

Technical Product Information

CHAMELEON PHOTOCHROMIC WATER BASED TEXTILE SCREEN PRINTING INK

Functionionality: Reversible Photochromic Ink

Article No:

Revision: 02

Last Revision: 15/01/2013

Description

Water based Photochromic textile screen ink for textile substrates.

The 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

CHAMELEON water based Textile screen printing ink suited to flat bed screen printing processes. As with all colour changing inks the printed effect is dependent upon several factors including substrate, drying time, temperature and mesh count. The printed article exhibits a matt finish when printed.

Product Properties

Photochromic properties

CHAMELEON water based Photochromic textile screen ink is available in various colours (blue, yellow, purple, red, Orange and other colours upon request and against minimal volume order). Water based Photochromic textile screen ink becomes intensely colored after only 15 seconds of direct sun light exposure and return to clear after approximately 5 minutes out of any source of UV light. The different colours fade to clear at different rates. Orange and yellow are the slowest to return back to clear. Yellow even requires visible light to return back to clear. If an exposed print or coat is put in a dark area, the yellow will not fade until it is left in normal room light (visible light) for a few minutes. The color change is "reversible". When measured in the same conditions with varying temperatures, the colour intensity generated by the Water based Photochromic textile screen ink is reduced at high temperatures (50 C) when compared to lower temperatures (less than 25 C).

Standard colours	Blue, yellow,, purple
Special colours	Red, orange, other colour available upon request



Light Fastness

Photochromic inks are inherently susceptible to damage by UV light. Protections by incorporating UV absorbers in a Overprint varnish will reduce accordingly the colour intensity. Addition of HALS in the OPV can be considered but should be evaluated prior to commercial use.

Light fastness properties of supplied colours are as follows:*

Blue Purple Red Orange Yellow 1-2

*Rating according to measurement on Blue Wool Scale

Adhesion

The ink is well suited for natural fibres

Due to the wide variety of substrates it is recommended that this ink is evaluated fully prior to any commercial use.

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 ± 2%
Pigment Size (µm)	95% less than 8 microns
Solid Content (%)¹	42 ± 3.0
Solvent	Water
Supplied Viscosity (cps)²	>5000

¹ AMB50 Moisture Content Analyzer

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

Recommended Printing Parameters

Screen Configuration

The optimum screen configuration depends on several factors, the most important of which is the desired colour 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 colour of the product.

Recommended Mesh Size	90T
Minimum Mesh Size	150T

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. Always keep the screen flooded with ink and when air temperature is high, spray water on top of the ink to avoid drying.

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 130°C for 2 to 3 minutes.

Cleaning recommendations

CHAMELEON® Water Based Textile Screen Ink should be cleaned on screen using water only.

