



## DEALING RESPONSIBLY WITH THE DISPOSAL OF PERMASET INKS AND WASTE WATER WHEN SCREEN PRINTING

Whilst many people are trying to reduce their environmental footprints, there always seems to be "just one more thing" to be just that little bit better.

We were asked by one of our start-up customers:

- How can PERMASET Ink water wastage be disposed of?
- Do I need to use a special filter?

We've been advised that a good starting point looks something like this:

1. Have three waste collection tubs (like with computer backups).
2. One has the oldest (say more than two weeks old water, or less if you're really busy), the second has one week old water and the third retains the final rinse washings from the current week.

When you come to the cleaning part of the process:

3. Once your screen is clear of ink from scraping, remove tape and bin it. Then spray a really good mist of water over the screen and
  - a) Wipe down with a rag.
  - b) Wet a clean rag and wipe the screen down a second time, and then
  - c) Wipe down with a clean dry rag. Wet, wet, dry.
4. Repeat steps 3 a), b) and c) with all clean rags.
5. Take the screen from the carousel and soak and then scrub first in the oldest/dirtiest water to remove the bulk of any residual ink, then rinse with the second oldest water, then with the third "almost clean" water and finally rinse with clean water to get the last bits of ink and other contaminants off the screen; these last washings should be retained in the "almost clean" water tub. You might use a pressure washer at this point to maximise the benefit and minimise the volume of the fresh water that you do use and thus have to subsequently dispose of.
6. At the end of the week, pour the dirtiest water through a filter screen to trap the largest particulate matter; the relatively clear water should be allowed to settle. The clear liquid/grey water thus derived can be poured onto the garden or returned into your process. However, this latter is not always an option as contamination can occur (particularly in warmer weather) and you do not want to provide a haven for putrefying bacteria, mould or other microorganisms that would be much better dealt with in the soil and may actually make a positive contribution to biomass.



7. The solids fraction should be left out to dry in the sun and then be disposed of either as solid waste to landfill or incinerated, liberating the combustible elements into the atmosphere whilst any resulting ash can be composted.
8. To close the above part of the process, shuffle the 2 younger tubs down the line, rinse out what was the dirtiest one and start the cycle again.  
Prior to the rinsing stage however:
  9. At the end of the print run, leave the screens flooded to prevent ink drying in the screen/image area until you are ready to give each one your undivided attention. Presumably, you can only work on one screen at a time. Immediately at the end of the print run, you might also perhaps mist/spray water over the top of the ink to keep that surface damp whilst you attend to other screens.
  10. Once you get to an individual screen, scrape off as much off the screen as possible and place the ink into a clean, possibly sterilised, container that can be tightly sealed.
  11. Write on the tub with an indelible marker
    - a) the colour formulation,
    - b) date, and if there is more than one person in the print practice,
    - c) the initials (or other unique ID) of the operator.
  12. Tightly seal the lid and store ideally in a cool place ideally subject to minimal diurnal temperature fluctuations. Properly stored and in the absence of biological infestation, these inks can be used in later jobs.
  13. Repeat steps 10–12 (followed by steps 3 and 4 above) until all the screens are clean and all the inks have been appropriately recovered, labelled and stored.

The above method is low on set up cost but high in labour. However, it certainly isn't the only one and you'd be well served to look around the web and talk to other local printers to see how they address their waste water issues.

As your business grows and you seek to lighten your environmental footprint and improve internal efficiencies, this will be one of many areas crying out for extra funds for improvement.

Many screen industry suppliers also sell screen cleaning cabinets in which water is reused. With one of these set-ups, a printer using 100 – 200 screens a week might produce only 50 L (~13 US gallons) of liquid waste over a whole year! So environmentally, that would be a worthwhile investment.

If you do have more questions, please feel free to call. We are here to help.

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