Everzol C & LF/LX dyes

Reactive Dyes

Dyes for cellulose & regenerated cellulosic fibers in cold pad-batch and continuous dyeing process.
### Everzol C & LF/LX Dyes:

Everzol C & LF/LX dyes are reactive dyes. They are suitable for natural cellulosic fibers or regenerated cellulosic fibers and their blends. In the dyeing process of cold pad-batch and continuous:

- Designed and formulated to meet cold pad-batch and continuous dyeing properties.
- Quality assurance by cold pad-batch and continuous dyeing process.
- Enhanced padding liquor stability.
- Enhanced solubility in alkali.

### The features of dyes:

- High fixation rate.
- Reduce effluent and save water.
- Medium substantivity.
- Less bleeding problem from dyes, and good wash-off.
- Good build-up.
- High color yield, easy to dye heavy shades.
- Full range.
- Excellent compatibility for pale shades, and from medium to heavy shades.

### Dyeing process:

- Cold pad-batch process.
- Post-dry-pad-steam process.
- Post-dry-boiling process.
- Enametrix process.

### Everzol C & LF/LX Dyes on Cotton

<table>
<thead>
<tr>
<th>Solubility (g/L)</th>
<th>20°C</th>
<th>100</th>
<th>100</th>
<th>150</th>
<th>120</th>
<th>100</th>
<th>100</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solubility in alkali (g/L)</td>
<td>20°C</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>75</td>
<td>100</td>
<td>100</td>
<td>70</td>
</tr>
<tr>
<td>Light-fastness to Perspiration = ISO 105-E04</td>
<td>Acid / Alkali</td>
<td>6/8</td>
<td>6/5</td>
<td>6/5</td>
<td>6/6</td>
<td>6/6</td>
<td>6/6</td>
<td>6/6</td>
</tr>
<tr>
<td>Light-fastness to Rubbing = ISO 105-X32</td>
<td>E</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Light-fastness to Perspiration = ISO 105-E04</td>
<td>C</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Light-fastness to Rubbing = ISO 105-X32</td>
<td>N</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Light-fastness to Perspiration = ISO 105-E04</td>
<td>E</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Light-fastness to Rubbing = ISO 105-X32</td>
<td>C</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Light-fastness to Perspiration = ISO 105-E04</td>
<td>C</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Light-fastness to Rubbing = ISO 105-X32</td>
<td>N</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Light-fastness to Perspiration = ISO 105-E04</td>
<td>E</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Light-fastness to Rubbing = ISO 105-X32</td>
<td>C</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Light-fastness to Perspiration = ISO 105-E04</td>
<td>C</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Light-fastness to Rubbing = ISO 105-X32</td>
<td>N</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

**Remark:**
- E: Effect on shade
- C: Stain on cotton
- N: Stain on nylon
## Everzol C & LF/LX Dyes on Cotton

### Solubility

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Solubility (g/l)</th>
<th>Solubility in alcohol (g/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>21°C</td>
<td>21°C</td>
<td></td>
</tr>
</tbody>
</table>

### Fastness to Washing

<table>
<thead>
<tr>
<th>Acid / Alkaline</th>
<th>Fastness to Washing</th>
<th>Fastness to Perspiration (acid)</th>
<th>Fastness to Perspiration (alkaline)</th>
<th>Fastness to Chlorinated Water</th>
<th>Fastness to Rubbing</th>
<th>Fastness to Oxidizing Bleaching</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4/5</td>
<td>5</td>
<td>4/5</td>
<td>5/5</td>
<td>4/5</td>
<td>5/5</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>C</td>
<td>E</td>
<td>C</td>
<td>E</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>ISO 105-C01 (52°C x 45)</td>
<td>ISO 105-C06 (25-60°C x 301)</td>
<td>ISO 105-C01 (52°C x 48)</td>
<td>ISO 105-C06 (137°C x 46)</td>
<td>ISO 105-C01 (52°C x 48)</td>
<td>ISO 105-C06 (137°C x 46)</td>
</tr>
</tbody>
</table>

### E 45

<table>
<thead>
<tr>
<th>Shade</th>
<th>Fastness to Oxidizing Bleaching</th>
<th>Fastness to Rubbing</th>
<th>Fastness to Chlorinated Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>E</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>Black/Light</td>
<td>E</td>
<td>E</td>
<td></td>
</tr>
</tbody>
</table>

### Trichromatic Dyes

<table>
<thead>
<tr>
<th>Item</th>
<th>Fastness to Perspiration (alkaline)</th>
<th>Fastness to Rubbing</th>
<th>Fastness to Chlorinated Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acid / Alkaline</td>
<td>C</td>
<td>E</td>
<td>C</td>
</tr>
<tr>
<td>ISO 105-C01 (52°C x 48)</td>
<td>ISO 105-C06 (137°C x 46)</td>
<td>ISO 105-C01 (52°C x 48)</td>
<td>ISO 105-C06 (137°C x 46)</td>
</tr>
</tbody>
</table>

### Mixing

<table>
<thead>
<tr>
<th>Acid / Alkaline</th>
<th>Fastness to Oxidizing Bleaching</th>
<th>Fastness to Rubbing</th>
<th>Fastness to Chlorinated Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black/Light</td>
<td>E</td>
<td>E</td>
<td>C</td>
</tr>
<tr>
<td>Black</td>
<td>E</td>
<td>E</td>
<td>C</td>
</tr>
</tbody>
</table>

### Lightness

<table>
<thead>
<tr>
<th>Shade</th>
<th>Fastness to Perspiration (acid)</th>
<th>Fastness to Perspiration (alkaline)</th>
<th>Fastness to Chlorinated Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acid / Alkaline</td>
<td>E</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>ISO 105-C01 (52°C x 48)</td>
<td>ISO 105-C06 (137°C x 46)</td>
<td>ISO 105-C01 (52°C x 48)</td>
<td>ISO 105-C06 (137°C x 46)</td>
</tr>
</tbody>
</table>
1. Cold Pad-Batch Process

**Pad**
**Batch**
**Fix**
**Wash-off**

Id: Alkaline requirements in padding liquor:
- A: Silicate-free method:
  - Everzel C & UV FIX dyes: X g/l
  - Catonic soda 32.5% (DBa) 1 x/100 c.c./l
  - Soda ash: 0–25 g/l
  - Glucose’s salt solution: 0–30 g/l

II. Sodium silicate method:

<table>
<thead>
<tr>
<th>Sodium silicate</th>
<th>Amounts of Everzel C &amp; UV FIX dyes (g/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25–40% @ 150°</td>
<td>65 70 75 80 85 90 95 100 105 110</td>
</tr>
<tr>
<td>40–60% @ 150°</td>
<td>110 115 120 125 130 135 140 145 150 155</td>
</tr>
<tr>
<td>130–150% @ 150°</td>
<td>160 165 170 175 180 185 190 195 200 205</td>
</tr>
</tbody>
</table>

II. Modified silicate method:

<table>
<thead>
<tr>
<th>Sodium silicate</th>
<th>Amounts of Everzel C &amp; UV FIX dyes (g/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25–40% @ 150°</td>
<td>65 70 75 80 85 90 95 100 105 110</td>
</tr>
<tr>
<td>40–60% @ 150°</td>
<td>110 115 120 125 130 135 140 145 150 155</td>
</tr>
<tr>
<td>130–150% @ 150°</td>
<td>160 165 170 175 180 185 190 195 200 205</td>
</tr>
</tbody>
</table>

Penetrating agent in padding liquor: 0–2 g/l
Padding liquor temperature: 20–25°C
Alkaline mixer is required.

Id: Padding time: 4–24h at 25°C

2. Pad-Dry-Pad-Steam Process

**Pad**
**W. Radial & dry**
**Chemical pad & steam**
**Wash-off**

Id: Padding liquor:
- Everzel C & UV FIX dyes: X g/l
- Migration inhibitor: 1 g/l
- Reduction inhibitor: 10 g/l
- Penetrating agent: 0–2 g/l

Padding liquor temperature: 20–25°C

B) Drying:
- IR drying
- Residual moisture down to approx. 30%
- Cooling goods after drying:
  - 100–130°C

C) Chemicals padding:
- A: Sodium silicate 60–70% 60–70 %
- B: Catonic soda 32.5% (DBa) 14–20 g/l
- C: Catonic soda 32.5% (DBa) 12–18 g/l
- Soda ash: 20 g/l
- Salt: 225 g/l

D) Drying: Saturated steam at 102–103°C 30–70 minutes

E) Wash-off:
- Chemical padding with A: see 6 lb
- Chemical padding with B: see 6 lb
- Chemical padding with C: see 6 lb

3. Pad-Dry-Baking Process

**Pod**
**R. Radial & dry**
**Baking**
**Wash-off**

Id: Padding liquor:
- Everzel C & UV FIX dyes: X g/l
- Alkali: 1 g/l
- Lure: 50–100 g/l
- Migration inhibitor: 1 g/l
- Reduction inhibitor: 10 g/l
- Penetrating agent: 0–2 g/l

Padding liquor temperature: 20–25°C

B) Drying:
- see 2 lb

C) Baking:
- 2–3 min at 190–210°C

D) Wash-off:
- see 6 lb

E) Alkali requirements:

![Graph](image-url)
4. Pad-Dry Process

- Padding liquor:
  - Evosol C & UF/V dye:
  - Caustic soda 32-33% (depho)
  - Soda ash:
  - Gluconic acid:
  - Reduction inhibitor:
  - Penetrating agent:

- Padding liquor temperature: 20-25°C
- Alkali mixer is required.

5. Emoistfix Process

- Padding liquor:
  - Evosol C & UF/V dye:
  - Reduction inhibitor:
  - Migration inhibitor:
  - Urea solution:

- Alkali requirements:
  - Amounts of Evosol C & UF/V dye used (g/l):
    - Evosol C & UF/V dye:
    - Amount of NaOH:
    - Amount of Na2CO3:

- Penetrating agent in padding liquor: 0-2g/l
- Padding liquor temperature: 20-25°C
- Alkali mixer is required.

6. Wash-off Process

- Cold rinsing with overflow: 1 box at 30-40°C
- Warm rinsing and neutralizing: 1 box at 50-60°C
- Hot rinsing: 1 box at 90-95°C
- Soaping: 1 box at 90-95°C
- Soaping: 1 box at 90-95°C
- Warm rinsing: 1 box at 50-60°C
- Cold rinsing and pH check: 1 box at 30-40°C

- Cold rinsing with overflow: 1 box at 30-40°C
- Warm rinsing: 1 box at 50-60°C
- Hot rinsing: 1 box at 90-95°C
- Soaping: 1 box at 90-95°C
- Soaping: 1 box at 90-95°C
- Warm rinsing and neutralizing: 1 box at 50-60°C
- Cold rinsing and pH check: 1 box at 30-40°C

- Fixation time: 2-3 min at 120-130°C
- Humidity control: 35%