# Kaolinite

**INPUT DATA**

| | |
|---|---|
| Material Type | Kaolinite |
| Consolidation Type | Floating |

**Before Test**

| | | |
|---|---|---|
| Inside diameter of the ring, *ID* | 6.0 | cm |
| Height of specimen, *Hi* | 2.0 | cm |
| Mass of specimen + ring | 192.0 | gr |
| Initial moisture content of specimen, *wi* | 79.0 | % |
| Specific of solids, *Gs* | 2.7 | |
| Weight of ring | 90.0 | gr |
| Density of water , *Pw* | 1.0 | gr/cm3 |
| least count , *LC* | 0.001 | cm |

**After Test**

| | | |
|---|---|---|
| Mass of wet sample + ring +glass plate | 3266.0 | gr |
| Mass of can | 37.0 | gr |
| Mass of can + wet soil | 160.0 | gr |
| Mass of wet specimen | 123.0 | gr |
| Mass of can + dry soil | 101.0 | gr |
| Mass of dry specimen, *Ms* | 64.0 | gr |
| Final moisture of specimen, *wf* | 92.2 | % |

**EQUATIONS**

**Area of specimen**

$$A = \frac{\pi \, x \, ID^2}{4}$$

**Mass of water in specimen before test**

$$Mwi = wi \, x \, Ms$$

**Mass of water in specimen after test**

$$Mwf = wf \, x \, Ms$$

**Height of solid**

$$Hs = \frac{M_s}{A \, x \, G_s \, x \, P_w}$$

**Height of water before test**

$$Hwi = \frac{M_{wi}}{A \, x \, P_w}$$

**Height of water after test**

$$Hwf = \frac{M_{wf}}{A \, x \, P_w}$$

**Intial void ratio**

$$eo = \frac{Hi - Hs}{Hs}$$

**CALCULATIONS**

1. Area of specimen, A

| | | |
|---|---|---|
| ***A*** | 28.274 | cm2 |

2. Mass of water in specimen before test, Mwi

| | | |
|---|---|---|
| ***Mwi*** | 50.560 | gr |

3. Mass of water in specimen after test, Mwf

| | | |
|---|---|---|
| ***Mwf*** | 59.008 | gr |

4. Height of solids, Hs

| | | |
|---|---|---|
| ***Hs*** | 0.854 | cm |

5. Height of water before test, Hwi

| | | |
|---|---|---|
| ***Hwi*** | 1.788 | cm |

6. Height of water after test, Hwf

| | | |
|---|---|---|
| ***Hwf*** | 2.087 | cm |

7. Initial void ratio ,eo

| | |
|---|---|
| ***eo*** | 1.341 |