



Water-based Ink Printing Basics

Modern water-based ink systems are easy to use, produce soft-hand prints, and are eco-friendly. This new generation of ink formulas have excellent screen performance when properly adjusted for. Many plastisol ink applications are easy for water-based ink substitution. It's best and most common use is in the preprint and fashion industry facets of decorated apparel. And it cleans up with water.



What should I expect if I'm used to printing with plastisol ink?

Water resistant screen stencils.
Different length of ink cure time.
Keeping lids on ink containers.
Increased attention to flood stroke.
Covering screens on long breaks.



Screen Mesh:

Generally use mesh counts from **175** to **280**, at high mesh tension if possible.

Finer meshes may also need more attention to squeegee settings to insure an even ink deposit, but help production output from a faster cure time compared to thicker ink deposits. The finer mesh count range also makes for easier rewetting and clearing of mesh openings.

Water-resistant stencil emulsion:

On mid-sized production runs use **Chromaline ChromaBlue** or **Murakami AquaSol HV**. For long production runs mix in Diazo and/or apply a **Stencil Hardener** to these emulsions. For best overall durability, always fully dry and expose stencils for optimum results.

Printing tips:

Have enough ink in the screen to permit easy rewetting of stencil image openings after any production delays. Wing-tipped flood bars are recommended for automatics, because of the thinner ink viscosity. Sparingly use **retarder** to adjust drying if needed. Warm up pallets to assist ink release and reduce tack. Flood screen during long breaks. Clean up with water or water-based/organic detergent blends for hardened ink.

Evaporating water during cure:

This *most important step* requires the ink to reach **320°F** for long enough to **evaporate any water**, then fully cure the remaining ink layer. This can be difficult to do once through on *short* tunnel dryers. Dryers with good air circulation with high temps works fastest.

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