

Optimize the Optics for Your High Power Laser Applications



Laser Optics 1 μ m

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CO₂ Laser Mirrors



CO₂ Laser Lenses



High power optics configurations for most popular OEM laser models

Optics for Solid-State Lasers (1 μm)



With the recent evolution of the industrial metal processing market has come fiber laser technology, offering a high energy laser beam, transmitted through numerous optical components.

As a result, optical components are required to meet the highest standards relating to raw materials, surface quality and optical coating. With decades of knowledge and experience in the optical industry and using cutting-edge measurement equipment, we offer first-class optical elements for high power lasers in the 1 micron wavelength range.

Ophir Fiberlens™ Lenses and Protection Windows

All Fiberlens™ products are made from high quality, UV-grade fused silica raw material. The latest polishing technology is used to achieve surfaces with best possible tolerances for power, irregularity and scratch-dig. Coatings are optimized for low absorption, in order to minimize heating and related thermal effects during high-power laser irradiation.

Ophir Fiberlens™ Aspherical Lenses

Aspherical surfaces on collimation and focusing lenses provide improved performance over conventional, spherical surfaces. The shape of the aspherical optics reduces spherical aberration, resulting in a smaller spot size, uniform spot shape and greater depth of focus.

Capabilities

- High laser induced damage threshold (LIDT) coatings 10J/ cm²
- Low absorption 10-50ppm
- %R @1030-1090 < 0.1%-0.2%
- %T @650-670 > 60%-95% (2 sides)

Quality Assured

- Chosen by top-tier laser OEM manufacturers
- Extensively tested and utilized in laser applications above 8kW



Best performance



Superior coating



Approved and used by leading OEMs



Best cost/ benefit ratio

High power optics configurations for most popular OEM laser models

Optics for CO2 lasers



Clear Magic™
Ultra Low Absorption

- Focusing lens made of high quality ZnSe substrate
- **Radioactive-free coating***
- $\leq 0.13\%$ absorption (guaranteed)
- Designed specifically for high power laser systems
- Superior focus stability
- Transparent for red laser pointer
- Longer life expectancy at strained working conditions



Black Magic™
Low Absorption

- Focusing lens made of high quality ZnSe substrate
- **Radioactive-free coating***
- $\leq 0.15\%$ absorption (guaranteed)
- Highest durability available
- Humidity resistant
- Superior cost/benefit ratio
- High resistance to back spatter
- Ideal for cutting aluminum and stainless steel



Duralens™

- Focusing lens made of high quality ZnSe substrate
- High durability
- $\leq 0.2\%$ absorption
- OEM approved
- Available mounted or non-mounted
- Available for all common laser machines



Mirrors

- Copper and Silicon
- Total reflectors
- Phase retarders
- Maximum Metal Reflector (MMR)
- Absorbing Thin-Film Reflectors (ATFR)
- Output couplers
- Rear mirrors
- OEM approved

*Thorium, ^{90}Th free

EZ your laser application maintenance. Prolong its lifespan.



EZ Mount™

- Reusable lens mounts compatible with Amada laser applications
- Unbeatable cost savings
- Minimized downtime
- No tools required
- No Indium wire



EZ Clean™

- Wipes for routine cleaning of optical laser lenses
- Quick and easy to use
- Superior cleaning results
- Disposable, single-use packets
- Resistant to shop contamination
- "No touch" holders available



EZ Test™

- Portable lens stress analyzers
- Immediate problem identification before lens failure occurs
- Non-contact holders
- Replaceable polarizing filters
- No additional hardware required

Ophir Laser Optics

With vast knowledge and extensive experience accumulated over four decades, Ophir Laser Optics Group, an MKS (NASDAQ: MKSI) company, offers a full range of high quality OEM and replacement optics for high power CO₂ laser and 1µm laser applications. Used by leading laser manufacturers around the world, our products meet the highest industry standards and have been widely tested, with outstanding results.

All manufacturing is carried out in-house using automated CNC, patented diamond turning technologies, and advanced, cutting-edge coating processes and measuring equipment. With a global distribution and support network, our commitment to our customers is unparalleled.

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