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TECHNICAL INFORMATION

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FOTECOAT Emulsions for CtS

Section 1: Presensitized one component emulsions, DIR-EX line.

Section 2: Diazo sensitized emulsions for CtS.

Section 3: Usage of both types for Computer-to-Screen equipment (filmless direct exposure).

Section 1: DIR-EX line

Product characteristics

FOTECOAT	INK suitability	Colour	Viscosity	Solids
1410 SR DIR-EX	solvent resistant	light blue	low	24 %
1411 HDR DIR-EX	solvent resistant	red	low	24 %
1414 WSR DIR-EX	water/solvent resistant	purple	high	42 %
1415 SR DIR-EX	solvent resistant	blue	low	36 %
1430 WR DIR-EX	water resistant	light blue	low	35 %
1456 HSR DIR-EX	solvent resistant	red	medium	37 %
1836 WR SOLO	water resistant	magenta	low	36 %

1410 SR, 1411 HDR and 1836 WR are ultra fast.

1430 WR and 1456 HSR are very fast.

1414 WSR and 1415 SR are fast.

1415 SR: by adding diazo powder the latitude and the definition can be increased but the exposure time becomes longer (direct addition to 4,5 kg).

Section 2: Diazo CtS emulsions

Product characteristics

FOTECOAT	INK suitability	Colour	Viscosity	Solids
1010	solvents / water	light purple	medium	36 %
1020	solvents / UV-ink	light purple	medium	27 %
1021	solvents / UV-ink	blue-purple	medium	31 %
1069 FAST	solvents / water	blue	high	33 %

All diazo emulsions are slower than the one-component ones but allow a better light curing and improved resolution combined with larger exposure latitude.

Section 3

1. **How to choose the screen emulsion for CtS equipment**

- 1.1. Check ink suitability.
- 1.2. Judge the reaction time of the screen emulsion with the existing CtS system and the mesh to be used.
- 1.3. To reach the necessary curing of the stencil exposure tests with various coating sequences are necessary. This helps to calculate the target for the needed quantity of square metres that have to be exposed within each working period.
- 1.4. A check-list is available to choose the adequate screen emulsion for CtS application.

2. **Mesh**

White mesh can be used on CtS equipment to reach the fastest exposure speed.

3. **Coating sequence**

To reach 3,5 – 5,0 micr. EOM (stencil thickness over the mesh) on fine meshes it is recommended to coat as slowly as possible wet in wet 1/1. The reached EOM depends on the lip diameter of the coating trough and other parameters. If lower EOM values are needed it is recommended to coat once only from the printing side.

4. **Exposure speed**

Depends on:

- type of equipment and its calibration (focus etc.)
- mesh number
- mesh type and mesh colour
- coating sequence and coating speed
- lip radius of coating trough
- digital data

Tests are necessary. Post-exposure improves print resistance only with 1414 WSR, 1415 SR, 1010, 1020, 1021 and 1069 FAST.

To reach the full exposure speed the stencil must be completely dry.

5. **Processing of stencil**

Mesh preparation, coating, wash-out (development), cleaning and removal can be executed in the usual way manually or with automatic equipment.

The DIR-EX emulsions and 1836 WR SOLO have a high light sensitivity and are therefore to process strictly under yellow light !

6. **Chemical hardening**

Chemical hardening with the FOTECHEM hardeners is recommended for 1414, 1415, 1430 WR, 1836 WR SOLO and 1069 FAST.

Recommendable FOTECHEM hardeners: 2113 or 2110.

7. **Storing**

Shelf life:

- Presensitized emulsions: 2 years
- Diazo emulsions; unsensitized: 1 year

Coated screens in complete darkness:

- Presensitized emulsions: 2 months
- Diazo emulsions: 2 – 3 weeks

Cans containing presensitized emulsions must be kept at all times with closed lid.

Coated screens must be protected carefully against actinic light or day light; processing under yellow light is mandatory.

Protect the emulsions against freezing and coat them after reaching room temperature.

Stir well FOTECOAT 1410, 1411 and 1430 before using it.

8. **Safety and Health**

The presensitized emulsions are classified “harmless”.

For the diazo emulsions consult the MSDS.

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