

CAN 'GREEN' WORK FOR YOU?

With a choice of screen cleaning methods in use today, Todd Smith discusses options for less harmful methods

Let's face it 'green' is in, and everywhere you look someone is claiming to offer a viable solution or product to accomplish the task at hand without sacrificing performance. The demands in our market for these products are no different than in any other industry. In past years, many people have heard of 'green' chemistry that has fallen short of our expectations and needs.

Technologies in chemistry have changed over the past few years which allow us many ways to achieve a clean screen without harming our environment. Today screen cleaning can be accomplished using these 'green' chemistries from reputable companies such as Kor-Chem, Inc. Although chemistries have reached a higher level of success, there are still a few basic rules of thumb to remember in screen cleaning.

- Ink management
- Proper area for cleaning
- Correct chemicals and usage of them
- Adequate storage in a humidity controlled and dust free environment after cleaning

There are several methods to clean your screens; some processes use as few as two steps while others incorporate as many as four steps. In the past, we have found that most if not all two step processes were lacking the ability to perform either one or both of their intended tasks. Using the right combinations of chemistry we have been able to accomplish the intended purposes and efficiently produce clean screens.

The first step in all examples below is ink management. Always remove all excess ink and place in acceptable container for reuse or disposal. If the screen is to be stored for further use a 'green' alternative press wash can be applied to clean out ink residues before storage. Here are some examples of common screen reclaim processes that effectively and consistently produce great results.

The first two step process is most common in textile printing:

- Screens are placed into a washout booth while an ink/emulsion remover product is applied by spraying and brushing product onto both sides of the screen starting from the print side.
- Starting again from the print side, use a high pressure water rinse on both sides spraying from the bottom to top of the screen to remove all traces of ink and emulsion
- Next apply a non-caustic stain remover/degreaser on both sides, brush the entire screen including the frame to remove any ink residue left behind then high pressure rinse bottom to top again.
- The last step is very crucial. Using a garden hose or equivalent rinse the screen from the top to the bottom this time using a good volume of water to rinse away any left-over chemicals or residues especially where the mesh meets the frame.



A clean screen with no staining present

- Screens should now be stored in a humidity controlled environment for drying prior to coating and reuse. The second two step process is less labour intensive which will help keep cost down and speed up production:
 - Use a dip tank which has been pre-filled with an ink/emulsion remover product that has been diluted with water to the



Proper ink management prior to cleaning



Ink removed from the screen



Emulsion removed from half of the screen

manufacturer's specific ratio. The screens are now placed in the tank for a soak time of three to ten minutes depending on ink residue and/or emulsion build-up due to higher or lower mesh counts.

- After the proper soak time the screens are removed and placed in the washout booth to apply a high pressure water rinse without the need for brushing. Starting the rinse again from the print side working bottom to top.
- Next apply the non caustic stain remover/degreaser and rinse as in the above example followed by proper drying and storage techniques.

The third option is very common in both textile and graphic printing. Using this three step process will increase cost overall, but is still very efficient:

- Screens are placed into a washout booth while an ink remover product is applied by spraying and brushing product onto both sides of the screen starting from the print side.
- Starting again from the print side, use a high pressure water rinse on both sides spraying from the bottom to top of the screen to remove all traces of ink.
- Next apply an emulsion remover which can be mixed from a concentrate or a ready-to-use product onto both sides of the screen by spraying and brushing. Then again, using a high pressure water rinse, work from bottom to top again.
- Next the non-caustic stain remover/degreaser is applied and rinsed as in above example followed by proper drying and storage techniques.

The fourth and final method requires four steps with four different chemicals. This process is seen primarily in the graphics printing industry rather than in the textile industry. Even though this process is the most costly in labour and chemistry, many shops find it necessary to use due to today's graphic inks requiring a near perfect screen before the next printing job. Even with the increase in chemical usage and labour cost, this option is much less expensive when compared to the cost of re-meshing a screen.

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- Next apply an emulsion remover which can be mixed from a concentrate or a ready to use product onto both sides of the screen by spraying and brushing. Then again, using a high pressure water rinse, work from bottom to top again.
- Next a caustic haze remover is applied to both sides of the screen using a brush or sometimes an emulsion coating tool. After a dwell time, which varies from five to ten minutes, use a high pressure water rinse on both sides spraying from the bottom to the top of the screen to remove any ghost left behind from printing.
- Now a separate degreaser is applied using a brush or sponge to both sides of the screen. Once again, using a garden hose or equivalent, rinse the screen from top to the bottom this time using a good volume of water to rinse any left over chemicals or

residues away, especially where the mesh meets the frame.

If you follow all directions and steps in your chosen method you will be successful in cleaning your screens. This is always very important as a properly cleaned and coated screen should give you very few, if any, break-downs on press that can cost you hundreds in down time compared to the pennies in prep time. Remember, give 'green' a try. ■

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