

Custom Coating Design & Fabrication

Coatings can dramatically change the performance of your finished optical assembly. Ross Optical can recommend coating options that reduce the time, cost, and complexity of multi-element optical systems and subassemblies. We offer a full range of coatings down to 220 nm.

In-House Optical Coatings

Our expanded in-house optical coating capabilities offer customers better timeline and quality control. We can provide in-house coating for our custom and standard optical lenses, or customers' lenses, from 250 to 2400 nm in as few as 3 days.

Our coating machines supply the best quality coating in terms of film hardness, laser damage threshold, and optical performance. We can even achieve full-surface coating of micro optics.

Coating Capabilities

- Single layer magnesium fluoride coating
- Broadband anti-reflection (BBAR)
- Single wavelength AR coating (V-coating)
- Dual-band AR coating (W-coating)
- Beam splitters (plates and cubes)
- Polarization beam splitters
- Band pass filters
- High reflection all-dielectric coating
- Metallic mirrors (aluminum, silver, gold; protected; enhanced)
- Wavelength range from UV, visible, mid-IR to far IR
- Infrared coating services between 2 and 12 microns

Available Substrate Materials

- Optical glass
- Sapphire
- Fused silica
- Quartz
- Silicon
- Germanium
- and more

Unparalleled Service

Ross Optical delivers with exceptional service that is well-suited to the needs of our OEM customers. Using our years of optics experience, we help customers get the best quality and performance for their optics investment. Our world-class testing and inspection team works to make sure that our optic components meet high standards for quality and reliability. Exhaustive testing and inspection means significant cost and time savings for OEM customers. And thanks to our extensive in-house coating expertise, we can offer coatings performance for even the smallest micro lenses.

At Ross Optical, service continues beyond the sale. We're particularly proud of our inventory control management processes and work to provide an ongoing flow of parts that keep our OEM customers moving, without supply chain headaches and without the added cost of maintaining huge parts inventories.

Ross Optical is ITAR Registered and ISO 9001:2008 Certified.



Four Ways to Save Money with Integrated Coating Design

In order to improve the final performance and cost of your optical assembly, coating choices must be an integral part of the design process.

- 1 Consider possible inter-wavelength effects, and optimize the sequence of coated optical elements during design.
- 2 Carefully choose surface locations, angles, and curvatures to maximize performance.
- 3 Tolerance your coatings as thoroughly as you tolerance your surfaces to avoid having to recoat.
- 4 Talk to a coating engineer early in the optical design process.



Ross Optical Industries Coating Codes

Code	Coating Type	Wavelength / Range	Spectral Specs	Code	Coating Type	Wavelength / Range	Spectral Specs
100	Single Layer MgF2	340 nm	Depends on Substrate	300	Single Wavelength V-coat	253 nm	Rabs < 0.25%
101	Single Layer MgF2	364 nm	Depends on Substrate	305	Single Wavelength V-coat	355 nm	Rabs < 0.25%
102	Single Layer MgF2	408 nm	Depends on Substrate	309	Single Wavelength V-coat	400 nm	Rabs < 0.25%
105	Single Layer MgF2	490 nm	Depends on Substrate	310	Single Wavelength V-coat	405 nm	Rabs < 0.25%
110	Single Layer MgF2	550 nm	Depends on Substrate	315	Single Wavelength V-coat	488 nm	Rabs < 0.25%
112	Single Layer MgF2	633 nm	Depends on Substrate	320	Single Wavelength V-coat	532 nm	Rabs < 0.25%
120	Single Layer MgF2	660 nm	Depends on Substrate	322	Single Wavelength V-coat	589 nm	Rabs < 0.25%
125	Single Layer MgF2	680 nm	Depends on Substrate	325	Single Wavelength V-coat	632 / 633 / 639 nm	Rabs < 0.25%
129	Single Layer MgF2	770 nm	Depends on Substrate	326	Single Wavelength V-coat	650 nm	Rabs < 0.25%
130	Single Layer MgF2	785 nm	Depends on Substrate	327	Single Wavelength V-coat	660 nm	Rabs < 0.25%
135	Single Layer MgF2	800 nm	Depends on Substrate	328	Single Wavelength V-coat	670 nm	Rabs < 0.25%
140	Single Layer MgF2	830 nm	Depends on Substrate	330	Single Wavelength V-coat	680 / 685 nm	Rabs < 0.25%
145	Single Layer MgF2	875 nm	Depends on Substrate	333	Single Wavelength V-coat	755 nm	Rabs < 0.25%
150	Single Layer MgF2	900 / 904 nm	Depends on Substrate	335	Single Wavelength V-coat	780 nm	Rabs < 0.25%
160	Single Layer MgF2	1064 nm	Depends on Substrate	340	Single Wavelength V-coat	810 nm	Rabs < 0.25%
162	Single Layer MgF2	1200 nm	Depends on Substrate	342	Single Wavelength V-coat	830 nm	Rabs < 0.25%
163	Single Layer MgF2	1300 nm	Depends on Substrate	345	Single Wavelength V-coat	840 nm	Rabs < 0.25%
165	Single Layer MgF2	1550 nm	Depends on Substrate	347	Single Wavelength V-coat	850 nm	Rabs < 0.25%
167	Single Layer MgF2	1800 nm	Depends on Substrate	349	Single Wavelength V-coat	860 nm	Rabs < 0.25%
170	Single Layer MgF2	2000 nm	Depends on Substrate	350	Single Wavelength V-coat	880 nm	Rabs < 0.25%
200	Broad Band AR (BBAR)	245-400 nm	Ravg < 0.8%	355	Single Wavelength V-coat	900 / 904 nm	Rabs < 0.25%
205	Broad Band AR (BBAR)	300-500 nm	Ravg < 0.8%	360	Single Wavelength V-coat	945 nm	Rabs < 0.25%
210	Broad Band AR (BBAR)	350-650 nm	Ravg < 1.0%	370	Single Wavelength V-coat	1060 / 1064 nm	Rabs < 0.25%
211	Broad Band AR (BBAR)	350-800 nm	Ravg < 1.5%	380	Single Wavelength V-coat	1300 nm	Rabs < 0.25%
212	Broad Band AR (BBAR)	380-650 nm	Ravg < 0.8%	385	Single Wavelength V-coat	1450 nm	Rabs < 0.25%
215	Broad Band AR (BBAR)	400-700 / 450-650 nm	Ravg < 0.8%	390	Single Wavelength V-coat	1550 nm	Rabs < 0.25%
217	Broad Band AR (BBAR)	380-850 nm	Ravg < 1.0%	394	Single Wavelength V-coat	1582 nm	Rabs < 0.25%
220	Broad Band AR (BBAR)	400-900 nm	Ravg < 1.0%	395	Single Wavelength V-coat	1590 nm	Rabs < 0.25%
222	Broad Band AR (BBAR)	430-660 nm	Ravg < 0.7%	397	Single Wavelength V-coat	1600 nm	Rabs < 0.25%
225	Broad Band AR (BBAR)	420-1100 nm	Ravg < 1.5%	600	Dual Wavelength AR Coating	532 & 633 nm	R < 0.5%
230	Broad Band AR (BBAR)	550-900 nm	Ravg < 1.0%	605	Dual Wavelength AR Coating	532 & 852 nm	R < 0.5%
232	Broad Band AR (BBAR)	550-1100 nm	Ravg < 1.0%	610	Dual Wavelength AR Coating	533 & 1064 nm	R < 0.5%
233	Broad Band AR (BBAR)	500-1500 nm	Ravg < 1.5%	611	Dual Wavelength AR Coating	532 & 1535 nm	R < 0.5%
235	Broad Band AR (BBAR)	600-700 nm	Ravg < 0.5%	612	Dual Wavelength AR Coating	635 & 852 nm	R < 0.5%
240	Broad Band AR (BBAR)	600-850 nm	Ravg < 0.5%	615	Dual Wavelength AR Coating	633 or 635 & 880 nm	R < 0.5%
241	Broad Band AR (BBAR)	600-1000 nm	Ravg < 1.0%	620	Dual Wavelength AR Coating	650 & 1064 nm	R < 0.5%
242	Broad Band AR (BBAR)	610-930 nm	Ravg < 1.0%	640	Dual Wavelength AR Coating	980 & 1535-1570 nm	R < 0.5%
243	Broad Band AR (BBAR)	630-870 nm	Ravg < 0.7%	660	Dual Wavelength AR Coating	1064 & 1550 nm	R < 0.5%
244	Broad Band AR (BBAR)	650-790 nm	Ravg < 0.7%	680	Dual Wavelength AR Coating	1310 & 1550 nm	R < 0.5%
245	Broad Band AR (BBAR)	780-850 nm	Ravg < 0.5%	700	Triple Wavelength AR Coating	830, 1300 & 1550 nm	R < 0.5%
250	Broad Band AR (BBAR)	700-1100 nm	Ravg < 1.0%	702	Triple Wavelength AR Coating	532, 1064 & 1550 nm	R < 0.5%
252	Broad Band AR (BBAR)	700-1500 nm	Ravg < 1.0%	705	Triple Wavelength AR Coating	830, 1064 & 1550 nm	R < 0.5%
253	Broad Band AR (BBAR)	800-1600 nm	Ravg < 1.0%	400	Beam Splitter	400-700 nm	T/R = 95/05
255	Broad Band AR (BBAR)	875-1125 nm	Ravg < 1.0%	410	Beam Splitter	400-700 nm	T/R = 90/10
258	Broad Band AR (BBAR)	1000-1600 nm	Ravg < 1.0%	420	Beam Splitter	400-700 nm	T/R = 80/20
260	Broad Band AR (BBAR)	1064-1342 nm	Ravg < 0.8%	430	Beam Splitter	400-700 nm	T/R = 70/30
265	Broad Band AR (BBAR)	1100-1800 nm	Ravg < 1.0%	440	Beam Splitter	400-700 nm	T/R = 50/50
270	Broad Band AR (BBAR)	1200-1800 nm	Ravg < 1.0%	450	Beam Splitter	400-700 nm	T/R = 30/70
280	Broad Band AR (BBAR)	1300-1600 nm	Ravg < 0.7%	500	Bare Aluminum Mirror	400-1200 nm	R > 90%
282	Broad Band AR (BBAR)	1300-2400 nm	Ravg < 1.0%	503	Protected Aluminum Mirror	400-800 nm	R > 85%
285	Broad Band AR (BBAR)	1500-1600 nm	Ravg < 0.5%	505	Enhanced Aluminum Mirror	450-650 nm	R > 95%
288	Narrow Band AR (NBAR)	660-690 nm	Ravg < 0.25%	550	Silver Mirror	450-1000 nm	R > 95%
290	Narrow Band AR (NBAR)	780-850 nm	Ravg < 0.25%	555	Protected Silver Mirror	450-10000 nm	R > 90%
291	Narrow Band AR (NBAR)	800-900 nm	Ravg < 0.50%	580	Bare Gold Mirror	700-10000 nm	R > 98%
292	Narrow Band AR (NBAR)	810-850 nm	Ravg < 0.25%	585	Protected Gold Mirror	700-10000 nm	R > 95%
293	Narrow Band AR (NBAR)	830-850 nm	Ravg < 0.50%	800	Infrared Coating	3-5 microns	Ravg < 3.0%
294	Narrow Band AR (NBAR)	970-990 nm	Ravg < 0.25%				
296	Narrow Band AR (NBAR)	1500-1600 nm	Ravg < 0.25%				
298	Narrow Band AR (NBAR)	1530-1560 nm	Ravg < 0.25%				