

Filtration of Washes

In order to reduce costs of washes and waste disposal printing shops are investing more and more in filtration systems. The process of recycling dirty washes through filtration systems poses special requirements with respect to water-miscibility. Böttcher products, which are suitable for filtration, are designed to mix with water during the washing cycle and separate quickly in the recycling unit.

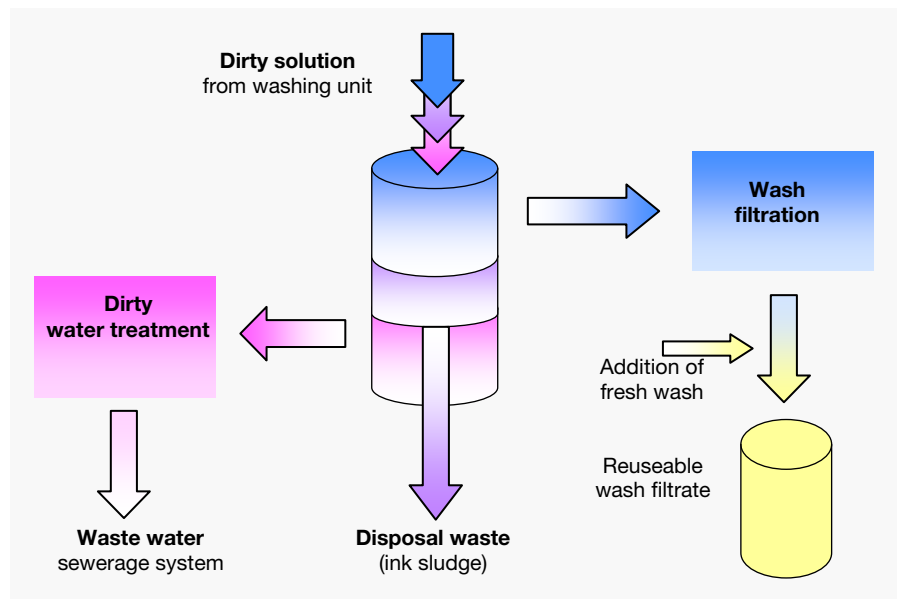
Filtration

After the washing cycle in the printing press the dirty solution separates completely into water and solvent phases in a collecting container. Flocculant will be added to the separated waste water and then filtrated. In this process residues of solvents and printing inks will be removed. Before discharging the filtrated water into the sewerage system, the local environmental regulations have to be considered. The separated solvent runs through mechanical filters, where particles such as pigments and paper, which are larger than the pore sizes of the filter will be retained.

Reprocessing of the filterable washes

Washes contain emulsifiers for combining solvents with water and inhibitors for protecting the printing press from corrosion damage. During the washing cycle small amounts of emulsifier and inhibitor will be dissolved in the water. Some amounts of inhibitor get also lost, because they build a protective film on the metallic parts of the printing press.

These losses have to be considered and compensated for by adding in sufficient quantity of new wash to the filtrate. This is necessary to achieve the original characteristic of the wash again and to keep it at a stable level. Depending on the number of wash cycles and contamination, 10 to 20 % fresh solvent wash has to be added. After a period of time once filtrate saturation is reached the whole system must be drained and replenished.



Economical advantages

- 🌍 Böttcher washes consist of high-value raw materials that can be re-used after the process of recycling, thus minimising re-ordering levels
- 🌍 waste disposal costs for washes will be reduced and savings made
- 🌍 waste disposal costs for used water do not occur
- 🌍 filtration is harmless to the environment

Details

During the washing process printing oils, pigments and parts of resins dissolve completely. But in course of time these dissolved parts will accumulate in the wash because they are not retained in the filter. If the accumulation is too high and saturation occurs, the filtration system must be completely emptied and refilled with fresh wash. Although emulsifiers and corrosion inhibitors have been added to the wash during reprocessing, their proportional parts may vary. Therefore time limits on re-processing should be fixed and system maintenance periods established; these will depend on number of presses and working practices at each printing shop.

Do not contaminate with white spirit or other washes, press room chemicals or waste. If this occurs, even with small volumes of contaminant, problems may occur with the separation and prevent the filtration process working. At temperatures below 20 °C the dirty emulsion will separate very slowly into the water, waste and wash phases. Room temperature of 23 to 25 °C is recommended. No water additives must be used in combination with filtration, for example Böttcherin Aqualux. BöttcherPro Calcit is highly recommended as the RO water re-hardener, it improves the separation and filtration process.

Recommended washes

Filterable washes for use in automatic washing units

Sheet-fed offset printing

🌍 *Böttcherin 60-F*

Newspaper printing

🌍 *Böttcherin 60-F WEB*

🌍 *Böttcherin 80-F*

🌍 *Böttcherin 80-F WEB*

🌍 *Böttcherin 100-F*

🌍 *Böttcherin 100-F WEB*

These products have been approved and recommended by manufacturers of presses, washing units and filtration systems.