

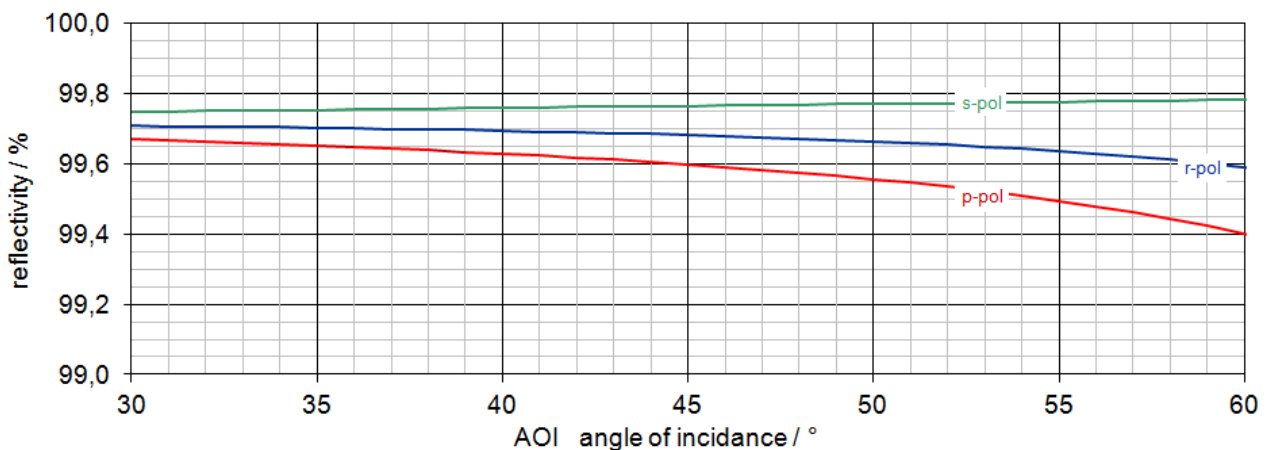
Coatings for ultra-high performance optoSiC-PLUS[®] mirrors SCANcoat UltraMAX[®] for CO₂-Laser 10,6μm

SCANcoat UltraMAX[®] 10,6μm is a dielectric enhanced multilayer coatings and retains ultra-high reflectivity for both P- and S- polarisation and unpolarised (random) radiation when used under typical angles of incidence on common galvano-scanning systems.

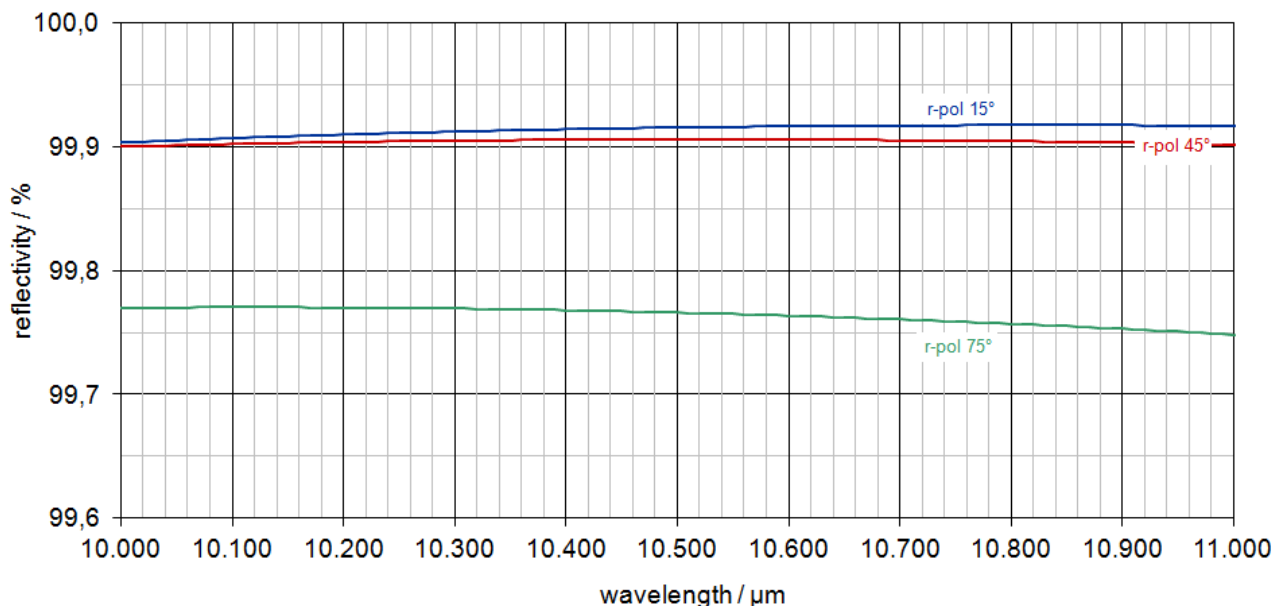
SCANcoat UltraMAX[®] 10,6μm shows low phase shift to meet the toughest specifications required for laser applications with enhanced reflectivity performance .

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 oatings.

SCANcoat UltraMAX[®] reflectivity (scanangle, wavelength) CO₂-Laser 10,6μm



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ENERAL	PROPERTIES		Typical values	
COATING	Wavelength [λ_1]	(nm)	10600	+/- 2 %
	Wavelength [λ_2]	(nm)	630...635	for alignment
	Scan Angle	(°)	45 ±10	
	$R_{avg}(\lambda_1)$ @45° r-pol	(%)	>99,7	+/- 0,1 % ; AOI 45°
	$R_{avg}(\lambda_2)$ @45° r-pol	(%)	>45	+/- 1,0 % ; AOI 45°
	Phase Shift	(°)	0,0 +/- 3,0	
	Powerdensity	(kW/ cm ²)	320	
	Damage Treshold Energiedensity	(J/cm ²)	-	Not measured for pulsed radiation

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.

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

COATING characteristics	SCANcoat UltraMAX [®] 10,6µm		
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. Dampen 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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