

Paper Laser-Cutting

Paper-cutting has been practiced for over 1,500 years and is a highly respected art form in many cultures.

Traditional Papercutting Styles; The Hand-cut Look. Think how many cultures have hand-cut paper as part of their artistic heritage. (European, Early American, Scandinavian, Chinese, Japanese...to name a few.)

Wonderful styling can be created by deliberately Grafting an artwork to capture one of these hand-cut looks.

SEI in 1994 introduced the use of lasers for industrial paper cutting systems, making it possible to reproduce highly detailed paper art in large volume.



Kremo - www.kremo.de

Unlike conventional die-cutting, laser-cutting requires no physical tools to contact the paper. A focused beam of pure light energy literally vaporizes the fibers. Think of it as an extension of the photographic process, or as a light-projected image that removes any paper to which it is exposed. Forget every limitation you've ever associated with die-cutting. With laser-cutting, your designs can be fine, very intricate and precisely positioned on the page.



Kremo - www.kremo.de

Combined with printing and other embellishments, the effect can be breathtaking. Yet, most of the population has never seen a single piece of laser-cut paper. We, at SEI, believe the most exciting applications are yet to be discovered and are committed to helping interested clients create them.

Looking for a design element for paper that will grab the audience? How about something that is both visually and tangibly intriguing that will set your work apart from the competition? It takes a special client with a special need, but when the situation is right, this approach is a sure success.



Kremo (D-www.kremo.de-) produces cards like this using SEI laser systems since 1997

Consider educating your clients about the high-impact results that Laser Paper cutting can provide. This relatively new finishing feature creates dramatic and effective pieces that have applications in print advertising, direct mail pieces, business cards, custom invitations, inserts, corporate identity and a wide range of other print media.

Example from the web



Laser-cutting is a dramatic new medium that can be applied throughout the complete range of print advertising and corporate identity materials.

Laser-cut letterhead, envelopes and direct mail pieces can cut through the clutter of ordinary print communication. Laser-cutting, by itself, or in combination with other mediums such as embossing, print and foil, can create an interactive quality to all your corporate graphic communications.

When used in an application, such as a magazine insert, it has the visual impact to stop the reader in their tracks. This stopping power and the added seconds of attention contribute dramatically to brand identification and information retention.

SEI has the know-how of the technology and would be happy to help you apply this exciting new graphic tool to your design needs.

SEI has a full range of products that can be applied for the laser cutting or paper. We can make this dramatic new medium work for you.

Our range of laser systems unique capabilities include precise registration of laser-cutting to print. The level of detail available is truly astonishing, paper cuts as well as the most bold and contemporary visual statements. Pop-up cards and other interactive pieces take on exciting new possibilities. We would be happy to show you how this embellishment can be incorporated into your product mix or new target market.

(produced by Laser Excel-USA)



Single foil, laser-cut paper greeting card.



(produced by Kremo-Germany)

- Paper models
- Paperboard packaging
- Presentation folders
- Stationery
- Trading cards
- Business cards
- Decorative stickers
- Direct mail
- Greeting cards
- Labels and hang tags
- Advertising inserts and breakers
- Annual reports
- Book covers
- Bookmarks
- Greeting Cards & Stationery :
- Card inserts
- Custom corporate Christmas cards
- Invitations
- Laser printer paper

These (to name some) and many others are the items that can benefit of an art-work with laser cutting technology.

Take a look to: LASER ART (produced by Pronty-www.pronty.nl)

The Paper Up collection is laser cut, so that you can use the motifs even more perfect and beautiful, but still in a simple way. A few stings with a knife suffice to release the motifs from the sheet. You can start immediately with your own creation.



How Laser Cutting differs from Die cutting

- Does not weaken stock between cuts
- Low tooling costs compared to intricate dies
 - Detail does not affect cost
 - Tight and consistent registration
 - Eliminates die-cut scrap

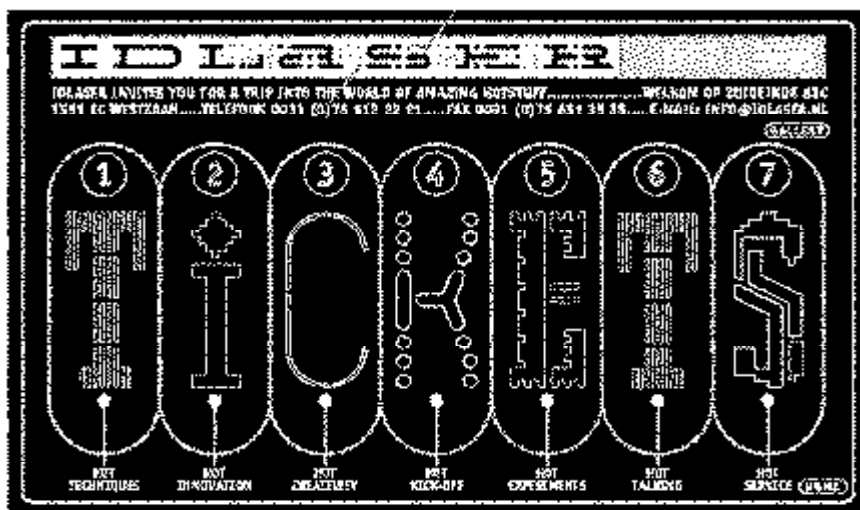


Try do do this!

THE LASER DIFFERENCE...a matter of light touch!

Steel rule dies are difficult to design, slow and expensive to make and greatly limit the geometry you can cut. They are also large and expensive to store. They are efficient for cutting very large quantities of simple shapes, but are impractical for prototypes, small part quantities or fast turn-around.

Due to the large mechanical forces involved, steel rule dies have severely limited lifetimes and must be replaced frequently. Furthermore, design changes cannot be easily handled using dies because a brand new die must be purchased each time a design change occurs. This can be especially problematic and expensive while manufacturing prototypes and short production runs.



Another cool customer
Has a SEI laser for
new amazing ideas.

www.idlaser.nl

Another drawback of mechanical dies is that intricate designs, sharp corners and closely spaced details cannot be easily created using mechanical dies.

All these problems are eliminated when using software controlled laser machining because a laser is a non-contact tool and design changes can be made "on the fly" through software control. Paper products can easily be cut with a laser. The lack of thickness; coupled with their high combustion ability minimizes the power output requirements of a laser to no more than a hundred watts. The resultant edges are clean, precise, and free from burning.

As with a die, paper and cardboard can be stacked while using a laser machine for cutting that's even more efficient. Adhesive backed materials can be also stacked and effectively cut with a laser without gumming up the machine.

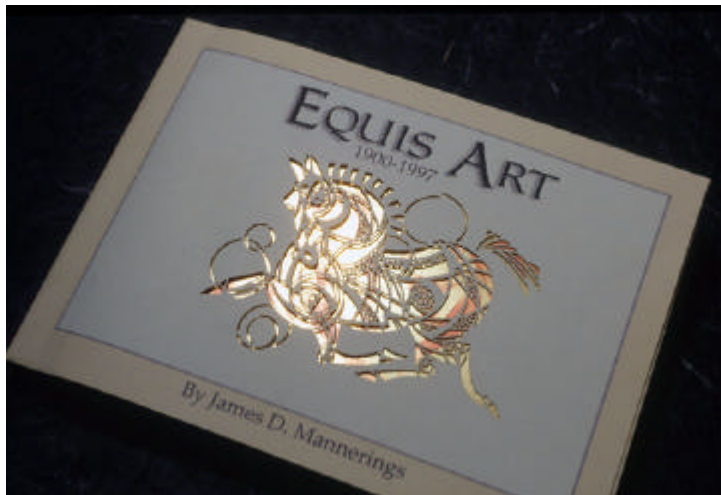
Kiss-cuts of any material are also easy to do, and can be done simultaneously with through-cuts, making laser machines ideal for overlays and labels. Labels can be made to include an additional tab to make the label easier and faster to apply, significantly decreasing application time and increasing value to your customer.

Unlike die cutting, there is no setup, so it's faster for the operator and more cost-efficient for your plant. Our machines generate a cutting path based on the original computer-generated artwork, using the same registration marks used in the printing process. The completely digital process means higher quality, more flexibility, and greater precision—all at dramatically lower costs.

A laser cutting system is an important tool for cutting paper products for many reasons, including:

- **Eliminate costly dies:** No time-consuming setup, no expensive dies, higher quality, and greater precision.
- **Extremely low operating costs:** The machine costs less than \$1/hour to run and maintain.
- **Digital registration system:** Automatic registration of printed parts on existing registration marks assures perfect alignment when cutting.
- **Zero tool load:** Clamping, complex, or dangerous holding methods are not required when cutting with a weightless beam of light. This is also very helpful when cutting small parts.
- **The small tool cut width** (kerf of .006") enables the cutting of any shape that can be drawn.
- **Power control:** The system monitors the actual cutting speed and dynamically adjusts laser power as the speed changes to maintain consistent cut quality.
- **Tool variability eliminated:** Absolute repeatability with a tool that never dulls.

5" x 6" Single-foil table tent laser-cut on 80# laid cover. (produced by Kremo-D)



5" x 6" Gift book cover. Laser-cutting registered to print and backed with foil accent on fly-leaf, then perfect bound. .(produced by Laser Excel-USA)



5" x 8" Magazine insert . Laser-cutting (produced by Kremo-D)

There is an unmistakable enthusiasm at SEI. An energy that arises from a passion for helping our clients build stronger relationships with their customers through products and applications. Every day, we help our clients develop concepts that are being done for the first time. There's a real level of adventure in that sort of collaboration.



We bring our enthusiasm and ideas to your creative process. We also bring our unique systems and expertise. Our customers are often amazed at the edge quality and intricacy that we can achieve in a variety of materials including acrylic, paper, fabric and many others. It is the result of years of experience, teamwork and pride.

We have a variety of laser systems to achieve the results you need, as well as services around the world to provide you with complete support for your next innovation. With this spirit we are proud to present to you today our latest development in Paper Laser Cutting Technology:

Paper Blaster

By SEI La Tecnologia Laser Italiana nel mondo



Paper Blaster , with its SEI proprietary laser system **Giotto CO2 3 AXES** , is a cutting/marking system equipped with state of the art beam steering 3 axes galvo system and with state-of-the-art **CO2 sealed-off** laser source.

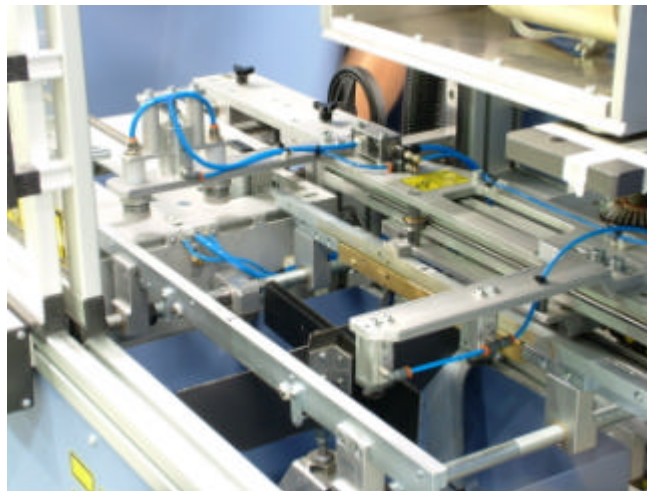
Thanks to its medium/large working area (up to 500x500mm in different configuration and systems) it has been used for laser marking of materials such as marble, anodised aluminium, wood, leather, fabrics, methacrylate and...**PAPER**.

Its main features are fast and accurate execution speed and its generous flexibility.

Thin materials such as wood, **paper**, leather, textiles and others, can be both cut and marked. Giotto disposes of a series of options and it has been produced in many configurations for an easy and specialized use.

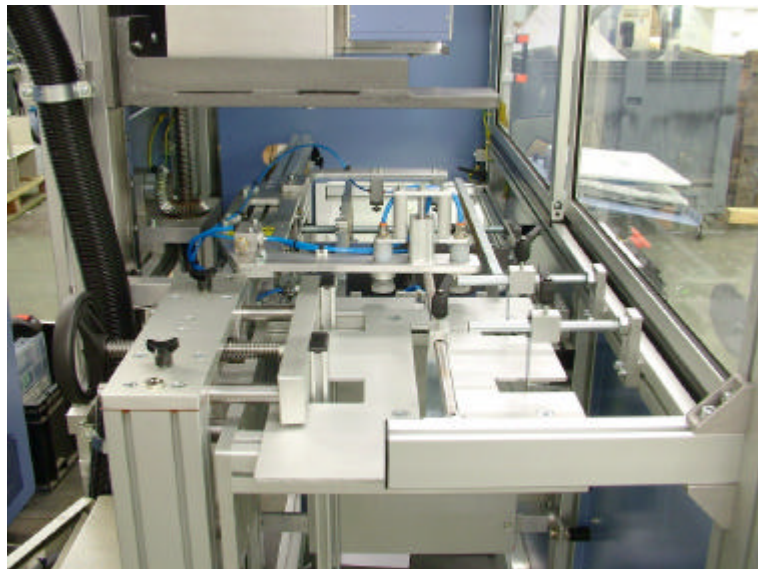
Paper Blaster, is one of the latest customization of the Giotto system and it is the result of the best know-how available in SEI at the present time.

Paper Blaster is equipped with an automatic paper feeding system and a paper loader with a loading capacity (pile) up to 350mm thickness.



Paper Blaster enables the process of paper (coated-uncoated) with a weight from 120 to 300 grams/sqmt , a production rate up to 1000 cycles/ hour (excluded laser time processing), processable paper formats A5/A4/A3/A3+.

Paper Blaster has a pilot red diode pointer for an easy detection of the processing pattern and working area.



The working cycle is automatic and the full system complies with the most restricted laser safety standards thanks to a completely enclosed working area and the presence of redundant safety interlocks, shutters and emergencies.

Paper Blaster, is driven by a standard Personal Computer and by the SEI proprietary software windows based "ICARO" .

Learning curve is very short and the user friendly interface turns the new customer into a skiller operator wihtin few hours.

The user can easily change ,set and store for future uses ,all the work parameters such as power, frequency, marking speed and many others , so that the exact requested effect is achieved in a short time and prototyping is just matter of a test.

Graphics in different CAD formats(*.plt,*.dxf,*.pcx, *.bmp, *.mcl besides machine formats) produced by the most common Graphic CAD available in the market and familiar to any graphic designer can be imported and modified by the ICARO internal editor ans well as the the text can directly be changed and all the fonts resident into the Personal Computer can be used into the art-work.

Hereby a gallery of art-works produced by SEI customer will testify for Paper Blaster.



Paper Blaster does it all!