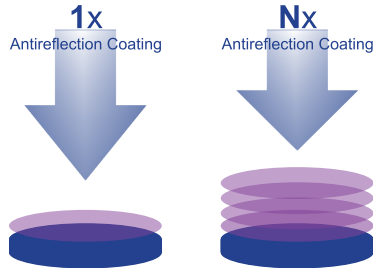




Components With Antireflection Coating

High-Power Optical Signal Connection



SQS uses physical vapor deposition (PVD) technology for application of thin-film antireflection coating to high-end fiber optic components. Antireflection coating (ARC) reduces unwanted back reflections of optical signal caused by discontinuities of refractive index in a transmission line, especially at an air-glass interface such as a fiber endface.

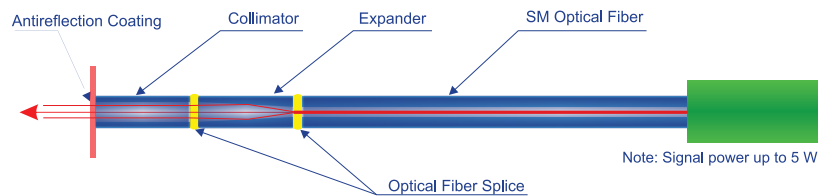
Antireflection coating applied to an optical fiber endface prevents a fraction of the optical signal to be reflected back toward the source. Thanks to the newly developed technology SQS may design and manufacture special fiber optic connector interfaces operating over defined wavelength range capable of transferring high-power signals with low reflectivity.

Moreover, by applying the antireflection coating to polarization maintaining (PM) optical fiber assemblies, SQS may guarantee not only current excellent value of polarization extinction ratio (PER) but also an excellent value of back reflection which makes them predisposed to the most demanding applications, e.g. in sensor technology.

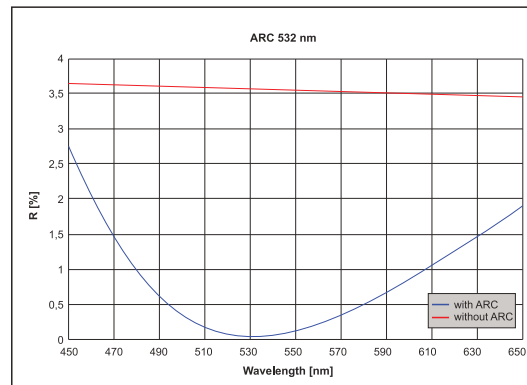
Antireflection Coating Parameters

Type of coating:
Single AR (or "V coatings"), broadband AR and metal coatings (mainly titanium).
Reflections:
AR <0.5% - < 0.1% (accorging to wavelength), for narrowband applications AR<0.05% ("Super -V coatings")
Central wavelength:
532 nm, 840 nm, 1064 nm, 1310 nm, 1480 nm, 1550 nm, 1620 nm (other wavelengths available)
Connectors:
Complete range of fiber optic connectors
Typical examples of AR Coating:
@ 532 ± 20 nm AR < 0,3%, @ 790 ± 890 nm AR < 1% @ 1440 ± 1700 nm AR < 0,5%, @ 1550 ± 20 nm AR < 0,1% @ 1250 ± 1700 nm AR < 0,6%, @ 1310 ± 20 nm AR < 0,1%

High-Power Optical Signal Connection



Reflectivity Chart



Metal Coating

SQS offers various kinds of metal layer deposition especially by Titanium, optionally also by other materials, e.g. aluminium or gold. Metal layer deposition on other substrates is possible on the basis of temperature specifications supplied by customers.

- Layer surface structures of base materials remain unchanged
- Layer thickness is optional from 20 nm to about 2 μm
- Manufactured in ultra-clean environment to enhance product quality

Optical Fibers

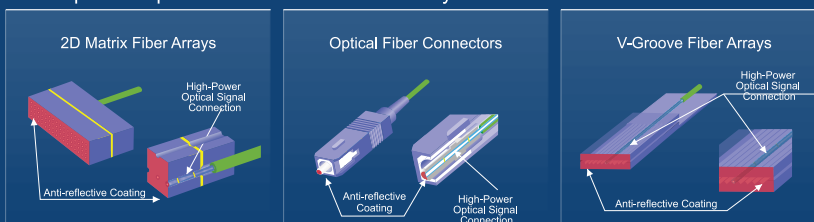
- SM, MM
- Step Index, Gradient Index Profile
- PM (Panda, Bow-tie, Elliptical-cladding) - Laser Fibers

ARC Fiber Optic Components Available

- High-Power Connector Interfaces
- Optical Fiber Connectors
- Lens Fiber Arrays
- 2D Matrix Fiber Arrays

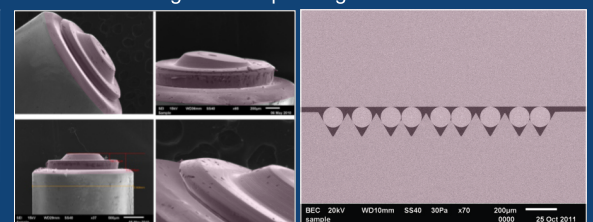
Wavelength Range: PM/SM/MM optical fibers @ 355 nm to 1800 nm

Fiber Optic Components with Anti-Reflective Layer



Antireflection coating applied to an optical fiber endface prevents a fraction of the optical signal to be reflected back toward the source.

Electron Scanning Microscope Images



Diamond Ferrule

V-Groove Fiber Array