TECHNICAL INFORMATION

TRIO 1 WR

1. **Description**
   - Fast, water resistant screen emulsion for textile screen printing.
   - Can be decoated with a high pressure water device.
   - Blue color with good see-through.
   - The diazo powder sensitizer in sachets (code A2 for 1 kg Sets; A7 for 4.5 kg Sets) is supplied separately.
   - TRIO 1 WR can be sensitized with ammonium dichromate.

2. **Application advantages**
   - 40% solids content before sensitizing.
   - Rather low viscosity (relatively thin).
   - Suitable for all inks containing water only and no solvents.
   - Simple to use with good resolution and high definition.
   - High abrasion resistance.

3. **Coating technique and stencil thicknesses below the mesh**
   It is recommended to let the sensitized emulsion degas during a few hours after sensitizing. Coat slowly with enough trough pressure against the mesh. This prevents air bubbles which could cause pinholes.
   The emulsion can be used for coating on an automatic coating machine.

<table>
<thead>
<tr>
<th>Mesh</th>
<th>Coating</th>
<th>Stencil thickness below the mesh</th>
</tr>
</thead>
<tbody>
<tr>
<td>43 T</td>
<td>1/1; + 2</td>
<td>10 microns</td>
</tr>
<tr>
<td>43 T</td>
<td>2/2</td>
<td>14 microns</td>
</tr>
<tr>
<td>77 T</td>
<td>2/3</td>
<td>16 microns</td>
</tr>
<tr>
<td>120 T</td>
<td>1/2</td>
<td>6 microns</td>
</tr>
<tr>
<td>120 T</td>
<td>2/3</td>
<td>11 microns</td>
</tr>
<tr>
<td>120 T</td>
<td>2/3; + 2</td>
<td>13 microns</td>
</tr>
</tbody>
</table>

   Coating again after an intermediate drying cycle improves the flatness of a stencil profile and does not increase substantially the stencil thickness. However the printing shoulders will keep contact with the substrate during the printing process; an improved printing result is achieved. For negative image printing the stencil thickness should be increased by 3 - 4 microns compared with positive printing.
   For very long runs, apply one additional coat, after drying, on the squeegee side to embed the mesh; increase exposure by 20 - 30%.

4. **Stencil quality**
   - The resolution is excellent and reaches approximately 60 microns.
   - The definition is very good.
   - After the wash-out the stencil is hard. It is possible to use a high pressure device for the wash-out.
− A chemical hardening by FOTECHEM 2100 is possible. The water resistance and the wearing characteristics will improve. In such a case the stencil can no longer be decoated.

5. **Stocking**
   − Unsensitized: approximatively 1 year
   − Sensitized at 20°C: 2 - 3 weeks (sensitized with Diazo)
   − Pre-coated screens stored in complete darkness at 20°C:
     − 1 week (sensitized with Diazo)
   − If sensitised with bichromate, the pot life is reduced to 1 day.
   − Protect from freezing. Does not thaw.

6. **Exposure times**
   5 KW metal halide lamp at 100 cm distance (type Actikop 3500 S) at 100 hours operating time:
   
<table>
<thead>
<tr>
<th>Coating technique</th>
<th>Type of mesh</th>
<th>Time in seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>120 T white</td>
<td>40</td>
</tr>
<tr>
<td>1/2</td>
<td>120 T dyed</td>
<td>80</td>
</tr>
<tr>
<td>2/3</td>
<td>120 T white</td>
<td>50</td>
</tr>
<tr>
<td>2/3</td>
<td>120 T dyed</td>
<td>75</td>
</tr>
<tr>
<td>2/3; + 2</td>
<td>120 T dyed</td>
<td>100</td>
</tr>
<tr>
<td>2/3</td>
<td>77 T dyed</td>
<td>150</td>
</tr>
<tr>
<td>2/2</td>
<td>43 T white</td>
<td>170</td>
</tr>
</tbody>
</table>

7. **Decoating**
   − Remove ink first with adequate solvent as soon as possible after printing, then decoat.
   − Add 5 – 10 litres of water to 100 gr of FOTECHEM 2044 Remover Powder or use FOTECHEM 2005 Paste with brush.
   − FOTECHEM 2004 Liquid is appropriate.
   − Because of the hardness of the stencil the decoating medium should stand for 10 - 15 minutes on the stencil before it is washed-out. Under difficult conditions the removal operation has to be repeated.
   − If decoating equipment is used a higher concentrated solution is necessary and a degreasing cycle before decoating is recommended.
   − Ghost pictures can be removed with FOTECHEM 2085 (blend of emulsifying solvents) followed by FOTECHEM 2080 (high alkaline paste).

8. **Sensitizing**
   With ammonium dichromate: Dissolve 7 gr of ammonium dichromate in 100 ccm of water and add this solution to 900 gr of emulsion, or dissolve 35 gr of ammonium dichromate in 500 ccm of water and add this solution to 4,0 kg of emulsion. Stir well and let degas before using. See separate instructions for the use of ammonium bichromate.

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