

Diazo Emulsion

1. DESCRIPTION

- Fast, water resistant screen emulsion with separate diazo powder sensitizer for textile screen printing
- Can be decoated with a high pressure water device.
- Light purple with good see-through

2. APPLICATION ADVANTAGES

- 40% solid content before sensitizing
- Rather low viscosity
- Suitable for all inks containing water only and no solvents
- Simple to use with good resolution and high definition

3. COATING TECHNIQUE AND STENCIL BUILD-UP (COATING TROUGH .75MM R)

Mesh	Coating	Stencil Thickness over mesh
43/90 PW	1/1, 2 face coats	10 µm
43/90 PW	2/2	14 µm
77/55 PW	2/3	16 µm
77/55 PW	1/2	6 µm
120/34 PW	2/3	11 µm
120/34 PW	2/3, 2 face coats	13 µm

It is recommended to let the sensitized emulsion degas during a few hours after sensitizing. Coat slowly with enough trough pressure against the mesh. This prevents air bubbles which could cause pinholes.

- The emulsion can be used for coating on an automatic coating machine.
- Coating again after an intermediate drying cycle improves the flatness of a stencil profile and does not increase substantially the stencil thickness. However the printing shoulders will keep contact with the substrate during the printing process; an improved printing result is achieved. For negative image printing the stencil thickness should be increased by 3-4 µm compared with positive printing.

- For very long runs, apply one additional coat, after drying, on the squeegee side to embed the mesh; increase exposure by 20 - 30%.
- If the emulsion is too thin (coarse mesh) use ½ bottle of water only to dissolve the diazo powder. Shake thoroughly before mixing into the emulsion.

4. STENCIL QUALITY

- The resolution is excellent and reaches approximately 60 microns
- The definition is very good
- After the wash-out the stencil is hard. It is possible to use a high pressure device for the washout.
- A chemical hardening by **FOTECHEM 2119** is possible. The water resistance and the wearing characteristics will improve. In such a case the stencil can no longer be decoated.

5. STORING

The freshness of the diazo powder controls the pot life. Age, transportation and storing conditions influence the quality of the emulsion drastically.

Condition	Service Life
Unsensitized 18-25°C storage	24 months
Sensitized, stored at 20°C (pot life)	4 weeks
Pre-coated in total darkness at 20°C	1 week

6. EXPOSURE TIMES

5 kW metal halide lamp at 100 cm distance;
photopolymer bulb at 100 hours operating time.

Coating	Mesh	Time (seconds)
1/2	120/34 W	40
1/2	120/34 Y	80
2/3	120/34 W	50
2/3	120/34 Y	100
2/3, 2 face coats	120/34 Y	120
2/3	77/55 Y	150
2/2	43/90 W	170

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7. STENCIL REMOVAL

All commercial decoaters can be used. A high pressure gun is recommended. Stencil removal is only possible, if the screen has not been hardened chemically.

FOTECO offers several stencil removers:

- **FOTECHEM 2005** Paste
- **FOTECHEM 2042 S** decoater concentrate 1:30

Ghost images can be removed with **FOTECHEM 2089**.