



Worldwide Laser Presents an Applications Report for Laser Cutting

This applications report discusses a number of laser cutting applications including kiss cutting foam, film cutting, fabric cutting, rubber cutting, silicon wafer cutting, greeting card cutting, and piano player music cutting. All applications were performed using Worldwide Laser LP8000 Series Co2, LP9000 Series Nd:Yag/ Fiber Lasers, and LP9000U UV Lasers.

Gilbert, Arizona ([PRWEB](#)) January 26, 2009 -- Worldwide Laser presents an applications report on Laser Cutting

In this applications report we present several different applications for laser cutting; from kiss cutting foam products to cutting completely thru fabric, films and silicon wafers. The use of laser cutting systems from Worldwide Laser has many significant advantages of traditional cutting methods involving knives and punches. Worldwide Laser can provide laser cutting systems to add to existing lines and production facilities or complete turn key stand alone laser stations as required. Enjoy looking over the these laser cutting applications and let us know if we can assist your company operations with some laser cutting or laser marking systems.

Kiss cutting 1.65mm foam -- Cutting pattern off adhesive roll
Foam Pictures Attached on the Right 1-4

In these applications an LP8000 series Co2 laser was used to kiss cut foam. The cut patterns are left on the roll after the uncut material is stripped away. The laser replaces blade cutting eliminating the waste and scrap caused when the blade builds up with glue and also increasing the speed of the kiss cutting. For these applications 60 watts of Co2 laser power was used with a galvo head for beam steering and Worldwide Laser software. The LP8060 utilizes a laser tube from Universal Laser. The five (5) cut patterns on the right were completed in less than 1.5 seconds.

Kiss cutting with lasers is an ideal way to cut any shape or pattern. The power of the laser beam and speed of the beam movement across the product can be varied and controlled precisely so that no burning of the product takes place and material is not damaged. There is no mechanical contact with the product so damage and scrap from physical contact is eliminated. Since the art work for the kiss cut patterns is all computer-driven any changes required to the patterns being cut can be accomplished with a simple click and drag operation on the computer screen. All downtime for change over is eliminated and the cost of mechanical cutting system replacement or maintenance is also eliminated providing substantial costs savings.

Give us a call, send an e-mail, or visit our web site so we can start working together to build the correct laser cutting system for your company's products.

Corner cut with sealed edge -- #3 with writing -- fabric cut-though Pictures Attached on the right 5-9

In this application an LP8000 series Co2 laser was used to cut fabric (.45 mm thick). The laser can cut any design or pattern into the fabric. In picture number 3 above the laser was used to write a name (WLSC) on the fabric to demonstrate how the laser can be used for identification and/or decorative functions. The use of the laser to cut



fabric provides the advantage of 'sealing' the cut edges eliminating fraying of the material, the blade or punch traditionally used to cut the fabric is also eliminated thereby reducing costs for replacement parts, eliminating scrap from improperly cut materials, and because any new cut patterns can be added with just the click of a mouse, down time between cutting jobs is eliminated. The LP8000 Co2 laser system utilized for this job consisted of a Universal 10 watt Co2 laser tube, galvo head, and Worldwide Laser controller software. In order to provide an idea of the cycle time the four patterns in the picture five (5) above were cut in a single pass in approximately 1.0 seconds.

The LP8010 10 watt Co2 laser cutting system was utilized for this project. Worldwide Laser can provide the LP8010 10 watt laser system for integration into existing production equipment or the systems division at Worldwide Laser can build a complete turn key stand alone laser system custom designed for the specific requirements of your company and product.

Thick black fabric -- Thick gray fabric -- Double sided black fabric
Pictures Attached on the Right 10-12

In this application an LP8000 series Co2 laser was used to cut fabric very similar to the application noted above; however the material is much thicker at 2.8mm requiring a higher powered laser tube. In this case an LP8030 30 watt laser was utilized again with a Universal laser tube, galvo head, and Worldwide Laser controller software (All LP8000 series Co2 lasers, LP9000 series YAG/Fiber, and LP9000U UV lasers can be controlled with Worldwide Laser Zap-IT or Pro-lase software).

The laser systems from Worldwide Laser can be added to an existing line or a custom turn key laser cutting system with specific custom software and user interface can be designed, built, and installed by the laser experts at Worldwide Laser. One current Worldwide Laser customer has 18 units of the LP8030 30 watt Co2 lasers arranged across a bolt of fabric approximately 9 feet wide, the lasers cut the fabric as it flows under the galvo heads and custom software controls the speed of the laser beam and the power (wattage) used to match the flow of material.

Give Worldwide Laser a call, send an e-mail, or visit our web site to get started on the correct laser cutting system for your particular project.

Wafer cut with Nd:YAG -- rubber no cuts -- overall cuts -- close up laser cut
Pictures Attached on the Right 11-17

In these cutting applications two different types of lasers were utilized: first an LP9040 series Nd: YAG laser utilizing approximately 40 watts of power coupled with a galvo head and Worldwide laser controller software was used to cut shapes out of the wafer based on an existing preprinted pattern. This wafer cutting application utilized a 160mm focus lens with 7.4" focus distance and 4.3" square cutting field.

In the second application a LP8100 100 watt Co2 laser was utilized to cut out rubber parts from the rubber pad. The system utilized a 100 watt laser tube from Universal laser, coupled with a galvo head, and Worldwide Laser controller software. A 360 mm lens was chosen with a focus distance of approximately 13".



Metal ring cut from plastic sheet -- piano player laser cut -- greeting card laser cut
Pictures Attached on the Right 18-20

In these applications the ability of the LP8000 series of Co2 lasers from Worldwide Laser to cut products for a broad range of industries is demonstrated.

In the metal ring application, a 50 watt Worldwide Laser Co2 LP8050 is used to cut the plastic around the copper rings which have been enclosed in clear plastic sheets. The plastic surrounding the inside and outside diameter of the rings needs to be completely cleared so the rings can be used in access security badges. The application was successfully completed with the Worldwide Laser LP8050 50 watt Co2 utilizing a Universal laser tube, Worldwide Laser galvo head with 200mm focus lens, and Worldwide Laser ZAP-IT laser controller software.

In the piano player application, the LP8050 Laser is utilized again in connection with a custom Worldwide Laser Software program to convert music files & cut the appropriate music notes into a piano player roll.

In the greeting card application, an LP8100 100 watt Co2 laser with Universal Laser tube, custom galvo head & optic for large cutting field (10" square) with a small laser beam spot size is used to cut detailed patterns; (less than 220 micrometers) is used to laser cut detailed shapes for greeting cards and formal invitations.

Laser cutting systems from Worldwide Laser can be utilized for most of your laser cutting requirements.

Let the laser experts at Worldwide Laser design the correct laser cutting solution for your company.

About Worldwide Laser

Worldwide Laser headquartered in Gilbert Arizona and founded in July of 1986 builds Laser cutting, Laser marking, and Laser etching systems. The types of systems are: Co2, YAG, Fiber, and UV (9.3nm, 10.6nm, 1064-1067nm, and 355nm wavelength). Worldwide Laser Co2 (LP8000 series) laser systems are either galvo head or fixed-beam systems utilizing sealed beam Co2 laser tubes. Worldwide Laser is one of the only remaining manufacturers of T.E.A. mask Co2 (LP2000 series) lasers and they can be driven either by spark gaps or thyratrons. In the mask T.E.A. business Worldwide Laser is one of the leading suppliers for new and refurbished parts, T.E.A. laser systems and beam delivery components for Lumonics Laser Mark Series Lasers. Co2 lasers from Worldwide Laser can either be sealed beam or T.E.A. Co2 and can be utilized for high speed and high quality laser marking or laser cutting. Worldwide Laser also builds diode and lamp pumped YAG (LP9000 series) lasers along with Fiber lasers for various laser marking, laser cutting, and laser etching operations. We provide YAG laser systems that range from 6 watts to 600 watts. Worldwide Laser offers Galvo based and Fixed beam laser systems with complete product handling. Newly added are the LP9000U series of UV lasers at the 355nm wavelength which are ideal for many aerospace, medical, and plastic industries applications. Worldwide Laser has installed systems and service operations in 12 countries on 3 continents in addition to the United States. Worldwide Laser offers custom laser controller software & laser consulting and we can provide windows-based laser controller software for all of our Co2, YAG, Fiber, & UV laser systems.

Let the laser experts at Worldwide Laser design and install the correct laser marking solution for your products at



Worldwide Laser we know lasers.

For Additional information contact 480.892.8566 option 5, info(at)wlsc.com or visit www.wlsc.com

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