

FOTECAP ZIRCON N 4600 SERIES

Fotopolymer capillary film

1. DESCRIPTION

- **ZIRCON N** Series Capillary Film is designed for use with all solvent and UV based inks. It varies in colour depending on micron thickness.
- Diazo-free, long life, fast shooting capillary film
- Presensitized photopolymer film with high flexibility and superior adhesion to all numbers and types of mesh
- Coated on 75 µm polyester carrier
- Available in various dry film thicknesses, in both rolls and custom cut sheets
- If the right combination of dry film thickness and mesh number is chosen, **FOTECAP ZIRCON N** produces a perfect stencil profile with a low Rz-value.

2. THICKNESS/EXPOSURE

Capillary film	Thickness	Mesh	Color
4615	17 µm	Min. 150	Blue-green
4620	19 µm	Min. 120	Purple
4625	25 µm	Min. 90	Red
4630	30 µm	Min. 77	Purple
4640	38 µm	Min. 61	Blue-green
4650	50 µm	Min. 43	Red

- Excellent resistance to UV- and solvent inks
- 3 times faster than common dual-cure and Diazo capillary films
- Good resistance to humidity during printing and storage
- Shelf life over 3 years even with critical conditions
- After application, image can be engraved even after 2/3 weeks
- Wide exposure latitude
- Very good adhesion on polyester and stainless steel mesh
- Possibility to reach Rz-values of 2-5 µm with stencil thickness proud of mesh of 3-5 µm forthin, 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
- No Diazo staining on the mesh

3. PROCESSING

- 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 N** 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.

4. 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.

As **ZIRCON N** Capillary Film is based on pure photopolymer emulsion, its exposure time is particularly short, generally 1/3 than common pre-sensitized films. **ZIRCON N** has the advantage to maintain wide exposure latitude. Starting point exposures with metal halogen lamp at 100 cm distance on coloured 120 mesh fabrics are listed below. Exposures will vary with mesh count, colour, distance and lamp type.

Capillary film	MH Lamp 1 m Distance	Exposure time
4615-4620	5 kW	20 Sek.
4625-4630	5 kW	30 Sek.
4640	5 kW	35 Sek.
4650	5 kW	50 Sek.

5. WASHOUT

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.

*Fotopolymer capillary film***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 µm.

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

With **ZIRCON N** 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

Opened and unopened rolls or sheets of film should be stored at temperatures of between 10-25°C for maximum shelf life.

10. BLOCKING OUT

Use solvent resistant, water soluble screen filler **FOTECHEM 2060** blue or **2070** red. If stencil has to be water resistant, use **FOTECHEM 2076 WR**.

11. 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**.