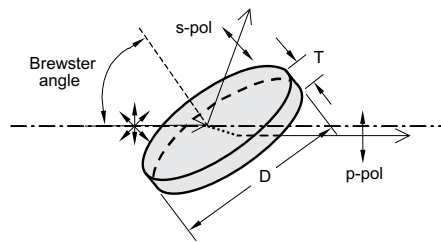


## THIN FILM LASER POLARIZERS

Thin Film Polarizers separate s- and p-polarization components. Thin Film Polarizers can be used as an alternative to Glan-Taylor laser polarizing prisms or cube polarizing beam splitters due to high damage threshold reaching 100 mJ/cm<sup>2</sup>, at 800 nm, 50 fsec.

Thin film polarizers are used in high energy lasers. They can be used for Yb:KYW/KGW or Ti:Sapphire laser fundamental wavelength and its harmonics or intracavity Q-switch hold-off polarizers. The most efficient way to use thin film laser polarizers is at Brewster angle – 56 ± 2° with minimal losses. Typical horizontal polarization ratio  $T_p/T_s$  is 200:1.

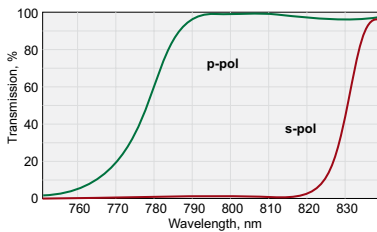


We provide Thin Film Laser Polarizers with  $T_p > 99\%$  per customer request.

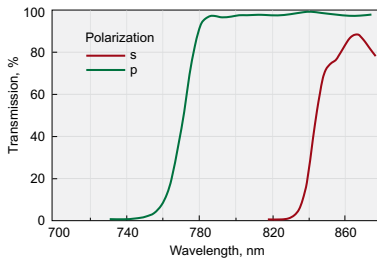
### SPECIFICATIONS

|                            |   |
|----------------------------|---|
| Material                   | BK7, UV FS  |
| Surface quality            | 20-10 scratch & dig (MIL-PRF-13830B)                    |
| Angle of incidence (AOI)   | 56 ± 2°   |
| Extinction ratio $T_p/T_s$ | >200:1  |
| Laser damage threshold     | >100 mJ/cm <sup>2</sup> , 50 fsec pulse, 800 nm typical |

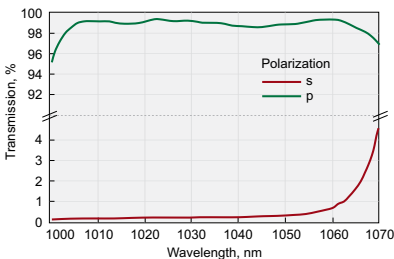
### Material BK7



**420-0126.**  
Transmission @ 800 nm,  
 $R_s/T_p > 99.5/95.0\%$ , AOI=56°



**420-0266.**  
Transmission @ 780-820 nm,  
 $R_s/T_p > 99.5/95.0\%$ , AOI=56°



**420-0268.**  
Transmission @ 1010-1050 nm,  
 $R_s/T_p > 99.5/95.0\%$ , AOI=56°

$R_s / T_p > 99.5 / 95.0\%$

| Catalogue number | Diameter D, mm |         | Thickness T, mm | Wavelength, nm |
|------------------|----------------|---------|-----------------|----------------|
|                  | Metric         | English |                 |                |
| 420-0114         | 12.5           | 12.7    | 3.0             | 515            |
| 420-0126         | 12.5           | 12.7    | 3.0             | 800            |
| 420-0136         | 12.5           | 12.7    | 3.0             | 780-820        |
| 420-0118         | 12.5           | 12.7    | 3.0             | 1030           |
| 420-0138         | 12.5           | 12.7    | 3.0             | 1010-1050      |
| 420-0244         | 25.0           | 25.4    | 3.0             | 515            |
| 420-0256         | 25.0           | 25.4    | 3.0             | 800            |
| 420-0266         | 25.0           | 25.4    | 3.0             | 780-820        |
| 420-0248         | 25.0           | 25.4    | 3.0             | 1030           |
| 420-0268         | 25.0           | 25.4    | 3.0             | 1010-1050      |
| 420-0514         | 50.0           | 50.8    | 6.0             | 515            |
| 420-0506         | 50.0           | 50.8    | 6.0             | 800            |
| 420-0526         | 50.0           | 50.8    | 6.0             | 780-820        |
| 420-0518         | 50.0           | 50.8    | 6.0             | 1030           |
| 420-0528         | 50.0           | 50.8    | 6.0             | 1010-1050      |

Please add letter M to the catalogue code for metric dimensions or E for English.

| Catalogue number | Rectangular dimensions |           | Thickness T, mm | Wavelength, nm |
|------------------|------------------------|-----------|-----------------|----------------|
|                  | Length, mm             | Width, mm |                 |                |
| 420-0274         | 28.6                   | 14.3      | 3.0             | 515            |
| 420-0286         | 28.6                   | 14.3      | 3.0             | 800            |
| 420-0296         | 28.6                   | 14.3      | 3.0             | 780-820        |
| 420-0278         | 28.6                   | 14.3      | 3.0             | 1030           |
| 420-0298         | 28.6                   | 14.3      | 3.0             | 1010-1050      |

### RELATED PRODUCTS

Glan Laser Polarizing, Wollaston Prisms

See page 1.48

Adapters for Polarizer at 56° 840-0117, 840-0118

See page 8.78

Variable Attenuators for Linearly Polarized Laser Beam 990-0070

See page 5.22



**Material UV FS**

$R_s / T_p > 99.5 / 95.0 \%$

| Catalogue number | Diameter D, mm |         | Thickness T, mm | Wavelength, nm |
|------------------|----------------|---------|-----------------|----------------|
|                  | Metric         | English |                 |                |
| 420-1112         | 12.5           | 12.7    | 3.0             | 343            |
| 420-1123         | 12.5           | 12.7    | 3.0             | 400            |
| 420-1114         | 12.5           | 12.7    | 3.0             | 515            |
| 420-1126         | 12.5           | 12.7    | 3.0             | 800            |
| 420-1136         | 12.5           | 12.7    | 3.0             | 780-820        |
| 420-1118         | 12.5           | 12.7    | 3.0             | 1030           |
| 420-1138         | 12.5           | 12.7    | 3.0             | 1010-1050      |
| 420-1242         | 25.0           | 25.4    | 3.0             | 343            |
| 420-1253         | 25.0           | 25.4    | 3.0             | 400            |
| 420-1244         | 25.0           | 25.4    | 3.0             | 515            |
| 420-1256         | 25.0           | 25.4    | 3.0             | 800            |
| 420-1266         | 25.0           | 25.4    | 3.0             | 780-820        |
| 420-1248         | 25.0           | 25.4    | 3.0             | 1030           |
| 420-1268         | 25.0           | 25.4    | 3.0             | 1010-1050      |
| 420-1512         | 50.0           | 50.8    | 6.0             | 343            |
| 420-1503         | 50.0           | 50.8    | 6.0             | 400            |
| 420-1514         | 50.0           | 50.8    | 6.0             | 515            |
| 420-1506         | 50.0           | 50.8    | 6.0             | 800            |
| 420-1526         | 50.0           | 50.8    | 6.0             | 780-820        |
| 420-1518         | 50.0           | 50.8    | 6.0             | 1030           |
| 420-1528         | 50.0           | 50.8    | 6.0             | 1010-1050      |

Please contact us if you need thin film laser polarizers of other wavelengths or other types of substrates.

Please add letter M to the catalogue code for metric dimensions or E for English.

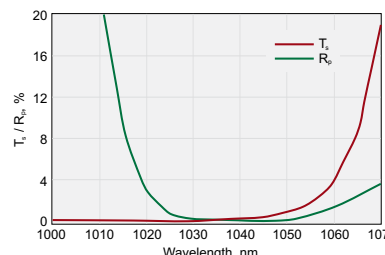
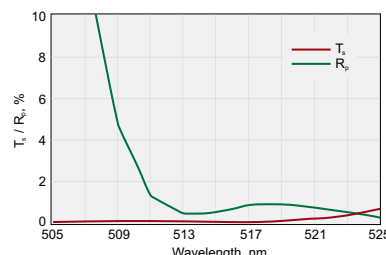
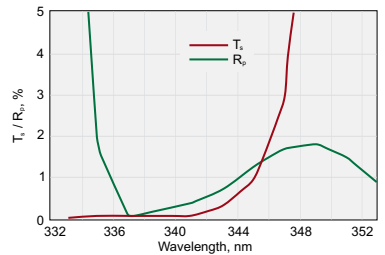
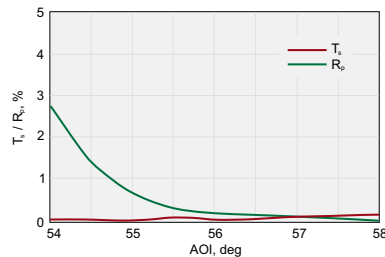
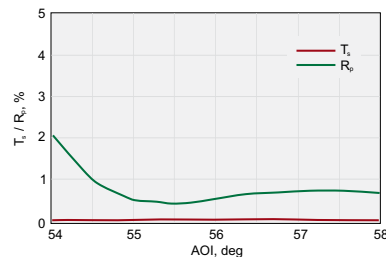
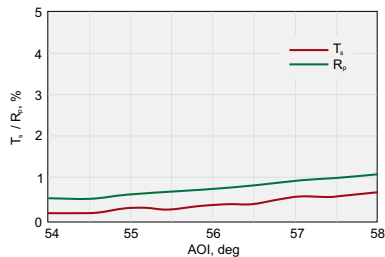
| Catalogue number | Rectangular dimensions |           | Thickness T, mm | Wavelength, nm |
|------------------|------------------------|-----------|-----------------|----------------|
|                  | Length, mm             | Width, mm |                 |                |
| 420-1272         | 28.6                   | 14.3      | 3.0             | 343            |
| 420-1283         | 28.6                   | 14.3      | 3.0             | 400            |
| 420-1274         | 28.6                   | 14.3      | 3.0             | 515            |
| 420-1286         | 28.6                   | 14.3      | 3.0             | 800            |
| 420-1296         | 28.6                   | 14.3      | 3.0             | 780-820        |
| 420-1278         | 28.6                   | 14.3      | 3.0             | 1030           |
| 420-1298         | 28.6                   | 14.3      | 3.0             | 1010-1050      |

**High Transmission Thin Film Laser Polarizers**



$R_s / T_p > 99.5 / 99.0 \%$

| Catalogue number | Material | Diameter D, mm | Thickness T, mm | Wavelength, nm |
|------------------|----------|----------------|-----------------|----------------|
| 420-1242HT       | UV FS    | 25.4           | 3.0             | 343            |
| 420-1244HT       | UV FS    | 25.4           | 3.0             | 515            |
| 420-1248HT       | UV FS    | 25.4           | 3.0             | 1030           |



**420-1242HT.**  
High Transmission @ 343 nm,  
 $R_s/T_p > 99.5/99.0 \%$ , AOI=56°

**420-1244HT.**  
High Transmission @ 515 nm,  
 $R_s/T_p > 99.5/99.0 \%$ , AOI=56°

**420-1248HT.**  
High Transmission @ 1030 nm,  
 $R_s/T_p > 99.5/99.0 \%$ , AOI=56°