



NEWSLETTER June 2010

Spherical Mirrors for collimation

NEW for Summer 2010

...*Beryllium/Copper mirrors*

...*Silver coating for 1-5um use*

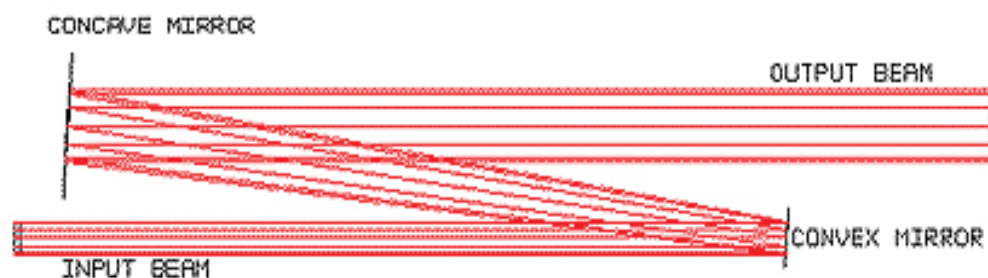
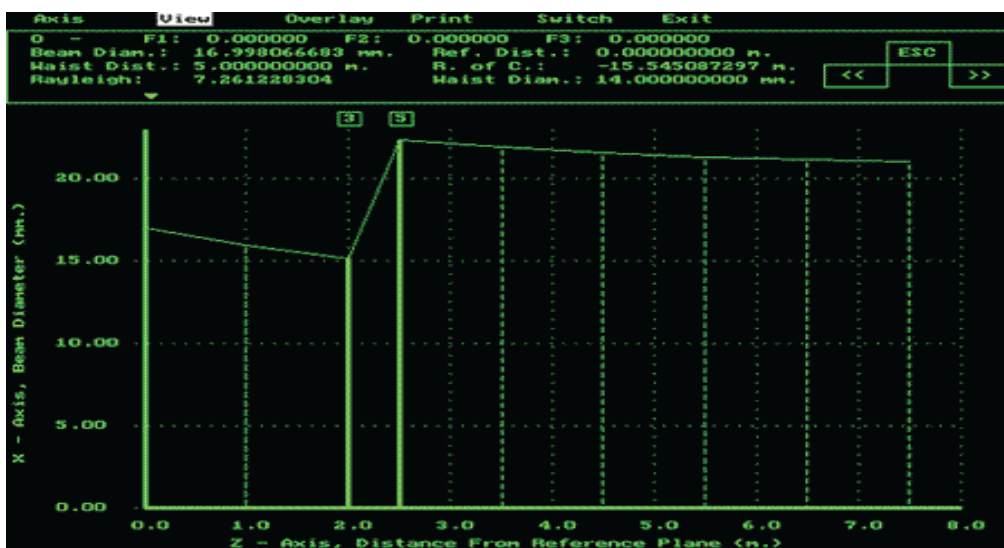
...*Automotive user saves 8,000 Euros reworking CO2 mirrors*

For collimating infrared lasers (like CO2 flying optics cutting systems) a reflective beam expander is a robust device, and is simple to align and adjust. With careful optical design, inexpensive spherical mirrors can be used, and still give near diffraction limited results.

Gold coated mirrors have high reflectivity in the visible **and** infra red, so a visible alignment laser can be used to safely align the beam expander.

We have designed and assembled beam expanders with magnifications from X1.2 to X10, and apertures as large as 125mm. For customers who have their own mechanical capability, we can simply supply the optical design and optical components.

Spherical concave and convex mirrors are also used as rear mirrors in resonators, and in adjustable beam path devices. We have a wide range of tooling for curved mirrors from 10mm Radius of Curvature out to 100 Metres.



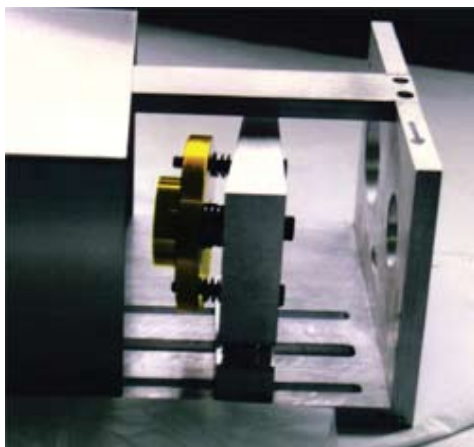
Software design tools for beam expanders

Did you know?

Our chemically deposited Gold coating has a reflectivity that is very consistent with angle of incidence. This means for scanning applications, the reflected power is even across all scan angles. The Gold coating is all also consistent "face to face" for multi facet mirrors, reducing variations in power during scanning.

No tooling or batch charges are made for our Gold coating, even for coating just a single mirror.

Our Gold coating is available on mirrors made from Copper, Aluminium, Nickel, Brass, Beryllium/Copper, and other metals/alloys.



Recent News

Exchange Rates

The British Pound is still great value for customers in the Eurozone and Japan.

Customers using US Dollars will remember it was not so long ago that it cost 2 USD to buy 1 GBP, now it is just \$1.45. That is a dramatic fall so British manufactured goods are now even better value!

In fact there are few countries that have not seen the price of British made goods fall. If you haven't checked your country's exchange rate against the GBP recently, it is well worth it to see the savings that can be made.

Turkish Customers

For Turkish customers our products are entitled to ATR certification which means customs duties are generally zero. We supply ATR certificates free of charge. Please contact us for more details.



Beryllium Copper mirrors with extreme parallelism

Not to be confused with pure Beryllium metal, which as a dust is highly toxic, Beryllium/Copper is an alloy that has useful properties for elastic or deformable structures, such as adaptive mirrors, and deformable mirrors.

We have developed annealing and plating techniques to make highly accurate Be/Cu mirrors that are easily deformable in a controlled way, and elastic enough to return to their original surface form.

To date we have made gold coatings on these types of mirrors, but we think customers will find uses and applications we have yet to think of for these very useful products. Please contact us with your ideas!



Automotive customer saves \$15,000

LBP has seen great success with our campaign to rework used CO₂ laser mirrors. It is the perfect response to the economic crisis and focusses laser users minds on how to cut costs but maintain quality and productivity.

The economic crisis might have eased but why stop saving now? A European auto manufacturer sent us a collection of used mirrors from their production line that had accumulated burns and scratches and had been swapped out.

The mirrors were large, complex water cooled beam delivery mirrors which we repolished and recoated as good as new and returned in under 3 weeks. The customer was delighted:

"We received the refurbished mirrors 3 weeks ago and have mounted two of them in one of our laser cutting machines. We are very satisfied with the results obtained til now because we haven't had any problems with the power of the laser beam. We opened the optical chain and took a look at the 'new' mirrors and they were alright: neither scratches nor other surface defects."



sample reworked mirror

DON'T FORGET For Infra Red mirrors, think Laser Beam Products

We can supply mirrors in many materials including Copper, Aluminium, Silicon, Nickel, Brass and Molybdenum and with a variety of optical coatings including Gold, MaxR, Protected Silver and 1/4 wave phase retarder.

For more information, help and advice or prices, visit our website www.lbp.co.uk or

Call us on: +44 (0)1767 600877