

Ceramic PHW

APPLICATIONS

Direct ceramic tile printing with high stencil build-up for specialized applications.

GENERAL CHARACTERISTICS

- Pure photopolymer emulsion with 50% solids content for thick stencil production
- High solids content and viscosity can produce 300 micron stencil thickness with simple coating procedure. Up to 3000 microns is possible with additional coating stages
- Exposes 10 times faster than diazo or dual-cure emulsions
- Resistant to mild solvent ink and high humidity, water resistant when post exposed
- Optimum elasticity

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 & Mixing

Emulsion is presensitized during production and does not require mixing.

Mesh Preparation & Degreasing

Degrease and abrade new mesh with Saatichem Direct Prep 1 in order to optimize stencil adhesion; dry and store the screen in a dust free, dry

environment prior to coating. For more applications, thoroughly degrease the mesh prior to use with Saatichem Direct Prep 2.

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. See **table 1** for coating thickness guidelines.

Drying & 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 an exposure calculator to determinate correct exposure time for a complete cure.

TABLE 1 EMULSION OVER MESH BUILD-UP (MICRONS) WITH VARIOUS COATING METHODS

Mesh (threads/cm)	Mesh (threads/inch)	2+2	2+3	2+4	2+5	2+6	2+7	2+8	2+10	2+12
43 pw80	110 pw80	30	55	80	105	130	155	180	230	275
34 pw100	86 pw100	30	60	90	120	150	180	210	270	330
32 pw70	81 pw70	60	130	200	270	340				
24 pw120	61 pw120	40	80	120	160	200	240	280	360	

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Developing

Wet both sides of the screen with a strong, finely divided spray of water and continue washing out from the print side with a pressure washer, set on a wide spray pattern, at a distance of 20 to 30 cm (8 to 12 inches) from the surface 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 lamp to produce a water-resistant stencil.

Reclaiming

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

Health & 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 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
- Only use with non-aggressive solvent based inks or water-based inks after a post-exposure
- Ensure mixed emulsion is not too old, has been correctly sensitized and has not been stored at high temperature

Difficulty Reclaiming Screens

- 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 in cool conditions, Saatichem products will maintain their original properties for one year from the date of production.

PACKAGING

Available in 1, 5 and 200 kilogram containers. In North America, available in one, five and fifty US gallon containers.

WARRANTY & 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's 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.

To receive the Material Safety Data Sheet (MSDS), send an e-mail to: MSDS@saatichem.com

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