

TECHNICAL INFORMATION

Küsnacht, February 2011

FOTECHEM HARDENERS 2100, 2110, 2111 and 2113

(Hardening solution; catalyser)

1. Purpose

- The chemical hardening (curing, catalyzing) of ready-to-print stencils results in permanent, no longer reclaimable screens. The stencil becomes more water resistant too.
- Depending on the type of emulsion and the type of FOTECHEM Hardener the durability of the screen is more or less completed.
- Basically water resistant screens (for textile printing) are thoroughly and completely hardened after the treatment.
- Solvent resistant screens become water resistant.
- Dual-cure (polymer) screens can undergo a negative effect by becoming brittle unless water based inks are used.
- FOTECHEM **2111** is a concentrate.

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 2110 and 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. 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. 2111 is concentrated and most effective but can be used as ready-to-use solution. A stronger chemical hardening takes place. When reducing 2111 1:1 with water it becomes identical to 2110 .
c) FOTECHEM 2113 : Colourless	ready-to-use water based formulation. Apply to both sides of the dry stencil by a sponge. Let dry. The stencil is ready to print.

4. **Processing**

- FOTECHEM **2110**, **2111** and **2113** 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 **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.
- FOTECHEM **2113**:
Let dry after the application of the hardener. Then the stencil is ready to print. To prevent clogging any residue of the hardener should be washed out with water.

5. **Packaging**

- FOTECHEM **2100**: plastic containers (24 x 1 lt; 6 x 5 lt; 1 x 25 lt)
- FOTECHEM **2110/2111**: plastic containers (24 x 1 lt)
- FOTECHEM **2113**: plastic containers (24 x 1 lt; 1 x 25 lt)

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

- For industrial use only.
- Protect hands and face.
- 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.

7. **Application possibilities**

See separate table.

8. **Storage time at 20°C**

- FOTECHEM **2100**: 1 year
- FOTECHEM **2110/2111**: 1 year
- FOTECHEM **2113**: 1 year if protected from light and high temperatures

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