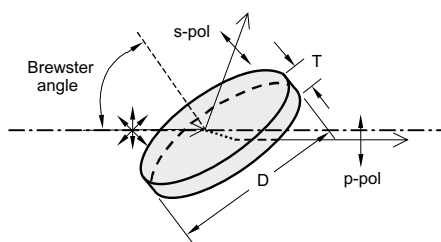


## THIN FILM POLARIZERS (56° Angle of Incidence)

Thin film polarizers separate s- and p-polarization components. Due to their high laser damage threshold, thin film polarizers can be used as an alternative to Glan-Taylor laser polarizing prisms or cube polarizing beamsplitters.

Femtoline thin film laser polarizers are designed for use in high energy lasers. They can be used for Yb:KYW/KGW or Ti:Sapphire laser fundamental wavelengths or their harmonics, as well as intracavity Q-switch hold-off polarizers. The most efficient way to use these polarizers is at Brewster's angle –  $56 \pm 2^\circ$ .



### Specifications

Material	BK7, UV FS
Surface quality	20 – 10 scratch & dig (MIL-PRF-13830B)
Transmitted wavefront distortion	$\lambda/10$ @ 633 nm
Angle of incidence (AOI)	$56 \pm 2^\circ$
Laser damage threshold	$>100 \text{ mJ/cm}^2$ , 50 fsec pulse, 50 Hz, 800 nm typical

### THIN FILM POLARIZERS WITH HIGH EXTINCTION RATIO

**Round Polarizers.** Material – UV FS.  $T_p > 98\%$ ,  $T_s < 0.1\%$ .  
Extinction ratio for transmitted light  $T_p/T_s > 1000:1$

Wavelength, nm	Diameter D, mm	Thickness T, mm	Catalogue number	Price, EUR
343	25.4	3	<a href="#">420-1242HE</a>	251
515	25.4	3	<a href="#">420-1244HE</a>	213
800	25.4	3	<a href="#">420-1256HE</a>	213
780 – 820	25.4	3	<a href="#">420-1266HE</a>	316
1030	25.4	3	<a href="#">420-1248HE</a>	248

**Rectangular Polarizers.** Material – UV FS.  $T_p > 98\%$ ,  $T_s < 0.1\%$ .  
Extinction ratio for transmitted light  $T_p/T_s > 1000:1$

Wavelength, nm	Rectangular dimensions Length, mm	Width, mm	Thickness T, mm	Catalogue number	Price, EUR
1030	20	15	6	<a href="#">420-1478HE</a>	190
1030	30	20	6	<a href="#">420-1578HE</a>	253

### HIGH TRANSMISSION THIN FILM POLARIZERS

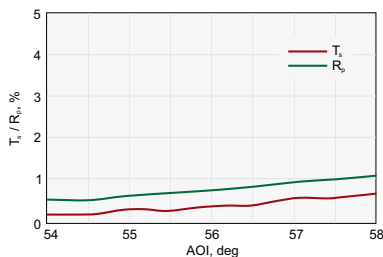
**Round Polarizers.** Material – UV FS.  $R_s / T_p > 99.5 / 99.0\%$ .  
Extinction ratio for transmitted light  $T_p/T_s > 200:1$

Wavelength, nm	Diameter D, mm	Thickness T, mm	Catalogue number	Price, EUR
343	25.4	3.0	<a href="#">420-1242HT</a>	273
515	25.4	3.0	<a href="#">420-1244HT</a>	230
800	25.4	3.0	<a href="#">420-1256HT</a>	230
1030	25.4	3.0	<a href="#">420-1248HT</a>	269

### ULTRA HIGH TRANSMISSION THIN FILM POLARIZERS

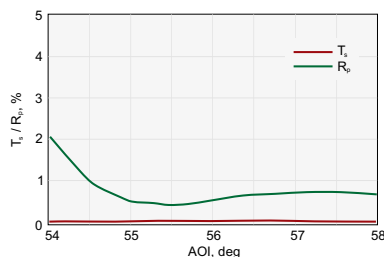
**Round Polarizers.** Material – UV FS.  $T_s < 0.2\%$ ,  $R_p < 0.2\%$ .  
Extinction ratio for transmitted light  $T_p/T_s > 500:1$

Wavelength, nm	Diameter D, mm	Thickness T, mm	Catalogue number	Price, EUR
800	25.4	3.0	<a href="#">420-1256UHT</a>	299
1030	25.4	3.0	<a href="#">420-1248UHT</a>	350



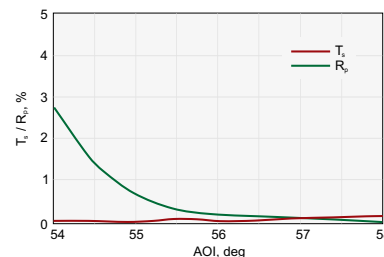
**420-1242HT.**

High Transmission @ 343 nm,  
 $R_s/T_p > 99.5/99.0\%$ , AOI= $56^\circ$



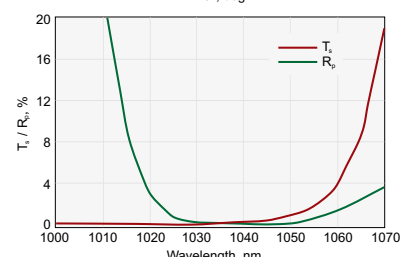
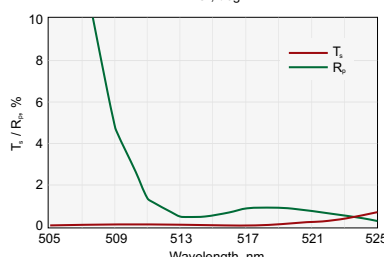
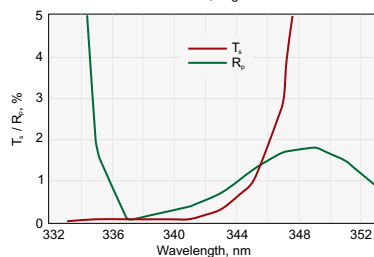
**420-1244HT.**

High Transmission @ 515 nm,  
 $R_s/T_p > 99.5/99.0\%$ , AOI= $56^\circ$

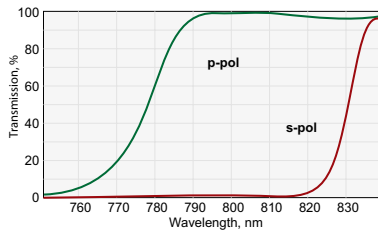


**420-1248HT.**

High Transmission @ 1030 nm,  
 $R_s/T_p > 99.5/99.0\%$ , AOI= $56^\circ$

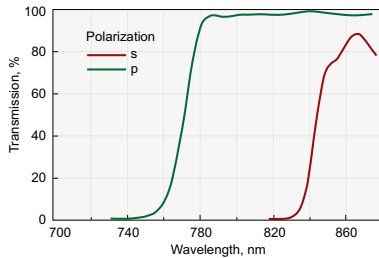


## STANDARD THIN FILM POLARIZERS



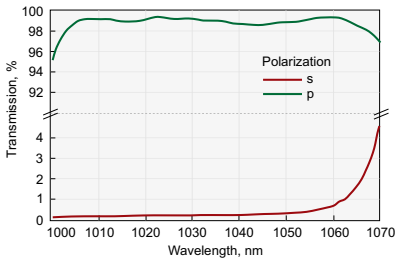
**420-0126E.**

Transmission @ 800 nm,  
Rs/Tp > 99.5/95.0 %, AOI=56°



**420-0266E.**

Transmission @ 780-820 nm,  
Rs/Tp > 99.5/95.0 %, AOI=56°



**420-0268E.**

Transmission @ 1010-1050 nm,  
Rs/Tp > 99.5/95.0 %, AOI=56°

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

## Related Products

Glan Laser Polarizing, Wollaston Prisms

See page 1.62

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

Find more at EksmaOptics.com



Variable Attenuators  
for Linearly Polarized  
Laser Beam 990-0070

See page 4.31



**Round Polarizers.** Material – BK7. Rs / Tp > 99.5 / 95.0%.  
Extinction ratio for transmitted light Tp/Ts >200:1

Wavelength, nm	Diameter D, mm	Thickness T, mm	Catalogue number	Price, EUR
515	12.7	3.0	420-0114E	124
800	12.7	3.0	420-0126E	124
780-820	12.7	3.0	420-0136E	184
1030	12.7	3.0	420-0118E	132
1010-1050	12.7	3.0	420-0138E	184
515	25.4	3.0	420-0244E	147
800	25.4	3.0	420-0256E	147
780-820	25.4	3.0	420-0266E	217
1030	25.4	3.0	420-0248E	178
1010-1050	25.4	3.0	420-0268E	217
515	50.8	6.0	420-0514E	237
800	50.8	6.0	420-0506E	247
780-820	50.8	6.0	420-0526E	355
1030	50.8	6.0	420-0518E	293
1010-1050	50.8	6.0	420-0528E	385

**Rectangular Polarizers.** Material – BK7. Rs / Tp > 99.5 / 95.0%.  
Extinction ratio for transmitted light Tp/Ts >200:1

Wavelength, nm	Rectangular dimensions		Thickness T, mm	Catalogue number	Price, EUR
	Length, mm	Width, mm			
515	28.6	14.3	3.0	420-0274	163
800	28.6	14.3	3.0	420-0286	163
780-820	28.6	14.3	3.0	420-0296	253
1030	28.6	14.3	3.0	420-0278	196
1010-1050	28.6	14.3	3.0	420-0298	253

**Round Polarizers.** Material – UV FS. Rs / Tp > 99.5 / 95.0%.  
Extinction ratio for transmitted light Tp/Ts >200:1

Wavelength, nm	Diameter D, mm	Thickness T, mm	Catalogue number	Price, EUR
343	12.7	3.0	420-1112E	189
400	12.7	3.0	420-1123E	151
515	12.7	3.0	420-1114E	151
800	12.7	3.0	420-1126E	151
780-820	12.7	3.0	420-1136E	225
1030	12.7	3.0	420-1118E	167
1010-1050	12.7	3.0	420-1138E	225
343	25.4	3.0	420-1242E	209
400	25.4	3.0	420-1253E	177
515	25.4	3.0	420-1244E	177
800	25.4	3.0	420-1256E	177
780-820	25.4	3.0	420-1266E	266
1030	25.4	3.0	420-1248E	207
1010-1050	25.4	3.0	420-1268E	266
343	50.8	6.0	420-1512E	374
400	50.8	6.0	420-1503E	339
515	50.8	6.0	420-1514E	339
800	50.8	6.0	420-1506E	351
780-820	50.8	6.0	420-1526E	465
1030	50.8	6.0	420-1518E	362
1010-1050	50.8	6.0	420-1528E	465

**Rectangular Polarizers.** Material – UV FS. Rs / Tp > 99.5 / 95.0%.  
Extinction ratio for transmitted light Tp/Ts >2 00:1

Wavelength, nm	Rectangular dimensions		Thickness T, mm	Catalogue number	Price, EUR
	Length, mm	Width, mm			
343	28.6	14.3	3.0	420-1272	293
400	28.6	14.3	3.0	420-1283	247
515	28.6	14.3	3.0	420-1274	247
800	28.6	14.3	3.0	420-1286	247
780-820	28.6	14.3	3.0	420-1296	362
1030	28.6	14.3	3.0	420-1278	259
1010-1050	28.6	14.3	3.0	420-1298	362