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TECHNICAL INFORMATION

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# FOTECAP ZIRCON

## Photopolymer Capillary Film

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### 1. Description

- Diazo-free, long life, fast shooting capillary film.
- Exceedingly good image quality for short and long runs.
- Perfect solvent resistance and fully reclaimable with high pressure.
- Presensitized photopolymer film with high flexibility and superior adhesion to all numbers and types of mesh.
- Coated on 75 micron polyester carrier.
- Available in various dry film thicknesses, in both rolls and custom cut sheets.

### 2. Technical advantages

- If the right combination of dry film thickness and mesh number is chosen, FOTECAP ZIRCON produces a perfect stencil profile with a low Rz-value.
- Possibility to reach Rz-values of 2 - 5 microns with stencil thickness proud of mesh of 3 - 5 microns for thin, flat stencils ideal for printing with UV curing inks.
- Unsurpassed definition, resolution and exposure latitude on dyed synthetic mesh or stainless steel; good print quality on white mesh.
- Extended shelf-life; also under difficult climatic conditions.
- No diazo staining on the mesh.
- Very fast wash out with thin and thick stencils.
- For the exposure the usual light sources for stencil making can be used. Metal halide lamps should have a photopolymer bulb. White fluorescent tubes should be avoided or replaced by super actinic (bluish) tubes.

### 3. Applications

- Fine halftone and line printing with solvent based and standard UV inks.
- High quality printing for long runs (20 - 50'000).
- Ideal, fast, easy and repeatable to produce thin stencils with low Rz-value profile.
- Where repeatable stencil quality is needed without capital investment and fast stencil turn-out is important.
- CD, membrane switches, PCB, fine halftone printing with UV curing inks and similar applications are the ideal target for this capillary film.

4. **Processing** (consult also our brochure “FOTECAP Capillary Films” with illustrations for adhering technology)
  - Degrease mesh thoroughly. Use degreaser/abrader FOTECHEM 2023 for new polyester mesh.
  - Always apply, after degreasing, a wetting agent like FOTECHEM 2025 to ensure an even, uniform water film on the print side of the stencil. Or use the combined degreaser/wetting agent FOTECHEM 2002 Gel. Also available as concentrate 1:10 with water (FOTECHEM 2022).
  - ZIRCON can be used by the indirect/direct method to increase definition and stencil build up. The exposure time increases on yellow mesh by approx. 50%. FOTECOAT 1850 can be used for adhering.
  
5. **Wash out**

Spray both sides of screen with a water spray. Thin films wash out (develop) considerably faster than thick films. Wash thoroughly until the image is fully open.
  
6. **Post-exposure**

For maximum ink and screen-wash solvents resistance the dried screen can be post-exposed.
  
7. **Reinforcement**

For best stencil durability, high speed printing and complete fill-in of the mesh on the squeegee side of the screen, apply after drying and before peeling the plastic base one coat of FOTECOAT 1850 screen emulsion and expose, after drying, approx. 50% longer on yellow mesh than indicated in the guide. The stencil build-up (thickness) on the fabric does not change.
  
8. **Stencil quality**

It is important to find the correct combination of mesh number/type and dry film thickness. If the same adhering method is used, stencil build-up varies by approx. +/- 1 micron.

The stencil thickness increases by approx. 8 microns if the film is adhered with FOTECOAT 1850, using the indirect/direct method.

With FOTECAP ZIRCON thin stencils with a flat profile (low Rz-value) to print minimum ink deposit with high edge definition can be produced. A FOTECAP capillary film stencil reduces ink costs considerably and allows maximum print quality.
  
9. **Storage**

This diazo-free polymer film allows storing of all film thicknesses of up to one year under climatic conditions of up to 30°C and relative humidity of approx. 60%.

**10. Blocking out**

Use solvent resistant, water soluble screen filler FOTECHEM 2060 blue or 2070 red.

**11. Reclaiming**

- All commercial decoaters can be used.
- FOTECO offers several stencil removers:
  - FOTECHEM 2004 liquid; FOTECHEM 2005 paste;
  - FOTECHEM 2042 concentrated liquid decoater (1:30) for machine coating;
  - FOTECHEM 2048 is a more efficient liquid concentrate (1:30) for decoating;
  - FOTECHEM 2044 powder (to be dissolved in water).

**12. Ghost remover**

Recommended is FOTECHEM 2089.

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