

Spectrum Scientific about us



Spectrum Scientific, inc.

Based in Irvine, California, Spectrum Scientific has been manufacturing high volume replicated optics since 2004.

One of our key capabilities is the manufacture of high specification freeform mirrors, off-axis paraboloids and ellipsoid using optical replication, which allows us to supply high volume aspheric mirrors at low cost.

Our monolithic hollow retroreflectors offer high return beam accuracy coupled with insensitivity to vibration and movement making them ideal for use in Michelson type interferometers, FTIR spectrometers and laser based tracking systems.

We also manufacture plane, concave and convex holographic diffraction gratings, which can be supplied as blazed gratings using our proprietary blazing technique, which offers high efficiency with ultra low stray light.

We are ISO 9001:2015 certified and RoHS compliant and also space qualified offering a silicone free production environment.

Diffraction Gratings

- Blazed Holographic Gratings
- Sinusoidal Holographic Gratings
- Flat Field Concave Gratings
- Pulse Compression Gratings
- Telecom Gratings
- Space Qualified Gratings
- Ruled Gratings

Aspheric Mirrors

- Off-axis Parabolic Mirrors
- Elliptical Mirrors
- Freeform Mirrors

Hollow Retroreflectors

- Monolithic Hollow Corner Cubes

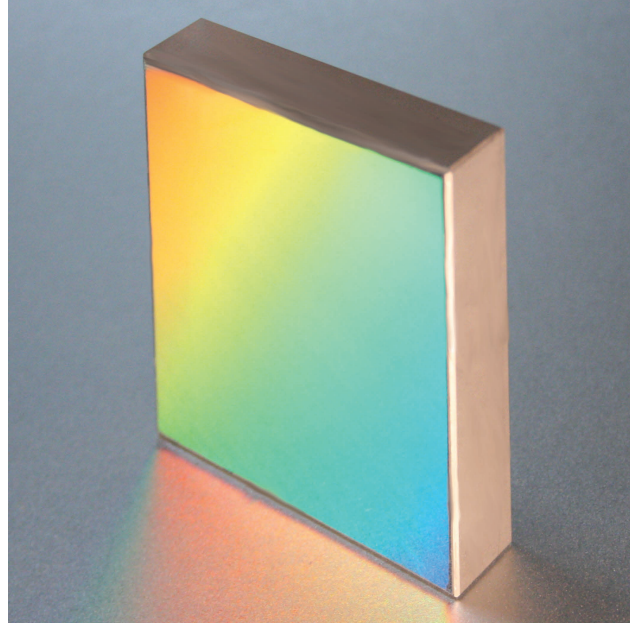


Diffraction Gratings

Spectrum Scientific offers ruled and holographic gratings (sinusoidal and blazed, plane and concave).

Our blazed gratings are manufactured using a proprietary blazing technique which creates a blazed grating with high efficiency and ultra low stray light, some of which have been incorporated in high profile space projects.

Our range of concave gratings include aberration corrected, flat field imaging gratings optimized for the UV and visible wavelengths.



Aspheric Mirrors

Using a state-of-the-art replication process, we offer a cost-effective solution to producing high volume precision aspheric mirrors (off-axis parabolic, elliptical and freeform) with surface figures down to $\lambda/10$ or better.

Available on a wide range of substrates including glass, aluminum and ceramics, often an optical surface can be replicated onto the mounting structure leading to easier alignment and further cost savings.

Our mirrors are available with a range of coatings from 120nm to 10 μ m. Our coatings offer >80% reflectivity in the DUV and VUV regions.

Hollow Retroreflectors

Spectrum Scientific's hollow retroreflectors have a rugged, one piece construction and are manufactured from solid aluminum making them insensitive to vibration, position and movement.

Key advantages of our hollow retroreflectors include the ability to incorporate mounting features and fiducials onto the retroreflector itself for easy alignment giving additional design and cost benefits and a return beam accuracy < 2 arcsec.

Our retroreflectors are supplied with Gold or Aluminum coatings (bare metal or with protective overcoat).