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Advanced Thermographic Technologies

**CHAMELEON®**  
**THERMOCHROMIC WATER BASED TEXTILE SCREEN INK**

**Functionionality:** Reversible Thermochromic Ink

**Product Name:** Water based textile screen ink

**Revision:** 02

**Last Revision:** 14/09/2011

**Description**

Water based thermochromic textile screen ink for textile substrates.

The ink is supplied as a 2 parts ink system easy to use allowing flexibility in application and optimisation in appearance of printed article.

**Application**

Textile screen printing ink suited to flat bed 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 CHAMELEON® 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.

## Rub Resistance

The ink shows high dry and wet fastness properties as well as hand washing resistance if cured according to recommendations. The resulting printed articles cannot be machine washed as they can lose part of their Thermochromic properties.

## Additional Product Properties

<b>Pigment Content (%) in the finished ink</b>	<b>24 ± 1.5</b>
<b>Pigment Size (µm)</b>	<b>90% less than 6 microns</b>
<b>Solid Content (%)<sup>1</sup></b>	<b>45 ± 3.0</b>
<b>Solvent</b>	<b>Water</b>
<b>Supplied Viscosity (cps)<sup>2</sup> of the binder</b>	<b>paste</b>

<sup>1</sup> AMB50 Moisture Content Analyzer

<sup>2</sup> 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 CHAMELEON® colours are as follows:\*

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

\*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 colour intensity of the finished product.

A higher theoretical film weight will increase the intensity of colour of the product when fully coloured and also the level of residual colour when above it's clearing point.

The following recommendations are starting points to help press operators finding the ideal printing conditions.

	<b>Activated Below 20°c</b>	<b>Activated Above 20°c</b>
	<b>European/US Measurement</b>	<b>European/US Measurement</b>
<b>maximum Mesh Size</b>	<b>50T / 195</b>	<b>50T / 195</b>
<b>Minimum Mesh Size</b>	<b>120T / 379</b>	<b>120T / 379</b>

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°F for 2 minutes.

## Cleaning recommendations

CHAMELEON® Water Based Textile Screen Ink should be cleaned on screen using water only. Glycol based cleaners should not be used as these will damage the function of the ink.

After use screens can be cleaned with water. A high powered water jet may be required to remove all ink remnants.

## Handling

CHAMELEON® Water Based Textile Screen Ink is a 2 parts ink system. Please consult SDS prior to mixing. Please keep container tightly closed and away from heat or UV light sources.

## Mixing Instructions:

The recommended mixing ratio is: one part Thermochromic slurry to one part textile binder. This can be varied depending on required finished result, though.

It is recommended that a mechanical stirrer or similar device be used to mix the product effectively. Never use bead or ball mills to blend the ink parts together.

Do not mix with other ink systems.

## Storage

CHAMELEON® Water Based Textile Screen Ink should be stored away from solvents, sources of UV light and high temperatures to gain optimum performance from the product.

Shelf Life of unmixed Ink

6 Months at least

Do not store in temperatures in Excess of 25°C / 77°F

Do not freeze

As the product is water based it is important to keep the containers tightly shut to avoid evaporation and skinning of the product.

Information in this Product Data Sheet is compiled from our general experience and data obtained from various technical publications. While we believe that the information provided herein is accurate at the date hereof, no responsibility for its completeness or accuracy can be assumed. Tests are carried out under controlled laboratory conditions. Information is given in good faith, but without commitment as conditions vary in every case. The information is provided solely for consideration, investigation and verification by the user. We do not except any liability for any loss, damage or injury resulting from its use (except as required by law). Please refer to the Material Safety Data Sheet before using products to ensure safe handling.