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Sizing a Polymer Dilution or Feed System Formulas

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List of 10 Sizing a Polymer Dilution or Feed System Formulas

Sizing a Polymer Dilution or Feed System

1) Active Polymer Dosage using Quantity of Active Polymer Required

Open Calculator

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

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

2) Active Polymer given Quantity of Neat Polymer Required

Open Calculator

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

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

3) Active Polymer using Quantity of Dilution Water Required

Open Calculator

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

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

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

Open Calculator

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

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

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

Open Calculator

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

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

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

Open Calculator

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

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

7) Percent Solution Used given Quantity of Dilution Water Required

Open Calculator

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

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

8) Quantity of Dilution Water Required

Open Calculator

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

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

9) Quantity of Neat Polymer Required

Open Calculator

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

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

10) Time Required to Use One Drum of Polymer

Open Calculator

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

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

Variables Used

- **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

- Measurement: **Time** in Second (s)
  Time Unit Conversion
- Measurement: **Volume** in Cubic Meter (m^3)
  Volume Unit Conversion
- Measurement: **Volumetric Flow Rate** in Cubic Meter per Second (m^3/s)
  Volumetric Flow Rate Unit Conversion
- Measurement: **Density** in Milligram per Liter (mg/L)
  Density Unit Conversion

Check other formula lists

- Design of a Chlorination System for Wastewater Disinfection Formulas
- Design of a Circular Settling Tank Formulas
- Design of a Plastic Media Trickling Filter Formulas
- Design of a Solid Bowl Centrifuge for Sludge Dewatering Formulas
- Design of an Aerated Grit Chamber Formulas
- Design of an Aerobic Digester Formulas
- Design of an Anaerobic Digester Formulas
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