

# Dirasol Direct Projection Emulsions

S10 – SW10 – S5 – SUPERPRO

## PRODUCT INFORMATION

The Dirasol range of Direct Projection Emulsions has been developed to provide high quality stencils for all screen printing applications.

Dirasol >	S10	S10 Red	SW10	S5	SuperPro
<b>Recommended Application</b>	Large Poster & Banner	Large Poster & Banner	Large Poster & Banner	Poster & POP	Poster & POP
<b>Magnification Range</b>	x7 – x12	x7 – x12	x7 – x12	x3 – x10	x3 – x5
<b>Ink Resistance</b>	Solvent & Conventional UV	Solvent & Conventional UV	Solvent, Conventional/Water-based UV	Solvent & Conventional UV	Solvent, Conventional/Water-based UV
<b>Emulsion Type</b>	Pre-sensitised (Blue)	Pre-sensitised (Red)	Pre-sensitised (Blue)	Pre-sensitised (Blue)	Two Pack (Violet)
<b>Definition</b>	Fair	Fair	Good	Excellent	Excellent
<b>Resolution</b>	Excellent	Excellent	Good	Excellent	Excellent
<b>Ease of washout &amp; reclaim</b>	Good	Excellent	Fair	Good	Good
<b>Solids Content</b>	25%	25%	34%	32%	40%
<b>Stencil Build in microns</b>	0*	0*	1**	2**	2**
<b>Viscosity @ 25° (mPas)</b>	3,200	3,200	4,500	5,700	5,500 (sensitised)

\*1 + 1 coating on 120 mesh. \*\*1 + 1 coating on 150 mesh.

### Product Overview

#### Dirasol S10

Designed for high magnification poster and billboard applications, S10 is particularly suitable where fast exposure speed is required.

#### Dirasol S10 Red

A fast exposing emulsion for high magnification poster and billboard applications, S10 Red is also quick and easy to develop, even if screens have been coated for several days.

#### Dirasol SW10

Universal projection emulsion for all ink types, SW10 is particularly suited for high magnification poster and

billboard applications using water-based or water-based UV inks.

#### Dirasol S5

A higher solids emulsion for lower magnification, higher quality POP work using solvent-based or conventional UV inks.

#### Dirasol SuperPro

For the highest print quality and best on-press durability, with resistance to all ink types. As SuperPro is a dual cure emulsion, and has an exposure speed much slower than one pot emulsions, SuperPro is only recommended for use at low magnification levels, and with high light output projection cameras, such as Proditec and Svecia.

## Safelighting

All handling of Dirasol projection emulsions should be carried out in light which is low in blue and ultra-violet content. A photographic safelight is not essential but it is desirable to use yellow illumination as provided by gold fluorescent tubes.

**Daylight must be excluded or filtered by a yellow lacquer coating or film applied over windows.**

## Sensitising (SuperPro only)

Dirasol SuperPro is supplied as a two-pack system consisting of:

Part A - coloured emulsion

Part B - diazo sensitiser

which should be mixed as follows:

1. Add water to the sensitiser bottle, to not less than 80% of its total capacity, and shake until the sensitiser is fully dissolved.
2. Add the sensitiser solution to Part A and thoroughly stir. Ideally the emulsion should be allowed to de-gas for one hour before use.

Pre-sensitised emulsions may require a gentle stir to disperse any condensation formed at the top of the bucket.

## Preparing the Screen

Degrease the mesh in automatic screen cleaning machines using Xtend Prep 300 Sprayable Degreasing Concentrate or by hand with Prep 102 Degreasing and Emulsifying Concentrate.

When using Prep 102, wet the screen and apply with a sponge or brush and then rub the mesh with a light circular motion. Ensure that both sides of the screen are thoroughly treated. Leave to stand for a few minutes and rinse with cold water to remove all traces of Prep. Allow the mesh to dry before coating.

New mesh requires a diazo wash to optimise emulsion adhesion. Mix Sericol diazo syrup (SZM02/0980) with 5 litres of water and apply to both sides of mesh and then thoroughly rinse with water.

## Coating

Automatic Coating:

One simultaneous single coat on each side of the screen is recommended, followed by further coats on the squeegee side if required to increase build.

Hand coating:

Apply 1 coat on the print side of the screen and then apply one coat or more wet-on-wet on the squeegee side. The Fujifilm Coating Trough is particularly recommended.

## Fujifilm Coating Troughs

The troughs are composed of precision extruded aluminium channelling fitted with injection moulded end pieces for accurate and consistent coating of photostencil emulsions. The channelling has a hard anodised finish which effectively seals the surface,

easing cleaning and protecting from corrosion. The ends have a special shoulder and slots incorporated, ensuring the coating edge is consistently at the optimum angle to the screen helping eliminate beads.

These features permit relatively inexperienced operators to coat screens faster and more accurately. Designed to deposit medium coating thicknesses, it is possible to coat a screen to a given stencil thickness with fewer strokes than would be required with a sharper or less precise edge. The amount of emulsion used to coat a given area of screen is principally governed by the fineness of the mesh. Fujifilm coating troughs hold sufficient to cover approximately 1.5-2m in a single stroke.

## Drying

Dry the screen in a horizontal position, squeegee side up in darkness or subdued yellow light. A warm air fan or heated cupboard (up to 40°C) may be used but care should be taken not to blow dust on to the drying screen. Screens may be stored in the dark at cool temperatures prior to exposure. For optimum resolution of fine halftones it is better to rotate the screens so that they all dry in approximately the same time.

## Exposure

Correct exposure time is most important to obtain optimum definition/resolution and stencil life. Correct exposure can vary widely depending on a number of factors. For this reason it must be determined by the use of the 'step and repeat' test exposure method.

This is done by mounting the positive in the projection unit according to the manufacturer's instructions, and masking off sections of the screen for a series of increasing exposure times. The ideal exposure is the minimum time at which there is no loss of emulsion from the squeegee side of the screen after developing. If necessary repeat with shorter intervals to determine that time more accurately.

Factors Affecting Exposure:

- Light source and age of lamp.
- Lens thickness and diameter.
- Lens aperture.
- Distance from image to objective lens.
- Transparency of the positive background.
- Mesh and coating technique.

**(The use of coloured mesh is NOT recommended as this will dramatically increase exposure time).**

## Developing

Gently spray both sides of the screen with cold or warm water (not above 40°C). For best results, an automated screen developing unit is recommended.

## Final Drying and Spotting

Dry with the aid of a fan. Any small blemish or pinholes can be filled in using Universal Filler (FISW1) or emulsion which requires re-exposure.

## Reclaiming the Screen

Remove all traces of ink with a rag soaked in an Xtend Screen Cleaner or in an automatic screen reclaiming machine using the appropriate Xtend Screen Cleaner. Rinse the screen with water and then apply diluted Strip Powder or Liquid to both sides of the stencil. Leave for a few minutes. The stencil can then be easily removed with a strong water jet or high pressure water gun. If decoating in automatic machines follow manufacturer's dilution ratios, dosing strengths and dwell times.

## Standard Packing

### Dirasol S10

DCS10/10	Double Pack	10 (2 x 5)ltr Emulsion
DCS10/5	Individual Pack	1 x 5ltr Emulsion

### Dirasol S10 Red

DCA02/10	Double Pack	10 (2 x 5)ltr Emulsion
DCA02/5	Individual Pack	1 x 5ltr Emulsion

### Dirasol SW10

DCW10/10	Double Pack	10 (2 x 5)ltr Emulsion
DCW10/5	Individual Pack	1 x 5ltr Emulsion

### Dirasol S5

DCS05/10	Double Pack	10 (2 x 5)ltr Emulsion
DCS05/5	Individual Pack	1 x 5ltr Emulsion

### Dirasol SuperPro

DCPRO/9	Double Pack	9 (2 x 4.5)ltr Emulsion and Sensitiser to make 9 (2x4.5)ltr
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## Storage

Dirasol emulsions should be stored in their original containers with the lid firmly sealed, at the coolest possible room temperature and in no case below 0°C or above 30°C.

## Fujifilm Speciality Ink Systems Limited:

- Has certification to the International Environmental Standard ISO 14001.
- Is committed to minimising the risk to users of our products, and also to minimising the impact of our activities on the environment, from formulation through to production and supply.
- Research and development team, work to an in house Health Safety and Environmental policy, termed 'Design for Health, Safety and Environment', with the aim of proactively developing products with the least impact on health, safety and the environment.
- Regularly review and monitor our impacts and activities, setting objectives and targets as part of a continual improvement process.
- Is committed to reducing waste through better use of raw materials, energy, water, re-use and recycling.

## Safety and Handling

Dirasol Direct Projection Emulsions:

- Are formulated to be free from any chemicals toxic to health, carcinogenic, mutagenic or reprotoxic according to Directive 67/548/EC.
- Have a flashpoint greater than 55°C and are therefore not classified as "dangerous substance" under the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR).

Comprehensive information on the safety and handling of Dirasol Direct Projection Emulsions is given in the appropriate Safety Data Sheets.

## Environmental Information

Dirasol Direct Projection Emulsions:

- Do not contain ozone-depleting chemicals as described in the Montreal Convention.
- Are formulated free from aromatic hydrocarbons.
- Are free from any volatile solvent and can therefore be considered to have less impact on the environment when compared to solvent-based products.

The information and recommendations contained in this Product Information sheet, as well as technical advice otherwise given by representatives of Fujifilm Speciality Ink Systems Limited and its associated companies, whether verbally or in writing, are based on our present knowledge and believed to be accurate. However, no guarantee regarding their accuracy is given as we cannot cover or anticipate every possible application of our products and because manufacturing methods, printing stocks and other materials vary. For the same reason our products are sold without warranty and on condition that users shall make their own tests to satisfy themselves that they will meet fully their particular requirements. Our policy of continuous product improvement might make some of the information contained in this Product Information sheet out of date and users are requested to ensure that they follow current recommendations.

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