Antireflection Coating

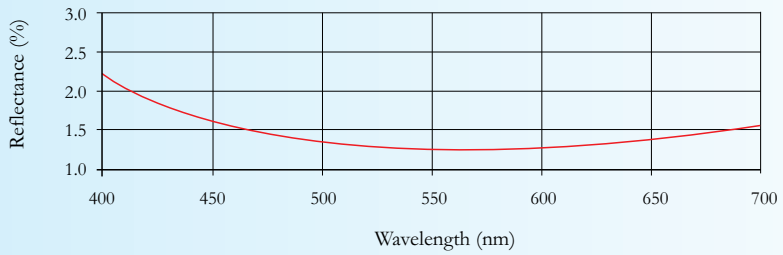
Antireflection (AR) coatings increase transmission by reducing surface reflectance losses and improve image quality by reducing multiple surface reflectance. AR coatings may be applied to many substrate types such as: Glass, Silicon, Sapphire, Quartz and others. These coatings can be applied to flat or curved surfaces such as lenses and spheres.

Now PHOTOP can provide all kinds of antireflective coating as follows:

- Single Layer MgF2 Antireflective Coatings
- Multilayer Antireflective Coatings
- Broadband Multilayer Antireflective Coatings
- Dual Wavelength Band Antireflective Coatings

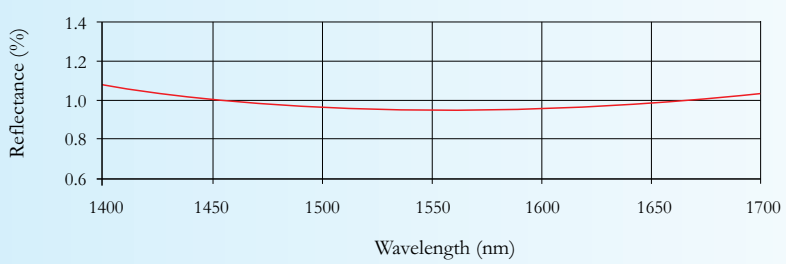
Single Layer MgF2 Antireflective Coatings (SAR):

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



Illuminant: White
Medium: AIR
Substrate: Glass
Exit: Glass
Angle: 0.0 (deg)
Reference: 550.0 (nm)
Polarization: Ave —
First Surface: Front

- R<1.5%@540nm
- R<2.5%@400-700nm



Illuminant: White
Medium: AIR
Substrate: K9
Exit: K9
Angle: 0.0 (deg)
Reference: 550.0 (nm)
Polarization: Ave —
First Surface: Front

- R<1.0%@1550nm
- R<1.5%@1400-1650nm

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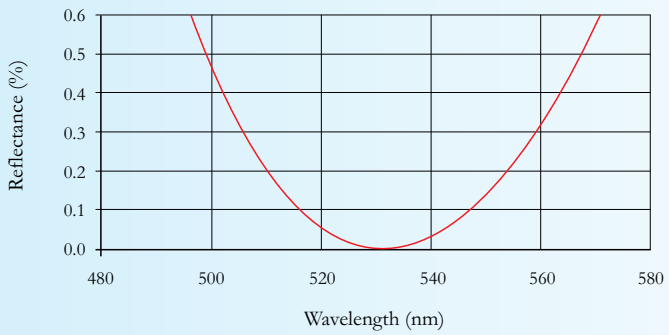
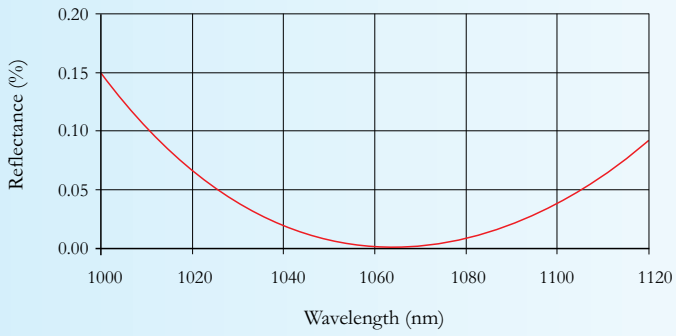
Multilayer Antireflective Coatings (VAR):

Such antireflective coatings can reach the lowest reflectivity at a center wavelength. It is often applied to single laser wavelength or multiple, closely-spaced wavelength system to guarantee the lowest loss for center wavelength. PHOTOP can provide such coating with center wavelength from 250nm to 2200nm. When selecting a suitable multilayer antireflective coating, the center wavelength and damage threshold must be considered.



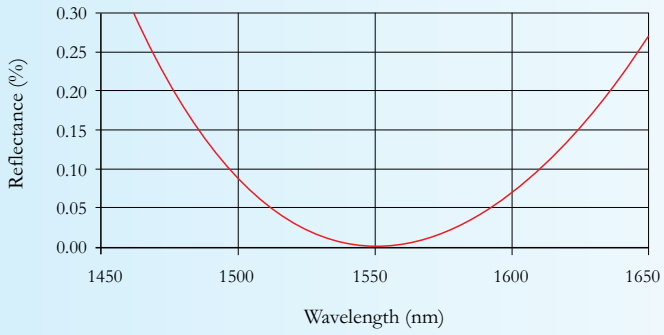
Illuminant: White
Medium: AIR
Substrate: Glass
Exit: Glass
Angle: 0.0 (deg)
Reference: 550.0 (nm)
Polarization: Ave —
First Surface: Front

- R<0.10%@532nm



Illuminant: White
Medium: AIR
Substrate: $Nd:YVO_4$
Exit: $Nd:YVO_4$
Angle: 0.0 (deg)
Reference: 550.0 (nm)
Polarization: Ave —
First Surface: Front

- R<0.10%@1064nm on $Nd:YVO_4$



Illuminant: White
Medium: AIR
Substrate: Glass
Exit: Glass
Angle: 0.0 (deg)
Reference: 550.0 (nm)
Polarization: Ave —
First Surface: Front

- R<0.10%@1550nm

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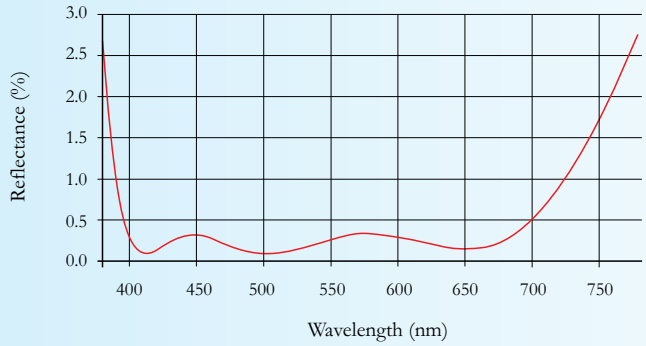
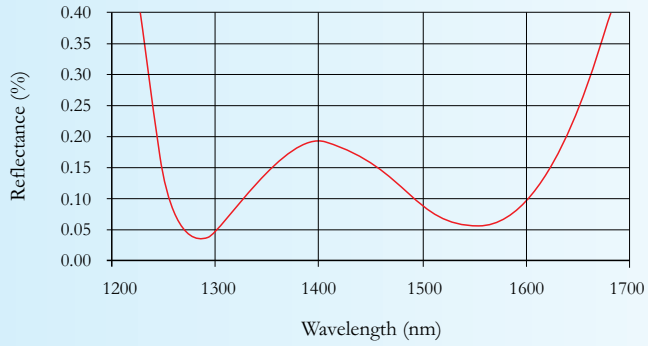
Multilayer Broadband Antireflective Coatings (WAR):

In contrast to single layer MgF_2 broadband AR coating, Multilayer Broadband AR coating can reach higher transmission in broadband spectrum. It is ideal for a wide range of multi-wavelength laser and white light applications. Please notify that wavelength range and reflectivity of the Multilayer Broadband AR Coating is determined by the incident angle.



Illuminant: White
Medium: AIR
Substrate: Glass
Exit: Glass
Angle: 0.0 (deg)
Reference: 550.0 (nm)
Polarization: Ave —
First Surface: Front

- R<0.6%@400-700nm



Illuminant: White
Medium: AIR
Substrate: Glass
Exit: Glass
Angle: 0.0 (deg)
Reference: 550.0 (nm)
Polarization: Ave —
First Surface: Front

- R<0.5%@1250-1650nm

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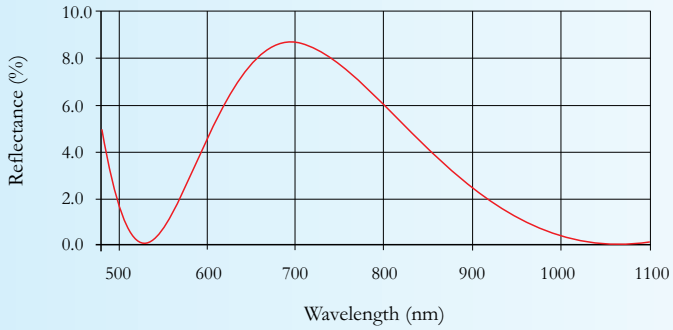
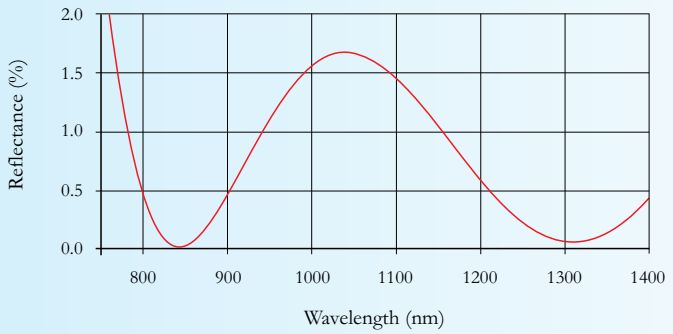
Dual Wavelength Band Antireflective Coatings (DAR):

This coating is designed to provide high transmission at two different wavelength. Dual Wavelength Band Anti-Reflective(AR) Coatings is often used in frequency doubling systems or multi-laser output systems, such as Nd:YVO_4 laser(1064nm) and its second harmonic generation(SHG) of green laser(532nm).



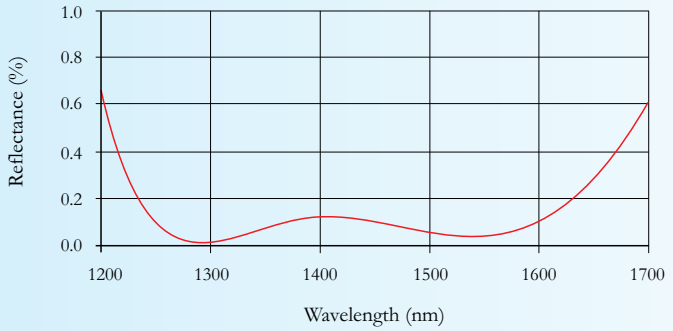
Illuminant: White
Medium: AIR
Substrate: KTP-Z
Exit: KTP-Z
Angle: 0.0 (deg)
Reference: 550.0 (nm)
Polarization: Ave —
First Surface: Front

- R<0.1%@1064nm on KTP
- R<0.4%@532nm on KTP



Illuminant: White
Medium: AIR
Substrate: YVO_4
Exit: YVO_4
Angle: 0.0 (deg)
Reference: 550.0 (nm)
Polarization: Ave —
First Surface: Front

- R<0.15%@850nm on YVO_4
- R<0.15%@1310nm on YVO_4



Illuminant: White
Medium: AIR
Substrate: Glass
Exit: Glass
Angle: 0.0 (deg)
Reference: 550.0 (nm)
Polarization: Ave —
First Surface: Front

- R<0.1%@1310nm
- R<0.1%@1550nm

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