



[calculatoratoz.com](http://calculatoratoz.com)



[unitsconverters.com](http://unitsconverters.com)

# Theory of Type 1 Settling Formulas

Calculators!

Examples!

Conversions!

Bookmark [calculatoratoz.com](http://calculatoratoz.com), [unitsconverters.com](http://unitsconverters.com)

Widest Coverage of Calculators and Growing - **30,000+ Calculators!**  
Calculate With a Different Unit for Each Variable - **In built Unit Conversion!**  
Widest Collection of Measurements and Units - **250+ Measurements!**

Feel free to SHARE this document with your friends!

[Please leave your feedback here...](#)



# List of 45 Theory of Type 1 Settling Formulas

## Theory of Type 1 Settling

### Coefficient of Drag

#### 1) Coefficient of Drag for Transition Settling

$$fx \quad C_D = \left( \frac{24}{R_e} \right) + \left( \frac{3}{(R_e)^{0.5}} \right) + 0.34$$

[Open Calculator !\[\]\(de95854c7ee024cfadc48187bbb781b2\_img.jpg\)](#)

$$ex \quad 0.387226 = \left( \frac{24}{5000} \right) + \left( \frac{3}{(5000)^{0.5}} \right) + 0.34$$

#### 2) Coefficient of Drag for Transition Settling given Reynold Number

$$fx \quad C_{dt} = \left( \frac{18.5}{(R_e)^{0.6}} \right)$$

[Open Calculator !\[\]\(6a9b39b98eb945faa14c645ec99e4eaa\_img.jpg\)](#)

$$ex \quad 0.111632 = \left( \frac{18.5}{(5000)^{0.6}} \right)$$



### 3) Coefficient of Drag given Drag Force Offered by Fluid

$$fx \quad C_{df} = \frac{F_d}{A \cdot \rho_{\text{water}} \cdot \frac{(v)^2}{2}}$$

[Open Calculator !\[\]\(cbe80b694ebd74fcfe136a095b608235\_img.jpg\)](#)

$$ex \quad 0.38 = \frac{76.95N}{50m^2 \cdot 1000kg/m^3 \cdot \frac{(0.09m/s)^2}{2}}$$

### 4) Coefficient of Drag given Reynold Number

$$fx \quad C_{dr} = \frac{24}{Re}$$

[Open Calculator !\[\]\(3e2231b1ad3ca8da8658228c00dd08e0\_img.jpg\)](#)

$$ex \quad 0.0048 = \frac{24}{5000}$$

### 5) Coefficient of Drag given Settling Velocity of Spherical Particle

$$fx \quad C_{ds} = \frac{\left(\frac{4}{3}\right) \cdot (\gamma_s - \gamma_w) \cdot D}{\rho_{\text{water}} \cdot (v_s)^2}$$

[Open Calculator !\[\]\(0d5ec72f61334709c3fc9450209b754f\_img.jpg\)](#)

$$ex \quad 1.125926 = \frac{\left(\frac{4}{3}\right) \cdot (10kN/m^3 - 9810N/m^3) \cdot 10.0m}{1000kg/m^3 \cdot (1.5m/s)^2}$$



## Density of Water

### 6) Density of Water given Kinematic Viscosity of Water

$$\text{fx } \rho_{\text{water}} = \left( \frac{\mu_{\text{viscosity}}}{\nu} \right)$$

[Open Calculator !\[\]\(23d9fc146e83b5c3013cfa32c784f8d5\_img.jpg\)](#)

$$\text{ex } 1000\text{kg/m}^3 = \left( \frac{10.2\text{P}}{10.20\text{St}} \right)$$

## Diameter of Particle

### 7) Diameter of Particle given Reynold Number

$$\text{fx } D_p = \frac{R_p \cdot \nu}{v_s}$$

[Open Calculator !\[\]\(dd161862f9164df98f62b726e9846241\_img.jpg\)](#)

$$\text{ex } 0.0136\text{m} = \frac{20 \cdot 10.20\text{St}}{1.5\text{m/s}}$$



### 8) Diameter of Particle given Settling Velocity for Modified Hazen's Equation

[Open Calculator !\[\]\(bd1a142de767a21e5362c595f844a4ff\_img.jpg\)](#)

$$\text{fx } D_p = \left( \frac{V_{sm}}{60.6 \cdot (G - 1) \cdot \left( \frac{(3 \cdot T) + 70}{100} \right)} \right)$$

$$\text{ex } 0.009986\text{m} = \left( \frac{0.0118\text{m/s}}{60.6 \cdot (1.006 - 1) \cdot \left( \frac{(3 \cdot 85\text{K}) + 70}{100} \right)} \right)$$

### 9) Diameter of Particle given Settling Velocity for Organic Matter

[Open Calculator !\[\]\(830769b31eeeaca920791081939ff8ba\_img.jpg\)](#)

$$\text{fx } D_p = \left( \frac{V_{s(o)}}{0.12 \cdot ((3 \cdot T) + 70)} \right)$$

$$\text{ex } 0.01\text{m} = \left( \frac{0.39\text{m/s}}{0.12 \cdot ((3 \cdot 85\text{K}) + 70)} \right)$$

### 10) Diameter of Particle given Settling Velocity for Turbulent Settling

[Open Calculator !\[\]\(47734e4656765d20df4fdbd5b7aff048\_img.jpg\)](#)

$$\text{fx } D_p = \left( \frac{V_{st}}{1.8 \cdot \sqrt{g \cdot (G - 1)}} \right)^2$$

$$\text{ex } 0.009978\text{m} = \left( \frac{0.0436\text{m/s}}{1.8 \cdot \sqrt{9.8\text{m/s}^2 \cdot (1.006 - 1)}} \right)^2$$



## 11) Diameter of Particle given Settling Velocity of Spherical Particle

[Open Calculator !\[\]\(eafc244b53721dd1ec133f0772f70fc7\_img.jpg\)](#)

$$fx \quad D_p = \sqrt{\frac{V_{sp}}{\left(\frac{g}{18}\right) \cdot (G - 1) \cdot \left(\frac{1}{v}\right)}}$$

$$ex \quad 0.009996m = \sqrt{\frac{0.00032m/s}{\left(\frac{9.8m/s^2}{18}\right) \cdot (1.006 - 1) \cdot \left(\frac{1}{10.20St}\right)}}$$

## 12) Diameter of Particle given Settling Velocity within Transition Zone

[Open Calculator !\[\]\(10f8862fc183b400327470ea85afe9ae\_img.jpg\)](#)

$$fx \quad D_p = \left( \frac{(V_{s'})^{\frac{1}{0.714}}}{g \cdot (G - 1)} / \left(13.88 \cdot (v)^{0.6}\right) \right)^{\frac{1}{1.6}}$$

$$ex \quad 0.01938m = \left( \frac{(0.0005m/s)^{\frac{1}{0.714}}}{9.8m/s^2 \cdot (1.006 - 1)} / \left(13.88 \cdot (10.20St)^{0.6}\right) \right)^{\frac{1}{1.6}}$$

## Drag Force

### 13) Area of Particle given Drag Force Offered by Fluid

[Open Calculator !\[\]\(ab4e2b3fc7e7887b7a72f548aa6f5e60\_img.jpg\)](#)

$$fx \quad a_p = \frac{F_{dp}}{C_D \cdot \rho_{water} \cdot \frac{(v)^2}{2}}$$

$$ex \quad 0.493827m^2 = \frac{0.760N}{0.38 \cdot 1000kg/m^3 \cdot \frac{(0.09m/s)^2}{2}}$$



14) Drag Force Offered by Fluid 

$$\text{fx } F_d = \left( C_D \cdot A \cdot \rho_{\text{water}} \cdot \frac{(v)^2}{2} \right)$$

Open Calculator 

$$\text{ex } 76.95\text{N} = \left( 0.38 \cdot 50\text{m}^2 \cdot 1000\text{kg/m}^3 \cdot \frac{(0.09\text{m/s})^2}{2} \right)$$

15) Velocity of Fall given Drag Force Offered by Fluid 

$$\text{fx } v = \sqrt{2 \cdot \left( \frac{F_d}{C_D \cdot A \cdot \rho_{\text{water}}} \right)}$$

Open Calculator 

$$\text{ex } 0.09\text{m/s} = \sqrt{2 \cdot \left( \frac{76.95\text{N}}{0.38 \cdot 50\text{m}^2 \cdot 1000\text{kg/m}^3} \right)}$$

Effective Weight of Particle 16) Buoyancy given Effective Weight of Particle 

$$\text{fx } f_b = w_p - W_p$$

Open Calculator 

$$\text{ex } 1.999991\text{N} = 2.00009\text{N} - 0.099\text{g}$$



17) Effective Weight of Particle 

$$fx \quad W_p = \left( \left( \frac{4}{3} \right) \cdot \pi \cdot (r_p)^3 \right) \cdot (\gamma_s - \gamma_w)$$

Open Calculator 

$$ex \quad 0.099484g = \left( \left( \frac{4}{3} \right) \cdot \pi \cdot (0.005m)^3 \right) \cdot (10kN/m^3 - 9810N/m^3)$$

18) Effective Weight of Particle given Buoyancy 

$$fx \quad W_p = w_p - f_b$$

Open Calculator 

$$ex \quad 0.09g = 2.00009N - 2.0N$$

19) Radius of Particle given Effective Weight of Particle 

$$fx \quad r_p = \left( \frac{W_p}{\left( \frac{4}{3} \right) \cdot \pi \cdot (\gamma_s - \gamma_w)} \right)^{\frac{1}{3}}$$

Open Calculator 

$$ex \quad 0.164981m = \left( \frac{0.099g}{\left( \frac{4}{3} \right) \cdot \pi \cdot (10kN/m^3 - 9810N/m^3)} \right)^{\frac{1}{3}}$$

20) Total Weight given Effective Weight of Particle 

$$fx \quad w_p = W_p + f_b$$

Open Calculator 

$$ex \quad 2.000099N = 0.099g + 2.0N$$





## 21) Unit weight of Particle given Effective Weight of Particle

[Open Calculator !\[\]\(666e09182d4cd268646ea700ea60dcdf\_img.jpg\)](#)

$$\text{fx } \gamma_s = \left( \frac{W_p}{\left(\frac{4}{3}\right) \cdot \pi \cdot (r)^3} \right) + \gamma_w$$

$$\text{ex } 9.81\text{kN/m}^3 = \left( \frac{0.099\text{g}}{\left(\frac{4}{3}\right) \cdot \pi \cdot (2.00\text{m})^3} \right) + 9810\text{N/m}^3$$

## 22) Unit Weight of Water given Effective Weight of Particle

[Open Calculator !\[\]\(003082e50e3009141f59bd5df831749f\_img.jpg\)](#)

$$\text{fx } \gamma_w = \gamma_s - \left( \frac{W_p}{\left(\frac{4}{3}\right) \cdot \pi \cdot (r)^3} \right)$$

$$\text{ex } 10000\text{N/m}^3 = 10\text{kN/m}^3 - \left( \frac{0.099\text{g}}{\left(\frac{4}{3}\right) \cdot \pi \cdot (2.00\text{m})^3} \right)$$

## Kinematic Viscosity

### 23) Dynamic Viscosity given Kinematic Viscosity of Water

[Open Calculator !\[\]\(4b7a79268f6ba26c1471d4232fffa85a\_img.jpg\)](#)

$$\text{fx } \mu_{\text{viscosity}} = \nu \cdot \rho_{\text{water}}$$

$$\text{ex } 10.2\text{P} = 10.20\text{St} \cdot 1000\text{kg/m}^3$$



## 24) Kinematic Viscosity of Water given Dynamic Viscosity

$$\text{fx } \nu = \frac{\mu_{\text{viscosity}}}{\rho_{\text{water}}}$$

[Open Calculator !\[\]\(0f848bbd71cef6b345273b16f905912a\_img.jpg\)](#)

$$\text{ex } 10.2\text{St} = \frac{10.2\text{P}}{1000\text{kg/m}^3}$$

## 25) Kinematic Viscosity of Water given Reynold Number

$$\text{fx } \nu = \frac{D_p \cdot V_{sr}}{R_p}$$

[Open Calculator !\[\]\(3211b5d1d968fc1665909b34f9f16010\_img.jpg\)](#)

$$\text{ex } 10.2\text{St} = \frac{0.01\text{m} \cdot 2.04\text{m/s}}{20}$$

## Reynold Number


## 26) Reynold Number given Coefficient of Drag

$$\text{fx } R_{cd} = \frac{24}{C_D}$$

[Open Calculator !\[\]\(e3275251d0893157c3584e20c81dc3ba\_img.jpg\)](#)

$$\text{ex } 63.15789 = \frac{24}{0.38}$$




27) Reynold Number given Coefficient of Drag for Transition Settling 

$$\text{fx } R_t = \left( \frac{18.5}{C_D} \right)^{\frac{1}{0.6}}$$

[Open Calculator !\[\]\(cbe80b694ebd74fcfe136a095b608235\_img.jpg\)](#)

$$\text{ex } 649.1029 = \left( \frac{18.5}{0.38} \right)^{\frac{1}{0.6}}$$

28) Reynold Number given Settling Velocity of Spherical Particle 

$$\text{fx } R_s = \frac{v_s \cdot D}{\nu}$$

[Open Calculator !\[\]\(3e2231b1ad3ca8da8658228c00dd08e0\_img.jpg\)](#)

$$\text{ex } 14705.88 = \frac{1.5\text{m/s} \cdot 10.0\text{m}}{10.20\text{St}}$$

Settling Velocity of Particle 29) Settling Velocity for Inorganic Solids 

$$\text{fx } v_{s(\text{in})} = (D_p \cdot ((3 \cdot T) + 70))$$

[Open Calculator !\[\]\(b792654f2cef9719eabeb6c5be00811e\_img.jpg\)](#)

$$\text{ex } 3.25\text{m/s} = (0.01\text{m} \cdot ((3 \cdot 85\text{K}) + 70))$$



### 30) Settling Velocity for Modified Hazen's Equation

fx

Open Calculator 

$$V_{sm} = \left( 60.6 \cdot D_p \cdot (G - 1) \cdot \left( \frac{(3 \cdot T) + 70}{100} \right) \right)$$

$$\text{ex } 0.011817\text{m/s} = \left( 60.6 \cdot 0.01\text{m} \cdot (1.006 - 1) \cdot \left( \frac{(3 \cdot 85\text{K}) + 70}{100} \right) \right)$$

### 31) Settling Velocity for Organic Matter

$$\text{fx } v_{s(o)} = 0.12 \cdot D_p \cdot ((3 \cdot T) + 70)$$

Open Calculator 

$$\text{ex } 0.39\text{m/s} = 0.12 \cdot 0.01\text{m} \cdot ((3 \cdot 85\text{K}) + 70)$$

### 32) Settling Velocity for Turbulent Settling

$$\text{fx } V_{st} = \left( 1.8 \cdot \sqrt{g \cdot (G - 1) \cdot D_p} \right)$$

Open Calculator 

$$\text{ex } 0.043648\text{m/s} = \left( 1.8 \cdot \sqrt{9.8\text{m/s}^2 \cdot (1.006 - 1) \cdot 0.01\text{m}} \right)$$

### 33) Settling Velocity given Specific Gravity of Particle

$$\text{fx } V_{sg} = \sqrt{\frac{\left(\frac{4}{3}\right) \cdot g \cdot (G - 1) \cdot D_p}{C_D}}$$

Open Calculator 

$$\text{ex } 0.045422\text{m/s} = \sqrt{\frac{\left(\frac{4}{3}\right) \cdot 9.8\text{m/s}^2 \cdot (1.006 - 1) \cdot 0.01\text{m}}{0.38}}$$



### 34) Settling Velocity of Spherical Particle

[Open Calculator !\[\]\(bd1a142de767a21e5362c595f844a4ff\_img.jpg\)](#)

$$\text{fx } V_{sp} = \left( \frac{g}{18} \right) \cdot (G - 1) \cdot \left( \frac{(D_p)^2}{\nu} \right)$$

$$\text{ex } 0.00032\text{m/s} = \left( \frac{9.8\text{m/s}^2}{18} \right) \cdot (1.006 - 1) \cdot \left( \frac{(0.01\text{m})^2}{10.20\text{St}} \right)$$

### 35) Settling Velocity of Spherical Particle given Coefficient of Drag

[Open Calculator !\[\]\(830769b31eeeaca920791081939ff8ba\_img.jpg\)](#)

$$\text{fx } V_{sc} = \sqrt{\frac{\left( \frac{4}{3} \right) \cdot (\gamma_s - \gamma_w) \cdot D_p}{\rho_{\text{water}} \cdot C_D}}$$

$$\text{ex } 0.08165\text{m/s} = \sqrt{\frac{\left( \frac{4}{3} \right) \cdot (10\text{kN/m}^3 - 9810\text{N/m}^3) \cdot 0.01\text{m}}{1000\text{kg/m}^3 \cdot 0.38}}$$


### 36) Settling Velocity of Spherical Particle given Reynold Number

[Open Calculator !\[\]\(47734e4656765d20df4fdbd5b7aff048\_img.jpg\)](#)

$$\text{fx } V_{sr} = \frac{R_p \cdot \nu}{D_p}$$

$$\text{ex } 2.04\text{m/s} = \frac{20 \cdot 10.20\text{St}}{0.01\text{m}}$$



37) Settling Velocity with respect to Diameter of Particle 

$$fx \quad V_{sd} = \left( \frac{g \cdot (G - 1) \cdot (D_p)^{1.6}}{13.88 \cdot (\nu)^{0.6}} \right)^{0.714}$$

[Open Calculator !\[\]\(d3fb9f94af8b26d1c844efa9a98805b0\_img.jpg\)](#)

$$ex \quad 0.002006m/s = \left( \frac{9.8m/s^2 \cdot (1.006 - 1) \cdot (0.01m)^{1.6}}{13.88 \cdot (10.20St)^{0.6}} \right)^{0.714}$$

Specific Gravity of Particle 38) Specific Gravity of Particle given Settling Velocity 

$$fx \quad G = \frac{(v_s)^2}{\frac{(\frac{4}{3}) \cdot g \cdot D}{C_D}} + 1$$

[Open Calculator !\[\]\(73002692dd5e7a64e60946be3158e719\_img.jpg\)](#)

$$ex \quad 1.006543 = \frac{(1.5m/s)^2}{\frac{(\frac{4}{3}) \cdot 9.8m/s^2 \cdot 10.0m}{0.38}} + 1$$



### 39) Specific Gravity of Particle given Settling Velocity for Modified Hazen's Equation

[Open Calculator !\[\]\(feabb98897b440bc8695a03336a6e2df\_img.jpg\)](#)

$$\text{fx } G = \left( \frac{v_s}{60.6 \cdot D \cdot \left( \frac{(3 \cdot T) + 70}{100} \right)} \right) + 1$$

$$\text{ex } 1.000762 = \left( \frac{1.5\text{m/s}}{60.6 \cdot 10.0\text{m} \cdot \left( \frac{(3 \cdot 85\text{K}) + 70}{100} \right)} \right) + 1$$

### 40) Specific Gravity of Particle given Settling Velocity of Spherical Particle

[Open Calculator !\[\]\(642aa997563f9a325b310230bb5078b7\_img.jpg\)](#)

$$\text{fx } G = \left( \frac{v_s}{\left( \frac{g}{18} \right) \cdot \left( \frac{(D)^2}{v} \right)} \right) + 1$$

$$\text{ex } 1.000028 = \left( \frac{1.5\text{m/s}}{\left( \frac{9.8\text{m/s}^2}{18} \right) \cdot \left( \frac{(10.0\text{m})^2}{10.20\text{St}} \right)} \right) + 1$$



### 41) Specific Gravity of Particle given Settling Velocity within Transition Zone

$$fx \quad G = \left( \frac{(v_s)^{\frac{1}{0.714}}}{g \cdot (D)^{1.6}} / \left( 13.88 \cdot (v)^{0.6} \right) \right) + 1$$

[Open Calculator !\[\]\(6605b201d6f14d9b3bcb8ab5f274d107\_img.jpg\)](#)

$$ex \quad 1.020317 = \left( \frac{(1.5\text{m/s})^{\frac{1}{0.714}}}{9.8\text{m/s}^2 \cdot (10.0\text{m})^{1.6}} / \left( 13.88 \cdot (10.20\text{St})^{0.6} \right) \right) + 1$$

### 42) Specific Gravity of Particle when Settling Velocity for Turbulent Settling is Considered

$$fx \quad G_p = \left( \frac{v_s}{1.8 \cdot \sqrt{g \cdot (G - 1) \cdot D}} \right)^2 + 1$$

[Open Calculator !\[\]\(e8fb589d58dad1692debababa5e928b6\_img.jpg\)](#)

$$ex \quad 2.181028 = \left( \frac{1.5\text{m/s}}{1.8 \cdot \sqrt{9.8\text{m/s}^2 \cdot (1.006 - 1) \cdot 10.0\text{m}}} \right)^2 + 1$$

## Temperature

### 43) Temperature given Settling Velocity for Inorganic Solids

$$fx \quad T = \frac{\left( \frac{v_{s(in)}}{D_p} \right) - 70}{3}$$

[Open Calculator !\[\]\(e9474ce1d70442456f8fe9c393ea149c\_img.jpg\)](#)

$$ex \quad 85\text{K} = \frac{\left( \frac{3.25\text{m/s}}{0.01\text{m}} \right) - 70}{3}$$





44) Temperature given Settling Velocity for Modified Hazen's Equation 

$$\text{fx } T = \frac{\left( \left( \frac{V_{sm}}{60.6 \cdot D_p \cdot (G-1)} \right) \cdot 100 \right) - 70}{3}$$

Open Calculator 

$$\text{ex } 84.84415\text{K} = \frac{\left( \left( \frac{0.0118\text{m/s}}{60.6 \cdot 0.01\text{m} \cdot (1.006-1)} \right) \cdot 100 \right) - 70}{3}$$

45) Temperature given Settling Velocity for Organic Matter 

$$\text{fx } T = \frac{\left( \frac{v_{s(o)}}{0.12 \cdot D_p} \right) - 70}{3}$$

Open Calculator 

$$\text{ex } 85\text{K} = \frac{\left( \frac{0.39\text{m/s}}{0.12 \cdot 0.01\text{m}} \right) - 70}{3}$$



## Variables Used











- **A** Area (Square Meter)
- **a<sub>p</sub>** Area of Particle (Square Meter)
- **C<sub>D</sub>** Coefficient of Drag
- **C<sub>df</sub>** Coefficient of Drag given Drag Force
- **C<sub>dr</sub>** Coefficient of Drag given Reynold Number
- **C<sub>ds</sub>** Coefficient of Drag given Settling Velocity
- **C<sub>dt</sub>** Coefficient of Drag for Transition Settling
- **D** Diameter (Meter)
- **D<sub>p</sub>** Diameter of Particle (Meter)
- **f<sub>b</sub>** Force due to Buoyancy (Newton)
- **F<sub>d</sub>** Drag Force (Newton)
- **F<sub>dp</sub>** Particle Drag Force (Newton)
- **g** Acceleration due to Gravity (Meter per Square Second)
- **G** Specific Gravity of Sediment
- **G<sub>p</sub>** Specific Gravity of Particle
- **r** Radius (Meter)
- **R<sub>cd</sub>** Reynold Number given Coefficient of Drag
- **R<sub>e</sub>** Reynolds Number
- **r<sub>p</sub>** Radius of Particle (Meter)
- **R<sub>p</sub>** Reynolds Number of Particle
- **R<sub>s</sub>** Reynold Number for Spherical Particle



- $R_t$  Reynold Number for Transition Settling
- $T$  Temperature (Kelvin)
- $v$  Velocity of Fall (Meter per Second)
- $v_s$  Settling Velocity (Meter per Second)
- $v_{s'}$  Settling Velocity in Transition Zone (Meter per Second)
- $v_{s(in)}$  Settling Velocity for Inorganic Solids (Meter per Second)
- $v_{s(o)}$  Settling Velocity of Organic Solids (Meter per Second)
- $v_{sc}$  Settling Velocity of Particle given Coeff of Drag (Meter per Second)
- $v_{sd}$  Settling Velocity given Diameter of Particle (Meter per Second)
- $v_{sg}$  Settling Velocity given Specific Gravity (Meter per Second)
- $v_{sm}$  Settling Velocity for Modified Hazen's Equation (Meter per Second)
- $v_{sp}$  Settling Velocity of Spherical Particle (Meter per Second)
- $v_{sr}$  Settling Velocity of Particle given Reynold Number (Meter per Second)
- $v_{st}$  Settling Velocity for Turbulent Settling (Meter per Second)
- $w_p$  Total Weight of Particle (Newton)
- $W_p$  Effective Weight of Particle (Gram)
- $\gamma_s$  Unit Weight of Particle (Kilonewton per Cubic Meter)
- $\gamma_w$  Unit Weight of Water (Newton per Cubic Meter)
- $\mu$  viscosity Dynamic Viscosity (Poise)
- $\nu$  Kinematic Viscosity (Stokes)
- $\rho_{water}$  Water Density (Kilogram per Cubic Meter)



## Constants, Functions, Measurements used

- **Constant:** **pi**, 3.14159265358979323846264338327950288  
*Archimedes' constant*
- **Function:** **sqrt**, sqrt(Number)  
*A square root function is a function that takes a non-negative number as an input and returns the square root of the given input number.*
- **Measurement:** **Length** in Meter (m)  
*Length Unit Conversion* 
- **Measurement:** **Weight** in Gram (g)  
*Weight Unit Conversion* 
- **Measurement:** **Temperature** in Kelvin (K)  
*Temperature Unit Conversion* 
- **Measurement:** **Area** in Square Meter (m<sup>2</sup>)  
*Area Unit Conversion* 
- **Measurement:** **Speed** in Meter per Second (m/s)  
*Speed Unit Conversion* 
- **Measurement:** **Acceleration** in Meter per Square Second (m/s<sup>2</sup>)  
*Acceleration Unit Conversion* 
- **Measurement:** **Force** in Newton (N)  
*Force Unit Conversion* 
- **Measurement:** **Dynamic Viscosity** in Poise (P)  
*Dynamic Viscosity Unit Conversion* 
- **Measurement:** **Kinematic Viscosity** in Stokes (St)  
*Kinematic Viscosity Unit Conversion* 
- **Measurement:** **Density** in Kilogram per Cubic Meter (kg/m<sup>3</sup>)  
*Density Unit Conversion* 








- **Measurement: Specific Weight** in Kilonewton per Cubic Meter ( $\text{kN/m}^3$ ),  
Newton per Cubic Meter ( $\text{N/m}^3$ )

*Specific Weight Unit Conversion* 



## Check other formula lists

- [Design of Continuous Flow Type of Sedimentation Tank Formulas](#) 
- [Efficiency of High Rate Filters Formulas](#) 
- [Food to Microorganism Ratio or F to M Ratio Formulas](#) 
- [Sludge Recycle and Rate of Returned Sludge Formulas](#) 
- [Theory of Type 1 Settling Formulas](#) 

Feel free to SHARE this document with your friends!

## PDF Available in

[English](#) [Spanish](#) [French](#) [German](#) [Russian](#) [Italian](#) [Portuguese](#) [Polish](#) [Dutch](#)

8/27/2024 | 6:30:33 AM UTC

[Please leave your feedback here...](#)

