High Reflector
Front Surface Mirrors

Key Features

- **High reflection, front surface mirrors**
- **Dielectric enhanced aluminum coatings**
- **Superior durability for long product life**
- **60/40 scr-dig surface quality for 94% reflectors**
- **80/50 scr-dig surface quality for 97% reflectors**
- **Available on glass substrates ranging in thickness from 0.55mm to 6mm**
- **Protective tape on coated surface**
- **Special coatings and flatness options available upon request**

Applications

- **Laser printers**
- **Digital copiers**
- **Plain paper facsimile machines**
- **Multifunction devices**
- **Scanners**
- **Automotive digital devices**

MAC Thin Films is the world-leading manufacturer of high quality, enhanced aluminum front surface mirrors. These high reflector mirrors are designed to meet the quality and longevity requirements of office automation products.

The trend in office automation is toward higher resolution for products such as laser printers, copiers, and scanners. MAC Thin Films high reflector mirrors are manufactured using critically selected flat glass with excellent surface quality for the enhanced performance requirements of these products. These mirrors offer the durability and economy of aluminum-based thin film coatings and are available in two families of reflectivity: 94% or 97%.

MAC Thin Films high reflector mirrors are competitively priced and are produced in large- format high volumes. Our products are distributed globally. Custom spectral designs and flatness options are available upon request.

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High Reflector Front Surface Mirrors

Thickness and Flatness Specifications

Nominal Thickness (mm)	Standard Stock Sheet Sizes (inch)	Substrate Flatness (fringes of power / irregularity / aperture (inch) @ 632.8nm)
0.55	16 x 25	N/A
0.70	25 x 32	N/A
1.00	25 x 32	N/A
1.10	25 x 32	N/A
1.25	25 x 32	N/A
1.60	25 x 32	N/A
1.90	25 x 32	N/A
2.30	32 x 50	N/A
3.00	32 x 50	8/8/2
4.00	32 x 50	8/8/2
5.00	32 x 50.7	20/20/4 - 12/12/4 * - 1010/4 *
6.00	32 x 50	8/8/2

*** Contact MAC Thin Films for availability.**

Note: Other sizes may be available on request.

Environmental Specifications

Humidity Resistance	The mirror coating shall show no deterioration after exposure to 24-hour humidity test of 49°C and 95% relative humidity.
Abrasion Resistance	The mirror coating shall show no damage after a 200-rub test with a cheesecloth pad approximately 9.5 mm (0.38 inch) diameter by 12 .7 mm (0.50 inch) thick. The bearing force shall be one pound ± 1/4 pound (454 g ±114 g).
Coating Adhesion	The mirror coating shall show no damage after 3M Scotch Brand No. 610 adhesive tape (or equivalent) is placed firmly against the coated surface and removed quickly.
Corrosion Resistance	The mirror coating shall show no deterioration after 24 hours of exposure to a salt fog test (5% NaCl *by* weight in water) at 35°C.

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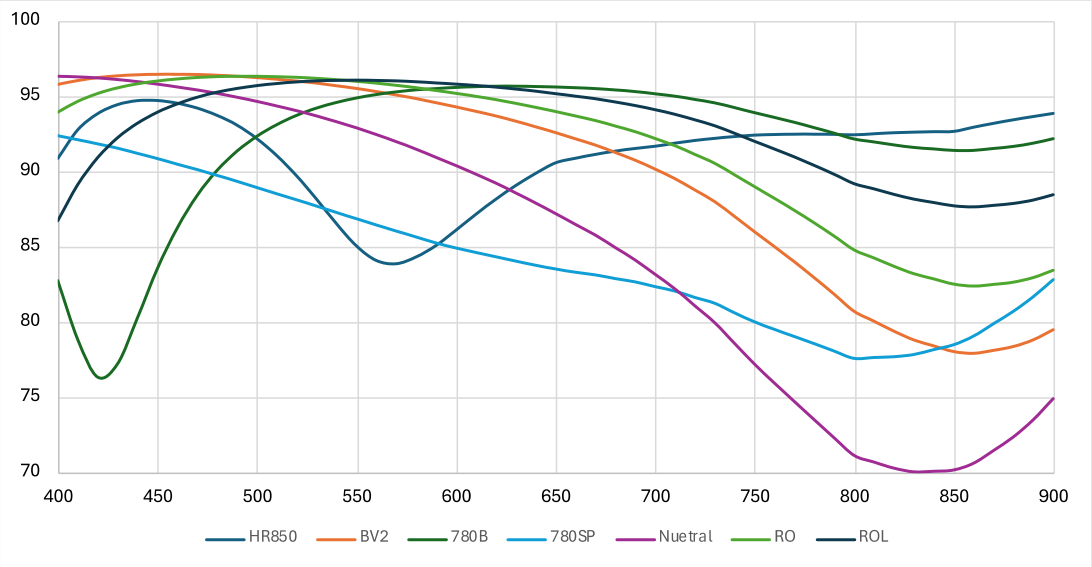
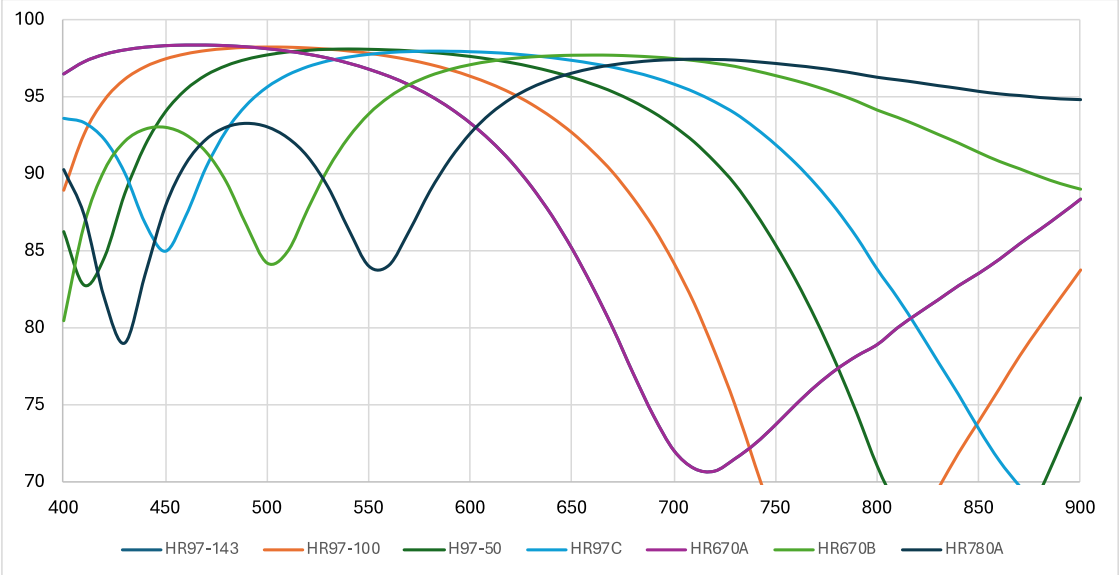
High Reflector Front Surface Mirrors

Nominal Reflection Scans

94% R High Reflector Family



97% R High Reflector Family



Note: All filters are shown at 45 degrees average S&P polarization.

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High Reflector Front Surface Mirrors

94% High Reflector Front Surface Mirrors (Specification Values: %R @ λ)

Wavelength	BV2	HR780B	Neutral	RO	ROL
400 nm	>92%	N/A	>94%	>90%	N/A
500 nm	>94%	>90%	>91%	>94%	>93%
600 nm	>91%	>94%	>86%	>92%	>94%
700 nm	>86%	>91%	N/A	>89%	>91%

97% High Reflector Front Surface Mirrors (specification Values: %R @ λ)

Wavelength	HR670B	HR97C	HR97-50	HR97-100	HR97-143	HR97-193
400 nm	N/A	N/A	N/A	N/A	N/A	>95%
500 nm	N/A	>92%	>95%	>96%	>95%	>91%
600 nm	>96%	>96%	>96%	>94%	>87%	>72%
700 nm	>96%	>93%	>86%	>75%	N/A	>82%

Processing and Storage Recommendations

MAC Thin Films mirrors are shipped with a protective blue Nitto tape on the coated surface. This tape provides safe transport for coated optics during transit and protection during fabrication. When processing these high reflector mirrors with this protective tape still on the mirror, we recommend the following:

- Glass needs to be at least at room temperature (>20°C) prior to cutting.
- Crates need to be held at >20°C for at least one (1) week prior to processing, due to the large mass of glass that needs to stabilize to room temperature.

Notes

- If the glass is processed below room temperature, then the protective shipping tape will exhibit erratic adhesion and may start to peel during processing.

- If chemicals or liquids contact the protective film, they may cause adverse adhesion/delamination.

For ordering or additional product information, please contact us at:
www.macthinfilms.com

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