Textile Effects

LANASET® PA

Dyeing concept for polyamide and polyamide / elastane
LANASET® PA
Cutting-edge economic tailor-made dyes for polyamide.
LANASET® PA is a range of economic tinctorial LANASET® dyes, tailor-made for polyamide dyeing.

### Features
- Compact range including an excellent trichromy with perfect tone-on-tone build-up on polyamide.
- Very good wetfastness properties
- High lightfastness properties
- Simple dyeing procedures and high exhaustion

### Benefits
- Easy dye selection
- Flexibility to meet changing market needs and fashion trends
- Broad shade coverage
- Very high flexibility for shade matching since LANASET® PA dyes are fully compatible with classic LANASET® dyes
- Very deep shades are easy to achieve and polyamide microfiber dyeing is simple and efficient
- Fastness requirements are met on numerous end products, including sportswear, lingerie, swimwear, etc.
- Ideal for very deep shades on microfibre
- In most cases, no need for syntan fixation, thus ideally suited for laminated articles
- Suitable for high performance outdoor and sportswear such as wind breakers, ski-wear, mountaineering garments, etc.
- Offers excellent performance even for many bright fashion shades
- Applicable for both elastic knits and woven goods
- Cost effective robust day-to-day production
- Good lab to bulk transfer
- Exhaust reproducibility
- Minimal effluent pollution

### Range
- Excellent compatibility of the dyes
- Very good levelling properties
- Highest on-tone build-up, even on PA-microfibers
- High light and chlorine fastness
- Excellent contact and wetfastness
- Superior coverage of barré

### Highlights
- **Range**
  - **Main Trichromatic dyes**
    - LANASET® YELLOW PA
    - LANASET® RED PA
    - LANASET® BLUE PA
  - **Supplementary dyes**
    - LANASET® Yellow PA-4G
    - LANASET® Yellow PA-2G
    - LANASET® Orange PA-2R
    - LANASET® Red PA-3G
    - LANASET® Red PA-4B
    - LANASET® Blue PA-2R
    - LANASET® Navy PA
    - LANASET® Black PA-R

### Gamut (CIELAB D65/10)
- Yellow PA-4G
- Yellow PA-2G
- Orange PA-2R
- Red PA-3G
- Red PA-4B
- Blue PA-2R
- Navy PA
- Black PA

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* *a* and *b* represent the color coordinates in the CIELAB color space.
LANASET® PA
Key Benefits

1. Operational and economic excellence
2. Outstanding fastness under any condition
3. Superior light fastness performance
4. Compact range with broad shade coverage
Benefits of the LANASET® PA range

1 Operational and economic excellence

Compatible dye combinations 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, LANASET® PA dyes are the choice for operational and economic excellence.

Exhaust dyeing on PA / PUE

0.55% LANASET® Yellow PA
0.25% LANASET® Red PA
0.50% LANASET® Blue PA

<table>
<thead>
<tr>
<th>degree of exhaustion (%)</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>temperature (°C)</th>
<th>40°C</th>
<th>55°C</th>
<th>70°C</th>
<th>85°C</th>
<th>98°C</th>
<th>98°C</th>
<th>98°C</th>
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</thead>
<tbody>
<tr>
<td>time (min)</td>
<td>10 min</td>
<td>30 min</td>
<td>60 min</td>
<td></td>
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</tbody>
</table>

LANASET® Yellow PA   LANASET® Red PA   LANASET® Blue PA

![Graph showing exhaustion % over time and temperature]
### Benefits of the LANASET® PA range

#### Outstanding fastness under any condition

**Wetfastness according to washing 49°C AATCC 61 2A (without fixing agents)**

Fastness tested on Meryl® micro / Lycra® 72:28.

<table>
<thead>
<tr>
<th>LANASET® PA*</th>
<th>WO</th>
<th>PAC</th>
<th>PES</th>
<th>PA</th>
<th>CO</th>
<th>CA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.9% Orange PA-2R</td>
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<tr>
<td>1.6% Red PA-3G</td>
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<tr>
<td>0.6% Red PA</td>
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<tr>
<td>0.9% Red PA-4B</td>
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</table>

<table>
<thead>
<tr>
<th>Others*</th>
<th>WO</th>
<th>PAC</th>
<th>PES</th>
<th>PA</th>
<th>CO</th>
<th>CA</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.63% Orange S-3R</td>
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<tr>
<td>0.60% Red S-GS</td>
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<tr>
<td>0.75% Red S-3B</td>
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* After treatment with ERIONAL® FRN can further improve wet fastness properties of the dyes. This is best performed in a fresh bath.

#### Fastness to Chlorinated Water, ISO–E03

Fastness tested on Meryl® micro / Lycra® 72:28. Tested with 50 mg/l available chlorine.

<table>
<thead>
<tr>
<th>LANASET® PA</th>
<th>without ERIONAL® CL</th>
<th>rating Ch</th>
<th>Original</th>
<th>after test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.9% Orange PA-2R</td>
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<td>4</td>
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<tr>
<td>1.6% Red PA-3G</td>
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<td>4–5</td>
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<tr>
<td>0.6% Red PA</td>
<td></td>
<td>4</td>
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<tr>
<td>0.9% Red PA-4B</td>
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<td>4</td>
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</table>

<table>
<thead>
<tr>
<th>Others</th>
<th>without ERIONAL® CL</th>
<th>rating Ch</th>
<th>Original</th>
<th>after test</th>
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</thead>
<tbody>
<tr>
<td>0.63% Orange S-3R</td>
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<td>1–2</td>
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<tr>
<td>0.60% Red S-GS</td>
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<td>4</td>
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<tr>
<td>0.75% Red S-3B</td>
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LANASET® PA

Provides good washing fastness. In most cases, no need for syntan fixation, thus ideally suited for laminated articles.
Superior lightfastness performance

Tested on Meryl® micro / Lycra® 72:28 according to Xenonlight, ISO 105-B02 96 / 216h (blue scale) and Xenonlight AATCC 16E 40 / 80 AFU (grey scale).

Key to fastness tables, Please refer to notes card.
LANASET® PA

Offers excellent lightfastness levels even for many bright fashion shades.
LANASET® PA

Offers very high flexibility for shade matching with excellent trichromy with perfect tone-on-tone build up on polyamide.
Benefits of the LANASET® PA range

LANASET® PA provides excellent build-up and allows very deep shades to be achieved even on polyamide microfibre. Provides even further flexibility for shade matching since LANASET® PA dyes are fully compatible with classic LANASET® dyes*.

1.2 % Yellow PA-4G
0.1 % Orange PA-2R

1.0 % Yellow PA-4G
0.2 % Red PA-4B

0.8 % Yellow PA-4G
1.5 % Orange PA-2R

2.5 % Orange PA-2R
0.2 % Red PA-4B

2.3 % Orange PA-2R
0.5 % Red PA-4B

0.1 % Yellow PA
0.9 % Red PA

0.5 % Orange PA-2R
1.0 % Red PA-4B

1.5 % Red PA-4B
0.2 % Blue PA-2R

1.3 % Red PA-4B
0.8 % Blue PA-2R

0.6 % Red PA
0.9 % Blue PA

0.2 % Red PA-4B
3.0 % Blue PA-2R

1.5 % Yellow PA-4G
0.5 % Blue 5G *

0.7 % Yellow PA
0.3 % Red PA
0.4 % Blue PA

0.2 % Yellow PA
0.6 % Red PA
0.2 % Blue PA

0.5 % Yellow PA
0.1 % Red PA
0.8 % Blue PA

1.0 % Navy PA
2.6 % Black PA-R

### Shade area

<table>
<thead>
<tr>
<th>Shade area</th>
<th>Tri-chromy</th>
<th>Bright Yellow</th>
<th>Yellow</th>
<th>Orange Scarlet</th>
<th>Red</th>
<th>Bordeaux Violet</th>
<th>Blue</th>
<th>Green/olive</th>
<th>Brown/beige/grey</th>
<th>Navy</th>
<th>Black</th>
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<tbody>
<tr>
<td><strong>LANASET®</strong></td>
<td>Yellow PA-4G</td>
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<td>Yellow PA-4G</td>
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<td>Orange PA-2R</td>
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<td>Blue PA-2R</td>
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<td>Navy PA</td>
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<td>Blue 5G*</td>
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**Note:** Other combinations bear a risk of catalytic fading and should be tested for lightfastness.

**Key:**
- [ ] Key elements
- [ ] Supporting elements
Processes

■ Dyeing PA and PA/EL

Overview of the major methods for dyeing on beam, overflow and jet dyeing machines

For further technical information on process and dyeing recommendations, please refer to the “General” section of the LANASET® PA Pocket card (412001e)
LANASET® PA
The sustainable choice.

Complies with OEKO-Tex 100 (inc. Class I) • Meets European standards
bluesign® approved – Meets requirements of brand RSL’s (Restricted Substance Lists)
LANASET® PA
Cutting-edge economic tailor-made dyes for polyamide.
Learn more about LANASET® PA.

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