



SERFILCO® CASE HISTORY

BRIGHT NICKEL PLATING

Stanley Hardware improves quality and efficiency using SERFILCO Admiral Filtration System

Back in September of '91 our plating shop was concerned with roughness on parts plated in our bright nickel tank. We were also concerned about the cost problems associated with the operation of our current precoat type filter.

Because it took four hours of backwashing and required 150 gallons of water which had to be treated as a waste, the filter was never maintained properly. However, there was a reluctance on the part of both our chemical supplier and the technical support staff here at Stanley to change from a slurry backwash type filter to one which employed cartridges and a separate chamber containing granular carbon.

We, therefore, contacted Service Filtration of Canada (SERFILCO) and requested the loan of a filtration system for the purpose of evaluating its performance before any purchase had to be made. It was agreed that because of the availability of space within the tank, a vertical pump would be employed along with an out-of-tank filter chamber. The system would also include a separate chamber downstream through which a portion of the filtered solution would be bypassed for the purpose of removing organic contaminants, such as brightener breakdown or some oily substances which could not be adequately removed in the cleaning process.

All three of the major components were integrally piped to eliminate any chance of leakage. Screwed-in fittings were backed with "O"-rings as a further precaution, and we are pleased to report that in over a year's time of operation there is no evidence of leakage in either the pipe, filter or purification chamber. In addition, the SERFILCO 'EH' vertical pump operates smoothly and quietly and will never require seals or liners.

We must admit that during the initial three month trial period, the performance of this method of filtration and purification was heavily scrutinized by the technical support staff along with the chemical supplier. We are pleased to report that it was concluded by all that the SERFILCO Admiral offered many advantages and proved to be extremely user-friendly while performing its primary functions of retaining foreign particles in the filter chamber and maintaining the level of organic impurities below that which would cause any blemishes on the parts being plated.

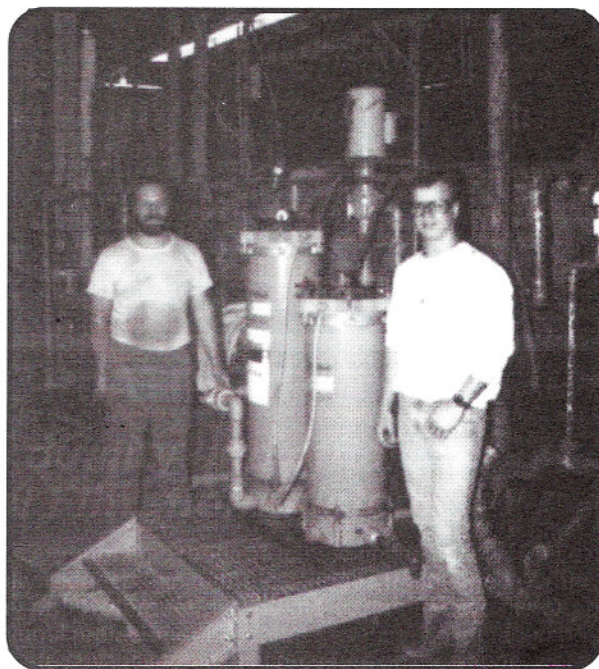
In other words, the granular carbon was removing the organic impurities as quickly as they were being generated, eliminating the highs and lows which we experienced with the powdered carbon that had formerly been precoat on our leaf type filter. Since the granular carbon provides for slow adsorbency, it eliminated the need to add additional brightener right after the carbon pack was installed. Instead, the brightener level was maintained uniformly over the entire time the granular carbon was in place and remained so until changed.

Operator time required to service the filter was also drastically reduced, since the cartridges maintained a very high level of flow throughout the more than five weeks of operation until replacement became necessary. Replacement was indicated by the increase of pressure on the gauge, which told the operator that the flow rate through the filter was gradually declining. It takes only thirty minutes to change cartridges and carbon.

We then found out that the waste, in this case cartridges and carbon, was given code approval to go into waste sludge bins without pretreatment, whereas our previous filters generated a carbon-filter aid slurry, which placed a heavy demand on labor and required chemical treatment prior to disposal.

For over a year, the vertical pump has been operating absolutely trouble-free. Finally, when it became necessary to give the tank a carbon-peroxide batch treatment, which we did with textbook efficiency, we found it possible to pull the solution, after settling, back through the filters in a single pass without prematurely plugging the 1 micron cartridges with carbon and/or leaving activated carbon in the bath.

Overall, we have had positive results with the first installation and a second system that was installed six months later. Ultimately, we will be changing over other installations in a timely, cost-effective fashion.



(Left) Bruce Charbonneau, (right) Andy Coles with SERFILCO Admiral Filtration System in Stanley Hardware Canada's plating shop.



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