Textile Effects

TERASIL® TC
Excellent Right-first-time Performance for Polyester
TERASIL® BLACK TC

Exhaust dyeing on polyester

Economical rapid dye with excellent shade reproducibility. Good all-round fastness.

Uses

<table>
<thead>
<tr>
<th>Dyeing process</th>
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<tbody>
<tr>
<td>HT, standard</td>
<td>■</td>
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<tr>
<td>HT, rapid dyeing</td>
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<tr>
<td>HT, alkaline</td>
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<tr>
<td>CA</td>
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<tr>
<td>CTA</td>
<td>—</td>
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<tr>
<td>PES/WO</td>
<td>—</td>
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<tr>
<td>Thermosol</td>
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<tr>
<td>Direct printing</td>
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</tbody>
</table>

Properties

- Shade change under artificial light Tungsten (A) TL 84 CWF: R R R
- Energy level: Medium
- Chemical class: Azo
- Minimum dyeing temperature: 125°C/257°F
- pH-range:
  - Sodium acetate + acetic acid: 3.0–7.0
  - Ammonium sulfate + formic acid: 3.0–7.0
  - Ammonium sulfate + soda ash: 7.0–9.5
- Stability to:
  - Reduction: very good
  - Fe-ions: very good
  - Cu-ions: good
- Leveling: very good
- Coverage of barriness: very good

Suitability

- Exhaust dyeing

TERASIL®/SOLOPHENYL® One-bath method

TERASIL®/NOVACRON® LS One-bath method

TERASIL®/NOVACRON® Two bath method without intermediate clearing

TERASIL®/NOVASOL® One-bath method

Key:

- very good
- good
- moderate
- not recommended
Main Trichromatic dyes

- Orange TC
- Rubine TC
- Blue TC

Supplementary dyes

- Yellow TC
- Brilliant Red TC
- Turquoise TC
- Grey TC
- Dark Blue TC
- Navy TC
- Black TC

Highlights

- Robust, economical and comprehensive disperse dye range for exhaust dyeing of polyester
- Right-First-Time performance through excellent compatibility of the dyes and stability to reduction
- Highest level of productivity in exhaust dyeing through excellent shade reproducibility
- Fulfills Oekotex requirements, bluesign® certified and meets all major brand RSL requirements

Range Benefits

- Good all round fastness performance
- Excellent stability to reduction
- Exceptional leveling properties
- Very good light fastness providing high shade durability
- Fast exhaustion at 130°C
- Wide pH stability
Operational and Economical excellence
Excellent right-first-time performance
Fulfills Oekotex requirements, bluesign® certified and meets all major brand RSL requirements
Benefits of the TERASIL® TC range

Operational and Economical Excellence

Compatible dyes combination and uniform exhaustion
The similar shade on the fabric from the beginning to the end of the dyeing procedure ensures excellent leveling properties, shade reproducibility and reliability. Coupled with the highest degree of exhaustion, TERASIL® TC dyes are the choice for Operational and Economic excellence.

<table>
<thead>
<tr>
<th></th>
<th>110°C</th>
<th>120°C</th>
<th>130°C 5 mins</th>
<th>130°C 60 mins</th>
<th>Conventional CI dyes</th>
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<tbody>
<tr>
<td>Disperse Yellow 211</td>
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<tr>
<td>Disperse Red 73</td>
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<td>Disperse Blue 165</td>
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<td>Residual dye in the bath</td>
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<th>130°C 60 mins</th>
<th>New state of the art technology</th>
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</thead>
<tbody>
<tr>
<td>TERASIL® Orange TC</td>
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<td></td>
<td>TERASIL® Orange TC</td>
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<tr>
<td>TERASIL® Rubine TC</td>
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<td></td>
<td></td>
<td>TERASIL® Rubine TC</td>
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<tr>
<td>TERASIL® Blue TC</td>
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<td>TERASIL® Blue TC</td>
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<tr>
<td>Residual dye in the bath</td>
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</table>

Leveling properties and shade reproducibility
TERASIL® TC dyes provide the best lab to bulk reproducibility and levelness versus any conventional disperse dyes.
Benefits of the TERASIL® TC range

Excellent Right-first-time Performance

Stability to reduction

The cutting-edge technology in TERASIL® TC shows almost NO sensitivity to reduction during dyeing process.

Sensitivity to reduction of disperse dyes is the main cause of poor reproducibility. The main causes for reduction of disperse dyes are:

- Fully flooded dyeing machines (in absence of air)
- Polyester blended fabrics may carry reductive chemicals in dyebath, like wool, viscose, greige cotton
- Economical dispersing agents (sulphonated lignin) have a reduction effect

| 100% Texturized PES | Fully-flooded dyeing machine without air | Dyeing machine which contains air | Fully-flooded dyeing machine + dispersing agent*
<table>
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</thead>
<tbody>
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<tr>
<td></td>
<td>Disperse Yellow 211</td>
<td>Disperse Red 73</td>
<td>Disperse Blue 165</td>
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<tr>
<td>Industry benchmark dyes</td>
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<tr>
<td></td>
<td>Disperse Yellow Brown CC</td>
<td>Disperse Rubine CC</td>
<td>Disperse Blue CC</td>
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<tr>
<td>New state of the art technology</td>
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<tr>
<td></td>
<td>TERASIL® Orange TC</td>
<td>TERASIL® Rubine TC</td>
<td>TERASIL® Blue TC</td>
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</table>

*1 g/l dispersing agent based on sulphonated lignin.

pH stability

The wide pH stability of TERASIL® TC ensures highest reproducibility and Right-first-time performance.

- Shade not influenced by pH

<table>
<thead>
<tr>
<th>pH Variations</th>
<th>Reference pH 4.0</th>
<th>Relative Depth</th>
<th>da*</th>
<th>db*</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td></td>
<td>102</td>
<td>0.22</td>
<td>-0.07</td>
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<tr>
<td>6.0</td>
<td></td>
<td>103</td>
<td>0.08</td>
<td>-0.12</td>
</tr>
<tr>
<td>7.0</td>
<td></td>
<td>103</td>
<td>0.23</td>
<td>-0.14</td>
</tr>
</tbody>
</table>

New state of the art technology

TERASIL® Orange TC
TERASIL® Rubine TC
TERASIL® Blue TC
TERASIL® TC

Highest level of productivity even under severe dyeing conditions.
## Superior Lightfastness Performance

The high lightfastness of TERASIL® TC ensures durability against fading, even on microfiber. Tested according to Xenonlight ISO 105-B02 (blue scale) and Xenonlight AATCC 16E (gray scale).

<table>
<thead>
<tr>
<th>TERASIL® Orange TC</th>
<th>TERASIL® Rubine TC</th>
<th>TERASIL® Blue TC</th>
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<tbody>
<tr>
<td>ISO 105-B02</td>
<td>AATCC 16 E 20 AFU</td>
<td></td>
</tr>
<tr>
<td>1/12 SD</td>
<td>4–5</td>
<td>4–5</td>
</tr>
<tr>
<td>1/3 SD</td>
<td>4–5</td>
<td>4</td>
</tr>
<tr>
<td>1/1 SD</td>
<td>4–5</td>
<td>4</td>
</tr>
</tbody>
</table>

TERASIL® TC shows excellent fastness to storage due to outstanding fastness to dry heat.

## Migration During Fabric Storage

<table>
<thead>
<tr>
<th>TERASIL® TC</th>
<th>Standard</th>
<th>Ch</th>
<th>PES</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>TERASIL® Yellow TC</td>
<td>4</td>
<td>5</td>
<td>Disperse Yellow 211</td>
<td>4-5</td>
</tr>
<tr>
<td>TERASIL® Rubine TC</td>
<td>4</td>
<td>5</td>
<td>Disperse Red 73</td>
<td>4-5</td>
</tr>
<tr>
<td>TERASIL® Blue TC</td>
<td>4</td>
<td>5</td>
<td>Disperse Blue 165</td>
<td>4-5</td>
</tr>
</tbody>
</table>
Exhaust Dyeing

**Standard HT method**

<table>
<thead>
<tr>
<th>°C</th>
<th>°F</th>
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<tbody>
<tr>
<td>70</td>
<td>158</td>
</tr>
<tr>
<td>80</td>
<td>176</td>
</tr>
<tr>
<td>90</td>
<td>194</td>
</tr>
<tr>
<td>100</td>
<td>212</td>
</tr>
<tr>
<td>110</td>
<td>230</td>
</tr>
<tr>
<td>120</td>
<td>248</td>
</tr>
<tr>
<td>130</td>
<td>266</td>
</tr>
<tr>
<td>140</td>
<td>284</td>
</tr>
</tbody>
</table>

1–2°C/min 20–60 min cool down

or HT drop

0.3–0.8 g/l ALBAFLOW® UNI-01
0.5–1.0 g/l UNIVADINE® TOP / E3-DAP
3.0 g/l ALBATEX® RI
2.0–3.0 g/l ALBATEX® AB-45
x % TERASIL® dyes

pH 4.0

Dyeing at 130–135°C/266–275°F for 20–60 min (depending on depth of shade)

Reduction clearing

4.0 ml/l caustic soda 36°Bé/66°Tw (40% w/v)
2.0 ml/l sodium hydrosulfite conc. powder
1.0 g/l ERIOPON® E3-SOP

10–20 min at 70°C/158°F

Rinse and neutralize.

**Dyeing Auxiliaries**

**ALBAFLOW® UNI-01**
Penetration accelerator
Versatile penetration accelerator with excellent deaerating, wetting and durable antifoam properties for dyeing and pretreatment applications on natural and synthetic fibers. APEO-and solvent free. Nonionic.

**ALBAFLUID® E3-DLM**
Lubricant
An excellent dye bath lubricant for wet finishing of any fiber at all stages, ALBAFLUID® E3-DLM is particularly useful for fiber processing under difficult conditions including on short liquors, heavily loaded jets and in delicate goods processing.

**ALBATEX® AB-45**
Acid buffer
No pH setting needed. Excellent buffer capacity and therefore high reproducibility with pH sensitive disperse dyes is assured. Anionic.

**ALBATEX® RI**
Reduction inhibitor
ALBATEX® RI is a highly effective, halogen-free reduction inhibitor for dyeing of polyester fibers and their blends with, e.g. cellulose or viscose rayon. It protects disperse dyes from yield loss during HT exhaust dyeing processes.

**ALBATEX® E3-DCC**
Protective colloid
An outstanding sequestering agent for reactive dyeing on cellulosic fiber and their blends, ALBATEX® E3-DCC is equally effective as a protective colloid for the dyeing of greige stage cotton and polyester/cotton blends. ALBATEX® E3-DCC is also a dyebath conditioner for cotton and a dye protectant for the dyeing and finishing of polyester fabrics.

**ERIOPON® E3-SOP**
Afterclearing agent
An excellent after-clearing agent for dyed and printed polyester goods produced with disperse dyes, for polyester/cellulose blends with disperse/reactive dyes, for acetate and for polyester blends with elastane and wool, ERIOPON® E3-SOP is an outstanding product for continuous washing off and soaping for dyeing on open width washing machines, vat dye prints on all cellulosic goods and vat disperse dyes on polyester / cotton blends.

**UNIVADINE® E3-DAP**
Diffusion accelerator
A diffusion accelerator for HT dyeing of polyester fibres and microfiber blends at all stages in jets processing and circulating liquor machines, UNIVADINE® E3-DAP is excellent for dyeing polyester fibres in tightly wound or high-density package.

**UNIVADINE® TOP**
Leveling and dispersing agent
TERASIL® TC
Technology competitive disperse dyes for Polyester

Complies with OEKO-Tex 100 (inc. Class I) • Meets European standards
bluesign® approved – Meets requirements of brand RSL’s (Restricted Substance Lists)
Learn more about TERASIL® TC.

Scan QR Code
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