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TECHNICAL INFORMATION

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FOTECOAT 1850 SOLO

presensitized, polymer, solvent resistant, ready-to-coat screen emulsion

1. Description

- Extremely fast polymer emulsion, presensitized; free of diazo
- For ink systems based on solvents
- Working under yellow light is recommended because of the increased light sensitivity
- The emulsion has a light gray-blue color; the stencil has excellent see through
- Harmless for sewage water and at the working place if standard industrial precautions are followed

2. Application advantages

- No mixing; does not need degassing: therefore less pinholes
- Best print results are achieved on dyed- and steel mesh
- The exposure time on dyed mesh corresponds to approximately 40% of FOTECOAT 1010 or 15% of FOTECOAT 1569
- No post-exposure needed
- High resolution with precise stencil edge sharpness thanks to high content of solids (36%)
- Low viscosity for manual and machine coating
- Ideal for thick film stencil production
- Can be removed with the usual remover products

3. Coating technique and coating with machines

- Manual: The ready-to-coat emulsion can be used by the 1/2 or 2/2 technique
- The viscosity is ideal for coating machines
- To produce a flatter stencil profile and a lower Rz-value - to improve the print edge sharpness - additional coatings are possible after intermediate drying. The stencil thickness increases by 1-2 microns and the Rz-value is lowered with each additional coat onto the dried surface

- If the emulsion is poured back into the can after coating, it will be necessary to check before the next coating if the emulsion is degassed completely; check if there are no longer air bubbles on the emulsion surface. The reason is, that like all screen-emulsions, air is sucked into the emulsion during stirring or coating.
Such air bubbles are the main cause for pinholes.

4. **Stencil quality**

The excellent wet hardness and the low swelling characteristics during the wash-out produce stencils with unique mesh bridging characteristics. Therefore an excellent stencil edge sharpness is guaranteed. Coupled with the very high resolution power at short exposure times, unsurpassed quality stencils are achieved on dyed mesh or steel if the correct coating technique and drying position is used.

5. **Storing**

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| Storing time of the screen-emulsion: | 1 year |
| Storing time for coated screens in complete darkness: | 4 weeks |
| Storing time for coated screens packed in black plastic at 20°C and 50 - 70% relative humidity | 6 months |
| This ready-to-coat emulsion must be stored with closed can lids and protected from direct actinic light. | |

6. **Exposure times**

- All light sources with a spectral light output between 340-400 nm can be used
- Metal halogene lamps with an iron charged burner or a gallium/iron burner are ideal
- The loss on UV-light during the working time of the lamp must be considered (approximately 10% per 100 burning hours)
- This emulsion has a very high light sensitivity. The exposure latitude is therefore reduced. This needs a careful step wedge to find the optimum result in respect of exposure time. Longer exposure produces better mechanical resistance of the stencil but shows losses in the resolution
- Exposure time with a 5 KW MH-lamp, type Akticop 3500 S, at 100 cm distance on yellow mesh 120T-34 and 13 microns stencil build-up is approximately 20 seconds.(Coating 1x printing side, 3x squeegee side, wet in wet)
- White mesh is responsible for strong light scattering; the print result will suffer

7. Stencil removal

- The old rule is valid: The better the hardening of the stencil system through a longer exposure time, the easier the stencil removal
- This screen-emulsion is free of diazo. Therefore no brownish residues on the mesh; the removal of ghost images is simplified

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| FOTECHEM 2004: | Liquid, ready-to-use |
| FOTECHEM 2044: | Powder, add 7-10 liters of water to 100 gr |
| FOTECHEM 2005: | Paste, ideal for large size stencils; the paste stays on |
| FOTECHEM 2042: | Concentrate for reduction with 30 parts of water, ideal for machine decoating. A preparatory degreasing cycle is necessary in most cases |

- The stencil removal is simplified if the ink is removed immediately after printing. Then firstly degreasing with FOTECHEM 2003 Gel ready-to-use or FOTECHEM 2033 concentrate 1:10 is recommended
- To speed up removal a high pressure device is recommended. Important: Hose off with soft spray first to remove the chemicals, then only use the power spray
- Ghost images: Brush on FOTECHEM 2085 (a blend of emulsifying solvents), then apply FOTECHEM 2080 (high alkaline paste) with a brush; let stand for maximum 1 hour, then hose off with mild spray before the residues are jetted off with a high power spray. Increase pressure to 100 bar or higher if residues are very stubborn.

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