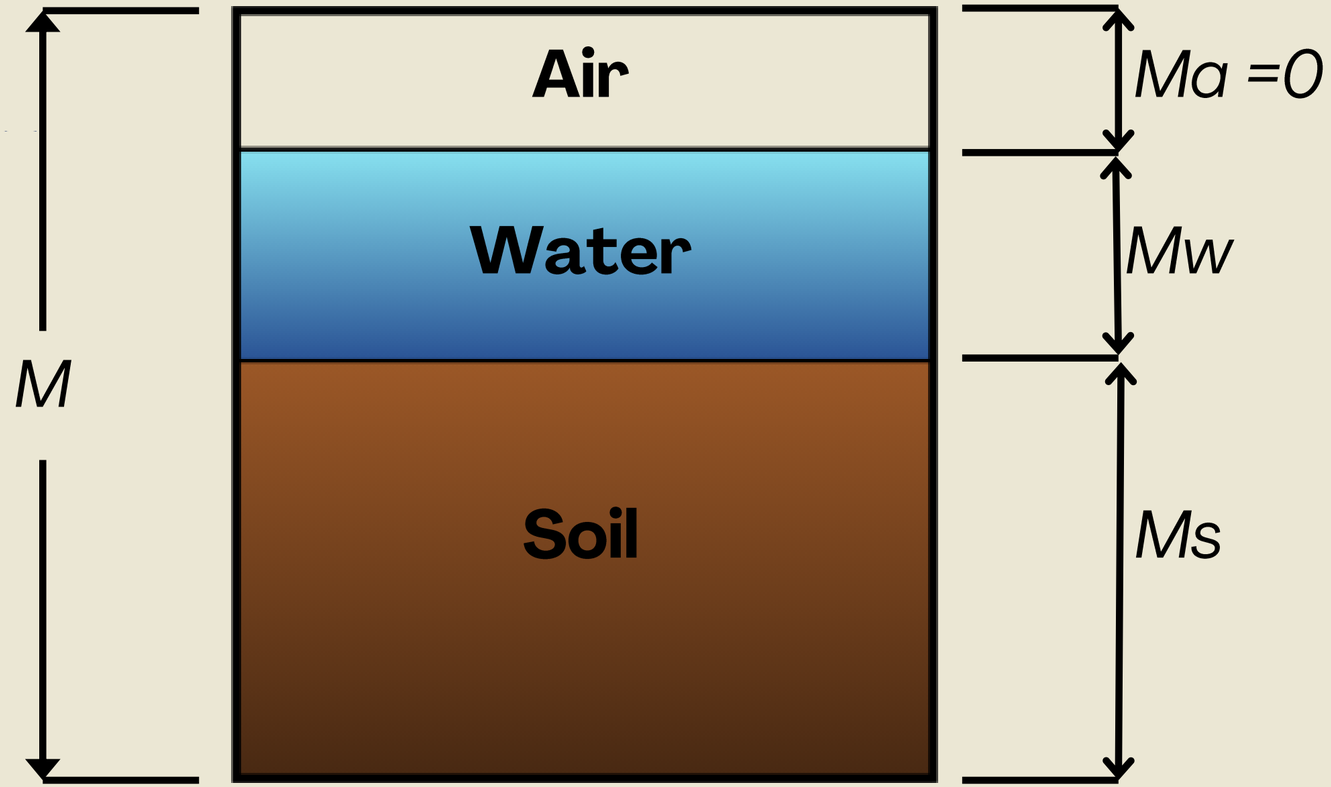
EWCE 342

GEOTECHNICAL ENGINEERING SESSIONAL

Determination of Natural Moisture Content of Soil

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Three Phase of Soil



Moisture Content or Water Content (w%)

- One of the most common soil parameters, which can be expressed either in terms of weights or mass.
- It is the ratio of the mass of water contained in the pore spaces of soil to the solid mass of particles in that material, expressed as a percentage.
- Moisture content can be easily measured in the lab by conducting moisture content test (ASTM D2216).

Moisture Content or Water Content (w%)

$$w = \frac{M_1 - M_2}{M_2 - M_c} \times 100\%$$

Here,

Mc = Mass of container

M1 = Mass of moist soil + container

M2 = Mass of dry soil + container

w = Moisture content

Apparatus

- Balance
- Drying Oven
- Specimen Container
- Container Handling Apparatus

Procedure

1. Determine and record the mass of the clean and dry specimen contaier and its lid.
2. Select representative test specimens accordingly.
3. Place the moist test specimen in the container and set the lid securely in position.
4. Determine the mass of the container and moist specimen using a balance and record the value.

Procedure

5. Place the moist specimen in the drying oven at 1100C and dry it overnight (about 12 to 16h).
6. After the specimen has dried, allow it to cool to room temperature.
7. Then record the mass od the container and oven dried specimen using balance.
8. Finally, calculate the moisture content using the given formula.

Sample Data Sheet

DATA SHEET

Specimen No:			
Container ID:			
Mass of container (M_c):			
Mass of moist soil + container (M_1):			
Mass of dry soil + container (M_2):			
Mass of moisture (M_w):			
Mass of dry soil (M_s):			
Moisture content (w):			
Average moisture content:			

THANK YOU