# Polishing & Coating Services

Curve profiling

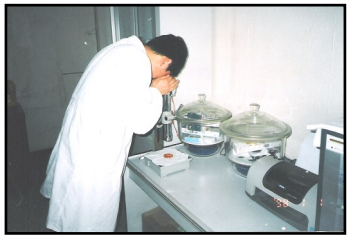
We offer high quality polishing services for lens, filters, mirrors, windows, prisms, domes and cubes. Our range of materials includes ZnSe, ZnS, Ge, Si, GaAs, Moly, CaF2, BK7, Fused Silica, etc.

We have our very own manufacturing plants and in-house testing facilities. You will be assured of only the finest quality products with very prompt delivery and competitive prices for all our products.

We strive to deliver best valuable products and services to our worldwide customers.

Polishing

Edging


Centering error measurement

Thin-film Vacuum coating

Spectrophotometer

Interferometer

Quality Assurance

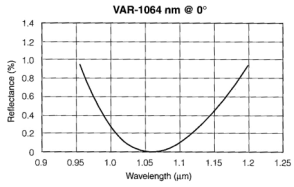
Wavelength Technology Singapore Pte. Ltd. specializes in the design, manufacturing, research and development of optical thin-film components. Our personnel are highly qualified in thin film design. Excellent technical and equipment resources ensure that we will meet customer requirements and objectives with coatings of reliable performance and quality.

Our optical thin-film coating products have been widely applied to optical and opto electronics systems, such as laser light source, industrial and medical laser equipments and optical data storage systems in the fields of physics, chemistry, biology, medicine and astronomy.

Wavelength Technology Singapore Pte. Ltd. develops coatings especially for laser systems and infrared systems. The coatings that we do include Antireflective Coatings, High Reflective Coatings, Partial Reflective Coatings, Beam Splitter Coatings, Laser Crystal Coatings, Infrared Coatings, Ultraviolet Coatings and Fiber Coatings. Other wavelengths, Incident angles and dimensions available upon request.

## ANTI-REFLECTION (AR) COATING

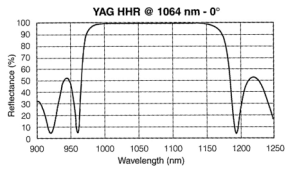
Substrate: fused silica, BK7
Surface Figure: <λ/10 @ 632.8nm
Surface Quality: 40-20
Chamfer: 0.5mm, 45°
Coating Material: Electron beam deposited dielectric multi-layers
Incident:0°
Clear Aperture: > Central 85% of diameter




| Wavelength (nm) | Residual Reflectance |
|---|---|
| 193 | <0.5% |
| 284 | <0.5% |
| 355 | <0.5% |
| 632.8 | <0.5% |
| 670 | <0.5% |
| 780 | <0.5% |
| 808 | <0.5% |
| 980 | <0.5% |
| 1030 | <0.5% |
| 1053 | <0.5% |
| 1064 | <0.5% |
| 1310 | <0.5% |
| 1550 | <0.5% |

## HIGH REFLECTIVE (HR) COATING

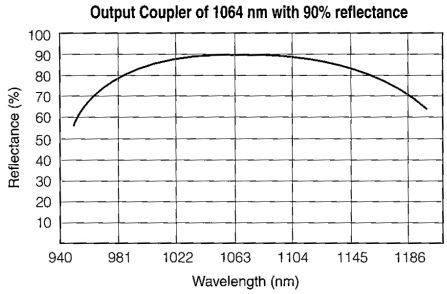
Substrate: fused silica, BK7
Surface Figure: <λ/10 @ 632.8nm
Surface Quality: 40-20
Chamfer: 0.5mm, 45°
Coating Material: Electron beam deposited dielectric multi-layers
Incident: 0°,45°
Clear Aperture: > Central 85% of diameter




| Wavelength (nm) | Reflectance |
|---|---|
| 350-650 | >99% |
| 420-670 | >99% |
| 650-1050 | >99% |
| 1050-1550 | >99% |

## PARTIAL REFLECTIVE COATING

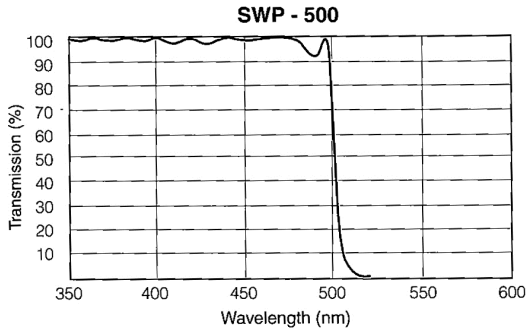
Substrate: fused silica, BK7
Surface Figure: <λ/10 @ 632.8nm
Surface Quality: 40-20
Chamfer: 0.5mm, 45°
Coating Material: Electron beam deposited dielectric multi-layers
Incident: 0°,45°
Clear Aperture: > Central 85% of diameter
Rear Surface AR Coating: R<0.2%




| Wavelength | Reflectance and Tolerance |
|---|---|
| 190nm-10.6μm | 10±2%,20±3%,30±3%, 40±3%,50±3%,60±3%, 70±3%,80±3%,90±2%, 95±1.5%,98±1%,99±0.5% |

## BEAM SPLITTER COATING

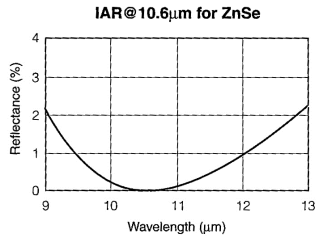
Substrate: fused silica, BK7
Surface Figure: <λ/10 @ 632.8nm
Surface Quality: 40-20
Chamfer: 0.5mm, 45°
Coating Material: Electron beam deposited dielectric: multi-layer
Incident: 0°,
Laser-Induced Damage Threshold: >5J/cm2 (1.06μm,1ns)

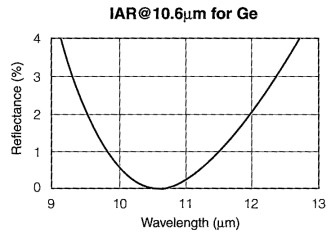


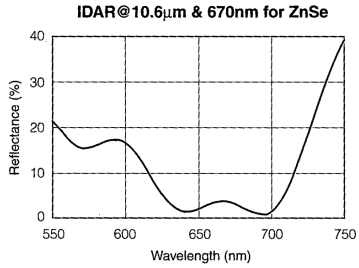

| Incident Angle | Transmission Wavelength (nm) | Transmission | Reflective Wavelength (nm) | Reflectance |
|---|---|---|---|---|
| 0° | 808 | >90% | 946 | >99.5% |
| 0° | 808 | >90% | 1064 | >99.5% |
| 0° | 808 | >90% | 1320 | >99.5% |
| 0° | 940 | >90% | 1030 | >99.5% |

## INFRARED NARROWBAND (AR) COATING

Incident: 0° or 45°
Reflectance: Rave ≤0.25 @ 0°
Rave ≤0.5% @ 45°
Absorption: ≤ 0.1% per surface
Damage Threshold: ≥5 kw / cm²
Durability: Meet adhesion and abrasion per MIL-C-675

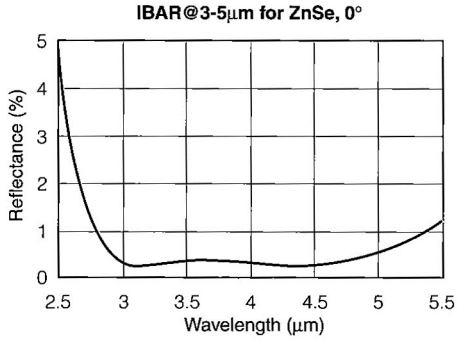


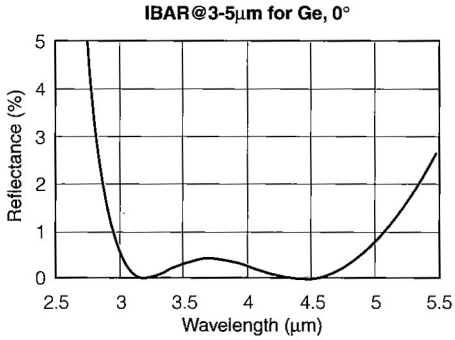



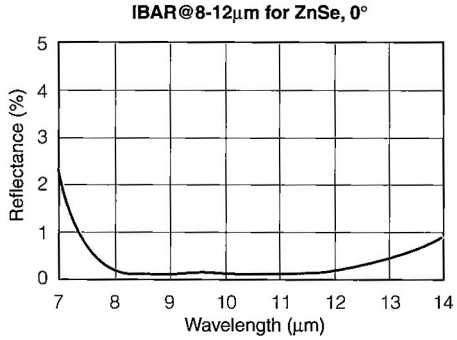



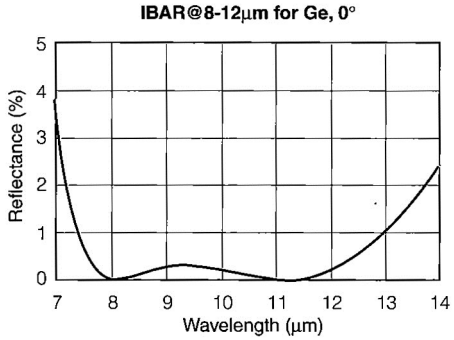

## INFRARED BROADBAND (AR) COATING

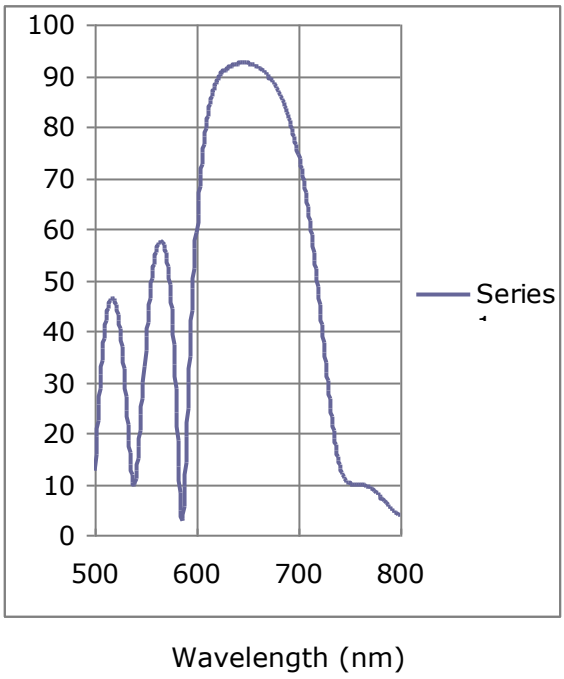
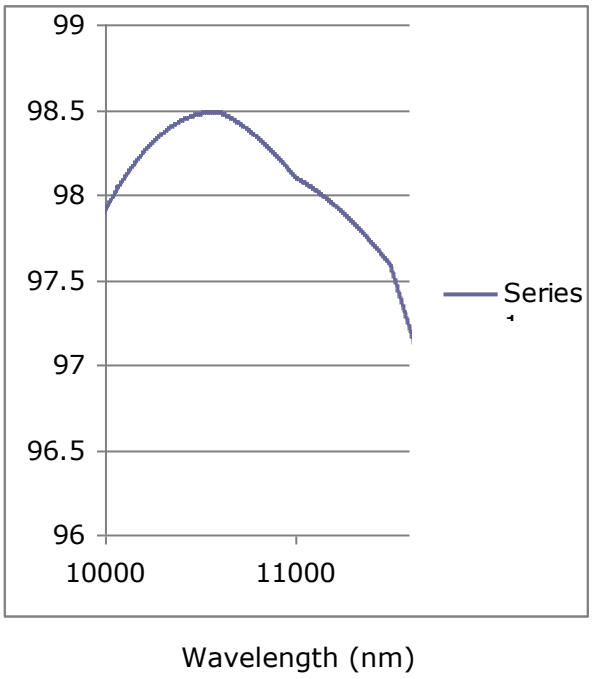
Incident: 0° or 45°
Reflectance: Rave ≤0.5 @ 0°
Rave ≤1.0% @ 45°
Absorption: ≤ 0.1% per surface
Damage Threshold: ≥5 kw / cm²
Durability: Meet adhesion and abrasion per MIL-C-675



## BEAM COMBINER COATING

Material: ZnSe, GaAs or Ge
Surface Flatness: < λ / 20 @ 10.6 μm
Surface Quality: < 40 / 20 (both sides)
Parallelism: ≤3 arc min
Diameter Tolerance: < + 0.000" / - 0.008"
Thickness Tolerance: < ± 0.010"
Clear Aperture: ≥ 85% of diameter
Angle of Incidence: 0° or 45°
Coating: S1: AR @ 10.6 μm, 45°, S2: R≥90% @ 650 nm ± 20 nm
& HT ≥98% @ 10.6 μm
Absorption: ≤ 0.2%
AOI: 45°
Durability: Per MIL-M-13508