

DIRASOL 125

Photopolymer Direct Emulsion

Features

- ▶ One Pot Pre-sensitized
- ▶ Solids Content 35%
- ▶ Ultra Fast Exposure Speed
- ▶ Fast Drying
- ▶ Humidity Resistant
- ▶ Good Resolution
- ▶ Outstanding Resistance to Waterbased and Plastisol Inks
- ▶ Long Run Durability
- ▶ No Diazo Stains
- ▶ Easily Reclaimed
- ▶ Viscosity at 77°F: 4500 mPas

Application

Textile Printing

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Safelighting

Dirasol 125 is a turquoise/green color pre-sensitized photopolymer emulsion, and is, therefore, sensitive to light at all times. All handling of Dirasol 125 must be carried out in light of low blue and ultra-violet content. A photographic safelight is not essential, but it is suggested to use yellow safe lighting. The preferred form of light for the workroom is yellow fluorescent tubes. Daylight must be excluded or filtered by a yellow or UV spectrum filtering film applied over the windows.

Preparing the Screen

Degrease using Xtend™ Mesh Preps. Wet the screen and apply with a soft bristle brush, rubbing the mesh with a light circular motion. Ensure that both sides of the screen are thoroughly treated. Let stand for a minute and rinse with cold water to remove all traces of the degreaser. Xtend™ Mesh Preps not only degrease the mesh but also enhance emulsion adhesion. Allow the mesh to dry before coating.

Automatic Coating

When using an automatic coating machine, apply a simultaneous single coat to each side of the screen. If a higher build is required, extra coats should be applied to the squeegee side of the screen.

Hand Coating

Stand the screen on edge slightly inclined away from the operator and process the screen as follows:

Depending on the stencil build required, apply one or two coats, wet on wet, to the print side of the screen followed by one or two coats applied, wet on wet, to the squeegee side of the screen.

The use of the Sericol Coating Trough is particularly recommended. Troughs made of mild steel, copper, or zinc should not be used.

Drying

The coated screen must be dried in darkness, safelight, or subdued yellow light, ideally in a horizontal position, squeegee side up. A warm air fan or heated cabinet up to 100°F (38°C) may be used but care should be taken not to blow dust on the drying screen. For maximum stencil durability, the screen must be thoroughly dry before exposure. Dried Dirasol 125 screens may be stored in the dark at cool room temperatures for up to six months prior to exposure.

Exposure

Dirasol 125 has a very short exposure and correct exposure time is most important to obtain optimum definition/resolution and stencil life. For this reason it must be determined by the use of the “step and repeat” test exposure method, which is achieved by masking off sections of the image for a range of different exposure times. When using an exposure calculator, as there is no diazo color change, the correct exposure is the first step at which no emulsion is washed from the squeegee side of the screen.

For a durable stencil, the ideal exposure is the maximum exposure time to achieve optimum resolution. If necessary repeat with smaller time intervals to determine that time more accurately. The following guide can be used as the basis of an initial test exposure:

EXPOSURE GUIDE

156.64 (62 cm) white mesh (2+2 coats)

| | CM | INCHES | SECONDS |
|------------------------|-----|--------|---------|
| 50 Amp Open Carbon Arc | 120 | 48 | 50-75 |
| 1000W Metal Halide | 120 | 48 | 21-42 |
| 2000W Metal Halide | 120 | 48 | 14-28 |
| 3000W Metal Halide | 120 | 48 | 12-20 |
| 5000W Metal Halide | 120 | 48 | 8-12 |
| 6000W Metal Halide | 120 | 48 | 5-10 |

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Exposure (cont.)

The exposure values quoted are estimated times required to fully cure and completely harden the sensitized emulsion on a 156.64 white monofilament polyester mesh screen, using a 2+2 coating technique. These through-cure exposure values prevent emulsion being washed away from the inside of the stencil during development and ensure stencils of optimum definition, durability, and reclaimability. Where the prime requirement is stencil resolution, the exposure time may be slightly reduced.

Multifilament, stainless steel, colored mesh, and multi-coat stencils may require longer exposure.

Factors Affecting Exposure Times

- Light source and age of bulb.
- Distance from light source to screen.
- Transparency of the background of the positive.
- Mesh count and/or color and coating technique.

Developing

Gently spray both sides with cool or warm water (not above 105°F/40°C). After one to two minutes, the spray pressure can be increased slightly. Continue developing until all parts of the image appear clean and sharp. With thick, heavily coated stencils, let them stand for additional time before beginning spray development.

Final Drying and Touch Up

Dry the stencil using a warm air fan. Small blemishes or pinholes, which are usually caused by dust specks or spots on the positive, can be touched up with a brush containing Dirasol 125 emulsion or Xtend™ Blockout. After drying and touch up, the screen is ready for printing.

Reclaiming the Screen

In automatic screen cleaning machines or by hand, remove all traces of ink with a Xtend™ Ink Degradent. Rinse the screen with water and apply Xtend™ Stencil Remover to both sides of the stencil. Let stand for one to three minutes. Remove the stencil with a strong water jet or pressure washer.

Diazo Sensitizer 711784 for Dirasol 125

The durability of Dirasol 125 can be improved by the addition of diazo sensitizer. This will improve the emulsion's resistance to discharge ink systems and improve durability when used in conjunction with textile belt printing machines.

Instruction for Use:

1. Half fill the diazo container with water and shake to dissolve.
2. Add the sensitizer liquid to 1 gallon of Dirasol 125 and stir thoroughly.

Dirasol 125 with diazo sensitizer will have a shelf life of 1 week. Exposure times will have to be increased by approximately 10 times, and stencils may prove to be more difficult to decoat.

Safety and Handling

Prior to use, consult Material Safety Data Sheet for proper safety, handling, and disposal information.

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Storage

Dirasol 125 should be stored in its original container with the lid firmly sealed. In the interest of maximum shelf life, storage temperatures should be between 50°F (10°C) and 77°F (25°C). When stored in a cool environment, the product is expected to have a shelf life of approximately 24 months from date of manufacture.

Caution: If allowed to freeze, Dirasol 125 may not recover, therefore becoming totally unusable.

The information and recommendations contained in this Technical Data Sheet, as well as technical advice otherwise given by representatives of our Company, 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 Technical Data Sheet out of date and users are requested to ensure that they follow current recommendations.

FUJIFILM North America Corporation, Graphic Systems Division
1101 W. Cambridge Drive
Kansas City, KS 66103 USA
1-800-255-4562/(913) 342-4060 Fax: (913) 342-4752
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FUJIFILM North America Corporation, Graphic Systems Division
1101 W. Cambridge Drive
Kansas City, KS 66103