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UV-Enhanced Aluminum Mirrors

- ▶ **UV-Enhanced Aluminum: $R_{avg} > 90\%$ for 250 – 450 nm**
- ▶ **Round and Square Versions Available From Stock**
- ▶ **Packages of 10 Rounds at a Discounted Price**



PFSQ20-03-F01
2" x 2"



PF10-03-F01
Ø1"



PF07-03-F01
Ø19 mm



PF03-03-F01
Ø7 mm



PF05-03-F01
Ø1/2"



Metallic Mirror Blanks
Ready for Coating

Related Items

Custom Optics



Aluminum Concave Mirrors



Polaris® Mirror
Mounts



Clear-Edge Mirror Mounts



[Overview](#) [Graphs](#) [Damage Thresholds](#) [LIDT Calculations](#) [Feedback](#)

Features

- UV-Enhanced Aluminum: $R_{avg} > 90\%$ for 250 - 450 nm
- Surface Flatness: $\lambda/10$ ($\lambda/8$ for 2" x 2" Squares)
- Surface Quality: 40-20 Scratch-Dig
- 10 Packs of Round Mirrors Available at a Discount
- Custom Options Available (Contact [Tech Support](#))

Our UV-Enhanced Aluminum mirrors are a cost effective solution for UV applications. Because bare aluminum is extremely delicate and susceptible to damage, a protective overcoat is layered over the aluminum to prolong the life of the mirror. Our UV-enhanced coating offers $>90\%$ reflectance from 250 to 450 nm. Please see the [Graphs](#) tab for reflectance curves.

Our Ø19 mm mirrors are specifically designed to fit our [Polaris Fixed Optic Mounts](#) for laser system design and other OEM applications. This diameter provides a larger clear aperture than Ø1/2" optics while allowing the mounts to maintain a Ø1" footprint. Ø7 mm mirrors are compatible with our [MKZ \(MKZ/M\)](#) Mini-Series kinematic mirror mount or our [LMRZ \(LMRZ/M\)](#) fixed optic mount.

For applications which require extremely low thermal expansion, Thorlabs also offers UV-enhanced and protected [aluminum Zerodur mirrors](#).

Custom Metallic Mirrors

Thorlabs' metallic mirrors are manufactured at the production facility housed in our headquarters in Newton, NJ. Our optics business unit has a wide breadth of [manufacturing capabilities](#) that allow us to offer a variety of custom optics for both OEM sales and low quantity one-off orders. Custom optic sizes, geometries, substrate materials, and coatings are available with prices on modified stock that are comparable to our stock offerings. We can produce individual custom plano, spherical, and aspheric mirrors as well as custom components for optical systems like our [galvanometers](#). To receive more information or inquire about a custom order, please contact [Tech Support](#).

UV-Enhanced Aluminum Coated Mirrors

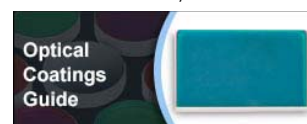
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[Mounted Turning Mirrors](#)
[Economy Mirrors](#)
[Concave Mirrors](#)
[D-Shaped Mirrors](#)



[Click to Enlarge](#)
A Number of Metallic Mirror Blanks Mounted in Planets at the Top of One of Our Electron Beam Deposition Coating Chambers



[Click to Enlarge](#)
Mirrors Ø1/2" and larger are laser engraved with their part number for easy identification.

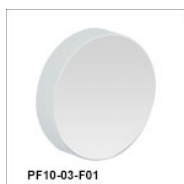


Metal-Coated Plano Mirrors Selection Guide

Wavelength Range	Avg. Reflectance (Click for Variation)	Coating	Suffix	Coating Comparison
250 nm - 450 nm	$>90\%$	UV Enhanced Aluminum	-F01	
450 nm - 20 µm	$>90\%$ for 450 nm - 2 µm $>95\%$ for 2 - 20 µm	Protected Aluminum	-G01	Raw Data
750 nm - 1 µm	$R_s > 99.0\%$ $R_p > 98.5\%$	Ultrafast-Enhanced Silver	-AG	
450 nm - 20 µm	$>97.5\%$ for 450 nm - 2 µm $>96\%$ for 2 - 20 µm	Protected Silver	-P01	Raw Data
	$>97\%$ for 450 nm - 2 µm $>95\%$ for 2 - 20 µm	Protected Silver*	-P02	
800 nm - 20 µm	$>96\%$	Protected Gold	-M01	
2 µm - 20 µm	$>98\%$	MIR Enhanced Gold	-M02	
800 nm - 20 µm	$>97\%$	Unprotected Gold	-M03	
10.6 µm Laser Line	$>99\%$	Unprotected Gold	-L01	Raw Data
Metal-Coated Zerodur® Mirrors				
Economy Front Surface Mirrors with Protected Metallic Coatings				

a. This variation of our protected silver coating is only found on the [PFR14-P02](#) Rectangular Mirror.

Round UV-Enhanced Aluminum Mirrors



PF10-03-F01

[Zoom](#)

Item #	PF03-03-F01	PF05-03-F01	PF07-03-F01	PF10-03-F01	PF20-03-F01
Diameter	7.0 mm	1/2" (12.7 mm)	19.0 mm	1" (25.4 mm)	2" (50.8 mm)
Diameter Tolerance			+0.0 mm / -0.1 mm		
Thickness	2.0 mm (0.08")	6.0 mm (0.24")	6.0 mm (0.24")	6.0 mm (0.24")	12.0 mm (0.47")
Thickness Tolerance			±0.2 mm		
Reflectance			$R_{avg} > 90\%$ from 250 to 450 nm		
Reflectance Curve (Click for Plot)			 Click Here for Raw Data		



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Clear Aperture	>90% of Diameter
Damage Threshold (Pulsed)	0.25 J/cm ² at 266 nm, 10 ns, 10 Hz, Ø0.150 mm 0.3 J/cm ² at 355 nm, 10 ns, 10 Hz, Ø0.381 mm
Damage Threshold (CW) ^a	300 W/cm at 1.064 µm, Ø0.044 mm 500 W/cm at 10.6 µm, Ø0.339 mm

a. The power density of your beam should be calculated in terms of W/cm. For an explanation of why the linear power density provides the best metric for long pulse and CW sources, please see the *Damage Thresholds* tab.

Based on your currency / country selection, your order will ship from Newton, New Jersey


+1	Qty	Docs	Part Number - Universal	Price	Available
	<input type="text"/>		PFQ3-03-F01 Ø7.0 mm UV-Enhanced Aluminum Mirror	\$28.95	5-8 Days
	<input type="text"/>		PF05-03-F01 Ø1/2" UV-Enhanced Aluminum Mirror	\$33.83	Today
	<input type="text"/>		PFQ7-03-F01 Ø19.0 mm UV-Enhanced Aluminum Mirror	\$48.70	Today
	<input type="text"/>		PF10-03-F01 Ø1" UV-Enhanced Aluminum Mirror	\$53.58	Today
	<input type="text"/>		PF10-03-F01-10 Ø1" UV-Enhanced Aluminum Mirror, 10 Pack	\$463.06	Today
	<input type="text"/>		PF20-03-F01 Ø2" UV-Enhanced Aluminum Mirror	\$101.65	Today

Add To Cart

Square UV-Enhanced Aluminum Mirrors



PFSQ10-03-F01
[Zoom](#)

Item #	PFSQ05-03-F01	PFSQ10-03-F01	PFSQ20-03-F01
Face Dimensions	1/2" x 1/2" (12.7 x 12.7 mm)	1" x 1" (25.4 x 25.4 mm)	2" x 2" (50.8 x 50.8 mm)
Face Dimensions Tolerance	+0.0 mm / -0.1 mm		
Thickness	6.0 mm (0.24")		
Thickness Tolerance	±0.2 mm		
Reflectance	R _{avg} >90% from 250 - 450 nm		
Reflectance Curve (Click for Plot)	<div> Click Here for Raw Data</div>		
Substrate	UV Fused Silica		
Flatness (Peak to Valley)	λ/10 @ 633 nm		λ/8 @ 633 nm
Parallelism	<3 arcmin		
Clear Aperture	>90% of Dimension		
Damage Threshold (Pulsed)	0.25 J/cm² at 266 nm, 10 ns, 10 Hz, Ø0.150 mm 0.3 J/cm² at 355 nm, 10 ns, 10 Hz, Ø0.381 mm		
Damage Threshold (CW) ^a	300 W/cm at 1.064 μm, Ø0.044 mm 500 W/cm at 10.6 μm, Ø0.339 mm		

a. The power density of your beam should be calculated in terms of W/cm. For an explanation of why the linear power density provides the best metric for long pulse and CW sources, please see the *Damage Thresholds* tab.

Based on your currency / country selection, your order will ship from Newton, New Jersey

+1	Qty	Docs	Part Number - Universal	Price	Available
	<input type="text"/>		PFSQ05-03-F01 1/2" x 1/2" UV-Enhanced Aluminum Mirror	\$33.83	Today
	<input type="text"/>		PFSQ10-03-F01 1" x 1" UV-Enhanced Aluminum Mirror	\$49.78	Today
	<input type="text"/>		PFSQ20-03-F01 2" x 2" UV-Enhanced Aluminum Mirror	\$123.36	Today

Add To Cart