

Metallic Neutral Density Filters

- Metallic films produce highly neutral transmission
- Useful for broadband attenuation
- BK7 and Fused Silica substrates for visible and Ultra-Violet applications
- Mounted and unmounted available



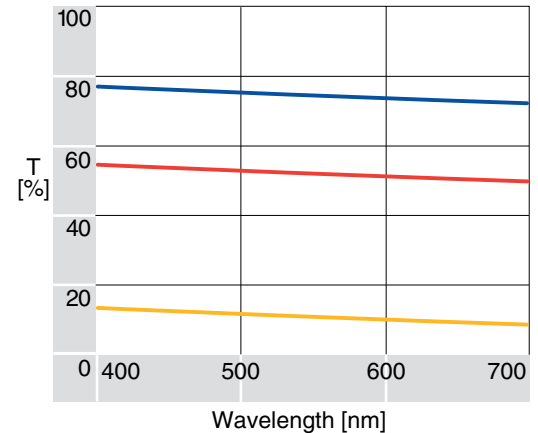
Specifications & Tolerances

Diameter: +0, -0.25mm
 Parallelism: 1arcmin
 Surface flatness: 1λ

Clear aperture: 95%
 Thickness: 2mm \pm 0.2mm
 Surface quality: 60-40

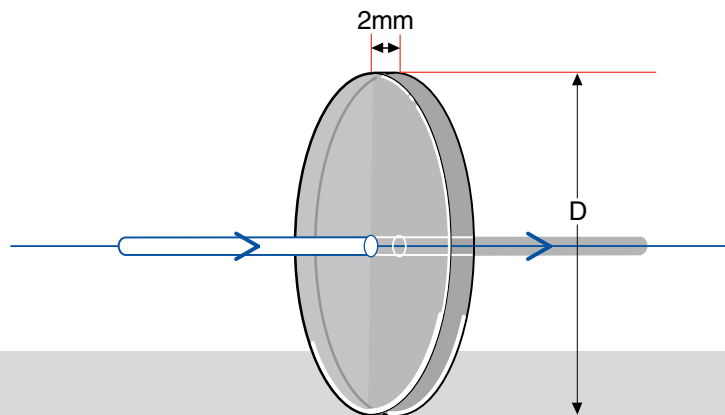
These metallic neutral density filters offer the best neutral density over a broad spectral range. A substantial portion of the incident radiation is rejected by reflection rather than absorption, thus reducing the problematic heating found in the absorptive type neutral density filters. These coatings are offered on both BK7 optical glass and synthetic fused silica substrates. BK7 absorbs strongly below 350nm, therefore, synthetic fused silica should be used for applications in the Ultra-Violet.

Mounted and unmounted filters are offered in 25, 30 and 50mm diameters.



METALLIC NEUTRAL DENSITY FILTER
TRANSMITTANCE - GLASS

078-0670/0065/0145
 078-0650/0060/0140
 078-0610/0040/0120



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Metallic Neutral Density Filters, Mounted

G L A S S

Wavelength Range (nm)	Diameter, D (mm)	Thickness (mm)	Material	Optical Density (OD)	Transmittance @ Center λ (%)	Price	PART NUMBER
200-400	25.0	5.0	SFS	3.00	0.1		078-2410
200-400	25.0	5.0	SFS	2.00	1		078-2415
200-400	25.0	5.0	SFS	1.30	5		078-2420
200-400	25.0	5.0	SFS	1.00	10		078-2425
200-400	25.0	5.0	SFS	0.70	20		078-2430
200-400	25.0	5.0	SFS	0.50	30		078-2435
200-400	25.0	5.0	SFS	0.40	40		078-2440
200-400	25.0	5.0	SFS	0.30	50		078-2445
200-400	25.0	5.0	SFS	0.20	60		078-2450
200-400	25.0	5.0	SFS	0.15	70		078-2455
200-400	25.0	5.0	SFS	0.10	80		078-2460
200-400	25.0	5.0	SFS	0.04	92		078-2465
200-400	30.0	5.0	SFS	3.00	0.1		078-2610
200-400	30.0	5.0	SFS	2.00	1		078-2615
200-400	30.0	5.0	SFS	1.30	5		078-2620
200-400	30.0	5.0	SFS	1.00	10		078-2625
200-400	30.0	5.0	SFS	0.70	20		078-2630
200-400	30.0	5.0	SFS	0.50	30		078-2635
200-400	30.0	5.0	SFS	0.40	40		078-2640
200-400	30.0	5.0	SFS	0.30	50		078-2645
200-400	30.0	5.0	SFS	0.20	60		078-2650
200-400	30.0	5.0	SFS	0.15	70		078-2655
200-400	30.0	5.0	SFS	0.10	80		078-2660
200-400	30.0	5.0	SFS	0.04	92		078-2665
200-400	52.0	5.0	SFS	3.00	0.1		078-2710
200-400	52.0	5.0	SFS	2.00	1		078-2715
200-400	52.0	5.0	SFS	1.30	5		078-2720
200-400	52.0	5.0	SFS	1.00	10		078-2725
200-400	52.0	5.0	SFS	0.70	20		078-2730
200-400	52.0	5.0	SFS	0.50	30		078-2735
200-400	52.0	5.0	SFS	0.40	40		078-2740
200-400	52.0	5.0	SFS	0.30	50		078-2745
200-400	52.0	5.0	SFS	0.20	60		078-2750
200-400	52.0	5.0	SFS	0.15	70		078-2755
200-400	52.0	5.0	SFS	0.10	80		078-2760
200-400	52.0	5.0	SFS	0.04	92		078-2765
400-700	25.0	5.0	BK7	3.00	0.1		078-3010
400-700	25.0	5.0	BK7	2.00	1		078-3015
400-700	25.0	5.0	BK7	1.30	5		078-3020
400-700	25.0	5.0	BK7	1.00	10		078-3025
400-700	25.0	5.0	BK7	0.70	20		078-3030
400-700	25.0	5.0	BK7	0.50	30		078-3035
400-700	25.0	5.0	BK7	0.40	40		078-3040
400-700	25.0	5.0	BK7	0.30	50		078-3045
400-700	25.0	5.0	BK7	0.20	60		078-3050
400-700	25.0	5.0	BK7	0.15	70		078-3055
400-700	25.0	5.0	BK7	0.10	80		078-3060
400-700	25.0	5.0	BK7	0.04	92		078-3065
400-700	30.0	5.0	BK7	3.00	0.1		078-3210
400-700	30.0	5.0	BK7	2.00	1		078-3215

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Metallic Neutral Density Filters, Mounted (continued)

G L A S S

Wavelength Range (nm)	Diameter, D (mm)	Thickness (mm)	Material	Optical Density (OD)	Transmittance @ Center λ (%)	Price	PART NUMBER
400-700	30.0	5.0	BK7	1.30	5		078-3220
400-700	30.0	5.0	BK7	1.00	10		078-3225
400-700	30.0	5.0	BK7	0.70	20		078-3230
400-700	30.0	5.0	BK7	0.50	30		078-3235
400-700	30.0	5.0	BK7	0.40	40		078-3240
400-700	30.0	5.0	BK7	0.30	50		078-3245
400-700	30.0	5.0	BK7	0.20	60		078-3250
400-700	30.0	5.0	BK7	0.15	70		078-3255
400-700	30.0	5.0	BK7	0.10	80		078-3260
400-700	30.0	5.0	BK7	0.04	92		078-3265
400-700	52.0	5.0	BK7	3.00	0.1		078-3310
400-700	52.0	5.0	BK7	2.00	1		078-3315
400-700	52.0	5.0	BK7	1.30	5		078-3320
400-700	52.0	5.0	BK7	1.00	10		078-3325
400-700	52.0	5.0	BK7	0.70	20		078-3330
400-700	52.0	5.0	BK7	0.50	30		078-3335
400-700	52.0	5.0	BK7	0.40	40		078-3340
400-700	52.0	5.0	BK7	0.30	50		078-3345
400-700	52.0	5.0	BK7	0.20	60		078-3350
400-700	52.0	5.0	BK7	0.15	70		078-3355
400-700	52.0	5.0	BK7	0.10	80		078-3360
400-700	52.0	5.0	BK7	0.04	92		078-3365

Metallic Neutral Density Filters, Unmounted

G L A S S

Wavelength Range (nm)	Diameter, D (mm)	Thickness (mm)	Material	Optical Density (OD)	Transmittance @ Center λ (%)	Price	PART NUMBER
200-400	20.0	2.0	SFS	3.00	0.1		078-0920
200-400	20.0	2.0	SFS	2.00	1		078-0930
200-400	20.0	2.0	SFS	1.30	5		078-0935
200-400	20.0	2.0	SFS	1.00	10		078-0940
200-400	20.0	2.0	SFS	0.70	20		078-0945
200-400	20.0	2.0	SFS	0.50	30		078-0950
200-400	20.0	2.0	SFS	0.40	40		078-0955
200-400	20.0	2.0	SFS	0.30	50		078-0960
200-400	20.0	2.0	SFS	0.20	60		078-0965
200-400	20.0	2.0	SFS	0.15	70		078-0970
200-400	20.0	2.0	SFS	0.10	80		078-0975
200-400	20.0	2.0	SFS	0.04	92		078-0980
200-400	25.0	2.0	SFS	3.00	0.1		078-0810
200-400	25.0	2.0	SFS	2.00	1		078-0820
200-400	25.0	2.0	SFS	1.30	5		078-0830
200-400	25.0	2.0	SFS	1.00	10		078-0835
200-400	25.0	2.0	SFS	0.70	20		078-0840
200-400	25.0	2.0	SFS	0.50	30		078-0845
200-400	25.0	2.0	SFS	0.40	40		078-0850
200-400	25.0	2.0	SFS	0.30	50		078-0855
200-400	25.0	2.0	SFS	0.20	60		078-0860
200-400	25.0	2.0	SFS	0.15	70		078-0865
200-400	25.0	2.0	SFS	0.10	80		078-0870
200-400	25.0	2.0	SFS	0.04	92		078-0875

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Wavelength Range (nm)	Diameter, D (mm)	Thickness (mm)	Material	Optical Density (OD)	Transmittance @ Center λ (%)	Price	PART NUMBER
200-400	30.0	2.0	SFS	3.00	0.1		078-0230
200-400	30.0	2.0	SFS	2.00	1		078-0240
200-400	30.0	2.0	SFS	1.30	5		078-0245
200-400	30.0	2.0	SFS	1.00	10		078-0250
200-400	30.0	2.0	SFS	0.70	20		078-0255
200-400	30.0	2.0	SFS	0.50	30		078-0260
200-400	30.0	2.0	SFS	0.40	40		078-0265
200-400	30.0	2.0	SFS	0.30	50		078-0270
200-400	30.0	2.0	SFS	0.20	60		078-0273
200-400	30.0	2.0	SFS	0.15	70		078-0275
200-400	30.0	2.0	SFS	0.10	80		078-0280
200-400	30.0	2.0	SFS	0.04	92		078-0290
200-400	50.0	2.0	SFS	3.00	0.1		078-0340
200-400	50.0	2.0	SFS	2.00	1		078-0350
200-400	50.0	2.0	SFS	1.30	5		078-0355
200-400	50.0	2.0	SFS	1.00	10		078-0360
200-400	50.0	2.0	SFS	0.70	20		078-0365
200-400	50.0	2.0	SFS	0.50	30		078-0370
200-400	50.0	2.0	SFS	0.40	40		078-0375
200-400	50.0	2.0	SFS	0.30	50		078-0380
200-400	50.0	2.0	SFS	0.20	60		078-0383
200-400	50.0	2.0	SFS	0.15	70		078-0385
200-400	50.0	2.0	SFS	0.10	80		078-0390
200-400	50.0	2.0	SFS	0.04	92		078-0440
400-700	15.0	2.0	BK7	3.00	0.1		078-0789
400-700	15.0	2.0	BK7	2.00	1		078-0790
400-700	15.0	2.0	BK7	1.30	5		078-0791
400-700	15.0	2.0	BK7	1.00	10		078-0792
400-700	15.0	2.0	BK7	0.70	20		078-0793
400-700	15.0	2.0	BK7	0.50	30		078-0794
400-700	15.0	2.0	BK7	0.40	40		078-0795
400-700	15.0	2.0	BK7	0.30	50		078-0796
400-700	15.0	2.0	BK7	0.20	60		078-0797
400-700	15.0	2.0	BK7	0.15	70		078-0798
400-700	15.0	2.0	BK7	0.10	80		078-0799
400-700	15.0	2.0	BK7	0.04	92		078-0800
400-700	20.0	2.0	BK7	3.00	0.1		078-0777
400-700	20.0	2.0	BK7	2.00	1		078-0778
400-700	20.0	2.0	BK7	1.30	5		078-0779
400-700	20.0	2.0	BK7	1.00	10		078-0780
400-700	20.0	2.0	BK7	0.70	20		078-0781
400-700	20.0	2.0	BK7	0.50	30		078-0782
400-700	20.0	2.0	BK7	0.40	40		078-0783
400-700	20.0	2.0	BK7	0.30	50		078-0784
400-700	20.0	2.0	BK7	0.20	60		078-0785
400-700	20.0	2.0	BK7	0.15	70		078-0786
400-700	20.0	2.0	BK7	0.10	80		078-0787
400-700	20.0	2.0	BK7	0.04	92		078-0788
400-700	25.0	2.0	BK7	3.00	0.1		078-0710
400-700	25.0	2.0	BK7	2.00	1		078-0720

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Wavelength Range (nm)	Diameter, D (mm)	Thickness (mm)	Material	Optical Density (OD)	Transmittance @ Center λ (%)	Price	PART NUMBER
400-700	25.0	2.0	BK7	1.30	5		078-0730
400-700	25.0	2.0	BK7	1.00	10		078-0735
400-700	25.0	2.0	BK7	0.70	20		078-0740
400-700	25.0	2.0	BK7	0.50	30		078-0745
400-700	25.0	2.0	BK7	0.40	40		078-0750
400-700	25.0	2.0	BK7	0.30	50		078-0755
400-700	25.0	2.0	BK7	0.20	60		078-0760
400-700	25.0	2.0	BK7	0.15	70		078-0765
400-700	25.0	2.0	BK7	0.10	80		078-0770
400-700	25.0	2.0	BK7	0.04	92		078-0775
400-700	30.0	2.0	BK7	3.00	0.1		078-0020
400-700	30.0	2.0	BK7	2.00	1		078-0030
400-700	30.0	2.0	BK7	1.30	5		078-0035
400-700	30.0	2.0	BK7	1.00	10		078-0040
400-700	30.0	2.0	BK7	0.70	20		078-0045
400-700	30.0	2.0	BK7	0.50	30		078-0050
400-700	30.0	2.0	BK7	0.40	40		078-0055
400-700	30.0	2.0	BK7	0.30	50		078-0060
400-700	30.0	2.0	BK7	0.20	60		078-0063
400-700	30.0	2.0	BK7	0.15	70		078-0065
400-700	30.0	2.0	BK7	0.10	80		078-0070
400-700	30.0	2.0	BK7	0.04	92		078-0080
400-700	50.0	2.0	BK7	3.00	0.1		078-0090
400-700	50.0	2.0	BK7	2.00	1		078-0110
400-700	50.0	2.0	BK7	1.30	5		078-0115
400-700	50.0	2.0	BK7	1.00	10		078-0120
400-700	50.0	2.0	BK7	0.70	20		078-0125
400-700	50.0	2.0	BK7	0.50	30		078-0130
400-700	50.0	2.0	BK7	0.40	40		078-0135
400-700	50.0	2.0	BK7	0.30	50		078-0140
400-700	50.0	2.0	BK7	0.20	60		078-0143
400-700	50.0	2.0	BK7	0.15	70		078-0145
400-700	50.0	2.0	BK7	0.10	80		078-0150
400-700	50.0	2.0	BK7	0.04	92		078-0160

Optical density and transmittance are directly related by the expression $D = \log(1/T)$. We state both parameters in the table for your convenience.

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