



## Discharge Ink Printing Basics

This special ink acts as “bleach” on certain 100% cotton garment dyes. After curing, it leaves for a soft fabric “feel” and a brightened print area. Not all cotton dyes will discharge the same and can vary from lot to lot. The print examples shown below are representations of “natural” cotton fiber variation from a dye discharge base print on different shirt brands:



You can mix pigments into the discharge ink to leave image color in a 1-step process

### Screen Mesh:

Use mesh counts **140** to **250** to evenly saturate the garment fibers. Finer meshes need more attention to insure an even ink deposit, but allow a faster cure, since there is less water to evaporate. Coarser mesh counts allow faster print speeds, but care should be taken not to over saturate the garment unless the ink dryer is able.

### 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.

### Types of discharge bases:

**Union DSPCH-9070 Plasticharge Clear** Part plastisol, part water-based discharge can mix with a plastisol pigment concentrate to leave a color tint behind after discharge.  
**Matsui DSPS WB Discharge Clear** Water-based, this provides a slightly softer print “feel” than its Hybrid counterpart. Pigment this with **PC color concentrates** if needed.

**ZFS Activator** This powder is mixed at 6-8% by weight with the discharge ink prior to printing. 24 hour shelf-life after mixing. *This product contains formaldehyde.*

Note: Both inks also available in a premixed white. Foil sticks to DSPCH, but not to DSPS

### Curing:

This is the most important step of the discharge process. The “bleaching” requires high temperatures and good air circulation; ink must reach **320°F for long enough to evaporate any water** and complete the cure.. This can be difficult to do once through on short tunnel dryers. The longer the tunnel, the better. Direct contact with transfer irons is also faster.

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