

# Broadband Dielectric Mirrors



- Best general purpose broadband high reflectors
- $R_s, R_p > 99\%$  for 488–694 nm, or...
- $R_s > 99\%$ ,  $R_p > 98\%$  for 700–950 nm
- Over 35 types of substrates to choose from

Our general purpose, dielectric mirrors are highly efficient over a broad wavelength range. We offer two standard coatings for the visible and NIR, with 0–45° angle of incidence. These mirrors are available in sizes from 12.7–203.2 mm (0.5–8.0 in.) with Pyrex® or Zerodur® substrates and in two elliptical sizes with Pyrex substrates.

## Specifications

Diameter Tolerance [in. (mm)]	0.5 (12.7)–4.0 (101.6)	+0/-0.13 mm
	6.0 (152.4) & 8.0 (203.2)	+0/-0.25 mm
	Elliptical Minor Axis	+0/-0.18 mm
	Elliptical Major Axis	+0/-0.25 mm
Thickness Tolerance [in. (mm)]	0.5 (12.7)–4.0 (101.6)	±0.25 mm
	6.0 (152.4) & 8.0 (203.2)	±0.38 mm
	Elliptical	±0.25 mm
	Clear Aperture	≥central 80% of diameter
Chamfers [in. (mm)]	0.5 (12.7) & 1.0 (25.4)	0.25–0.76 mm face width x 45° ±15°
	1.181 (30.0)–4.0 (101.6)	0.38–1.14 mm face width x 45° ±15°
	6.0 (152.4) & 8.0 (203.2)	0.51–1.52 mm face width x 45° ±15°
	Elliptical	0.38–1.14 mm face width x 45° ±15°
S <sub>2</sub> Surface	Ground	
Durability	MIL-C-675C	
Cleaning	Non-abrasive method, acetone or isopropyl alcohol on lens tissue recommended (see page 622)	
Damage Threshold	BD.1, 500 W/cm <sup>2</sup> CW, 1 J/cm <sup>2</sup> with 10 nsec pulses within the wavelength range, typical BD.2, 1000 W/cm <sup>2</sup> CW, 2 J/cm <sup>2</sup> with 10 nsec pulses within the wavelength range, typical	

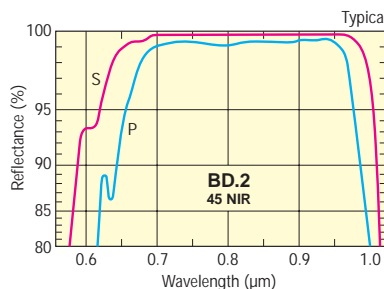
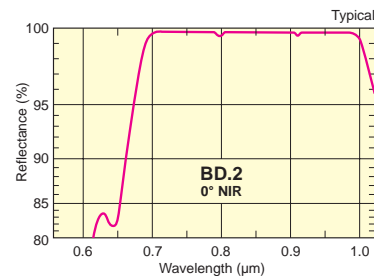
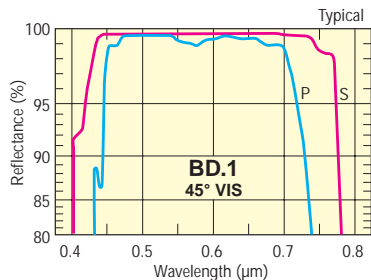
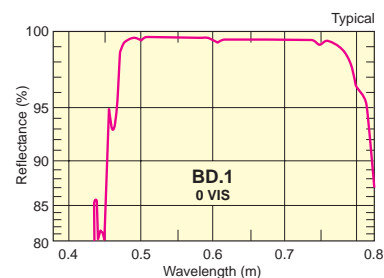
## Ordering Information

To order, append the coating code BD.1 or BD.2 to the substrate number. For example, 10D20+BD.1 = 10D20BD.1

## Coatings

Coating Type	Wavelength Range	Reflectivity	Angle of Incidence	Coating Code
Visible	488–694 nm	$R_s, R_p > 99\%$	0–45°	BD.1
Near Infrared	700–950 nm	$R_s > 99\%$ , $R_p > 98\%$	0–45°	BD.2
	632.8 nm	$R_{avg} > 80\%$	0–45°	

Please see page 520 for information on our economical VALUMAX® broadband dielectric mirrors.





## Round Mirrors

Substrate Number	Diameter [in. (mm)]	Thickness [in. (mm)]	Material	Surface Flatness (S1)	Surface Quality (S1)
05D10	0.5 (12.7)	0.122 (3.1)	Pyrex®	λ/5	20-10
05D20	0.5 (12.7)	0.122 (3.1)	Pyrex®	λ/10	15-5
07D10	0.75 (19.05)	0.18 (4.57)	Pyrex®	λ/5	20-10
07D20	0.75 (19.05)	0.18 (4.57)	Pyrex®	λ/10	15-5
10D10	1.0 (25.4)	0.236 (6.0)	Pyrex®	λ/5	20-10
10D20	1.0 (25.4)	0.236 (6.0)	Pyrex®	λ/10	15-5
10Z20	1.0 (25.4)	0.236 (6.0)	Zerodur®	λ/10	15-5
10Z40	1.0 (25.4)	0.236 (6.0)	Zerodur®	λ/20	10-2
3MD10	1.181 (30.0)	0.236 (6.0)	Pyrex®	λ/5	20-10
3MD20	1.181 (30.0)	0.236 (6.0)	Pyrex®	λ/10	15-5
20D04	2.0 (50.8)	0.5 (12.7)	Pyrex®	λ/2	40-20
20D10	2.0 (50.8)	0.5 (12.7)	Pyrex®	λ/5	20-10
20D20	2.0 (50.8)	0.5 (12.7)	Pyrex®	λ/10	15-5
20Z20	2.0 (50.8)	0.5 (12.7)	Zerodur®	λ/10	15-5
20Z40	2.0 (50.8)	0.5 (12.7)	Zerodur®	λ/20	10-2
30D04	3.0 (76.2)	0.579 (14.7)	Pyrex®	λ/2	40-20
30D10	3.0 (76.2)	0.579 (14.7)	Pyrex®	λ/5	20-10
30D20	3.0 (76.2)	0.579 (14.7)	Pyrex®	λ/10	15-5
30Z20	3.0 (76.2)	0.579 (14.7)	Zerodur®	λ/10	15-5
30Z40	3.0 (76.2)	0.579 (14.7)	Zerodur®	λ/20	10-2
40D04	4.0 (101.6)	0.697 (17.7)	Pyrex®	λ/2	40-20
40D10	4.0 (101.6)	0.697 (17.7)	Pyrex®	λ/5	30-10
40D20	4.0 (101.6)	0.697 (17.7)	Pyrex®	λ/10	20-10
40Z20	4.0 (101.6)	0.697 (17.7)	Zerodur®	λ/10	20-10
40Z40	4.0 (101.6)	0.697 (17.7)	Zerodur®	λ/20	10-5
60D04	6.0 (152.4)	0.925 (23.5)	Pyrex®	λ/2	40-20
60D10	6.0 (152.4)	0.925 (23.5)	Pyrex®	λ/5	30-10
60D20	6.0 (152.4)	0.925 (23.5)	Pyrex®	λ/10	20-10
60Z20	6.0 (152.4)	0.925 (23.5)	Zerodur®	λ/10	20-10
60Z40	6.0 (152.4)	0.925 (23.5)	Zerodur®	λ/20	10-5
80D04	8.0 (203.2)	1.161 (29.5)	Pyrex®	λ/2	40-20
80D10	8.0 (203.2)	1.161 (29.5)	Pyrex®	λ/5	30-10
80D20	8.0 (203.2)	1.161 (29.5)	Pyrex®	λ/10	20-10
80Z10	8.0 (203.2)	1.161 (29.5)	Zerodur®	λ/5	20-10
80Z20	8.0 (203.2)	1.161 (29.5)	Zerodur®	λ/10	10-5

## Elliptical Mirrors

Substrate Number	Minor Axis [in. (mm)]	Major Axis [in. (mm)]	Thickness [in. (mm)]	Material	Surface Flatness (S1)	Surface Quality (S1)
13E20	1.300 (33.02)	1.838 (46.70)	0.369 (9.37)	Pyrex®	λ/10	15-5
18E20	1.838 (46.70)	2.600 (66.04)	0.490 (12.45)	Pyrex®	λ/10	15-5

Please see page 520 for information on our economical VALUMAX® broadband dielectric mirrors.



SUPREMA® Series Optical Mounts page 637



ULTIMA® Series Optical Mounts page 652



HVM Series Optical Mounts page 659