

# DIRASOL Zenith

Diazo Triple Cure Emulsion

## Features

- ▶ *Excellent Coating Properties*
- ▶ *Excellent Reclaim Properties*
- ▶ *Outstanding Resolution and Print Definition*
- ▶ *Short Exposure Time*
- ▶ *Wide Exposure Latitude*
- ▶ *Higher Long Run Durability*
- ▶ *Suitable for Wax, DLP & inkjet CTS*
- ▶ *"Universal" Resistance to All Ink Technologies*
- ▶ *Deep Violet Color for High Contrast*
- ▶ *Solids Content (sensitized): 37%*
- ▶ *Sensitized Viscosity at 77° F: 5000 mPas*

## Application

Graphic Printing

Industrial Printing

Textile Printing

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Triple Cure Emulsion



ZENITH

Triple Cure Technology

## Safelighting

Dirasol Zenith is a deep violet triple cure emulsion, and is, therefore, sensitive to light at all times. All handling of Dirasol Zenith must be carried out in light of low blue and ultraviolet 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 U.V. 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 to disperse completely.

Add to emulsion and mix thoroughly. Let the sensitized emulsion stand for one to two hours to degas.

## Preparing the Screen

Degrease 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, 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 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 may be used, but care should be taken not to blow dust on to 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 Zenith screens may be stored in the dark at cool room temperatures for up to one month prior to exposure.

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## Exposure

Correct exposure time is essential to obtain optimum definition/resolution and stencil life. Determine the proper exposure 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. 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

#### 305.34 yellow mesh (1+2 Coats)

	Inches	Seconds
1000W Metal Halide	48	310 - 350
2000W Metal Halide	48	145 - 175
3000W Metal Halide	48	90 - 110
5000W Metal Halide	48	50 - 70
6000W Metal Halide	48	40 - 55

The exposure values quoted are estimated times required to fully cure and completely harden the sensitized emulsion on a 305.34 dyed monofilament polyester mesh screen, using a 1+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 Zenith.

Multifilament, stainless steel, different colored mesh, and multi-coat stencils may require longer exposure; white mesh requires a shorter exposure.

## Recommended Stencil Build Over Mesh

Mesh	Line Work	Process
280.40 PW	12-16 $\mu$	10-12 $\mu$
305.34 PW	10-12 $\mu$	8-10 $\mu$
355.34 PW	5-6 $\mu$	4-5 $\mu$
380.34 PW	5-6 $\mu$	4-5 $\mu$

The ideal emulsion builds over mesh are indicated in the above table. Drying the screens horizontally, squeegee side up, results in the optimum build over mesh and sharpest stencil shoulder on the substrate side of the screen. All stencil builds should be assessed after exposure.

## Factors Affecting Exposure Time

- 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). 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 Zenith emulsion or Xtend™ Blockout. After drying and touch up, the screen is ready for printing.

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### Reclaiming the Screen

In automatic screen cleaning machines or by hand, remove all traces of ink with a Xtend™ Ink Degradant. 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.

### 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 the Material Safety Data Sheet for proper safety, handling, and disposal information.

### Storage

Unsensitized Dirasol Zenith should be stored in its original container with the lid firmly sealed in a cool location between 35°F (2°C) and 95°F. The product will then remain stable for up to 12 months from the date of manufacture.

Sensitized Dirasol Zenith should be stored in similar conditions in its original container and with the lid firmly sealed. The product will then remain stable for up to two months. This life can be extended by storage between 35°F (2°C) and 40°F (5°C).

**CAUTION:** If allowed to freeze, Dirasol Zenith 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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