



# ***OPTICS CATALOGUE***

**(2017-2018)**



## Broadband Metallic Coatings

Metallic mirrors are excellent broadband reflectors. CASTECH offers four standard coatings, covering the UV, visible and IR. These mirrors are available in round sizes from dia12.7-50.8mm with BK7 or BOROFLOAT.

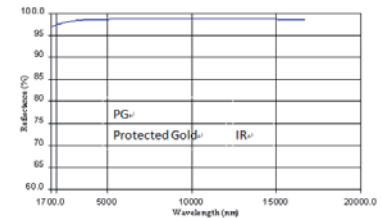
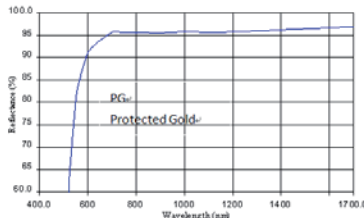
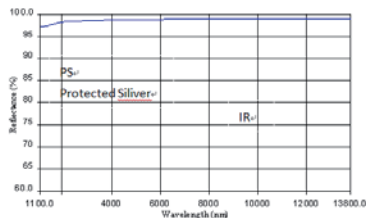
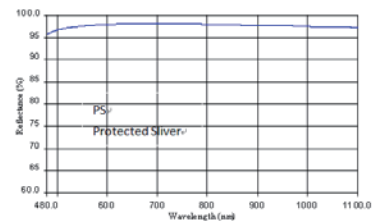
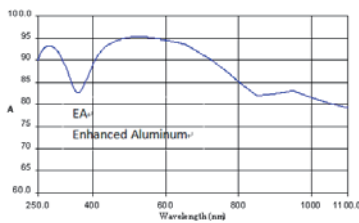
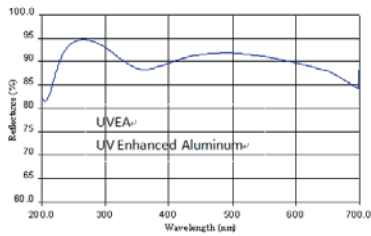


### Order Information

To order append the coating code PS to the substrate number.  
For example MIR-127-031-BK7-PS

<b>Substrate Material</b>	BK7 or BOROFLOAT		
<b>Damage Threshold</b>	UVEA:100W/cm <sup>2</sup> 0.3J/cm <sup>2</sup> with 10 nsec pulses @308nm,typical EA: 100W/cm <sup>2</sup> 0.3J/cm <sup>2</sup> with 10 nsec pulses @532nm,typical PS:1000W/cm <sup>2</sup> 1J/cm <sup>2</sup> with 10 nsec pulses @1064nm,typical PG:200W/cm <sup>2</sup> 1J/cm <sup>2</sup> with 10 nsec pulses @1064nm,typical		
<b>Coating Code</b>	<b>Wavelength Range (nm)</b>	<b>Reflectivity per Surface</b>	<b>Coating Type</b>
UVEA	250-600 nm	Ravg>90%	UV Enhanced Aluminum
EA	450-700 nm	Ravg>93% ,Rmin>90%	Enhanced Aluminum
PS	480-1100 nm 1.1-20 um	Ravg>96% ,Rmin>93% Ravg>98.5% ,Rmin>97%	Protected Silver
PG	650-1700 nm 1.7-20 um	Ravg>96% ,Rmin>93% Ravg>98% ,Ravg>96%	Protected Gold

- Custom designs for other coatings are available upon request.



## Broadband Dielectric Coatings



- High quality ,excellent value
- Broaband dielectric coatings
- Hight damage threshrod

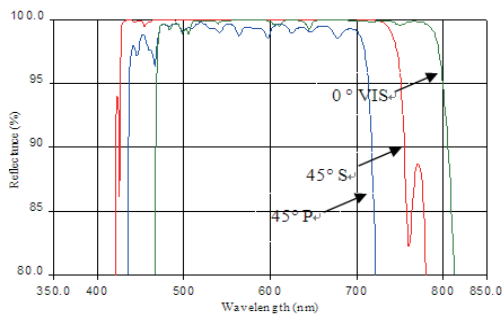
CASTECH offers two standard dielectric broadband coatings . Other coatings are available upon request.

### Specifications

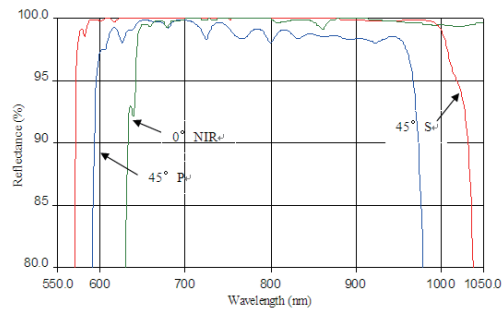
<b>Substrate Material</b>	BK7 or BOROFLOAT		
<b>Damage Threshold</b>	BD1:500W/cm <sup>2</sup> 1J/cm <sup>2</sup> with 10 nsec pulses within the wavelength range typical BD2: 1000W/cm <sup>2</sup> 2J/cm <sup>2</sup> with 10 nsec pulses within the wavelength range typical		
<b>Coating Code</b>	<b>Wavelength Range (nm)</b>	<b>Reflectivity per Surface</b>	<b>Angle of incidence</b>
BD488-694	488-694 nm (VIS band)	R <sub>s</sub> ,R <sub>p</sub> >99%	0-45°
BD700-950	700-950 nm (NIR band)	R <sub>s</sub> >99% ,R <sub>p</sub> >98%@700-950 nm R <sub>avg</sub> >80%@632.8 nm	0-45°

### Order Information

To order append the coating code BD488-694 to the substrate number.  
For example MIR-127-031-BK7-BD488-694



BD488-694



BD700-950

## Laser Line Dielectric Coatings



- High efficiency narrowband reflectivity
- $R_s, R_p > 99\%$  at laser line
- High damage threshold

These coatings are highly efficient reflectors optimized for a narrow wavelength range.

CASTECH offers eight standard dielectric coatings with substrates.

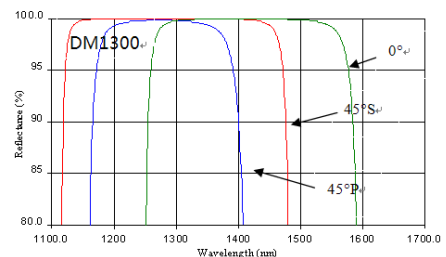
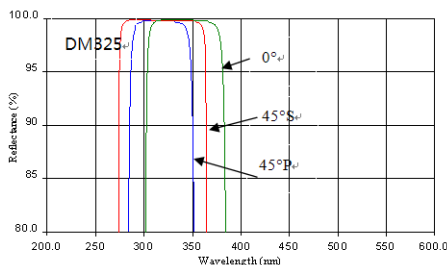
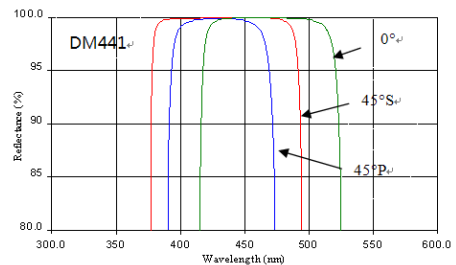
### Specifications

Coating Code	Center Wavelength (nm)	Angle of incidence	Reflectivity per Surface	Damage Threshold
DM325	325	0-45°	$R_s, R_p > 99\%$	1000W/cm <sup>2</sup> 2J/cm <sup>2</sup>
DM441	441.8	0-45°	$R_s, R_p > 99\%$	500W/cm <sup>2</sup> 1J/cm <sup>2</sup>
DM488	488-514.5	0-45°	$R_s, R_p > 99\%$	500W/cm <sup>2</sup> 1J/cm <sup>2</sup>
DM532	532	0-45°	$R_s, R_p > 99\%$	500W/cm <sup>2</sup> 2J/cm <sup>2</sup>
DM633	632.8	0-45°	$R_s, R_p > 99\%$	500W/cm <sup>2</sup> 1J/cm <sup>2</sup>
DM1064	1064	0-45°	$R_s, R_p > 99\%$	500W/cm <sup>2</sup> 2J/cm <sup>2</sup>
DM1300	1300	0-45°	$R_s, R_p > 99\%$	500W/cm <sup>2</sup> 1J/cm <sup>2</sup>
DM1550	1550	0-45°	$R_s, R_p > 99\%$	500W/cm <sup>2</sup> 2J/cm <sup>2</sup>

### Order Information

To order append the coating code to the substrate number.  
For example MIR-127-031-BK7-DM532

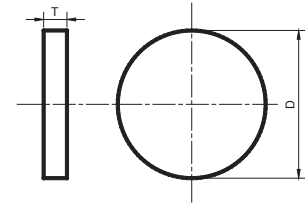
- Custom designs for other coatings are available upon request .



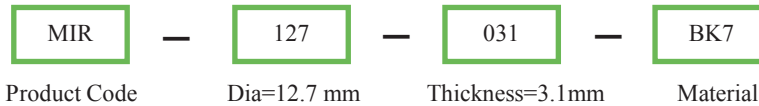
## Parallel Mirrors

### Specifications

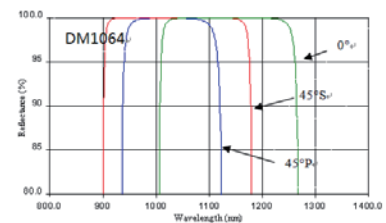
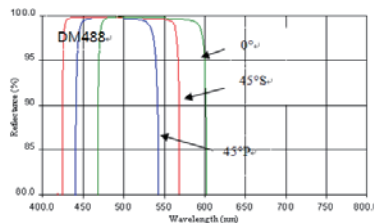
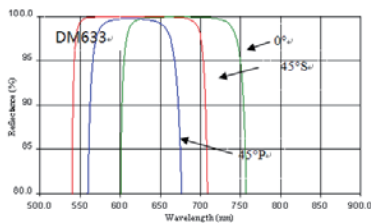
<b>Material:</b>	BK7 or BOROFLOAT
<b>Diameter Tolerance:</b>	+0.0,-0.15mm
<b>Thickness Tolerance</b>	±0.25mm
<b>Parallelism:</b>	<30"
<b>S1 Surface Quality :</b>	See Order Infor Table
<b>S1 Surface Flatness :</b>	See Order Infor Table
<b>Clear Aperture:</b>	Central 80% of diameter
<b>S2 surface :</b>	Ground
<b>Chamfers:</b>	12.7&25.4mm:0.25-0.75mm face width x 45° +/-15° 50.8mm :0.38-1.14 mm face width x 45° +/-15°



### Order Information



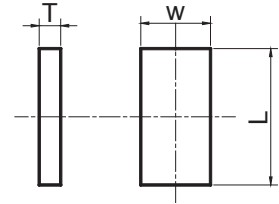
Part Number	Diameter D (mm)	Thickness T (mm)	Material	Surface Quality	Surface Flatness
MIR-127-031-BK7	12.7	3.1	BK7	20-10	λ/8
MIR-190-045-BK7	19.05	4.57	BK7	20-10	λ/8
MIR-254-060-BK7	25.4	6.0	BK7	20-10	λ/8
MIR-127-031-BOROFLOAT	12.7	3.1	BOROFLOAT	20-10	λ/8
MIR-190-045-BOROFLOAT	19.05	4.57	BOROFLOAT	20-10	λ/8
MIR-254-060-BOROFLOAT	25.4	6.0	BOROFLOAT	20-10	λ/8



## Rectangular Mirrors

### Specifications

<b>Material:</b>	BK7 or BOROFLOAT
<b>Diameter Tolerance:</b>	+0.0,-0.15mm
<b>Thickness Tolerance</b>	±0.25mm
<b>Parallelism:</b>	<30"
<b>S1 Surface Quality :</b>	See Order Infor Table
<b>S1 Surface Flatness :</b>	See Order Infor Table
<b>Clear Aperture:</b>	Central 80% of diameter
<b>S2 surface :</b>	Ground
<b>Chamfers:</b>	0.25-0.75mm face width x 45° +/-15°



### Order Information

MIRR	—	254	—	127	—	060	—	BK7
Product Code		Length=25.4 mm		Width=12.7mm		Thickness=6.0mm		Material

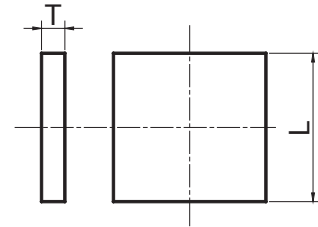
### Rectangular Mirrors

Part Number	Length L (mm)	Width W (mm)	Thickness T (mm)	Material	Surface Quality	Surface Flatness
MIRR-127-063-031-BK7	12.7	6.35	3.175	BK7	20-10	λ / 4
MIRR-254-127-063-BK7	25.4	12.7	6.35	BK7	20-10	λ / 4
MIRR-127-063-031- BOROFLOAT	12.7	6.35	3.175	BOROFLOAT	20-10	λ / 4
MIRR-127-063-063- BOROFLOAT	12.7	6.35	6.35	BOROFLOAT	20-10	λ / 4
MIRR-254-127-063- BOROFLOAT	25.4	12.7	6.35	BOROFLOAT	20-10	λ / 4

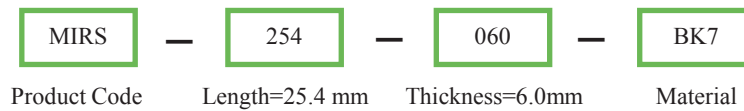
## Square Mirrors

### Specifications

<b>Material:</b>	BK7 or BOROFLOAT
<b>Diameter Tolerance:</b>	+0.0/-0.15mm
<b>Thickness Tolerance:</b>	±0.25mm
<b>Parallelism:</b>	<30"
<b>S1 Surface Quality:</b>	See Order Infor Table
<b>S1 Surface Flatness:</b>	See Order Infor Table
<b>Clear Aperture:</b>	Central 80% of diameter
<b>S2 surface:</b>	Ground
<b>Chamfers:</b>	0.25-0.75mm face width x 45° +/-15°



### Order Information



### Square Mirrors

Part Number	Length L (mm)	Thickness T (mm)	Material	Surface Quality	Surface Flatness
MIRS-127-031-BK7	12.7	3.175	BK7	20-10	λ / 4
MIRS-254-063-BK7	25.4	6.35	BK7	20-10	λ / 4
MIRS-127-031- BOROFLOAT	12.7	3.175	BOROFLOAT	20-10	λ / 4
MIRS-127-063- BOROFLOAT	12.7	6.35	BOROFLOAT	20-10	λ / 4
MIRS-254-063- BOROFLOAT	25.4	6.35	BOROFLOAT	20-10	λ / 4



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