

# Emulsions for Glass - Screen Printing

## Hollow Glass

### ■ SAATIgraf HSX

#### APPLICATIONS

General industrial and display graphics.

Unique resistance against very strong solvents and excellent printing quality.

#### GENERAL CHARACTERISTICS

- Dual-cure emulsion resistant to UV-cured and, solvent and water based inks for graphic applications
- Excellent print definition and resolution on any mesh
- Uncommon solvent resistance : should be used with inks containing NMP and DMAC and treated with ethyl alcohol
- Easy to reclaim.

#### DIRECTIONS FOR USE

Handle under yellow safelight or low wattage tungsten lights. Avoid exposure to daylight, quartz/halogen lamps, cool white fluorescent lamps or discharge lamps.

#### Sensitizing and mixing

Prepare Diazo as per instructions on the bottle. Add the entire contents to the emulsion and mix thoroughly until a smooth consistency is obtained. Write the date of sensitizing on the label and then cover the sensitized emulsion and let stand for a few hours to enable air bubbles to escape. Store sensitized emulsion in cool conditions and use within one month for best results.

#### Mesh preparation and degreasing

Degrease and abrade new mesh with Direct Prep 1 (abrasive gel) in order to optimize stencil adhesion; dry and store the screen in a dust free, dry environment prior to coating. For further applications, thoroughly degrease the mesh prior to use with Direct Prep 2 (degreaser).

#### Coating

Using a high quality scoop coater or coating through, apply one or two coats to the substrate side of the screen, followed by one or two coats on the squeegee side. For a thicker stencil, apply additional coats to the substrate side of the screen after the initial coats have dried.

For a higher quality stencil with a minimal increase in stencil thickness, apply one or two additional coats to the substrate side of the screen after the initial coats have dried.

#### Drying and storage

Thoroughly dry the coated screen at a maximum temperature of 104°F (40°C) in a dust free, dark or yellow light area, with the substrate side facing down to optimize stencil quality. Coated screens should be stored in a dust free, dry, safelight environment.

#### Exposing

Ensure that all surfaces (emulsion, film and glass), are free of dust to minimize pinholes.

Contact the emulsion side of the positive with the substrate side of the screen and secure in position before placing the screen in a suitable vacuum frame. Many variables, such as lamp type and age, distance from lamp to screen, mesh type and coating thickness, can affect exposure time. Perform an exposure test with one of two calculators now available (Exposure Calculator and 21 Step Sensitivity Guide) to determine correct exposure time for a complete cure.

### Developing

Wet both sides of the screen with a strong, finely divided spray of water and continue washing out until all image areas are fully open. Rinse both sides of the screen and dry thoroughly before use. A properly exposed and developed screen will not leave residues on the squeegee side.

### Reclaiming

Remove all ink residues immediately after printing with an appropriate solvent. Remove stencil with Remove ER1, ER2, ER4, ER5 or ER10 and a pressure washer. For stains and ghost images, use Remove HR3 followed by a pressure washer.

### HEALTH AND SAFETY

Before using, refer to appropriate material safety data sheets.

### PROBLEM SOLVING

#### Poor coating quality

- Properly clean, degrease and rinse the screen to remove all residues and traces of chemicals
- Properly and evenly tension the fabric
- Clean and ensure the scoop coater does not present any defect edge.

#### Poor detail or difficulty washing out image

- Ensure emulsion and coated screens are handled in safelight conditions only
- Ensure a minimum vacuum of 0.66 bar (500 mmHg or 20 in Hg) on vacuum gauge for optimum contact of the positive
- Optimize exposure time and use only high quality film positives
- Do not store emulsion or coated screen at high temperatures.

### Emulsion falls off, extreme pinholes or severe stencil breakdown during printing

- Ensure that damp screens are not being exposed
- Only expose screens with an even and consistent coating thickness
- Ensure that stencil has not been severely underexposed
- Ensure emulsion has not been stored at high temperature.

### Difficulty reclaiming screens

- Non reclaimable once catalysed
- Optimize exposure time and properly rinse the squeegee side of the screen during developing to remove all residual traces, especially when using higher mesh count dyed fabric.

### STORAGE

When sealed in the original container and stored at temperature between 20 and 25°C, SAATIGRAF HSX will maintain original properties for 18 months from the date of production.

### PACKAGING

Available in 0.9, 4.5 and 200 kilogram containers. In North America, available in one, five and fifty US gallon containers. Packaged with associated Diazo 41.

#### WARRANTY AND LIMITED REMEDY

The directions, recommendations and specifications contained in this Technical Data Sheet are meant as a guide to the use of the product and shall not bind the company. Product specifications are subject to change without notice.

The following is made in lieu of all other expressed or implied warranties, including any implied warranty of merchantability or fitness for a particular purpose: all Saatichem manufactured liquid products are warranted to be free of defects in materials and manufacture and to meet the specifications stated in Saatichem applicable Product Bulletin. Saatichem will replace or refund the price of any Saatichem manufactured liquid product that does not meet this warranty within the applicable warranty period.

The remedies are exclusive. In no case shall Saatichem be liable for any other direct or indirect damage or loss, including without limitation any incidental, special or consequential damages, or any material costs or labor charges incident to the removal or replacement of any mesh, screen, ink, substrate, finished graphic or any other item.

# ■ Vitrum HU Violet

## APPLICATIONS

Electrical appliance, containers and bottles, automotive, architectural and decorative glass.

## GENERAL CHARACTERISTICS

- Dual-cure emulsion resistant to UV-cured, solvent-based, water-based or solvent/water based inks used in the glass industry
- Upon drying, stencils lack the typical tackiness of dual-cure emulsions
- Low friction surface properties for improved abrasion resistance and longer stencil life
- Uniform and reproducible stencil emulsion thickness
- High solids content (39%) for excellent print definition on any mesh.

## DIRECTIONS FOR USE

Handle under yellow safelight or low wattage tungsten lights. Avoid exposure to daylight, quartz/halogen lamps, cool white fluorescent lamps or discharge lamps.

### Sensitizing and mixing

Prepare Diazo as per instructions on the bottle. Add the entire contents to the emulsion and mix thoroughly until a smooth consistency is obtained. Write the date of sensitizing on the label and then cover the sensitized emulsion and let stand for a few hours to enable air bubbles to escape. Store sensitized emulsion in cool conditions and use within one month for best results.

### Mesh preparation and degreasing

Degrease and abrade new mesh with Direct Prep 1 (abrasive gel) in order to optimize stencil adhesion; dry and store the screen in a dust free, dry environment prior to coating. For further applications, thoroughly degrease the mesh prior to use with Direct Prep 2 (degreaser).

### Coating

Using a high quality scoop coater or coating through, apply one or two coats to the substrate side of the screen, followed by one or two coats on the squeegee side. For a thicker stencil, apply additional coats to the squeegee side prior to drying.

### Drying and storage

Thoroughly dry the coated screen at a maximum temperature of 104°F (40°C) in a dust free, dark or yellow light area, with the substrate side facing down to optimize stencil quality. Coated screens should be stored in a dust free, dry, safelight environment.

### Exposing

Ensure that all surfaces, (emulsion, film and glass) are free of dust to minimize pinholes. Contact the emulsion side of the positive with the substrate side of the screen and secure in position before placing the screen in a suitable vacuum frame. Many variables, such as lamp type and age, distance from lamp to screen, mesh type and coating thickness, can affect exposure time. Perform an exposure test with one of two calculators now available (Exposure Calculator and 21 Step Sensitivity Guide) to determine correct exposure time for a complete cure.

### Developing

Wet both sides of the screen with a strong, finely divided spray of water and continue washing out until all image areas are fully open. Rinse both sides of the screen and dry thoroughly before use. A properly exposed and developed screen will not leave residues on the squeegee side.



### Reclaiming

Remove all ink residues immediately after printing with an appropriate solvent. Remove stencil with Remove ER series and a pressure washer. For stains and ghost images, use Remove HR series followed by a pressure washer.

### HEALTH AND SAFETY

Before using, refer to appropriate material safety data sheets.

### PROBLEM SOLVING

#### Poor coating quality

- Properly clean, degrease and rinse the screen to remove all residues and traces of chemicals
- Properly and evenly tension the fabric
- Clean and ensure the scoop coater does not present any defect edge.

#### Poor detail or difficulty washing out image

- Ensure emulsion and coated screens are handled in safe-light conditions only
- Ensure a minimum vacuum of 0.66 bar (500 mmHg or 20 in Hg) on vacuum gauge for optimum contact of the positive
- Optimize exposure time and use only high quality film positives
- Do not store sensitized emulsion or coated screen at high temperatures.

### Emulsion falls off, extreme pinholes or severe stencil breakdown during printing

- Ensure that damp screens are not being exposed
- Only expose screens with an even and consistent coating thickness
- Ensure that stencil has not been severely underexposed
- Ensure mixed emulsion is not too old, has been correctly sensitized and has not been stored at high temperature.

### Difficulty reclaiming screens

Not reclaimable once catalysed

Optimize exposure time and properly rinse the squeegee side of the screen during developing to remove all residual traces, especially when using higher mesh count dyed fabric.

### STORAGE

When sealed in the original container and stored at temperature between 20 and 25°C, VITRUM HU Violet will maintain original properties for 18 months from the date of production.

### PACKAGING

Available in 0.9, 4.5 and 200 kilogram containers.

In North America, available in one, five and fifty US gallon containers.

Packaged with associated Diazo 31.

#### WARRANTY AND LIMITED REMEDY

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# ■ SAATIgraf CTS 7

## APPLICATIONS

Fast exposing SBQ photo emulsion designed for use with computer to screen direct exposure systems.

## GENERAL CHARACTERISTICS

- Blue, one part pure photopolymer emulsion
- Highly solvent-resistant and super easy reclaiming
- Designed for use with all solvent-based and UV-Cured inks
- Exposes 4 times faster than diazo or dual-cure emulsions

## FEATURES AND BENEFITS

- Super easy to reclaim, no pressure washer required
- High resolution and definition for a wide exposure latitude
- 38% solids & medium viscosity for optimum coating quality & stencil performance

## DIRECTIONS FOR USE

Handle under yellow safelight or low wattage tungsten lights. Avoid exposure to daylight, quartz/halogen lamps, cool white fluorescent lamps or discharge lamps.

### Sensitizing and mixing

Emulsion is presensitized during production and does not require mixing.

### Mesh preparation and degreasing

Degrease new mesh with Direct Prep 1 in order to optimise stencil adhesion; dry and store the screen in a dust free, dry environment prior to coating.

### Coating

Using a high quality scoop coater or coating through, apply one or two coats to the substrate side of the screen, followed by one or two coats on the squeegee side. For a thicker stencil, apply additional coats to the squeegee side prior to drying. For a higher quality stencil with a minimal increase in stencil thickness, apply one or two additional coats to the substrate side of the screen after the initial coats have dried.

### Drying and storage

Thoroughly dry the coated screen at a maximum temperature of 104°F (40°C) in a dust free, dark or yellow light area, with the substrate side facing down to optimize stencil quality. Coated screens should be stored in a dust free, dry, safelight environment.

### Exposing

Ensure that all surfaces (emulsion, film and glass) are free of dust to minimize pinholes.

Many variables, such as lamp type and age, distance from lamp to screen, mesh type and coating thickness, can affect exposure time.

Perform an exposure test with one of two calculators now available (Exposure Calculator and 21 Step Sensitivity Guide) to determinate correct exposure time for a complete cure.

### Developing

Wet both sides of the screen with a strong, finely divided spray of water and continue washing out until all image areas are fully open. Rinse both sides of the screen and dry thoroughly before use. A properly exposed and developed screen will not leave residues on the squeegee side.



### Post exposing

Post expose with daylight or exposure UV lamp to produce a more water-resistance stencil.

### Reclaiming

Remove all ink residues immediately after printing with Saati Ink Remove IR11 or IR18. Remove stencil with Remove ER series and a pressure washer. For stains and ghost images, use Remove HR series followed by a pressure washer.

### HEALTH AND SAFETY

Before using, refer to appropriate material safety data sheets.

### PROBLEM SOLVING

#### Poor coating quality

- Properly clean, degrease and rinse the screen to remove all residues and traces of chemicals
- Properly and evenly tension the fabric
- Clean and ensure the scoop coater does not present any defect edge.

#### Poor detail or difficulty washing out image

- Ensure emulsion and coated screens are handled in safe-light conditions only
- Optimize exposure time and use only high quality film positives
- Do not store emulsion or coated screen at high temperatures.

### Emulsion falls off, extreme pinholes or severe stencil breakdown during printing

- Ensure that damp screens are not being exposed
- Only expose screens with an even and consistent coating thickness
- Ensure that stencil has not been severely underexposed

### Difficulty reclaiming screens

Not reclaimable once catalysed

Optimize exposure time and properly rinse the squeegee side of the screen during developing to remove all residual traces, especially when using higher mesh count dyed fabric.

### STORAGE

When sealed in the original container and stored at temperature between 20 and 25°C, SAATIGRAF CTS 7 will maintain original properties for 12 months from the date of production.

### PACKAGING

Available in 5, 20 and 200 kilogram containers.

In North America, available in one, five and fifty US gallon containers.

#### WARRANTY AND LIMITED REMEDY

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# ■ DCF Supersharp

## DESCRIPTION

DCF Super Sharp is a diazo-presensitized Series Capillary Film characterized by very high definition and resolution, designed for use with all solvent/UV based inks. It comes in different thicknesses as follows :

DCF - SS 15	15 microns
DCF - SS 20	20 microns
DCF - SS 25	25 microns
DCF - SS 40	40 microns

Available in standard 104 cm roll size and in custom sheets sizes.

## HANDLING THE FILM

The film should be handled under low wattage tungsten or yellow fluorescent lighting. The film should be returned to the container after cutting off the required length. Do not kink the film as this could affect adhesion to the mesh. The film should be handled wearing light cotton or lint-free gloves to avoid contact with the emulsion surface. Do not allow the film surface to come in contact with water.

### Mesh Preparation

Direct Prep 2 is a strongly recommended in order to provide an even water break and to improve adhesion. To obtain better results in terms of adhesion and resistance during printing, we recommend to use our HiBond mesh, that also doesn't require any pre-treatment.

### Recommended fabrics

Here following we suggest fabrics that can be used according to the thickness and areas of application :

DCF - SS 15	150-180 fili/cm	UV printing, very high definition and resolution
DCF - SS 20	120-165 fili/cm	UV printing, high definition and resolution
DCF - SS 25	100-150 fili/cm	UV and solvent printing, high definition
DCF - SS 40	71-110 fili/cm	General graphic printing

## Adhering to the mesh

Large and small screens:

cut the film to size and place the film on a dry, flat surface. Roll the film, emulsion side out, around a plastic tube leaving approximately 2cm unrolled. Spray the mesh with water and wipe the excess water from the perimeter of the frame to avoid water drops running into the adhered film. Contact the rolled film leading edge onto the top of the wet vertical screen and unroll the film down to screen, thus adhering it to the mesh. Remove excess moisture from the inside of the screen with a light weight window squeegee. Wipe excess water from the perimeter of the frame with an absorbent cloth then proceed to drying.

Small screen only:

place the film, emulsion side up, on a raised pad and lay the dry degreased screen on top. Using a hand spray water bottle, spray water onto the mesh until the film is completely wet. Squeegee off the excess water from the inside of the screen. Wipe water from the perimeter of the frame and the proceed to drying.

## Drying the screen

The screen can be dried with cold or warm air, maximum 104°F. Thorough drying is essential for optimum results. When the support has been peeled off, continue drying for a few minute to ensure the film is completely dry. Drying should be in either dark or yellow light conditions.

**Storage of screens**

After applying the film to the screen and drying the screen can be kept in the dark before exposure, provided that reasonable temperature and humidity conditions are maintained. If storage of the screen is anticipated, it is recommended that the backing sheet is not removed until the screen is about to be exposed.

**Exposure**

Starting point exposures with metal halogen lamp at 100 cm distance on dyed 120 mesh fabrics are listed below. Exposure will vary with mesh count, colour, distance and lamp type.

DCF - SS 15	150 "
DCF - SS 20	180 "
DCF - SS 25	210 "
DCF - SS 40	330 "

**Developing**

Spray both side of screen with water to start washout. The majority of spray should be done from the printing side until image is completely defined. Finish washout by spraying inside of screen to remove any stencil residue.

**Dry stencil**

Place developed screen into a screen dryer. Make sure screen is fully dry before use.

**Reclaiming**

Removal of stencils is easy when using Remove ER product range. Allow the remover to do the majority of the work. Finish removal with high-pressure washer when stencil has started to run down screen. Do not allow the stencil remover to dry out the screen before high-pressure washout.

**Stability**

Rolls or films opened or closed should be stored at temperatures not exceeding 25°C (80°F) to maintain their properties. When sealed in the original container, protected from light, humidity and heat, DCF Super Sharp Capillary Films have a stability at least 12 months from the date of production.

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