

# Activated Sludge Calculations With Excel Ced Engineering

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## **Activated Sludge Calculations with Excel - CED Engineering**

Be able to calculate the required activated sludge recycle flow rate, waste activated sludge flow rate, and aeration tank F:M ratio, if given suitable wastewater stream and aeration tank information along with the desired value for sludge retention time. Be able to use an Excel spreadsheet for making activated sludge design...

## **activated sludge Archives - Engineering Excel Spreadsheets**

in the activated sludge system before it is wasted. • Longer MCRT = Higher MLSS = More Bug Food • Problem: • What is the MCRT for April 10. th? Refer to April MRO Sheet 2. Excel:  $= (MLVSS * 8.34 * V. total) / (WAS. lbs + TSS. lbs) * ??????? =$

## **activated sludge aeration tank design excel spreadsheet**

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### Activated Sludge Calculations with Excel - Professional ...

The material balance is thus: Rate of solids outflow Rate of solids inflow = Growth rate of solids The growth of activated sludge is typically hydraulically controlled with the activated sludge wasting rate and is equal to  $Q_w X_w$ . The material balance equation thus becomes:  $(Q_o + Q_r)X - (Q_o X_o + Q_r X_w) \dots$

### Activated Sludge Waste Water Treatment Calculations with ...

8. Activated Sludge Design Calculations The table below shows typical values for three design parameters sometimes used for sizing activated sludge aeration basins: volumetric loading, food to microorganism ratio (F:M), and hydraulic residence time (HRT). Note that values for volumetric loading are given in both U.S. and S.I. units. The

### Activated sludge calculations with excel course

Activated Sludge Aeration Tank Design Calculations with Excel Spreadsheets  $V = [(8.34 * S_o * Q_o) / VL] (1000)$ .  $VMG = V * 7.48 / 1,000,000$ .  $HRT = 24 * VMG / Q_o$ .  $F:M = (8.34 * S_o * Q_o) / (8.34 * \% Vol * X * VMG) = (S_o * Q_o) / (\% Vol * X * VMG)$ .

### Just the Formulas

Bengtson, H.H., Activated Sludge Wastewater Treatment Calculations with Excel Spreadsheets, an online article at [www.engineeringexcelspreadsheets.com](http://www.engineeringexcelspreadsheets.com) 3. [www.engineeringexceltemplates.com](http://www.engineeringexceltemplates.com), a source for low cost, easy to use Excel spreadsheets for activated sludge design and operational calculations

### Engineering Excel Templates Downloads

Activated Sludge Parameters. V. Activated Sludge Process Design Calculations. VI. Activated Sludge Operational Calculations. VII. Oxygen/Air/Blower Calculations. 4. Biochemical Oxygen Demand as a Cause of Water Pollution . Biochemical oxygen demand (BOD) is an indirect measure of the concentration of biodegradable organic matter in water or ...

### E - 1533 - Activated Sludge Calculations with Excel | PDH ...

Ability to calculate the required activated sludge recycle flow rate, waste activated sludge flow rate, and aeration tank F:M ratio, if given suitable wastewater stream and

aeration tank information along with the desired value for sludge retention time; Be able to use an Excel spreadsheet for making activated sludge design and operational calculations

### **Activated Sludge Calculations With Excel**

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### **Operations and Spreadsheets - WWOA.org**

Activated Sludge Waste Water Treatment Calculations with Excel. 3-20-2009 (1st release of Approved spreadsheet). Operational Check System Curve Pump Selection Force Main & Piping Design Cycle Time & Wet Well Geometry

### **Wastewater Math and Excel Equations**

Activated Sludge Design Calculations with Excel Templates The table at the left shows typical values for three commonly used activated sludge aeration tank design parameters: volumetric loading, hydraulic retention time, and food to microorganism ratio.

### **Activated Sludge Calculations in a Solids Mass Balance ...**

This calculation may be "good enough" (and usually will be) but it is to be noted that the conical section of the clarifier is not included. If you want to be more accurate in calculating the total volume you will need to account for the sloped bottom section of the clarifier as shown in the graphic below. ... WAS is the waste activated sludge ...

### **Activated Sludge Calcs With Excel | Sewage Treatment ...**

This Excel spreadsheet package includes a worksheet for calculating primary sludge and thickened waste activated sludge quantities, which will be the feed to the anaerobic digester. A second worksheet is used to calculate liquid volume needed for the anaerobic digested and to determine the side water depth and diameter for a specified number of ...

### **Engineering Excel Templates Blog**

Obtain a convenient, easy to use spreadsheet for solids mass balance activated sludge calculations for only \$22.95. Read on for information about the use of an Excel spreadsheet for estimating the effect of recycle flow, BOD and TSS through solids mass balance activated sludge calculations.

### **Activated Sludge Calculations With Excel | Sewage ...**

The activated sludge operational parameters calculated by the Excel formulas in the spreadsheet are: recycle activated sludge flow rate,  $Q_r$  ; waste activated sludge flow rate,  $Q_w$  , and aeration tank food to microorganism ratio, F:M.

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### **Biological Wastewater Treatment Processes I: Activated Sludge**

Spreadsheet A spreadsheet is a computer application with tools that increase the user's productivity in capturing, analyzing, and sharing tabular data

### **Activated Sludge Calculations with Excel**

Excel Formulas for Activated Sludge Design Calculations The spreadsheet image at the left uses Excel formulas to calculate aeration tank volume requirement based on entered values for the input parameters shown: primary effluent flow rate,  $Q_o$  ; primary effluent biochemical oxygen demand (BOD),  $S_o$  ; Aeration tank MLSS,  $X$  ; design volumetric loading,  $VL$  ; and % volatile solids in the aeration tank, % Vol .