

# DIRASOL 914

Dual Cure Emulsion

## Features

- ▶ Excellent Coating Properties
- ▶ Fast Exposure Speed
- ▶ Wide Exposure Latitude
- ▶ Good Resolution and Print Definition
- ▶ Humidity Resistant
- ▶ Good Tape Resistance
- ▶ Outstanding Mechanical and Abrasion Resistance
- ▶ U.V., Solvent, and Water Resistant
- ▶ Easily Reclaimed
- ▶ Solids Content (sensitized) 35%
- ▶ Sensitized Viscosity at 77°F: 6000 mPas

## Application

Graphic Printing

Industrial Printing

Textile Printing

# DIRASOL 914

## Dual Cure Emulsion

### Safelighting

Dirasol 914 is a light green color dual cure emulsion, and is, therefore, sensitive to light at all times. All handling of Dirasol 914 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.

### Sensitizer Mixing Instructions

The diazo sensitizer must be added prior to use. Fill the sensitizer bottle to the shoulder or approximately 3/4 full with warm distilled water. Seal the lid tightly and shake vigorously until dispersed completely. Add to emulsion and mix thoroughly. Let the sensitized emulsion stand for one to two hours to degas.

### 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 degrease. 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, followed by a second coat to the squeegee side. 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 to three coats

### Hand Coating (cont.)

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.

For large frames or where horizontal drying is difficult, vertically dried frames may require a further wet or dry coat on the substrate side to give optimum emulsion over mesh build. Dried Dirasol 914 screens may be stored in the dark at cool room temperatures for up to one month prior to exposure.

### Exposure

Correct exposure time is essential to obtain optimum definition/resolution and stencil life. Determine the proper exposure time using the Dirasol Exposure Calculator. The correct exposure is the longest exposure time that can be given while still obtaining optimum stencil resolution and print definition, and which results in no color change between the chosen exposure factor and the surrounding emulsion.

# DIRASOL 914

## Dual Cure Emulsion

### Exposure (cont.)

When preparing stencils for use with water-based inks, complete exposure through-cure must be achieved to obtain optimum stencil life. The following guide can be used as the basis of an initial test exposure:

### EXPOSURE GUIDE

#### 305.40 (120 cm) yellow mesh (2+2 coats)

	CM	INCHES	SECONDS
50 Amp Open Carbon Arc	120	48	1000-1062
1000W Metal Halide	120	48	500-530
2000W Metal Halide	120	48	235-280
3000W Metal Halide	120	48	155-190
5000W Metal Halide	120	48	90-115
6000W Metal Halide	120	48	75-95

The exposure values quoted are estimated times required to fully cure and completely harden the sensitized emulsion on a 305.40 dyed monofilament polyester mesh screen, using a 2+2 coating technique. These through-cure exposure values prevent emulsion from 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 although under exposure is not necessary to achieve optimum resolution with Dirasol 914.

Multifilament, stainless steel, different colored mesh, and multicoat stencils may require longer exposure; white mesh requires a shorter 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 60 seconds, 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, usually caused by dust specks or spots on the positive, can be touched up with a brush containing Dirasol 914 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 mesh prep with a Xtend™ Ink Degradent. Rinse the screen with water and apply Xtend™ Stencil Remover for a few minutes. Remove the stencil with a strong water jet or high pressure washer.

### Safety and Handling

Diazo sensitizer: diazo sensitizer is acidic. Contact with eyes and skin should be avoided; if splashes do occur, wash the affected area thoroughly with water. Normal industrial practices regarding protective wear in handling chemicals should be observed.

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

# DIRASOL 914

## Dual Cure Emulsion

### Storage

Unsensitized Dirasol 914 should be stored in its original container with the lid firmly sealed. The product will then remain stable for up to 12 months from the date of manufacture.

Sensitized Dirasol 914 should be stored in similar conditions in its original container and 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 3 months after the emulsion has been sensitized.

**CAUTION:** If allowed to freeze, Dirasol 914 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  
Last Revised: March 31, 2010