



# ProChem<sup>®</sup> HD-RED

## Photopolymer Emulsion

### Coating Guide

Note: SS - Squeegee Side / PS - Print Side

HD-Red	Mesh	Total thickness				EOM/SS Thickness increase per coating stroke on the squeegee side
		4 SS + scrape PS + 4SS	4 SS + scrape PS + 8 SS	4 SS+ scrape PS + 12 SS	4 SS+ scrape PS + 16 SS	
PROCESS/ FABRIC	Mesh thickness					
Polyester 81-100 (32-100 metric.)	145 µm	230 µm	315 µm	395 µm	480 µm	21 µm/coat SS
Polyester 107-80 (42-80 metric.)	115 µm	185 µm	260 µm	330 µm	405 µm	18 µm/coat SS
Polyester 140-70 (55-70 metric.)	104 µm	145 µm	190 µm	235 µm	280 µm	11 µm/coat SS
Polyester 195-48 (77-48 metric.)	73 µm	120 µm	170 µm	220 µm	265 µm	12 µm/coat SS

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### Applications

Pre-sensitized Photopolymer emulsion for Textile and Ceramic applications.

### Physical Properties

- ⊙ Red Colored, also available in clear
- ⊙ Extreme High Viscosity = 50,000 cps
- ⊙ Ideal for High Density Printing
- ⊙ Outstanding resolution and edge definition
- ⊙ Short exposure time
- ⊙ Extremely Durable for long print runs
- ⊙ Virtually pinhole and fish-eye free
- ⊙ Excellent chemical resistance
- ⊙ High solids content = 52% solids

### Handling

Handle under yellow safelight conditions.

### Sensitizing

HD-RED is a one part emulsion that does not require a diazo to be added. Use straight from container.

### Mesh Preparation

It is important to have a clean dry screen before you apply the emulsion. To achieve this use a good degreaser available from CCI.



Slowly coat 4 times on the inside (that is the squeegee side), filling the mesh with emulsion. Then, in order to avoid air bubbles on the stencil, scrape the excess emulsion from the print side with another coater. This collected excess emulsion should be kept for subsequent use. After that, without drying, coat 6 to 18 times on the squeegee side, forcing the emulsion to the outside, creating thus a thick layer.

In order to obtain a more uniform emulsion layer, reverse the coating direction every 4 passes.

The more coats on the squeegee side, the thicker the emulsion layer on the print side. For the same coating process, the final thickness depends on the type of mesh.

### Drying

Dry the emulsion completely with the print side down. Never dry, leaving the screen upside down because gravity would force the emulsion to the squeegee side, reducing the external thickness and impairing the stencil flatness.

The thicker the emulsion layer, the longer will be the drying time. For very thick layers it is suggested to leave the screen to dry overnight at ambient temperature (75°F/22°C) in a dark and dry area. Care should be taken to avoid accidental exposure to light.

To evaluate if the emulsion has dried completely, a surface humidity meter can be used. Otherwise the transparency of the emulsion layer should be observed: If the stencil looks milky the emulsion is not dry enough.

If the drying air is too hot, it may cause the formation of a hard surface layer which may difficult the drying of the inside layers. It can also create a non uniform layer with bubbles and influences the fabric stability.

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## Photopolymer Emulsion

### HD-RED Exposure Guide

Note: SS - Squeegee Side / PS - Print Side

Fabric	Mesh thickness	Coating method	Dried stencil thickness	Lamp	Distance	Exposure time
Polyester 230-48 (90-48) yellow	77 µm	4 SS + scrape PS + 12 SS	160 µm	7000 W	125 cm	60 sec.
Polyester 195-48 (77-48) yellow	73 µm	4 SS + scrape PS + 12 SS	220 µm	7000 W	125 cm	75 sec.
Polyester 107-80 (42-80) white	115 µm	4 SS + scrape PS + 16 SS	405 µm	7000 W	125 cm	210 sec.
Polyester 81-100 (32-100) white	145 µm	4 SS + scrape PS + 12 SS	395 µm	7000 W	150 cm	190 sec.
Polyester 81-100 (32-100) white	145 µm	4 SS + scrape PS + 18 SS	525 µm	7000 W	150 cm	270 sec.

### Developing / Washout

Wash out the screen evenly, using a soft water spray over both sides of the whole stencil, Wash until the image fully appears and the non exposed areas are free from residues. Use higher pressure only on the print side. To guarantee uniform wash out with details, it is suggested to rotate the screen and spread the water in several directions. Stencils with very thick layer can be left submerged for at least 20 minutes prior to using water jet. The use of slightly warm water helps to dissolve unexposed emulsion.

### Reclaiming

Removing the emulsion is simple with one of CCI's ready to use or concentrated emulsion removers.

### Storage

Store the emulsion in a cool dry place. Unopened emulsion has a shelf life of one year when stored properly.

Coated screens will last up to 30 days with good results when stored correctly.

- 59° to 77° F (15° to 25° C)
- 40% to 60% humidity

### Post Treatment

To increase the stencil resistance to abrasion and water based products, use CCI's HardenX or PermX chemical hardeners.

Post expoing from the squeegee side can also significantly increase print durability.

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