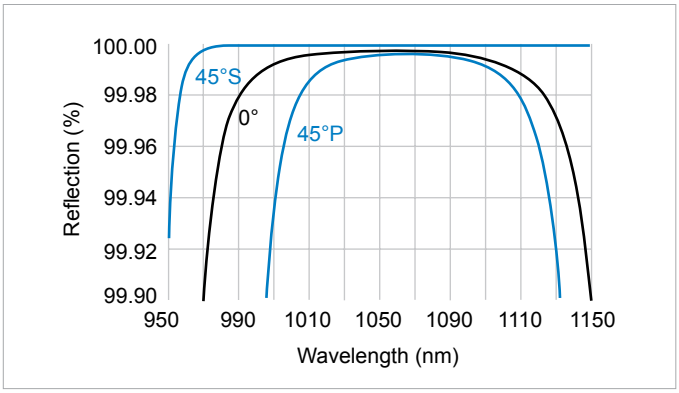
ION BEAM SPUTTERED Nd: YAG LASER MIRRORS: Y1S, Y2S, Y3S, Y4S

- High reflectivity and laser damage threshold
- Minimal coating shift; high enviromental stability
- Ideal for high-power Nd:YAG and fiber laser applications



Reflectivity vs wavelength of Y1S low loss Nd:YAG laser mirror at 45° and 0° incidence angle design

Specifications

Product Code: Y1S, Y2S, Y3S, Y4S

Substrate Material:
Standard Grade Corning 7980 1-D (Fused Silica)

Diameter Tolerance: +0/-0.25 mm

Thickness Tolerance: ±0.25 mm

Wedge: ≤ 5 arc min

Chamfer: 0.35 mm leg width at 45° typical

S1 Surface Figure: < λ/10 p-v at 633 nm before coating

S1 Surface Quality: 10-5 scratch and dig per MIL-PRF 13830b

S2 Surface Quality: Commercial polish

Clear Aperture: ≥ 85% of central diameter

Angle of Incidence: 0° or 45° options

Adhesion and Durability: Per MIL-PRF-13830b

ION BEAM SPUTTERED ND:YAG LASER MIRRORS

Wavelength (nm)	Reflectivity	Incidence Angle	Damage Threshold	Ø (mm)	t (mm)	PART NUMBER
1064	≥ 99.9% at 0°	0°	40 J/cm² @ 1064nm	25.4	6.35	Y1S-1025-0
1064	≥ 99.9% at 45° (both S & P)	45°	40 J/cm² @ 1064nm	25.4	6.35	Y1S-1025-45
532	≥ 99.9% at 0°	0°	8 J/cm² @ 532nm	25.4	6.35	Y2S-1025-0
532	≥ 99.9% at 45° (both S & P)	45°	8 J/cm² @ 532nm	25.4	6.35	Y2S-1025-45
355	≥ 99.9% at 0°	0°	3 J/cm² @ 355nm	25.4	6.35	Y3S-1025-0
355	≥ 99.9% at 45° (both S & P)	45°	3 J/cm² @ 355nm	25.4	6.35	Y3S-1025-45
266	≥ 99.9% at 0°	0°	2 J/cm² @ 266nm	25.4	6.35	Y4S-1025-0
266	≥ 99.9% at 45° (both S & P)	45°	2 J/cm² @ 266nm	25.4	6.35	Y4S-1025-45

Surface Figure:
Peak to Valley (PV) vs Root Mean Squared (RMS)

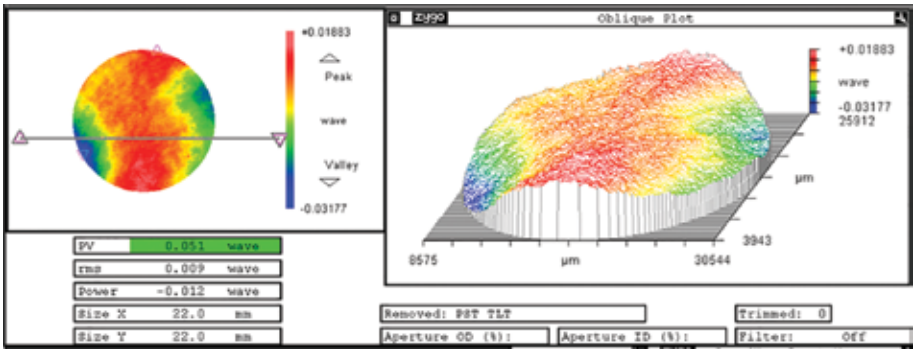
PV: The difference between the lowest point and the highest point of the optical surface.

RMS: The measurement of the clear aperture of the optical surface, then calculating the standard deviation (taking the square root of all values and squaring them).

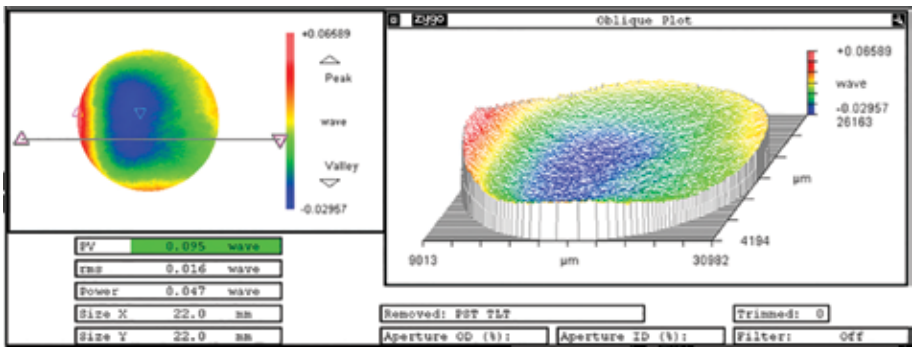
- The average PV vs RMS ratio for the combination of: Focus, Astigmatism, Coma and Spherical Aberration, is 3-5:1
- CVI Laser Optics specifies the PV error given the fact that our polishing process is such that our RMS values are significantly below λ/50 for our laser grade optics.
- CVI Laser Optics average surface roughness is between 3-5Å for laser grade optics

Consistent High Quality by a brand you can trust!

PV: < λ/20
RMS: < λ/111
Laser Grade



PV: < λ/10
RMS: < λ/62
Laser Grade



PV: < λ/4
RMS: < λ/22
Image Grade