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TECHNICAL INFORMATION

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FOTECHEM HARDENER 2100, 2130 and 2110/2111

(Hardening solution; catalyzer)

1. Purpose

- The chemical hardening (curing, catalyzing) of ready-to-print stencils results in permanent, no longer removable screens. The stencil becomes more water resistant.
- Depending on the type of emulsion and the type of FOTECHEM Hardener the durability or water resistance of the screen is more or less complete. See table on last page.
- Basically water resistant screens (for textile printing) are thoroughly and completely hardened after the treatment.
- Solvent resistant screens show a higher humidity resistance.
- Dual-cure (polymer) screens can undergo a negative effect by becoming brittle unless water based inks are used.

2. Difference to post-hardening by exposure

Only dual-cure screen emulsions with a content of acrylates can be post-exposed. This increases the ink suitability; the removal however does not become distinctly more difficult.

3. Three types of chemical hardeners

a) FOTECHEM 2100: Color: red	economic; most suitable for water resistant (textile) emulsions. After application the curing needs 60°C during 1 hour or 24 hours at room temperature. The drying oven can be used.
b) FOTECHEM 2130: Color: blue-purple	economic. Ready-to-use and usable like 2100 or 2110. Produces a more resistant stencil than 2100.
c) FOTECHEM 2110/2111: Color: yellowish-brownish These two hardeners contain a small amount of solids. To avoid clogging of the mesh use air pressure or blot from both sides with absorbing paper.	more expensive but suitable for most screen emulsions. They do not need heat curing. Hardening becomes more effective. FOTECHEM 2110 is ready-to use; with possibility for partial removal depending on type of emulsion when further reduced with 1 part water; would need pressure spray above 50 bar for removal. FOTECHEM 2111 is concentrated but can be used as ready-to-use solution. A stronger chemical hardening takes place. When reducing FOTECHEM 2111 1:1 with water it becomes identical to FOTECHEM 2110.

4. **Processing**

- **FOTECHEM 2110, 2111 and 2130** must only be used on polyester and steel mesh. Only **FOTECHEM 2100** is suitable for nylon mesh.
- Before the treatment the stencil must be thoroughly exposed, washed out and completely dry. Apply the hardener from both sides with a soft brush, sponge or rags. Never rub. Protect skin with gloves, wear goggles.
- **FOTECHEM 2100:**
After the application cure during 1 hour at 60°C or 24 hours at room temperature.
- **FOTECHEM 2130:**
After application to both sides of the screen wait 5 to 10 minutes before drying at 60°C for one hour or at room temperature for 24 hours.
- **FOTECHEM 2110/2111:**
After application wait for 5 minutes. Then use newspaper to blot the screen from both sides. Afterwards it is recommended to blow the stencil openings with pressure air. Then let dry thoroughly. Heat is not necessary for curing. As soon as the stencil is dry it is ready for printing.

5. **Packaging**

- FOTECHEM 2100: plastic bottles (24 x 1 lt; 6 x 5 lt; 1 x 25 lt)
- FOTECHEM 2110/2111: plastic bottles (24 x 1 lt)
- FOTECHEM 2130: plastic-bottles (24 x 1 lt)

6. **Safety and health on the working place**

- For industrial use only.
- Protect hands and face.
- The FOTECHEM hardeners carry a warning label.
- Keep out of reach of children.
- If contacted with the eyes wash with a large quantity of water and consult the doctor.
- If contacted with skin wash with plenty of water.
- A safety data sheet is available on request. FOTECHEM 2100 and 2110/2111 carry on the product label the prescribed R and S phrases. FOTECHEM 2130 does not need a warning symbol.

7. **Application possibilities**

See table on next page.

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