setting new standards

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laser. marking cutting engraving

Garment Decoration with LaserFlex film

Tips and tricks for using the laser film

1 → What is LaserFlex?

- LaserFlex is a high quality, multi-layered polyurethane film that has been specifically designed for laser processing.
- Decorate textiles with designs of your choice, logos and lettering "screen printing like", both for single pieces or serial products.
- Save time and money: There is no need to vectorize your data or for time-consuming weeding.
- Realize designs that would be impossible to achieve with a cutting plotter.
- LaserFlex is characterized by good opacity and high elasticity.
- Suitable textiles: cotton, polyester, blended fabrics
- Less suitable: nylon, coated textiles
- LaserFlex is available in 8 colors: white, black, red, yellow, light blue, dark blue, orange, green

2 → Creating the Graphic

With LaserFlex film you can create even the most intricate designs and many details within a remarkably short time. You can use both images, i.e. pixel-based graphics as well as vector data. Just use the design of your choice.
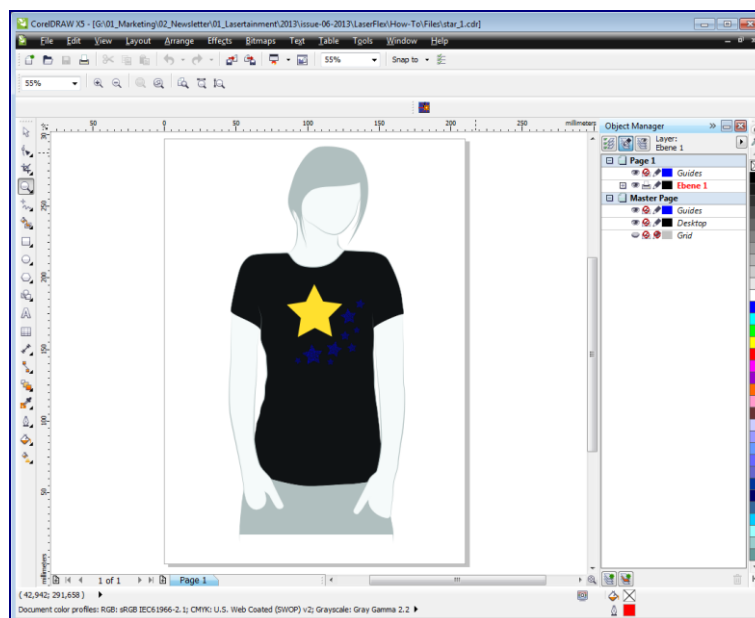

Fig. 1: Design of your choice on a T-shirt

After just a few clicks your design is ready to be sent to the laser: The design must be inverted for laser engraving, i.e. the visible design remains and all other areas are removed by the laser. To do this simply invert the black

design color to white and place a black background behind the design. Ideally this black area should match the size of the design as closely as possible and protrude by only a few millimeters.

This will avoid dust as well as reduce engraving times. In addition add a red cutting line to the black area. Furthermore, material savings can be made by arranging designs of the same color close to each other.
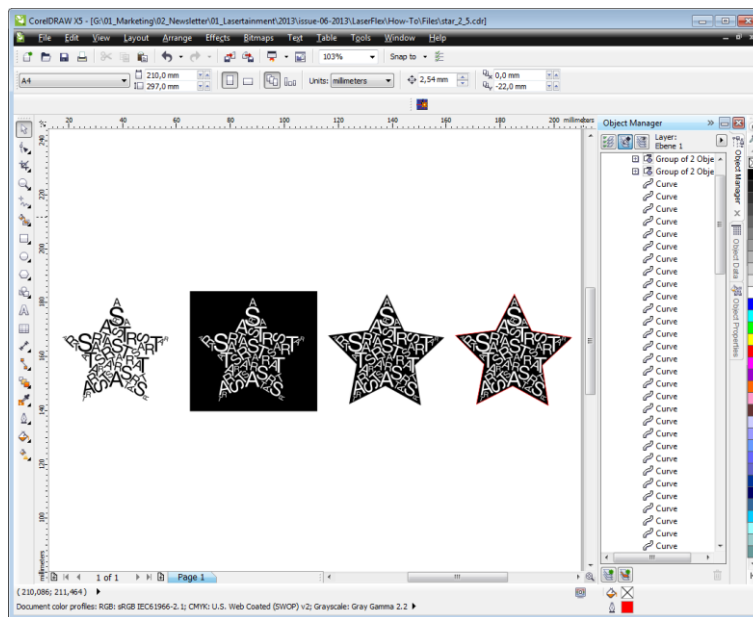

Fig 2: Invert and optimize the graphic

Tip:

By pre-rastering gray levels impressive hatch areas can be produced, which cannot be created with conventional cutting plotters. "Halftone" rasters in the range of 15 lines per inch in particular produce stunning results.
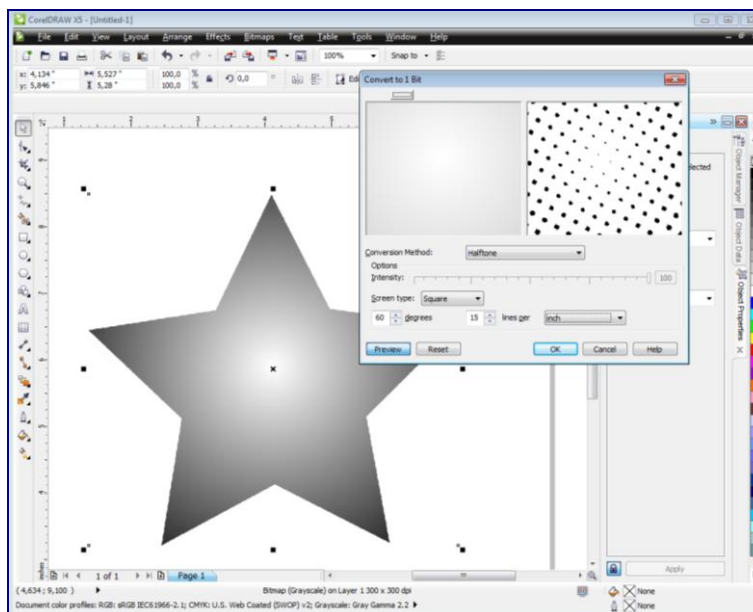

Fig. 3: Rastering of grayscale gradients

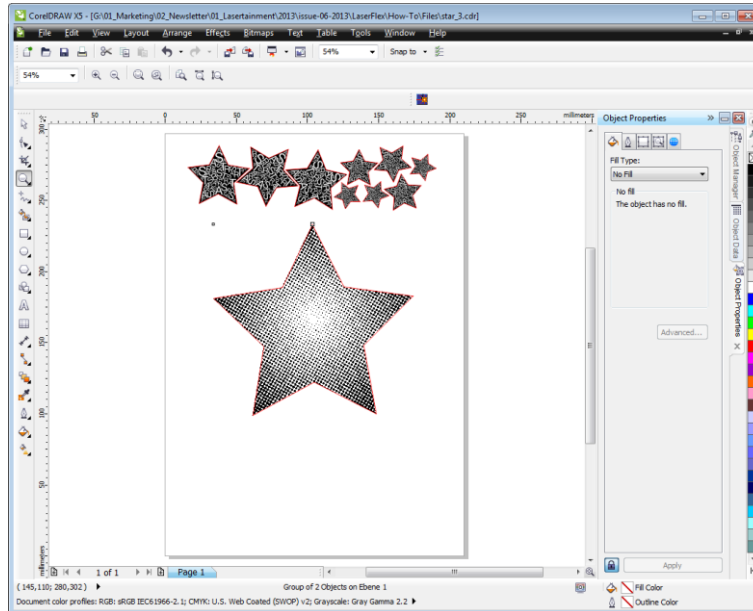Material savings can be made by nesting designs of the same color.

Fig. 4: Processed gaphics file ready for laser processing.

| **2** | → | **Tips and tricks for laser processing** |

Optimal laser settings vary depending on the laser power level and the speed of your laser plotter. Below you will find settings for a Speedy 300 with a power level of 60 watts:

Engraving: P = 40%, V = 40%, dpi/PPI = 600

Cutting: P = 30%, V = 4%, Hz = 1000

Depending on your quality requirements, you may also use lower resolutions, such as 333 dpi. This will cut processing times in half compared to 600 dpi. However, for areas that are to be engraved extensively as well as for small fonts (3-point) this can lead to a reduction in quality.

We recommend processing from the bottom up while using the highest possible exhaust power level. This way any dust produced is no longer drawn across the already laser processed area. The engraved image remains dust free and does not need to be cleaned afterwards. In the JobControl Laser software package use the following function to engrave the plate from the bottom up ("Plate", "Plate setup" and "Start position bottom").
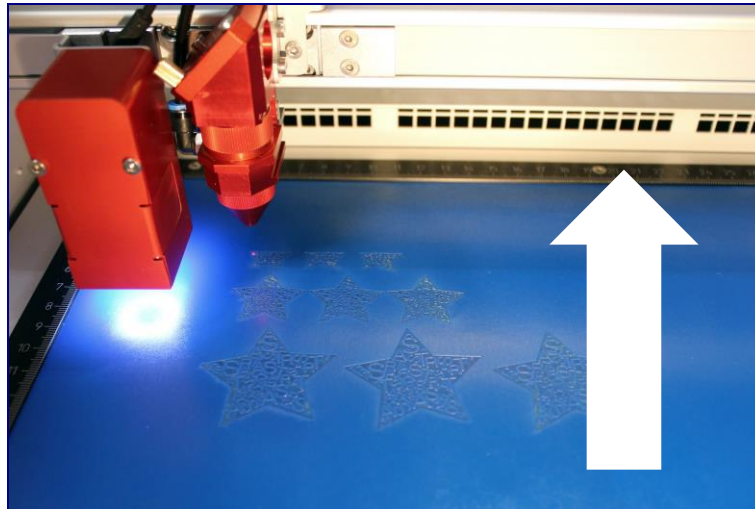
Fig. 5: Engrave the design from the bottom up.

Tip:

LaserFlex film tilts to warp due to delivery on rolls, temperature fluctuations and increased humidity (Please follow manufacturer's instructions for storage!). For a good laser processing we recommend to use the vacuum table. It holds the film flat. Therefore the film is always in the focus of the laser beam during the processing.

3	→ **How to apply LaserFlex to your textiles**

For an optimum application of the finished laser film on the textile use a standard thermal transfer press. This guarantees an efficient, uniform and permanent application of the film.

Transfer the engraved and cut designs by applying them to the textiles for about 17 seconds at 165 °C. To do so place the T-shirt into the heat press with the side to be printed facing upwards and position the engraved applications on the T-shirt with the lasered side facing down.

Fig. 5: T-shirt in the transfer press

Quickly peel off the liner while the LaserFlex film is still hot. No difficult and time-consuming weeding is required.

Fig. 6: Remove the liner while hot

Fig. 7: Finished product

Fig. 8: In this way even detailed designs can be realized quickly