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TECHNICAL INFORMATION

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FOTECOAT 1860 SOLO

ready-to-coat screen emulsion for inks containing solvents

1. Description

- Fast, presensitized emulsion ready-to-coat; free of diazo.
- Completely solvent resistant and very easy to decoat.
- Green color with high contrast.
- Solids content 35%; high viscosity.
- Economic to use.
- Harmless for sewage and at the working place.

2. Application advantages

- No mixing; does not need degassing: therefore less pinholes.
- Best printing results are reached on dyed polyester and on steel mesh.
- Good resolution and stencil edge sharpness.
- Can be easily removed with the usual products.
- Thanks to the mat stencil surface static problems can be avoided.

3. Coating technique and coating with machines

- Manual: The ready-to-coat emulsion can be used by the 2/3 technique. Because of the high viscosity of this emulsion the same technique can be used for coarse mesh.
- The viscosity is ideal for coating machines. If necessary the emulsion can be thinned with water without losing light sensitivity.
- 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**

Thanks to high solids content and the perfect viscosity an excellent mesh bridging is reached. The edge definition is reasonably good. Coupled with high resolution characteristics and the short exposure time excellent stencils on both dyed and white mesh or on steel mesh can be produced if an adequate coating technique is used. On white polyester the definition is somewhat lower and the exposure latitude decreases.

5. **Storing**

- 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 in a closed container and protected from direct actinic light.

6. **Exposure times**

- Light sources with a spectral light output between 320 - 380 nm can be used..
- Metal halogene lamps with a photopolymer bulb are ideal for FOTECOAT 1860.
- 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 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, gallium-iron charged burner, at 100 cm distance on yellow mesh 120T-34 and 14 microns stencil build-up is approximately 40 seconds. (Coating 2x printing side, 3x squeegee side, wet in wet.)
- White mesh causes a stronger undercutting of the light. On 120T-34 white at 14 microns stencil thickness approximately 20 seconds exposure time are needed.
- If fluorescent tubes are used we recommend only super actinic (solarium) tubes.
- The Philips HPR-125 W lamp is an adequate light source if the stencil is covered during the 4 minutes warm-up time of the lamp.

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.
- Recommended for a good stencil removal are the following products:
 - FOTECHEM 2004: Liquid, ready-to-use.
 - FOTECHEM 2044: Powder, add 6 - 8 litres of water to 100 grams.
 - 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.
 - FOTECHEM 2040: Same as 2042 but 1:20.
- The stencil removal is simplified if the ink is removed immediately after printing. Then firstly degreasing with FOTECHEM 2003 ready-to-use or FOTECHEM 2033 concentrate 1:10 is recommended.
- The stencil removal is simple and fast without high pressure gun.
- 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. Do not let dry on the mesh.

For industrial use only.

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