

Important Sizing a Polymer Dilution or Feed System Formulas PDF



Formulas Examples with Units

List of 10 Important Sizing a Polymer Dilution or Feed System Formulas

1) Active Polymer Dosage using Quantity of Active Polymer Required Formula ↻

Formula

$$P_d = \left(\frac{P}{W} \right)$$

Example with Units

$$107.1429 \text{ mg/L} = \left(\frac{3 \text{ m}^3/\text{s}}{28 \text{ m}^3/\text{s}} \right)$$

Evaluate Formula ↻

2) Active Polymer given Quantity of Neat Polymer Required Formula ↻

Formula

$$P = (P_n \cdot A)$$

Example with Units

$$3 \text{ m}^3/\text{s} = (10 \text{ m}^3/\text{s} \cdot 0.3)$$

Evaluate Formula ↻

3) Active Polymer using Quantity of Dilution Water Required Formula ↻

Formula

$$P = (D \cdot S)$$

Example with Units

$$3 \text{ m}^3/\text{s} = (5 \text{ m}^3/\text{s} \cdot 0.60)$$

Evaluate Formula ↻

4) Drum Capacity given Time required to use One Drum of Polymer Formula ↻

Formula

$$C = (T \cdot P_n)$$

Example with Units

$$20 \text{ m}^3 = (2 \text{ s} \cdot 10 \text{ m}^3/\text{s})$$

Evaluate Formula ↻

5) Neat Polymer given Time Required to Use One Drum of Polymer Formula ↻

Formula

$$P_n = \left(\frac{C}{T} \right)$$

Example with Units

$$10 \text{ m}^3/\text{s} = \left(\frac{20 \text{ m}^3}{2 \text{ s}} \right)$$

Evaluate Formula ↻

6) Percent Active Polymer in Emulsion using Quantity of Neat Polymer Required Formula ↻

Formula

$$A = \left(\frac{P}{P_n} \right)$$

Example with Units

$$0.3 = \left(\frac{3 \text{ m}^3/\text{s}}{10 \text{ m}^3/\text{s}} \right)$$

Evaluate Formula ↻



7) Percent Solution Used given Quantity of Dilution Water Required Formula

Formula

$$S = \left(\frac{P}{D} \right)$$

Example with Units

$$0.6 = \left(\frac{3 \text{ m}^3/\text{s}}{5 \text{ m}^3/\text{s}} \right)$$

Evaluate Formula 

8) Quantity of Dilution Water Required Formula

Formula

$$D = \left(\frac{P}{S} \right)$$

Example with Units

$$5 \text{ m}^3/\text{s} = \left(\frac{3 \text{ m}^3/\text{s}}{0.60} \right)$$

Evaluate Formula 

9) Quantity of Neat Polymer Required Formula

Formula

$$P_n = \left(\frac{P}{A} \right)$$

Example with Units

$$10 \text{ m}^3/\text{s} = \left(\frac{3 \text{ m}^3/\text{s}}{0.3} \right)$$

Evaluate Formula 

10) Time Required to Use One Drum of Polymer Formula

Formula

$$T = \left(\frac{C}{P_n} \right)$$

Example with Units

$$2 \text{ s} = \left(\frac{20 \text{ m}^3}{10 \text{ m}^3/\text{s}} \right)$$

Evaluate Formula 



Variables used in list of Sizing a Polymer Dilution or Feed System Formulas above

- **A** Percent Active Polymer
- **C** Drum Capacity (*Cubic Meter*)
- **D** Dilution Water (*Cubic Meter per Second*)
- **P** Active Polymer (*Cubic Meter per Second*)
- **P_d** Active Polymer Dosage (*Milligram per Liter*)
- **P_n** Neat Polymer (*Cubic Meter per Second*)
- **S** Solution Used
- **T** Time Required to Use One Drum of Polymer (*Second*)
- **W** Waste Water Flow (*Cubic Meter per Second*)

Constants, Functions, Measurements used in list of Sizing a Polymer Dilution or Feed System Formulas above

- **Measurement: Time** in Second (s)
Time Unit Conversion 
- **Measurement: Volume** in Cubic Meter (m³)
Volume Unit Conversion 
- **Measurement: Volumetric Flow Rate** in Cubic Meter per Second (m³/s)
Volumetric Flow Rate Unit Conversion 
- **Measurement: Density** in Milligram per Liter (mg/L)
Density Unit Conversion 



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