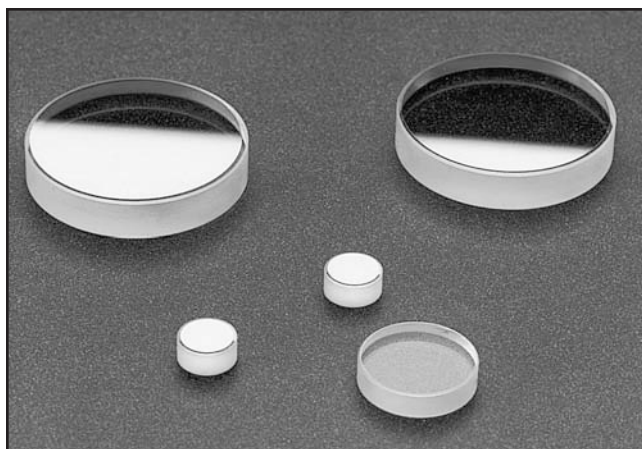


Laser Line Dielectric Mirrors

Tunable Laser Line Mirrors (TLM1)



Tunable Laser Line Mirrors (TLM1)

For application at user-specified wavelengths, these single stack, high-damage-threshold mirrors have become the industry standard. Damage threshold can be greater than 20 J/cm² depending on such factors as pulse width, repetition rate, and exact beam profile.

- High energy dielectric coating
- Other wavelengths and substrates available upon request

SPECIFICATIONS:

Tunable Laser Line Mirrors (TLM1)

Coating Technology	Electron beam multilayer dielectric
Adhesion and Durability	Per MIL-C-675C. Insoluble in lab solvents.
Clear Aperture	≥85% of central diameter
Angle of Incidence	0° or 45° options
Reflectivity	Please refer to the typical bandwidth tables
Damage Threshold	
Pulsed	20 J/cm ² , 20 nsec, 20 Hz @ 1064 nm
cw	10 MW/cm ² @1064 nm
Coated Surface Figure	λ/10 @ 633 nm on select substrates
Bandwidth Tolerance	+ 0/ – 10% typical
Center Wavelength	
Tolerance	± 3%
Substrate Material	
λ<450 nm:	UV-grade fused silica
λ≥450 nm:	N-BK7 glass
S1 Surface Figure	λ/10 @ 633 nm before coating
S1 Surface Quality	10-5 scratch and dig
S2 Surface Quality	Commercial polish
Diameter Tolerance	+ 0/ – 0.25 mm
Thickness Tolerance	± 0.25 mm
Wedge	≤5 arc min
Concentricity	≤0.05 mm
Radius Tolerance	± 0.5%

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Standard TLM1 Laser Line Mirrors

Wavelength (nm)	Incidence Angle	φ (mm)	t (mm)	Radius of Curvature (m)	PART NUMBER
400.0	0	25.4	6.35	—	TLM1-400-0-1025
400.0	45	25.4	6.35	—	TLM1-400-45-1025
780.0	45	25.4	6.35	—	TLM1-780-45-1025
800.0	0	12.7	6.35	—	TLM1-800-0-0525
800.0	45	12.7	6.35	—	TLM1-800-45-0525
800.0	0	25.4	6.35	—	TLM1-800-0-1025
800.0	45	25.4	6.35	—	TLM1-800-45-1025
800.0	0	25.4	6.35	0.50CC	TLM1-800-0-1025-0.50CC
800.0	0	25.4	6.35	1.00CC	TLM1-800-0-1025-1.00CC
800.0	0	25.4	6.35	0.30CX	TLM1-800-0-1025-0.30CX
800.0	0	25.4	6.35	0.50CX	TLM1-800-0-1025-0.50CX
800.0	0	25.4	6.35	1.00CX	TLM1-800-0-1025-1.00CX
800.0	0	50.8	9.53	—	TLM1-800-0-2037
800.0	45	50.8	9.53	—	TLM1-800-45-2037
800.0	45	76.2	12.7	—	TLM1-800-45-3050
800.0	45	101.6	12.7	—	TLM1-800-45-4050
980.0	45	25.4	6.35	—	TLM1-980-45-1025
1030.0	45	25.4	6.35	—	TLM1-1030-45-1025
1550.0	45	25.4	6.35	—	TLM1-1550-45-1025

(continued)

Typical Bandwidth for TLM1 mirrors

Center Wavelength (nm)	Bandwidth (nm)		
	R > 99% 0°	R > 99% 45° S	R > 98% 45° P
190	10*	12*	—
210	15*	18*	—
230	18*	22*	—
250	35	43	20
300	42	50	22
350	46	59	28
400	50	64	31
450	54	70	35
500	60	75	40
550	65	82	44
600	68	90	48
650	72	96	50
700	77	102	55
750	83	108	60

* R > 97%

Typical Bandwidth for TLM1 mirrors

Center Wavelength (nm)	Bandwidth (nm)		
	R > 99% 0°	R > 99% 45° S	R > 98% 45° P
800	88	110	112
850	90	112	66
900	93	116	68
950	95	119	70
1000	98	122	73
1050	100	125	76
1100	103	128	78
1150	105	131	81
1200	108	134	83
1250	110	138	85
1300	113	141	87
1350	115	144	89
1400	118	147	91
1450	120	150	92
1500	123	153	93

Optional Tunable Laser Line Mirrors (TLM1)

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Use the unique selection menu below to build your own part!

Build Your Own

Product Code

TLM1

Center Wavelength (nm)

200	405	600	790	980
280	450	750	800	1030
400	488-515	780	850	1550

Angle of Incidence in Degrees

0 45

Size Code	Diameter (mm)	Thickness (mm)	Standard Options
0525	12.7	6.35	Flat or Radius
0725	12.7	6.35	Flat only
2506M	25.0	6.0	Flat Only
1025	25.4	6.35	Flat or Radius
5010M	50.0	10.0	Flat Only
2037	50.8	9.53	Flat or Radius
3050	76.2	12.7	Flat Only
4050	101.6	12.7	Flat Only

Radius of Curvature (m)

Size Code	Diameter (mm)	Radii Options (CC = concave)					Radii Options (CX = convex)	
		0.075CC	0.15CC	0.25CC	1.00CC	1.00CX		
0525	12.7	0.10CC	0.20CC	0.50CC	5.00CC			
1025	25.4	0.25CC	0.50CC	1.00CC	2.00CC	5.00CC	0.30CX	1.00CX
		0.30CC	0.75CC	1.50CC	3.00CC	10.0CC	0.50CX	
2037	50.8	0.50CC	1.00CC	1.50CC	2.00CC			

TLM1 — 800 — 0 — 1025 — 1.00CC