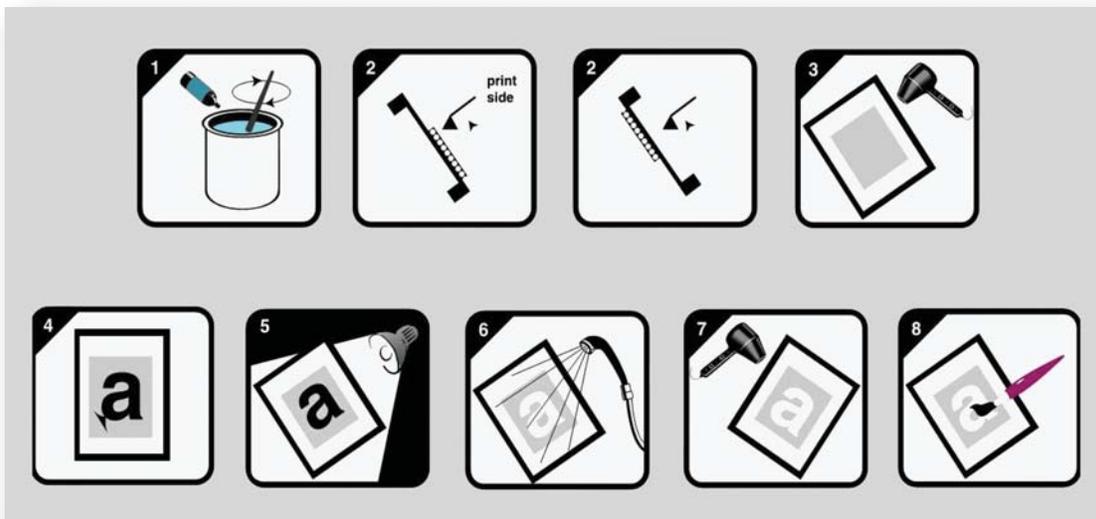


Product Description

Screen-Cote DC1 is a diazo sensitized dual cure emulsion combining excellent print quality and durability with a wide processing latitude. The solids content is 38%. DC1 has a violet color for easy spotting out on colored or white mesh. It has a tack free surface with good tape resistance and is easily reclaimed.



Processing Guide



Outline of Process

1. Sensitize the emulsion (As seen in picture 1)
2. Coat the prepared screen with the emulsion. (Picture 2)
3. Dry the coated screen. (Picture 3)
4. Apply the positive film to the screen. (Picture 4)
5. Expose the screen for the correct time. (Picture 5)
6. Rinse with water (Picture 6)
7. Dry the stencil. (Picture 7)
8. Spot out any pinholes. (Picture 8)

Instructions for Use

Safelighting

DC1 should be handled in a room with low ultraviolet light. Special safelight is not essential, but yellow or weak illumination is desirable. When used in the general workroom, it is recommended that gold fluorescent tubes be used and daylight be excluded or filtered by a yellow lacquer coating or film applied over the windows.

To ensure the quality of this product, Norcote will not ship this item when the current temperature is 32° F (0° C) or lower.

Processing Guidelines

DC1 is supplied as a two-part system consisting of the following:

Part A - Emulsion

Part B - Diazo sensitizer powder

(Part B is supplied in a sealed bottle or sachet)

The two parts should be mixed as follows:

Diazo in a bottle

1. Remove the seal on the bottle and add water to the bottle shoulder.
2. Replace the cap and shake the bottle well until the contents have dissolved.
3. Pour the dissolved sensitizer solution into the emulsion and stir well.
4. Leave to de-aerate for a minimum of 30 minutes before use.

Diazo in a sachet

1. Empty contents of the foil sachet into the bottle provided.
2. Add water to the bottle shoulder.
3. Replace the cap and shake the bottle until the contents have dissolved.
4. Pour the dissolved sensitizer solution into the emulsion and stir well.
5. Leave to de-aerate for a minimum of 30 minutes before use.

For customers who like to use the emulsion at higher or lower viscosity, the sensitizer can be added directly to the emulsion or dissolved in a full sensitizer bottle of water depending on individual preferences. When adding the sensitizer powder directly to the emulsion care must be taken to ensure the product is thoroughly mixed.

Preparing the Screen

Manual

Set the screen on edge slightly inclined away from the operator and then follow this procedure:

1. Apply one or two coats of DC1, wet on wet, to the print side of the screen.
2. Apply one or two coats of this emulsion, wet on wet, to the squeegee side of the screen.
3. If a higher build of emulsion is required, extra coats should be applied, wet on wet, to the squeegee side of the screen.
4. Ensure that a suitable coating trough is used to deposit an accurate and consistent coating of emulsion.

Automatic

When using an automatic coating machine, a simultaneous single coat on each side of the screen is recommended. If higher builds are required, extra coats should be applied to the squeegee side of the screen. To achieve a lower Rz value for the emulsion, extra coatings can be applied wet on dry to the print side of the screen.

Drying

The wet screen must be dried in darkness or subdued yellow light, ideally in a horizontal position, squeegee side up. Warm air or a well-ventilated heated cupboard (up to 40 C/105 F) may be used. However, special care should be taken not to blow the dust onto the drying screen. Ensure the screen is thoroughly dry before exposure for maximum print durability.

Exposure

Correct exposure is the most important factor in obtaining optimum resolution, definition and stencil life. To set the correct exposure time with an unfamiliar emulsion or light source the use of an exposure test scale is recommended. This can be done in the two ways that follow:

1. Place an exposure calculator film on the print side of the emulsion and then expose for a suitable time depending on the type of mesh; the distance between the screen and the light source and the light intensity (the ideal test exposure would be double the correct exposure). After exposure, develop the stencil so that the appropriate exposure values can be determined. The correct exposure is the longest exposure that can be given whilst still obtaining optimum stencil resolution.
2. Place a strip of fine detail positive film over a coated screen and use a black paper mask to give it a series of stepped exposures. The exposure time is doubled from one step to the next. The correct exposure is the longest exposure given while still obtaining optimum stencil resolution after development.

Comments: The exposure time depends on a number of factors including, the type of light source, the mesh count, the emulsion thickness, the detail required and the colour of the screen mesh as well as the transparency of the positive film and the glass clarity of the vacuum frame.

Note: The information provided here is deemed accurate at the time of issue and is provided as a guideline to the user. Users should test the suitability of this product for their own applications. User assumes all liability arising from the use, storage and handling of this product. Consult the MSDS prior to the use of this or any other chemical. No warranties are expressed or implied.

Table of Exposure Guide

Light Source	Distance	Length of Exposure Time (seconds)
125 W HPR Mercury Vapor Lamp	50 cm	350-370
50 Amp Open Carbon Arc	120 cm	700-740
1000 W Metal Halide	120 cm	350-370
2000 W Metal Halide	120 cm	165-195
3000 W Metal Halide	120 cm	110-135
5000 W Metal Halide	120 cm	60-80
6000 W Metal Halide	120 cm	50-65

Comments: The exposure values quoted are the time needed for full curing and therefore complete hardening of the sensitized emulsion on 120 yellow screen mesh, coated twice on both sides. For multifilament, stainless steel mesh and heavily coated stencils, longer exposure is required.

Developing and Final Drying

Place the screen in a washout booth and gently spray both sides with cold or warm water (not over 40 C/105 F). After one or two minutes, increase the spray pressure slightly. Continue developing until all parts of the image appear clean and sharp. A high pressure water gun can also be used to ensure the stencil is fully developed although care must be taken when washing areas of very fine detail. With thick or heavily coated stencils, leave to stand wet for a few minutes before starting spray development. After spray development is completed, dry the screen with the aid of a warm air fan or drying cabinet.

Spotting

Place the screen in front of a white or yellow light source and check for pinholes or blemishes. These are usually caused by dust specks or spots on the positive film or vacuum frame glass. Spot out with Screen-Cote filler.

Reclaiming the Screen

Remove ink residues by applying a suitable screen wash and then rinse the screen with water. Apply Screen-Cote Stencil Remover thoroughly to both sides of the stencil. Leave for a few minutes and use a strong water jet or high-pressure water gun to remove the stencil.

Ghost Image Removal

Stains on the mesh can be removed by using Screen-Cote Haze Remover paste or liquid. Please refer to the appropriate product information sheet for correct use.

Storage

Unsensitized DC1 should be stored in as cool a temperature as possible not below 0 C/ 32 F or over 35 C/ 95 F. DC1 can be stored for up to 4 years under these conditions. Diazo sensitizer should be stored under similar conditions and can be stored for 1 year. Ideally, sensitizer should be stored in a refrigerator at 4-6 C for optimum shelf life.

Sensitized DC1 should be stored under similar conditions and has a maximum shelf life of 4 weeks. Screens coated in advance will last for approximately 2 weeks if stored at 20 and in complete darkness. With storage of pre-coated screens, the emulsion can absorb moisture from the environment. It is therefore advisable to dry again prior to exposing. Screen-Cote emulsions should be handled with care. Wear suitable PPE, for example, appropriate gloves and safety glasses.

Environmental Information

Screen-Cote Emulsions:

- * Are free from any toxic, carcinogenic, mutagenic and reprotoxic chemicals
- * Do not have a flash point and is, therefore, exempt from the Highly Flammable Regulations
- * Do not contain heavy metals
- * Are formulated free from ozone depleting chemicals as described in the Montreal Convention
- * Are free from aromatic hydrocarbons, known to have an adverse effect on the environment
- * Are moderately biodegradable as determined by the OECD 301D Closed Bottle Test
- * Have a pH of 4-6

Please consult the information on the Safety and Handling of Screen-Cote DC1 in the Material Safety Data Sheet.



Problems & Solutions

Problems	Probable Causes	Preventative/Corrective Actions
1. Image does not wash out at all	Accidental exposure, for example sunlight or artificial light All or certain parts of the screen dried with excessive heat Sensitized emulsion exceeding maximum storage life	Ensure emulsion or coated screen is not exposed to daylight or artificial light Dry the screen at not more than 40° C Use freshly sensitized emulsion
2. Only part of the image washes out	Uneven coating on the screen Montage positives made of films with different clarity Overexposure time for detail areas Uneven contact	Ensure the screen is taut and coating trough is undamaged Ensure the same type of film is used for the image area Use dyed mesh or reduce exposure time Check vacuum frame for contact between positive and screen
3. Open areas of the stencil do not print	Uneven coating on the screen Screen blockage caused by underexposure. Emulsion runs down squeegee side of the screen, causing blocking in the development or hardening stage.	Ensure that the screen is taut and coating trough is undamaged Increase exposure time
4. Exposed stencil washes away from screen or premature stencil breakdown	Underexposure Under-sensitized emulsion Excessive water pressure used during development Incorrect coating technique	Increase exposure time Ensure that sensitizer is completely dissolved & thoroughly mixed with emulsion Ensure that the screen is fully soaked before it is gently sprayed Coat both side of the mesh
5. Image has excessive saw tooth	Screen developed with excessive water pressure Insufficient contact between positive and screen Mesh too coarse for design Insufficient emulsion build up Under exposure	Fully soak screen and spray gently Ensure even contact between positive and screen Use a higher mesh count Increase the number of coats on the squeegee side of the screen Increase exposure time
6. Fisheyes and Pinholes	Screen improperly prepared Blemishes on emulsion coating Environmental contaminants Air bubbles in the emulsion Dirty glass or positive during exposure Coating too fast Insufficient exposure	Prepare the screen with Degreaser and Screen prep before emulsion coating Ensure the coating trough edge is clean and free of dried emulsion Ensure the work area is clean & dust is limited Allow time for the mixed emulsion to de-gas Ensure glass and positive are clean Slow down to let mesh aperture fill fully without aeration Increase exposure time

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