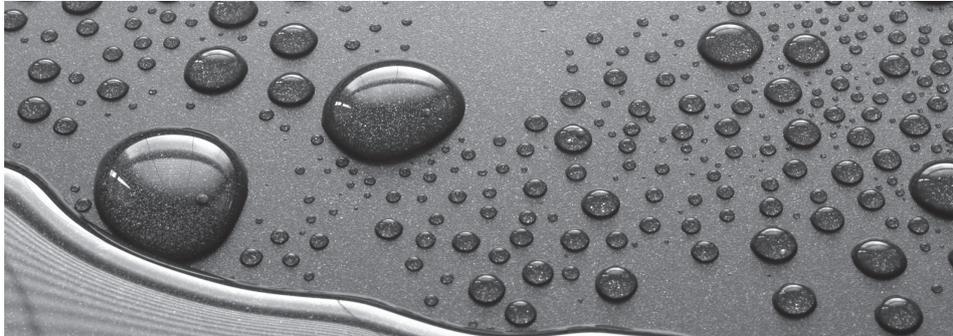


IMPROVING PROCESS ECONOMICS & OPERATOR SAFETY IN COATINGS MANUFACTURE



“
**FIRST CLASS SERVICE
 WORLD CLASS FILTERS**
 ”

PRODUCT

**SupaClean
 (SupaGard/VisClear)**

VALUE ADDED

Lower production costs / improved operator health & safety

CLIENT

Multi-national Coatings Manufacturer

APPLICATION

Fluoropolymer Coatings

SECTOR

Chemicals & Coatings

At [Amazon Filters](#) we work with a wide variety of coatings manufacturers helping to improve process economics. We recently helped a leading manufacturer of fluoropolymer coatings to implement new filtration technology into their production facility. The complex low friction fluoropolymer formulations their chemists develop require filtering during the production stage to guarantee the necessary quality in terms of aesthetics and final product performance.

As part of a continuous improvement program the customer was investigating ways to:

1. Improve operator health and safety
2. Minimise the use of solvents in production to minimise environmental impact
3. Reduce overall production costs

The introduction of the [SupaClean](#) filtration system has provided tangible benefits in all three of these focus areas and more.



ORIGINAL FILTRATION PROCESS

The vast majority of the resins were being processed through a rotary vibrating sieve filter which was gravity fed. The main issues with this set up were

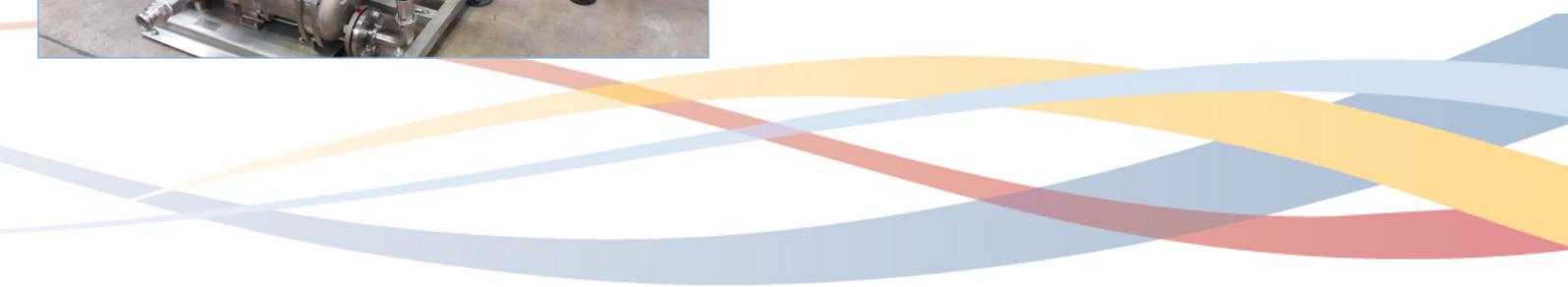
1. The long filtration time for the resin batches
2. Variable filtrate quality
3. The time taken to change over resin types due to manual clean down requirements
4. Large quantities of solvents required to clean down the system

There was the option to look at fitting an automated cleaning system but the customer felt the clean change option would be the best solution to progress.

IMPROVED FILTRATION PROCESS

The process was changed from gravity fed to a skid mounted pumped system utilising a 3 round 20" [SupaClean](#) system. Batches of anywhere between 300kg and 1000kg are being successfully processed with excellent filtrate quality and lifetime.

The change to the [SupaClean](#) system has brought multiple benefits to the customer over and above the initial focus on improved operator safety, reduction in cleaning solvent volumes and reduced production costs.



BENEFITS OF THE SUPACLEAN SYSTEM

Flexibility

The customer's product range included a huge variety of fluoropolymer-based resins with varying final specifications and target applications. This can greatly influence the filtration media selection (compatibility) and the required micron ratings (filtrate quality). The benefit of the **SupaClean** system is that the full range of **Amazon's** filters can be supplied pre-installed into this format ready to 'Plug & Play'. All resin filtration is catered for with a combination of both the **SupaGard** polypropylene element and the **VisClear** product based on nylon polymer.

Improving Daily Production Volumes

Switching to the **SupaClean** system has improved production capacity by increasing the number of batches that can be processed on each shift.

Average filtration times are in the region of 1 hour through the **SupaClean** system. This coupled with a reduction in change over time to minutes rather than up to 3 hours has significantly improved the output and flexibility of production. This has been primarily down to the elimination of the time consuming solvent flushing and cleaning of the original filtration system.

Maximising the Filter Capacity

The fact that the **SupaClean** filters can easily be removed and 'capped off', means that if the filtration media is not exhausted in terms of capacity they can be stored and brought back into service for the next batch of that product.



Improving Quality and Process Efficacy

The ability to use a variety of filtration medias and micron rating has allowed resin quality to be improved as the filters are matched precisely to the resin requirements. An added bonus for the customer has been the fact that the bag surrounding the filters is transparent allowing a visual check of the mixing process. This provided invaluable feedback on the initial filtration trials on a new resin as unmixed powder was visible on the inside of the bag. Without this visual evidence the poor product quality and throughput could easily have been attributed to the filtration media selection rather than the mixing process.

Health and Safety

The elimination of the large quantities of solvents required to clean down the original filtration equipment has provided a pronounced reduction in potential operator exposure to solvents. This, coupled with the fact that the resin is fully contained in the flexible bag virtually eliminates the potential for direct contact with the fluoropolymer resins during filter changeout.

CONCLUSION

Implementing the **SupaClean** system with its innate flexibility and performance benefits has made a real difference to the manufacturing operation of this global coatings manufacturer.

If you are looking to improve process economics as well as protect operator health and safety why not get in touch

www.amazonfilters.com/industry/chemicals-coatings

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