

DIRASOL S5

One Pot Direct Projection Emulsion

Features

- ▶ One Pot Presensitized
- ▶ Ultra Fast Exposure Speed
- ▶ High Resolution Capabilities
- ▶ Wide Exposure Latitude
- ▶ Excellent UV and Solvent Resistance
- ▶ Superb Coating Qualities
- ▶ High Stencil Contrast
- ▶ Superior Wet Film Strength
- ▶ Easily Decoatable
- ▶ No Diazo Stains
- ▶ Solids Content: 32%
- ▶ Computer-To-Screen Compatible

Application

Graphic Printing

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Main Characteristics

Stencil type	Turquoise, one-pack photopolymer
Ink resistance	Solvent-based & Conventional UV curing
Recommended applications	Poster/Display
Magnification Range	x3-x7
Dry coating weight	16g/m ²
Stencil build in microns	1-2*
Sensitized viscosity at 77°F	5700 (mPAS)
Approx. life of coated screen	6 months @ 70° F

* 1 + 1 coats on 380 mesh

Safelighting

Dirasol S5 is a presensitized photopolymer emulsion, and is therefore sensitive to light at all times. All handling of Dirasol S5 must be carried out in light of low blue and minimal ultraviolet content. A photographic safelight is not essential but it is desirable to use yellow safe lighting, such as provided by yellow fluorescent tubes. Daylight must be excluded or filtered by a yellow or UV spectrum filtering film or coating applied over the windows.

Preparing the Screen

With Dirasol S5, and all emulsions for use with direct projection systems, it is vital to thoroughly degrease the mesh using Xtend™ Mesh Preps. Wet the screen and apply with a soft bristle or 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, a simultaneous single coat on each side of the screen is recommended.

Hand Coating

With the screen stood on edge slightly inclined away from the operator, apply 1 coat on the print side of the screen, and then apply 1 coat wet-on-wet on the squeegee side. The use of the precision extruded Sericol Coating Trough is particularly recommended. Troughs made of mild steel, copper, or zinc should not be used.

Drying

Dry the screen in a horizontal position, squeegee side up in darkness or subdued yellow light. 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 to the drying screen. For maximum stencil durability, the screen must be thoroughly dry before exposure.

Exposure

Correct exposure time is essential to obtain optimum definition/resolution and stencil life. Required time can vary widely depending on a number of factors (see below). For this reason it must be determined by the use of the “step and repeat” test exposure method. (Use of an exposure calculator is not possible). This is done by mounting the positive in the projection unit according to the manufacturer's instructions, and masking off sections of the image for a range of different 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. This indicates the emulsion has fully cured and will therefore give maximum durability. If necessary, repeat with smaller time intervals to determine the exposure time more accurately.

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Factors Affecting Exposure

- Light source and age of bulb.
- Lens thickness and diameters.
- Lens aperture.
- Magnification.
- Distance from image to objective lens.
- Transparency of the positive film.
- Mesh and coating technique.
- **Drying prior to exposure.**

Note: The use of dyed mesh is NOT recommended

Developing

Gently spray both sides with cool or warm water (not above 105°F/40°C). After 1-2 minutes the spray pressure can be increased slightly. Concentrate on washing out through the print side of the screen and continue developing until all parts of the image appear clean and sharp. If a high pressure gun is used, the washout distance must be kept to a minimum of one yard from the screen to prevent stencil damage.

Final Drying and Touch Up

Dry the screen with the aid of a warm air fan. Any 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 S5 emulsion or Xtend™ Blockout. After drying, the screen is then ready for printing.

Reclaiming the Screen

In automatic screen cleaning machines or by hand, remove all traces of ink with an Xtend™ ink degradant. Rinse the screen with water and apply Xtend™ Stencil Remover to both sides of the stencil. Let stand for a few minutes. The stencil can then be easily removed with a strong water jet or pressure washer.

Safety and Handling

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

Storage

Dirasol S5 should be stored in the 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 12 months from date of manufacture.

Caution: If allowed to freeze, Dirasol S5 will not recover, therefore becoming totally unusable.

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PROBLEMS AND SOLUTIONS

Faults

1. Image does not wash out at all.
2. Only part of image washes out.
3. Apparently open areas of stencil will not print.
4. Exposed stencil washes away from screen or premature stencil breakdown.
5. Image has excessive sawtooth.
6. Fish eyes
7. Pinholes in screen

Probable Cause and Remedies

- a. Accidental exposure - check emulsion and coated screen have not been exposed to light source or daylight.
 - b. Screen dried with excessive heat - dry screen at even temperature not exceeding 100°F (38°C). Avoid hot spots.
 - c. Maximum storage life of sensitized emulsion or coated screen has been exceeded.
- a. Uneven coating on screen - ensure screen is taut and coating trough is undamaged.
 - b. Montage positives comprised of films of different clarity - use same type of film for image area.
 - c. Over exposure - reduce exposure time.
 - d. Inadequate positive opacity - check density and adjust.
- a. Inadequate washing out - mop up excess water from stencils.
 - b. Inadequate exposure resulting in squeegee side of stencil running down screen causing blocking during development or hardening.
- a. Inadequate exposure - increase exposure time.
 - b. Mesh improperly prepared and degreased.
 - c. Excessive water pressure being used in development.
 - d. Inadequate drying of coated screen.
 - e. High humidity in drying area.
- a. Screen developed with excessive water pressure - presoak screen and use a more gentle spray.
 - b. Mesh too coarse for design.
 - c. Insufficient emulsion applied to mesh.
 - d. Inadequate exposure - increase exposure.
- a. Screen improperly prepared - thoroughly degrease with recommended preparation chemical.
 - b. Blemishes on coating - ensure coating trough edge is clean and no skin particles have formed on the surface.
 - c. Environmental contaminants - clean working area and limit dust contamination.
- a. Coating too fast - slow down to allow mesh aperture to fully fill without aeration.
 - b. Underexposure - increase exposure times to avoid weak stencil.

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.

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