colorPol® High Transmittance polarizers
the polarizer family made for Optical Communication

Applications
- Wavelength selective switches
- Optical instrumentation
- Optical isolators
- Polarization analyzer
- Polarization controller
- Various fibre optic devices
- Laboratory equipment
- Optical communication engineering
- Lyot – filter

CODIXX
colorPol® HT polarizers

colorPol® HT polarizers offer low insertion loss. They are available for the spectral range of 1,200 – 1,700 nm.

<table>
<thead>
<tr>
<th>colorPol® type</th>
<th>Wavelength-range [nm]</th>
<th>Transmittance [%]</th>
<th>Insertion loss [dB]</th>
<th>Contrast</th>
<th>d3</th>
</tr>
</thead>
<tbody>
<tr>
<td>IR 1310 BC4 HT</td>
<td>1,280 – 1,500</td>
<td>&gt; 88 – 90</td>
<td>&lt; 0.555 – 0.458</td>
<td>&gt; 10,000:1</td>
<td>&gt; 40</td>
</tr>
<tr>
<td>IR 1310 BC4 HT C1310</td>
<td>1,280 – 1,500</td>
<td>&gt; 96 - 98</td>
<td>&lt; 0.177 – 0.08</td>
<td>&gt; 10,000:1</td>
<td>&gt; 40</td>
</tr>
<tr>
<td>IR 1490 BC4 HT</td>
<td>1,450 – 1,530</td>
<td>&gt; 89</td>
<td>&lt; 0.506</td>
<td>&gt; 10,000:1</td>
<td>&gt; 40</td>
</tr>
<tr>
<td>IR 1490 BC4 HT C1490</td>
<td>1,450 – 1,530</td>
<td>&gt; 97.5</td>
<td>&lt; 0.11</td>
<td>&gt; 10,000:1</td>
<td>&gt; 40</td>
</tr>
<tr>
<td>IR 1550 BC4 HT</td>
<td>1,480 – 1,650</td>
<td>&gt; 89 – 91</td>
<td>&lt; 0.506 – 0.410</td>
<td>&gt; 10,000:1</td>
<td>&gt; 40</td>
</tr>
<tr>
<td>IR 1550 BC4 HT C1550</td>
<td>1,480 – 1,650</td>
<td>&gt; 97 – 98.5</td>
<td>&lt; 0.132 – 0.066</td>
<td>&gt; 10,000:1</td>
<td>&gt; 40</td>
</tr>
</tbody>
</table>

colorPol® HT polarizers are available in standard thicknesses of 0.2 mm, 0.25 mm and 0.5 mm with square standard sizes of 11 x 11 mm² and 15 x 15 mm². Any other individual shapes or dimensions are available on request. Contrast ratios over 100,000:1 can be provided. Reflection losses can be minimized by antireflection coating.

colorPol® polarizers follow completely the international RoHS, REACH and PFOS regulations.

Refractive index @ 633 nm: 1.52 ±0.005
Polarization axis accuracy: < 0.5 °
Acceptance angle: ±20 °
Clear aperture: 90 %
Expansion coefficient: 8.1 ±0.3 x 10⁻⁴ K⁻¹ (0 - 100 °C)
Coefficient of elasticity: 70 ±5 kN/mm²
Operating temperature: -50 °C to +400 °C
Thermal cycle: -40 °C to +80 °C, 200 cycles (DIN EN 60068-2-14 method Na)
Humid storage: 85 °C, 85 % rel. humidity, 1,000 h according to Telcordia GR-1221-CORE
UV-stability: 20 mW/cm² at 60 h irradiation without any degradation
Chemical resistance: colorPol® polarizers are insensitive to most organic and cleaning solvents, acids and bases and distilled water.
colorPol® polarizers - high performance

low insertion loss - maximum durability

**colorPol® technology**

colorPol® polarizers are made solely from soda-lime glass. The technology is used to create uniformly oriented prolate silver particles near the surface of glass. Due to the prolate silver particles, non-polarized light becomes linearly polarized passing the so treated glass. The absorption is selective in reference to the wavelength.

Beside the standard products, the flexible technology allows the production of customized polarizers with individual spectral characteristics. colorPol® polarizers are absorptive type. They feature a high contrast ratio and a high transmittance.

Standard colorPol® polarizers are available for the UV wavelength range (340 - 415 nm), for the VIS, NIR and MIR range (450 - 5,000 nm).

**colorPol® polarizers:**

- are dichroic glass polarizers
- are flat like foil polarizers
- can be processed like glass or silicon wafers
- are resistant against UV radiation and chemicals
- have large acceptance angles
- are resistant against temperatures up to +400 °C

**Patterned colorPol® polarizers**

Based on the unique colorPol® technology, CODIXX is the world’s first producer of patterned polarizers. colorPol® S polarizers have arbitrary shaped areas with different directions of polarization. Additionally, the areas can have different spectral characteristics.