Coatings for ultra-high performance optoSiC-PLUS® mirrors

SCANcoat 522-H

SCANcoat 522-H is a surface-tension reduced coating to minimize coating induced wavefront deformation, giving high reflectivity for high power lasersystems requirements when used under large angles of incidence on common galvano-scanning systems.

Coated optoSiC-PLUS®-mirrors can withstand strong laser radiation at high power and high energy densities. For other wavelength are dedicated standard coatings available and many other coatings on request. Please refer to technical datasheets for SCANcoat coatings available on optoSiC-PLUS® or see download-links on homepage and ask our sales people for further choices on other specialized coatings.
## GENERAL PROPERTIES

<table>
<thead>
<tr>
<th>COATING CHARACTERISTICS</th>
<th>SCANcoat 522-H</th>
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</thead>
<tbody>
<tr>
<td><strong>Wavelength</strong> [(\lambda_1)] (nm)</td>
<td>510…522…535nm s. spectrum</td>
</tr>
<tr>
<td><strong>Wavelength</strong> [(\lambda_2)] (nm)</td>
<td>632.8</td>
</tr>
<tr>
<td><strong>Scan Angle</strong> (°)</td>
<td>41 ±13.5</td>
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<tr>
<td><strong>Average Reflectance</strong> @45° s-pol ((R_{\text{avg}(\lambda_1)})) (%)</td>
<td>&gt; 99.5 +/- 1.0 %</td>
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<tr>
<td><strong>Average Reflectance</strong> @45° r-pol ((R_{\text{avg}(\lambda_2)})) (%)</td>
<td>&gt; 50.0 +/- 2.5 %</td>
</tr>
<tr>
<td><strong>Phase Shift</strong> (°)</td>
<td>n.d.</td>
</tr>
<tr>
<td><strong>Power Density</strong> (kW/cm²)</td>
<td>n.d.</td>
</tr>
<tr>
<td><strong>Damage Threshold Energy Density</strong> (J/cm²)</td>
<td>n.d.</td>
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</tbody>
</table>

LIDT = laser induced damage threshold typically given as:

- x-Watts per linear millimeter of beam radius (br) \((1/e^2\) intensity points) ±10% at 45° Angle of Incidence. (polarisation: random/ unpolarised r-pol/ u-pol)

Transmission edges can vary ~ 2% of the given wavelength.

All data given for lab.-conditions 20…25°C, at higher temperatures thermal shifts will occur.

n.d. = not defined

R-values are qualified on fused silica-samples in transmission \(R = 1 - T\)

**Use an air bulb to blow off any loose contaminants from the surface before proceeding to the cleaning steps.**

1. Damp an unused cotton swab or a cotton ball with acetone or iso-propanol (purity-grades 99.99).
2. Gently wipe the surface with the damp cotton. Do not rub hard.
3. Drag the cotton across the surface just fast enough so that the liquid evaporates right behind the cotton. This should leave no droplets or streaks.

   **Note:** Use only paper-bodied cotton swabs and high-quality surgical cotton balls.

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**Please Contact:**

MERSEN Deutschland Holding GmbH & Co. KG
Niederlassung München
Rupert-Mayer-Str.44
D-81379 München
Germany

Phone: +49 (0) 89 780 7239 0
Fax: +49 (0) 89 780 7239 211
E-Mail: info@optoSiC.com
www.optosic.mersen.com

**Technical Datasheet**  SCANcoat 522-H.01