



Permeability Number Formulas

Calculators!

Examples!

Conversions!

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List of 11 Permeability Number Formulas

Permeability Number 🗗

1) Air Pressure during Testing

$$ho = rac{ ext{V} \cdot ext{H}_{\mathrm{sp}} }{ ext{PN} \cdot ext{A} \cdot ext{t}_{\mathrm{p}} }$$

Open Calculator 🗗

$$oxed{ex} 0.038461 ext{kgf/m}^2 = rac{0.002 ext{m}^3 \cdot 5 ext{m}}{4.36 ext{H/m} \cdot 0.002027 ext{m}^2 \cdot 3 ext{s}}$$

2) Cross-Sectional Area of Specimen

$$\mathbf{K} \mathbf{A} = rac{\mathbf{V} \cdot \mathbf{H}_{\mathrm{sp}}}{\mathrm{PN} \cdot \mathbf{
ho} \cdot \mathbf{t}_{\mathrm{p}}}$$

Open Calculator 🚰

$$oxed{ex} 0.002025 \mathrm{m^2} = rac{0.002 \mathrm{m^3 \cdot 5m}}{4.36 \mathrm{H/m \cdot 0.0385 kgf/m^2 \cdot 3s}}$$

3) Grain Fineness Number 🛂

$$ag{GFN} = rac{\Sigma FM}{\Sigma F_{
m i}}$$

Open Calculator





Open Calculator 2

Open Calculator 2

Open Calculator

Open Calculator

4) Height of Specimen

 $H_{\mathrm{sp}} = rac{\mathrm{PN} \cdot
ho \cdot \mathrm{A} \cdot \mathrm{t_p}}{\mathrm{V}}$

 $\frac{\cdot \mathbf{t_p}}{\cdot}$

5) Permeability Number

extstyle ext

= $4.361654 \mathrm{H/m} = rac{0.001669 \mathrm{m}^3 \cdot 6 \mathrm{m}}{0.0385 \mathrm{kgf/m}^2 \cdot 0.002027 \mathrm{m}^2 \cdot 3 \mathrm{s}}$

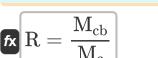
- 6) Permeability Number or Standard Specimen
- $ext{PN}=rac{501.28}{ ext{p}_{ ext{c}}\cdot ext{t}_{ ext{p}}}$ $ext{ex}$ $4.368917 ext{H/m}=rac{501.28}{3.9 ext{kgf/m}^2\cdot3 ext{s}}$
- 7) Pressure during Testing or Standard Specimen
- $\mathbf{f}_{\mathbf{c}}$ $\mathbf{p}_{\mathrm{c}} = rac{501.28}{\mathrm{PN} \cdot \mathrm{t_{p}}}$
- $ext{ex} 3.907977 ext{kgf/m}^2 = rac{501.28}{4.36 ext{H/m} \cdot 3 ext{s}}$







8) Ranginess Factor



Open Calculator 2

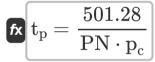
$$\boxed{1.5 = \frac{15\text{m}}{10\text{m}}}$$

9) Time Taken during Testing



Open Calculator

10) Time Taken in Standard Specimen Testing



Open Calculator

Open Calculator



$V = rac{\mathrm{PN} \cdot \mathbf{ ho} \cdot \mathrm{A} \cdot \mathrm{t_p}}{\mathrm{H_{sp}}}$



 $0.002002 \mathrm{m}^{_3} = \frac{4.36 \mathrm{H/m} \cdot 0.0385 \mathrm{kgf/m^2} \cdot 0.002027 \mathrm{m^2} \cdot 3 \mathrm{s}}{-}$

 $0.002 \mathrm{m}^3 \cdot 5 \mathrm{m}$



5m



Variables Used

- A Cross-Sectional Area of Specimen (Square Meter)
- GFN Grain Fineness Number
- h_s Height of Specimen (Meter)
- H_{sp} Specimen Height (Meter)
- Mc Modulus of Casting (Meter)
- Mch Modulus of Cube of Same Volume (Meter)
- pc Pressure in Casting (Kilogram-Force per Square Meter)
- PN Permeability Number (Henry per Meter)
- R Ranginess Factor
- t_n Time (Second)
- **V** Volume of Air Flow Through Specimen (Cubic Meter)
- Vair Volume of Air in Casting (Cubic Meter)
- Air Pressure on Wall (Kilogram-Force per Square Meter)
- ΣF_i Total Mass of Sand (Gram)
- **ΣFM** Sum of Product of Factor And Grams (Gram)





Constants, Functions, Measurements used

- Measurement: Length in Meter (m)
 Length Unit Conversion
- Measurement: Weight in Gram (g)
 Weight Unit Conversion
- Measurement: Time in Second (s)

 Time Unit Conversion
- Measurement: Volume in Cubic Meter (m³)

 Volume Unit Conversion
- Measurement: Area in Square Meter (m²)

 Area Unit Conversion
- Measurement: Pressure in Kilogram-Force per Square Meter (kgf/m²)
 Pressure Unit Conversion
- Measurement: Magnetic Permeability in Henry per Meter (H/m)
 Magnetic Permeability Unit Conversion





Check other formula lists

Permeability Number
 Formulas

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