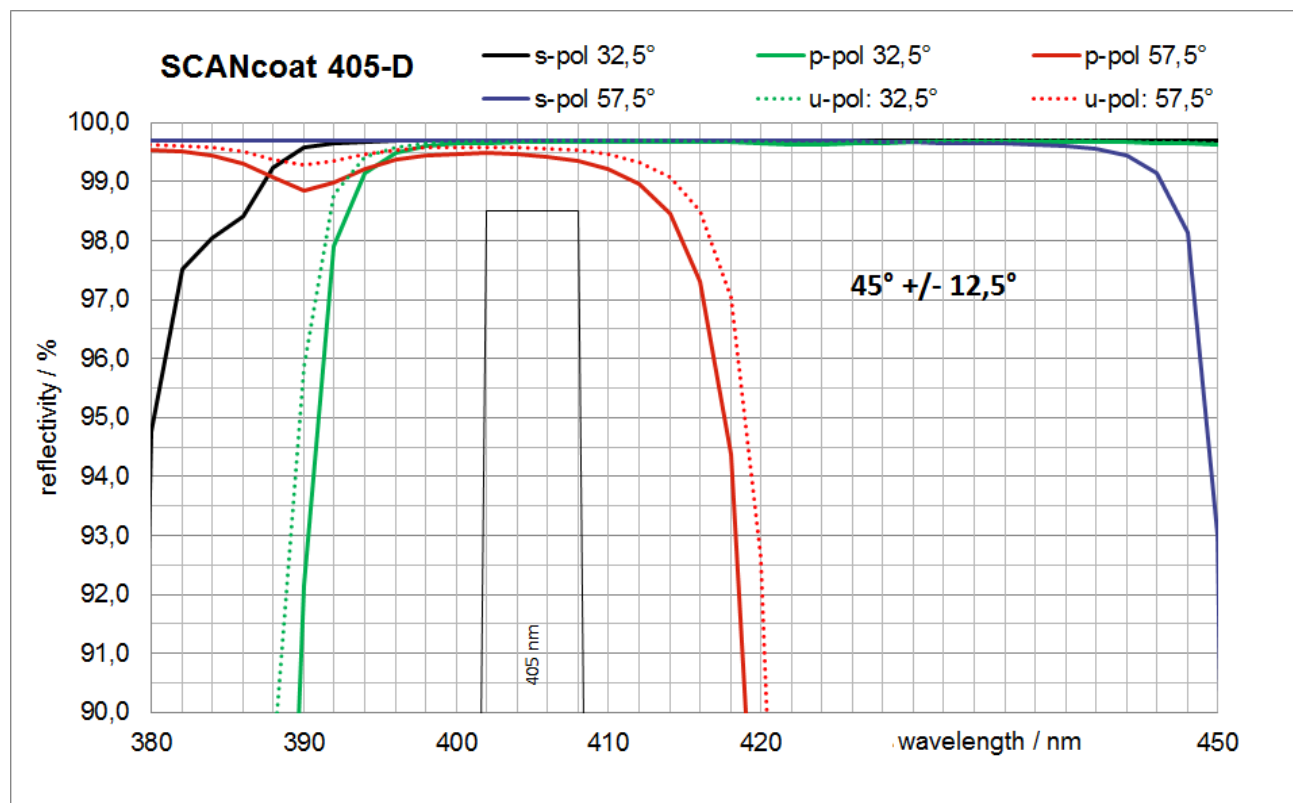


Coatings for ultra-high performance optoSiC-PLUS[®] mirrors SCANcoat 405-D

SCANcoat 405-D is a dielectric coating with optimized laser induced damage threshold LIDT coating, giving the highest reflectivity for high power laser-systems requirements when used under large angles of incidence on common galvano-scanning systems. This coating captures the largest range for the scan angle and the widest spectral range on substrates from beam diameters CA 10mm ... 30mm

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	Typical values	
COATING	Wavelength [λ_1] (nm)	405 +/-2	s. spectrum
	Wavelength [λ_2] (nm)	632,8	
	Scan Angle Range SAR (°)	45 ±12,5	32,5 – 57,5
	HR (λ_1) @45° (s+p)/2 =u-pol (%)	> 98,5	
	HR (λ_1) @SAR u-pol (%)	> 97,0	
	R _{avg} (λ_2) @45° u-pol (%)	> 30,0	
	Phase Shift (°)	n.d.	
	Powerdensity (kW/cm ²)	0,5.	LIDT (@ 355nm CW)
	Damage Treshold Energy Density (J/cm ²)	6,0.	for pulsed 355nm radiation 10 ns, 1 Hz

LIDT = laser induced damage threshold typically given as x-Watts per linear millimeter of beam radius (br) (1/e² intensity points) ±10% at 45° Angle of Incidence. (polarisation: random/ unpolarised r –pol/ u –pol)
Transmission edges can vary ~ 2% from lot to lot for the given wavelength.
All data given for lab.-conditions 20...25°C, at higher temperatures thermal shifts will occur.
R-values are qualified on thin fused silica-samples measured in transmission R = 1-T
Measured uncertainty of HR +/- 1,0 % ; n.d. = not defined

COATING characteristics	SCANcoat 405-D		
Adhesion	MIL-F-48616	§ 4.6.8.1	Tape Test: peel off medium grade
Humidity	MIL-F-48616	§ 4.6.8.2	Storage 49°C : 100 % RH min. 24 h
Abrasion	MIL-F-48616	§ 4.6.8.3	"cheesecloth", 50 times pulles with force 450 g over the surface
Temperature	MIL-F-48616	§ 4.6.9.1	Typ ambient use: -20 ... 80 °C storage -61°C ... 72°C for min. 2 h
Cleaning:	carefully	With pure chemical analytical reagent grade di-Water, Alcohol iso-Propanol, Aceton	

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

- I. Damp an unused cotton swab or a cotton ball with acetone or iso-propanol (purity-grades 99.99).
- II. Gently wipe the surface with the damp cotton. Do not rub hard.
- III. 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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