



SERFILCO Answers Your Questions About Plating Filtration

Q. Exactly what can the proper filter do for me?

A. A lot—reduce plating roughness, reduce plating time from increased agitation, provide better throwing power, remove solution surface scum, eliminate tank pump-out, and prepare your solution for organic impurity removal.

Q. How can all these benefits be accomplished?

A. It's important to pump the solution at a high enough flow rate to pass the solution through the filter frequently, for optimum clarity. If dirt load is high, increase the amount of filter surface or select a type of media that better meets the specific situation.

Q. What are some of the media choices?

A. Surface, such as flat sheets of paper cloth, or cylindrical, such as tubes of fiber, ceramic, or sintered metal. There are also bags, discs, sleeves, and of course, depth cartridges.

Q. What might best work for me?

A. It depends on your particular problem, and an individual analysis is required. Generally speaking, the coarser the filter the better, because it means increased dirt holding capacity, less frequent cleaning or changing of media, and less restriction of flow.

Q. Exactly what is coarse filtration?

A. It refers to the openness of the weave or winding of the filter media. Coarseness is a relative term; even very dense media might be referred to as coarse in an individual context. A 0.45 micron filter traps fine particles, but it would be referred to as coarse compared to a 0.25 micron filter. A 10 micron filter is coarse compared to a 5 micron filter, and so on.

Q. How can I best use coarse media?

A. Increase your tank turnover rate to compensate for the lower particle removal efficiency. This can be done by increasing the flow rate of the solution through the filter, or increasing the size (capacity) of the filter, or both. The result is higher particle removal and a cleaner solution.

Q. What happens if I filter too fine?

A. Too many people think that a fine filter automatically provides more efficient filtering. Fine filters tend to plug quickly, much sooner than coarse filters. This reduces flow rate which, in turn, reduces tank turnovers which result in reduced solution clarity. The concentration of contamination will increase to the point where ultimately batch treatment may be required. Batch filtration was a common practice in years past; with modern filtration techniques, it's not necessary to shut down for batch treatment. Filters and plating baths can stay in operation indefinitely with no loss of solution clarity or plating efficiency.

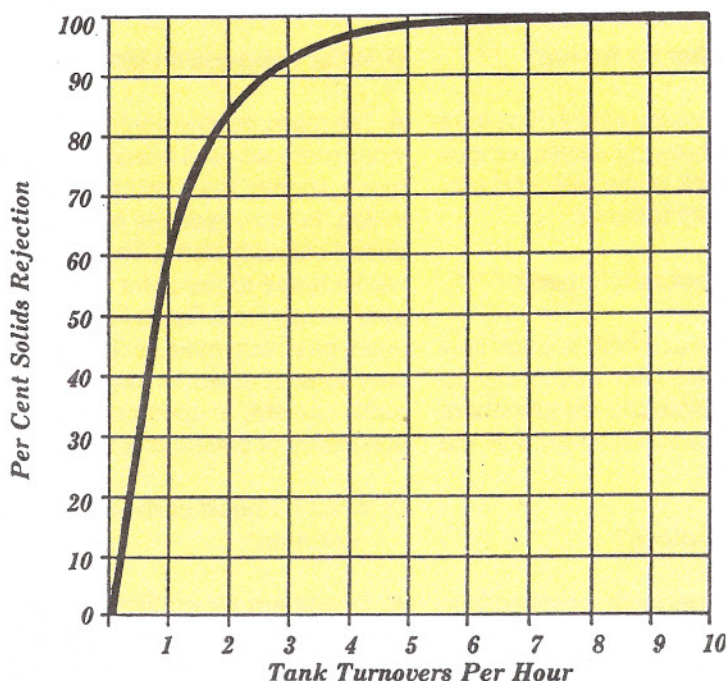
Q. What if I need carbon for purification of my solution?

A. Chambers for purification provide for the most convenient adsorption of organic impurities from the use of granular carbon. When solutions are prefiltered for the removal of solids prior to passing the liquid over the carbon, maximum adsorbency by the granular carbon is assured. This makes it possible for only clean solution to come into contact with the granular carbon, which prevents the carbon surface and pores from becoming coated or plugged with solids. Carbon adsorbency is thus assured of retaining its maximum efficiency until all of the adsorbency afforded by the granular carbon is used right down to the very core.

Q. Is granular carbon as adsorptive as powdered carbon?

A. Yes—tests have shown that. Surface area of activated carbon is the internal pore surface area which is compared to a complex network of caverns and accomplishes the adsorptive phenomena. Surface area of SERFILCO Hi-Surf 12x30 mesh is 1050 sq. meters per gram. Surface area of commonly used powdered carbon is 650 sq. meters per gram.

This Curve Will Improve Your Plating Average



We'd like to throw you a curve. The kind that tells you just what your plating quality can be, based on how many times you turn over the solution in your plating tanks.

Based on the curve above, only one tank turnover per hour is obviously not very effective at removing solids that cause plating roughness and high rejects—only 60% solids rejection. Few platers can live with that kind of performance.

Fortunately, it doesn't take much to raise solids rejection effectiveness. Two turnovers per hour gives around 84% solids rejection, while three will give you 92 to 94%, and four can reach 97 to 98%. For the ultimate in clarity, you can turn over the tank ten times per hour for close to 100%, and reject particles as small as 0.35 micron.

To get these kinds of results, you need *continuous* filtration, and *effective* filtration.

SERFILCO understands the need for both. Our filtration systems deliver generous flow rates—to 20,000 gallons per hour in a single Sentry unit, with no limit to flow rates that can be achieved through paralleling units. With high flow rates you get rid of impurities as soon as they enter the plating tank, before they are deposited on the surface to create roughness.

For effective filtration, we provide cartridges to trap particles as small as 0.35 micron. Or, if you prefer, we offer horizontal disc or pre-coat filters.

Based on your own experience, find your place on the curve. If it's too low, better check with SERFILCO for ways to improve your plating average.

It's the only curve we'll ever throw you.



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