Dye Migration Test

Sometimes referred to as a white bleed test, the following procedure will test the fabrics for bleed potential (dye migration). It is recommended to always test new garments for bleed and select the appropriate low bleed ink that best fits the garment composition and use.

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What is Dye Migration

Dye migration is the movement of dye from its original dyed material (t-shirt) to another material (ink). Since dye lot variation is very common, it is imperative to test a garment’s propensity for dye migration. Historically, fabrics containing polyester are more likely to bleed than any other fabrics whereas nylon and cotton much less likely to bleed. However, it is suggested that all dark fabrics that will be printed with white or light colored inks should be evaluated for bleeding.

Dye Migration Test (Bleed Test)

The following is a test method evaluating the bleed potential of ink printed on a given fabric:

1. Bleed resistance (or the resistance of an ink to accept the dyes from polyester fabric) is determined by the chemistry of the ink, complete ink cure and by the ink deposit.
2. Choose the screen mesh that duplicates the planned use of the white ink as well as two other possible combinations.
3. Print just the white ink on appropriate fabric swatches and hold for three weeks. After three weeks, visually evaluate the prints for whiteness. You may choose to try accelerating this evaluation by holding the prints at 105°F/40°C for 2 to 5 days.

Printing Tips

1. Research your garment prior to printing for fiber composition, garment color, stretch, weave and texture.
2. Select right ink for the substrate.
3. Avoid additives to your low bleed inks.
4. Ensure you have a defined edge on the shirt side of your stencil for better ink transfer.
5. Do not under cure.
6. Avoid excessive temperature spikes.
7. Avoid stacking hot.
8. Always Pretest.