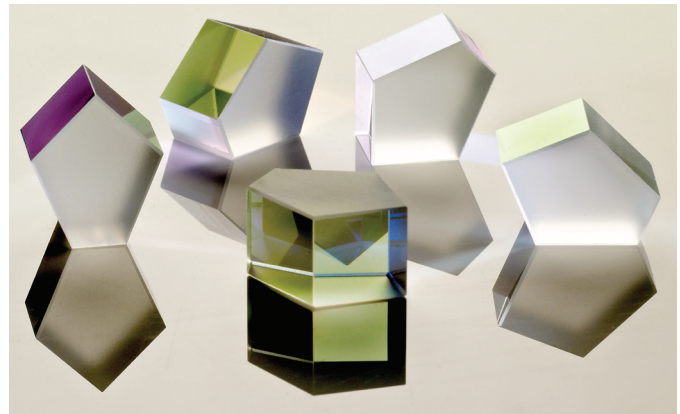




REO Introduces High Damage Threshold Pentaprisms for Laser Applications

These high performance pentaprisms are optimized for demanding laser applications, such as target designation and rangefinding. Specifically, these pentaprisms feature all dielectric antireflection and high reflection coatings manufactured using ion beam sputtering (IBS) technology. IBS delivers fully densified films that exhibit superior laser damage characteristics (over 12 J/cm² in 20 nsec pulses at 1064 nm for the antireflection coatings), as well as exceptional environmental stability and mechanical durability. This makes them particularly well suited for applications in harsh environments, including exposure to salt spray. IBS technology also enables highly consistent production of optical coatings with complex spectral characteristics, including multi-spectral operation, where high performance is required at several widely spaced wavelengths or wavelength bands (for example, both 1064 nm and 1573 nm).



REO pentaprisms can be fabricated from a wide variety of materials suitable for the visible and near infrared spectral ranges, including fused silica, optical glasses, Si, Ge, ZnSe, ZnS and Cleartran. Typical entrance face size range is from 6 mm to 25 mm. These optics also feature low total wavefront distortion on transmission ($<\lambda/4$ at 633 nm), laser grade surface quality (10-5), and high deviation accuracy (≤ 30 arc seconds).

Typical Specifications

| | |
|---|--|
| Materials | fused silica, optical glasses, Si, Ge, ZnSe, ZnS and Cleartran |
| Wavelength Range | 266 nm to 5 μ m |
| Transmitted wavefront distortion (@ 632 nm) | $\lambda/4$ |
| 90° Deviation Accuracy | ≤ 30 arc seconds |
| Throughput | $>99.4\%$ |
| Temperature range | -196 °C to 400 °C |
| Humidity range | 0 to 100% |
| Aperture Size range | 6 mm to 25 mm |
| Surface Quality | 10-5 |
| Clear Aperture | 90% |