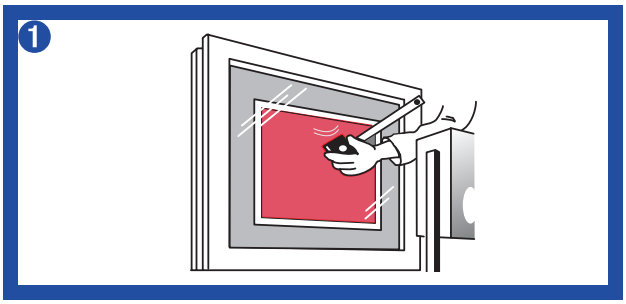
FOTECFILM 5040 REDTOP

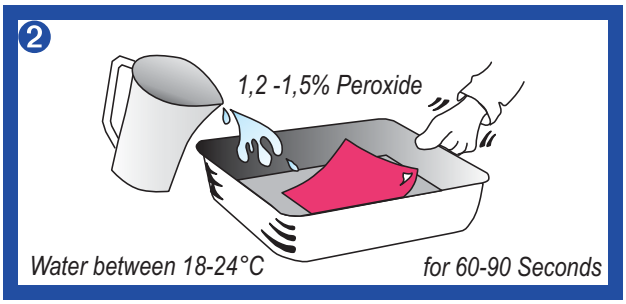
Red, indirect photo stencil film, gelatine based.
Ideal to produce stencils for UV-inks.

This FOTECFILM has a protective coating allowing processing under all climatic conditions. The film is on a 50 mic. polyester base and appropriate for all inks except those containing water. On meshes from 100-40 (white) and up, 5040 REDTOP creates a stencil thickness of approx. 2-3 mic. with a lower R_Z-value.



1. EXPOSURE

- *Use a right-reading, high quality film positive. Expose in a vacuum frame through the film carrier.*
- *Light sources and exposure times are indicated on reverse side.*
- *Always make a step-wedge exposure to determinate the right exposure time.*
- *These films have a wide latitude. Overexposure is dangerous.*

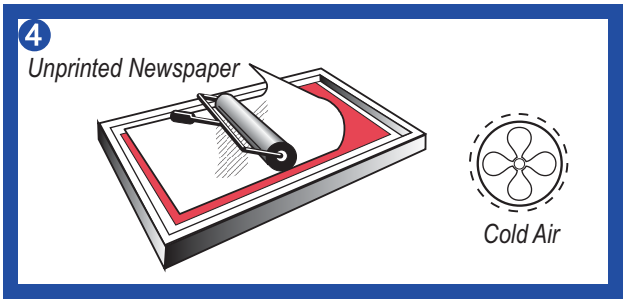


2. DEVELOPMENT

Develop in peroxide solution (H_2O_2). It is important that during development the surface of the film is uniformly and rapidly wetted to avoid differences in stencil thickness. Wrinkling of the film emulsion during wash-out can be caused by spoiled developer.
Protect developing bath against light. Discard bath regularly.

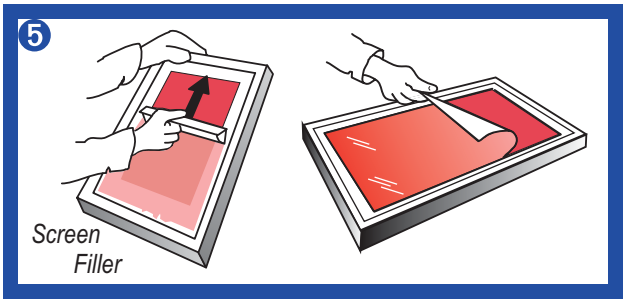
3. WASH-OUT

- *Wash the film with a soft spray and continue until all openings are free. Rinse with cold water. It is possible to wash-out in a tray as long as it is rocked continuously and the film rinsed afterwards with cold water. Scum is caused by insufficient wash-out.*
- *Make sure that the film has good contact between emulsion and mesh. Place film, emulsion upwards, on a glass plate smaller than the inside measurements of the frame.*



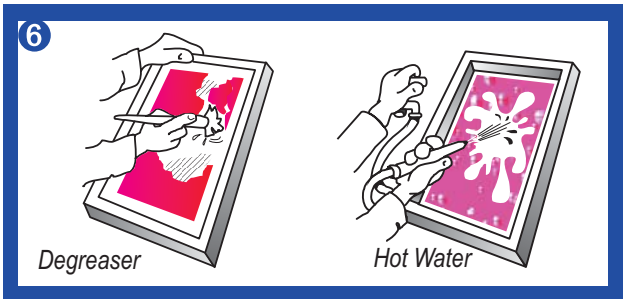
4. ADHERING

The mesh must be degreased properly. New polyester and nylon fabrics should be pre-treated mechanically. FOTECHEM 2023 is ideal for combined abrasion and degreasing. Place the moist mesh over the film emulsion. Then blot with unprinted newsprint, using slight pressure. It is advantageous to work with a staple of newsprint. Change the paper until the last sheets remain dry.



5. DRYING AND PEELING OFF THE BASE

- *After adhering wait a few minutes. Then dry. Use FOTECHEM filler 2060 blue, 2066 green or 2070 red, for coarse or metal meshes filler 2010 to block-out the open mesh area. Dry at room temperature. Once the stencils dry, the plastic carrier can be released easily. Adhesive residues can be cleaned with white spirit.*
- *Touch-ups can be made after drying. If possible let stencil dry for a few hours before printing.*



6. STENCIL REMOVER

Remove ink residues with solvent first. For a speedy and complete removal degrease stencil first with FOTECHEM 2003. Then wet stencil from both sides with very hot water and let stand for a few minutes. Wash-out the film and screen filler with a brush and hot water.
If not successfull use enzymes or a bleach.

Code:
E FILM 09/08

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Exposure Table for FOTECFILM 5040 REDTOP

	Distance*	5040
Carbon arc lamps	cm	sec.
40 amps. 2 carbons	100	300-600
60 amps. 2 carbons	100	190-380
60 amps. 3 carbons	100	115-230
110 amps. 2 carbons	100	105-210
Metal halide lamps		
800 watt	100	190-380
2000 watt	100	75-150
3000 watt	100	50-100
4000 watt	100	40-80
5000 watt	100	30-60
7000 watt	100	25-50
Weak light sources		min.
Tubes TLK-UVA 40W/05	8-10	1 ½-3
Mercury Vapour HPL-R 125W	60	4-8
Mercury Vapour HPL-R 400W	60	6-12
Osram ULTRA VITALUX 300W	60	8-16

** for other distances than 100 cm multiply the exposure times by the following factors*

Distance		Factor
50 cm	=	0.25
60 cm	=	0.36
70 cm	=	0.49
80 cm	=	0.64
90 cm	=	0.81
110 cm	=	1.21
120 cm	=	1.44
130 cm	=	1.69
140 cm	=	1.96
150 cm	=	2.25
160 cm	=	2.56
180 cm	=	3.24
190 cm	=	3.61
200 cm	=	4.00
220 cm	=	4.84

Hints for perfect FOTECFILM stencils

1. Developer

100 volumes or 30%
1 part H_2O_2 + 24 parts water = 1,2 % developer
1 part H_2O_2 + 19 parts water = 1,5 % developer

20 volumes or 6 %
1 part H_2O_2 + 4 parts water = 1,2 % developer
1 part H_2O_2 + 3 parts water = 1,5 % developer

10 volumes or 3 %
1 part H_2O_2 + 2 parts water = 1,2 % developer
1 part H_2O_2 + 1 part water = 1,5 % developer

Bottle H2O2 only in a brown glass bottle protected from light. H2O2 is not stable: The concentration decreases rapidly. The film will only be developed correctly if: The developer has the right concentration, the film is covered by at least 1,5 cm developer; the tray is rocked continuously; no air bubbles show up in the developer or the stencil surface; fresh solution is made up every day. The water quality used to make the developer is critical. Mineral salts destroy the peroxide solution and the concentration of the developer decreases to a point where no hardening takes place. Light destroys the H2O2 solution.

2. Rules for the exposure

Double distance = 4x exposure time. Half the distance = ¼ of the exposure time. The better the light quality and the higher the light intensity, the better the quality and resistance of the stencil. Minimum distance between lamp and film: Diagonal of the film to be exposed x 1,5.
For shorter exposure times than 1 min. use a light integrator.

Metal halide lamps: Strong lamps need a distance of at least 150 cm. If the exposure time is still below 30 seconds, set lamp on half power. Step-wedges are difficult to be executed if the exposure time ist too short. In this case increase distance.
FOTECFILM has a transparent red color and should not be over-exposed.
It is recommended to make a step-wedge exposure with the available light source. The exposure times mentioned in the table are theoretical values. Each light source is different. Therefore use the theoretical value and make 2 over and 2 under-exposures at 20% intervals each. Then print and decide.
The exposure time can be increased for metal mesh by 30-50 %. If film negatives are used, the exposure time should be increased by 10-20 %.
Longer exposure results in a thicker film which generally has less adhesion. A shorter exposure gives a thinner film with excellent adhesion that can be used for half-tone and fine line work.
The choice of the right exposure time is important to get the adhesion characteristics of the film, the printing quality and the resistance.

3. Ink suitability

All types of inks, including standart UV-inks, with the exception of water-based inks or inks containing water can be printed. Low-price cleaning agents contain sometimes water and should be avoided.

4. Block-out

FOTECHEM	2060	blue	standard screen filler
	2066	green	economic screen filler
	2070	red	high contrast
	2010	green	heavy duty for coarse or metal mesh

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