

Technical Product Information

Thermochromic Water Based Textile Screen Ink TI 51000

Function: Reversible Thermochromic Ink

Product Name: Thermochromic WB Textile Screen Ink

Description

Water based thermochromic textile screen ink for textile substrates.

Ink is supplied as a 1 part ink system ready formulated and easy to use allowing flexibility in application and optimisation in appearance of printed article.

Application

Textile screen printing ink suited to flatbed screen printing processes. As with all thermochromic inks the printed effect is dependent upon several factors including substrate, drying time, temperature and mesh count. The printed ink exhibits a matt finish when printed.

Product Properties

Adhesion

The adhesion of Thermochromic Water Based Textile Screen Ink depends upon the surface properties of the selected substrate. Due to the wide variety of substrates it is recommended that this ink is evaluated fully prior to any commercial use or application of a suitable varnish.

Rub Resistance

Has high dry and wet fastness properties and hand washing resistance if polymerized accordingly. Printed article is not suitable for Machine Washing.

Additional Product Properties

Pigment Content (%)	24 ± 1.5
Pigment Size (µm)	95% less than 6 microns
Solid Content (%) ¹	50 ± 2.0
Solvent	Water
Supplied Viscosity (cps) ²	1500-2000

¹ AMB50 Moisture Content Analyzer

² Mixed ink measured on a LVT Brookfield Viscometer @ 25°C/ 77°F

Light fastness

Thermochromic inks are inherently susceptible to damage by UV light. They are only recommended for use in applications where there will be minimal exposure to UV light. Where necessary a suitable UV protective varnish should be used to slow degradation caused by UV light.

Light fastness properties of supplied Thermochromic colors are as follows:*

Green	1
Red, Orange & Magenta	1-2
Yellow, Blue, Purple	2
Turquoise	3

*Rating according to measurement on Blue Wool Scale

Recommended Printing Parameters

Screen Configuration

The optimum screen configuration depends on several factors, the most important of which is the desired opacity and color of the finished product.

The theoretical ink volume of the screen is crucial for the desired effect. Using a higher theoretical ink volume will increase the intensity of color of the product when below its activation point and also the level of residual color when above its activation point.

	Activated Below 20°C European/US Measurement	Activated Above 20°C European/US Measurement
Recommended Mesh Size	120T / 310	70T / 195
Minimum Mesh Size	150T / 379	150T / 379

Do not allow the ink to sit dormant on the screen as this will cause 'drying in' on the screen and affect print definition and quality.

Dilution

The printing ink is supplied in a format that once mixed is at printing viscosity. The ink should not be thinned. Water should never be used to dilute this system.

Drying

The ink should be cured at 160°C / 320°C for 2 minutes.

