



Industrial Wastewater Treatment and Sludge Dewatering

Precoat Filtration Saves you Money!

Improves Dewatering

- Increases Solids Content of the Sludge
- Reduced Volume of Sludge for Disposal
- Faster Dewatering

Improves the Quality of the Filtrate

- Reduces TSS
- Reduces BOD
- Effectively Filters Fats, Oil and Grease (FOG)



Industrial waste producers must treat and discharge their waste either to the sewer, surface water or deep well injection.

Industrial waste producers who discharge to the sewer are required to pretreat their water to meet the standards of the Pretreatment Program in support of the Clean Water Act. As a result industrial waste producers are increasingly investing in more upstream waste treatment to stay in compliance. This is due to the costly impact strong wastewater has on the operation of the publically owned treatment works (POTW). Strong wastewater, is defined as water high in pollutants such as biological oxygen demand (BOD), chemical oxygen demand (COD) and total suspended solids (TSS). All of these pollutants reduce the efficiency of the public wastewater treatment works, specifically the biological processes. In order to offset the costs of treating strong wastewater the POTW assess surcharges to the waste producers. These charges can cost industrial waste producers hundreds to thousands of dollars.

Disposal to surface water sources and deep well injection are also highly regulated and must meet the state and national standards such as National Pollutant Discharge Elimination System (NPDES) as required. TSS, BOD and oil and grease are conventional pollutants which must be reduced prior to disposal.

Precoat filtration with Celatom Diatomaceous Earth can help address these issues. Precoat filtration technology is based on mechanical liquid/solid separation principals that can reduce TSS and Insoluble BOD content. The precoat media forms a tortuous path that retains the solid contaminants and allows the clarified liquid to pass through the media, into a receiver where it can be discharged according to State and Federal standards.

Dewatering of the sludge produced from the clarifiers, settling ponds and other waste operations is also an important part of cost effective waste management. Dewatering or thickening of the sludge with precoat filtration in filter presses or rotary vacuum filters, has proven to be very effective increasing solids content up to 50%. By increasing solid content in the sludge, the volume and hauling costs are significantly reduced.

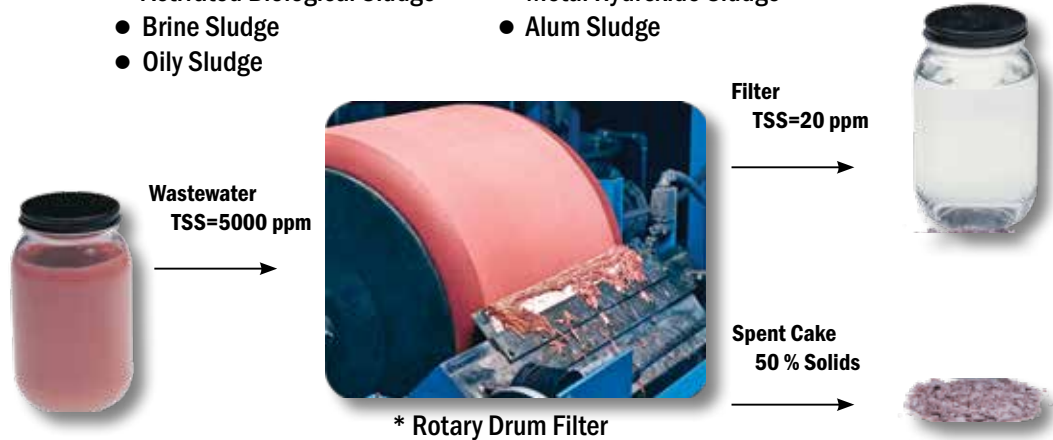
Precoat filtration with Celatom Diatomaceous Earth is also ideal for sludge or waste streams which are oily or gelatinous. These types of sludges and streams often "blind" the filters. The use of a DE precoat and/or bodyfeed greatly improves the filterability of the sludge, reduces press cycle times and produces a dry solid, providing the lowest treatment cost.

W a s t e w a t e r

Celatom® DE and Perlite filtration media are offered in a variety of grades covering a wide spectrum of permeabilities. The slower permeabilities grades, such as FW-14, are ideal where high quality, clear filtrate is desired with less than 20 ppm TSS. For applications with larger particulates and where clarity is less important, faster permeability grades such as FW-50 are ideal.

Typical sludges for which precoat filtration is ideal include:

- Activated Biological Sludge
- Brine Sludge
- Oily Sludge
- Metal Hydroxide Sludge
- Alum Sludge



Precoat wastewater treatment technology with Celatom® products offer you flexibility, efficiency and simplicity to obtain the lowest dollar cost per unit treated while meeting all discharge permit requirements.

Celatom Products

Celatom Diatomaceous Earth Grades	Permeability (Darcy)	Particle Size Removal Down to (microns)	Typical Applications
FW-12	0.85	<1.0	Fats, Oils and Grease, Cutting Mills, Biodiesel
FW-14	1.3	1.0	
FW-18	1.7	2.0	
FW-20	2.1	3.0	
FW-40	3.2	3.5	
FW-50	3.5	5.0	Dewatering, Tars, Waxes
FW-60	5.0	6.0	
FW-80	9.0	7.5	

Celatom Perlite Grades	Permeability (Darcy)	Particle Size Removal Down to (microns)	Typical Applications
CP-2000	2.1	3.5	Dyes, Plating Solutions, Adhesives
CP-4000	2.6	4.5	
CP-5000	3.0	6.0	Dewatering, Tars, Waxes
CP-6000	3.5	7.0	

*Photo courtesy of Alar Corp.