

OPCO

OPTICAL SOLUTIONS

DIFFRACTION GRATINGS

GRATINGS WE OFFER



RULED REFLECTION GRATINGS

Reflection gratings are typically created by grooves scribed on a reflective coating, Aluminum, on a glass substrate. The diffracted light emitted from a ruled surface is reflected at different angles thus creating a spectrum of from ultraviolet to visible and infrared. These gratings are used in monochromators and spectrometers.



RULED TRANSMISSION GRATINGS

A transmission diffraction grating is an optical component containing a large number of closely spaced parallel grooves or lines that disperse light into its component wavelengths by transmission rather than reflection. When light passes through the grating, interference between the transmitted wavefronts causes different wavelengths to diffract at different angles, producing a spectrum.



ECHELLE GRATINGS

Echelle gratings are mostly used in cross-dispersive high resolution spectrometers. Low groove density gratings have groove shape which is optimized to be used at high incidence angles resulting in high order diffraction. The high diffracted orders allow increase spectral dispersion at the detector.



DUAL-BLAZE GRATINGS

This type of grating is ruled similar to a reflective grating. However, the ruled area of the substrate is divided by grooves having different blaze angles, such split will allow a broad usable wavelength coverage. This type of grating eliminates the use of two or more gratings in a monochromator or spectrometer.



CUSTOM GRATINGS

We can design and fabricate masters for custom ruled diffraction gratings to suit newer equipment or unique designs. With custom-manufactured masters, we create the exact grating design you need and replicated it as often as necessary with an exceptional degree of accuracy and repeatability. Our state-of-the-art rule grating engine allows us to provide original equipment manufacturers and equipment designers with high-efficiency results that boast minimal light scatter and no periodic errors.



VOLUME REPLICATION

We offer replication services that allow us to transfer features of optical masters into multiple surfaces for quick, efficient, accurate, and cost-effective replication. The process allows us to reproduce many precision optical components within tight tolerances and high degree of predictability.



HIGH-EFFICIENCY REFLECTIVE COATINGS

We offer a selection of high-efficiency reflective coatings from UV to near IR, such as Al, Ag, Au, Pt. Our enhanced and multilayer as well as Anti-Reflection. Our enhanced Al MgF2 coatings have been proven superior to others and they can be designed for High reflectivity in the UV region.

REPLICATED GRATINGS

BECAUSE OF OUR TECHNOLOGICALLY SUPERIOR MECHANICAL DESIGN, REPLICATED GRATINGS CREATED FROM MASTERS RULED ON OPCO'S ENGINE DEMONSTRATE HIGH EFFICIENCY



REPEATABLE



COST-EFFECTIVE



ENSURES GRATING PERFORMANCE EQUAL TO THAT OF THE MASTER



CONSISTENT FROM INSTRUMENT TO INSTRUMENT

