

THIN FILM POLARIZERS

Many different types of polarizers are available in the market, but only one is perfectly suitable for high power laser applications - Thin Film Polarizers. It is a component coated with dielectric multilayers with the main task to separate vertically polarized (s-pol.) from horizontally (p-pol.) light. And Thin Film Polarizer completes this task with high level of efficiency due to negligible absorption within coating, transmittance (T_p) higher than 99% and reflectance (R_s) as high as 99.9%.

OPTOMAN will provide an optimal solution in terms of extinction ratio, angle of incidence and damage threshold. Ion-Beam Sputtering (IBS) technology enables us to manufacture polarizers with extinction ratio higher than 3000:1 at 45 deg angle of incidence, while maintaining $>20 \text{ J/cm}^2$ damage threshold (1064 nm, 10 ns, 100 Hz).



Dedicated for quality



Cost effective custom solutions



High level customization

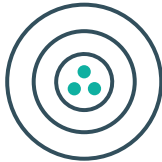


Fast turnaround

FEATURES



Extinction ratio higher than 3000:1



Laser damage threshold $>20 \text{ J/cm}^2$, 1064 nm, 10 ns, 100 Hz



Angle of incidence 45°, 56°, 72°...

CUSTOM DESIGN

Name the most crucial specification or specifications for your application and OPTOMAN will come up with a set of features for the custom design.



Shape, size and materials

Optimization for ultrafast applications

Optimization for specific AOI

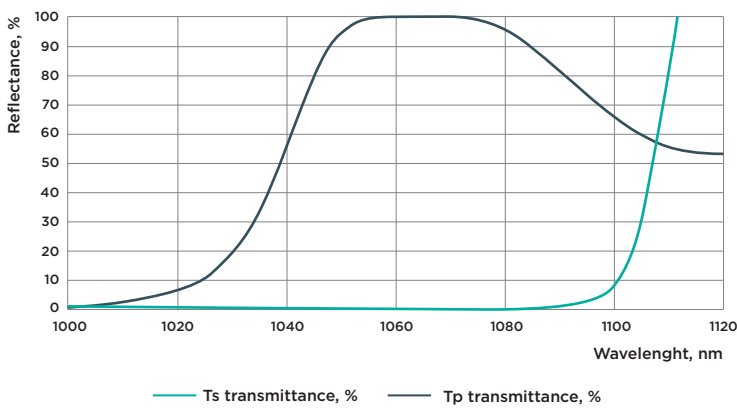
Size range from 5 mm up to 100 mm

Optimization for specific polarization of incident light

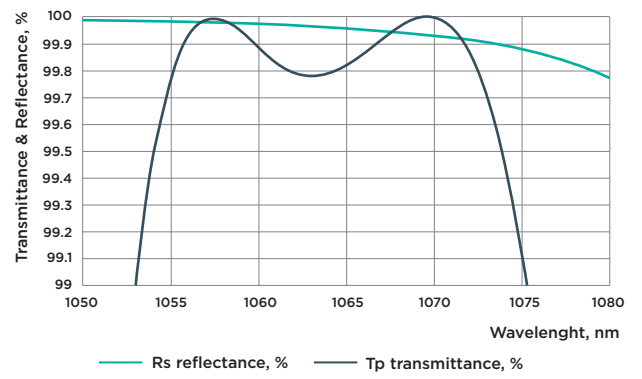
Spectral range from 350 nm up to 1500 nm

DESIGN EXAMPLES

Thin Film Polarizer designed for 1064 nm, 55.4° AOI. $R_s > 99.9\%$ and $T_p > 99\%$

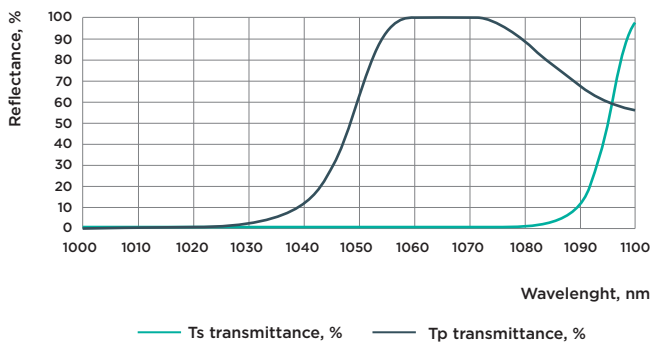


Calculated Ts and Tp values at 55.4° angle of incidence

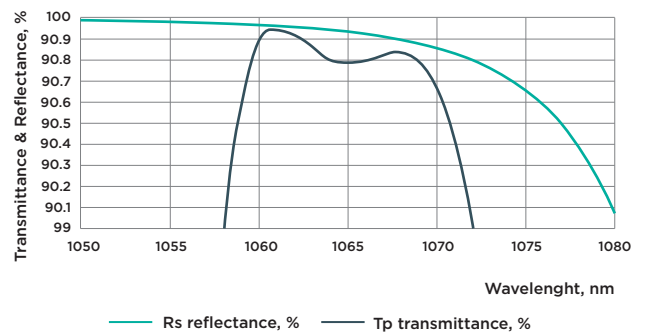


Calculated Rs and Tp values at 55.4° angle of incidence

Thin Film Polarizer designed for 1064 nm, 45° AOI. $R_s > 99.8\%$ and $T_p > 98\%$



Calculated Ts and Tp values at 45° angle of incidence



Calculated Rs and Tp values at 45° angle of incidence

STANDARD THIN FILM POLARIZERS

Are you looking for standard products or products to be delivered as soon as possible? Here you go a list of Optoman standard items

Product Code	Diameter, mm	Thickness, mm	Wavelength, nm	Rs & Tp, %	Extinction ratio	AOI,°
SUB5_TFP3	20 x 15	6.00	1064	>99.8 & >98	500:1	45 +/-1
SUB5_TFP4	20 x 15	6.00	1064	>99.9 & >99	1000:1	55.4 +/-1
SUB5_TFP5	20 x 15	6.00	1030	>99.8 & >98	500:1	45 +/-1
SUB5_TFP6	20 x 15	6.00	1030	>99.9 & >99	1000:1	56 +/-1
SUB5_TFP7	20 x 15	6.00	532	>99.8 & >98	500:1	45 +/-1
SUB5_TFP8	20 x 15	6.00	532	>99.9 & >99	1000:1	56 +/-1
SUB5_TFP10	20 x 15	6.00	355	>99.5 & >96	1000:1	55.8 +/-1

TYPICAL TECHNICAL CHARACTERISTICS

Surface quality
20-10 S-D

Surface flatness
< $\lambda/8$ @ 633 nm

Clear aperture
>80%

Material
UV grade Fused Silica

Protective chamfers
0.2- 0.5 mm x 45°

Parallelism
<30 arcmin

CONTACT OPTOMAN



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