



OPTICS CATALOGUE

(2017-2018)

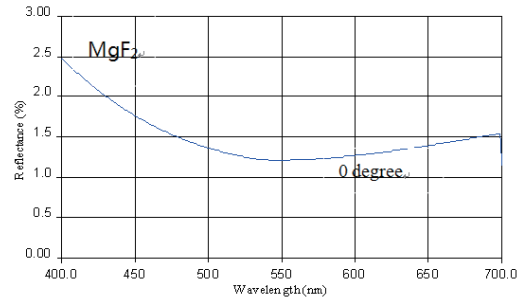


Antireflective Coatings

1. Single Layer MgF₂ Coating

- **Wavelength Range: 400-700 nm**
- **R<0.25% over wide ranges on sapphire, Nd:YAG, and high index glass.**

Magnesium fluoride is probably the most widely used thin film material for optical coating. Its performance is not outstanding but represents a significant improvement over an uncoated surface. Because its index is too low to provide a good impedance match at the air-glass interface.

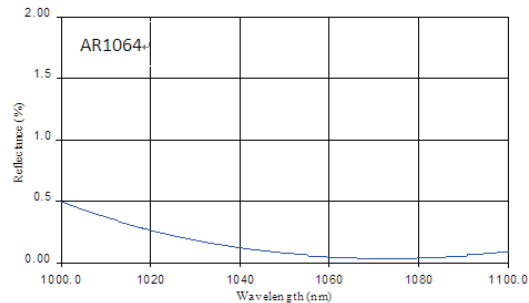
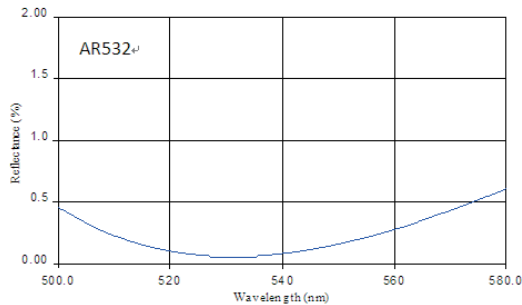


Coating Code: -MF

Note: When ordering, be sure to specify substrate material, angle of incidence.

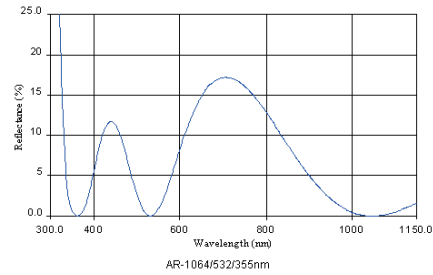
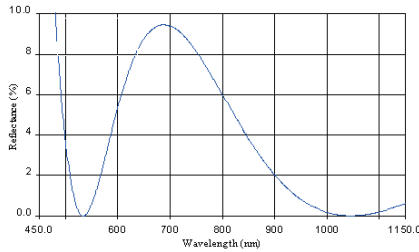
2. V-type Antireflection Coatings

CASTECH offers a full range of V-Coating from 250nm to 3000 nm. This type of coating can attain the lowest reflectivity at the center wavelength, which can be adjusted to your required wavelength and angle.



Substrate Material	BK7 ; UV fused silica etc.		
Damage Threshold	2000W/cm ² 3J/cm ² with 10nsec pulses @each wavelength		
Coating Code	Wavelength (nm)	Angle of incidence	Reflectivity per Surface
AR488	488-514.5	0-15°	R _{max} <0.25%
AR532	532	0-15°	R _{max} <0.25%
AR633	632.8	0-15°	R _{max} <0.25%
AR694	694	0-15°	R _{max} <0.25%
AR1064	1064	0-15°	R _{max} <0.25%

3. Double-V and Triple-V AR



Double-V:

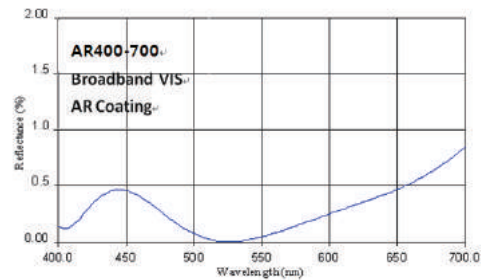
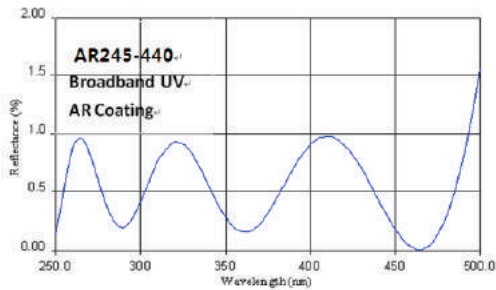
- $R < 0.3\%$ @ 1064nm, 0° incidence
- $R < 0.6\%$ @ 532nm, 0° incidence
- Damage Threshold for Double-V
5 J/cm² @ 532nm
10 J/cm² @ 1064nm

Triple-V:

- $R < 0.3\%$ @ 1064nm, 0° incidence
- $R < 0.6\%$ @ 532nm, 0° incidence
- $R < 1.5\%$ @ 355nm, 0° incidence

4. Broadband Antireflection Coatings

Different from single layer MgF₂ coating, the multilayer antireflective coatings can reach higher transmission for broadband spectrum. Therefore, it is the ideal for a wide range of multi-wavelength laser and white light application. Please notify that the wavelength range and reflectivity of the coating are obviously changed according to the incident angle.



- AR650-1000, AR1000-1550 please see Page 26

Substrate Material	BK7, UV fused silica, etc.			
Coating Code	Wavelength (nm)	Angle of incidence	Reflectivity per Surface	Damage Threshold
AR245-440	245-440 (UV band)	0-15°	$R_{avg} < 0.5\%$, $R_{max} < 1.0\%$	500W/cm ² 1J/cm ² with 10nsec pulses @325nm, typical
AR400-700	400-700 (VIS band)	0-15°	$R_{avg} < 0.5\%$, $R_{max} < 1.5\%$	1000W/cm ² 2J/cm ² with 10nsec pulses @532nm, typical
AR650-1000	650-1000 (NIR band)	0-15°	$R_{avg} < 0.5\%$, $R_{max} < 1.5\%$	1000W/cm ² 2J/cm ² with 10nsec pulses @1064nm, typical
AR1000-1550	1000-1550 (IR band)	0-15°	$R_{avg} < 0.5\%$, $R_{max} < 1.5\%$	1000W/cm ² 2J/cm ² with 10nsec pulses @1064nm, typical



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