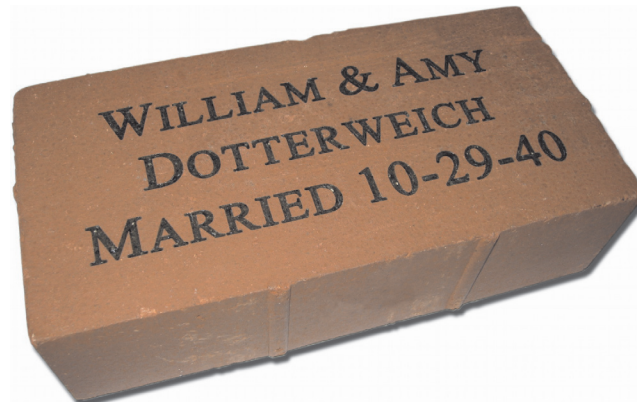
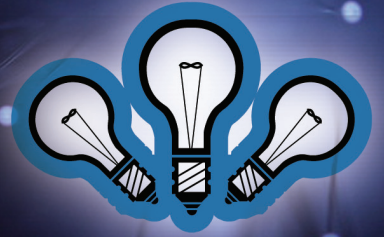


APPLICATION TIPS



Bricks

Introduction

This application tip will explain the process of laser marking bricks.

Bricks can be laser marked. This tip sheet will describe the process on how this can be accomplished. There can be difficulties running this process and not all brick will produce a contrast mark using a Co2 laser system.

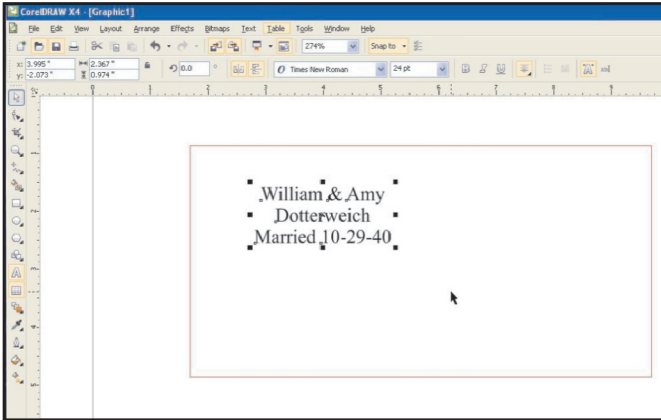
Overview

When the correct type of brick is laser marked, the CO2 laser heats up the clay in the brick turning the clay to black glass, producing a stunning dark mark. The laser mark will not produce much depth into the brick, but it is enough to produce a permanent high contrast quality image.

Notes:

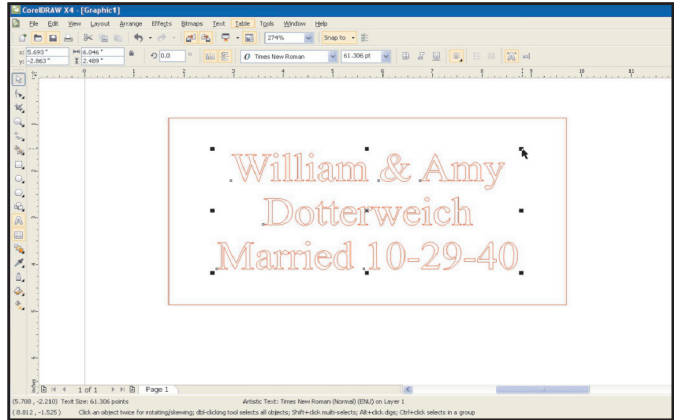
- Only clay based bricks will work with the laser, typically used for decoration or edging, they are very smooth versus the concrete version used in structural bricks.
- Clay based brick can be purchased at most home improvement stores such as Home Depot® and Lowes®.
- For brick made specifically for laser marking you can go to www.lasersketch.com
- Only darker colored bricks such as the color red will produce a dark contrast mark with the laser system.
- 50 watts of laser power and more is recommended for this application.
- Air assist or the 4.0" lens accessories are highly recommended.

BRICK MARKING

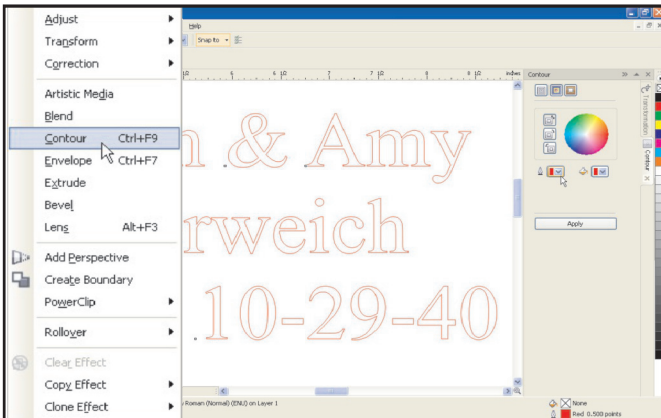


1. Design file in vector based graphic software such as CorelDRAW or Adobe Illustrator.

-This sheet will use CorelDRAW as the example

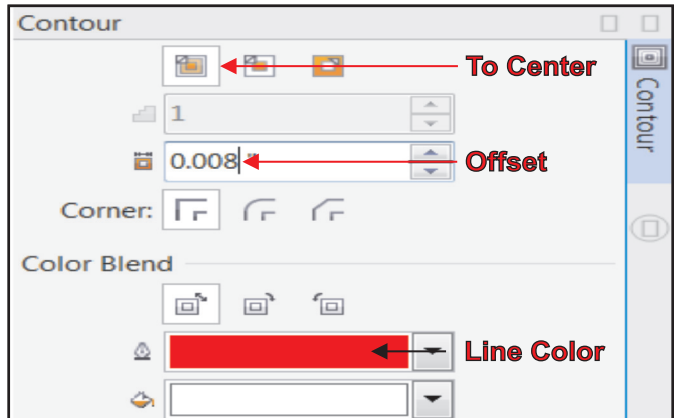


2. Convert vector based image to an outline



3. Use the “Contour” feature in your drawing software to contour the outline. Set contour color to match outline color.

Contour Quick key in CorelDRAW is Ctrl+F9



4. Change the contour “To Center” Change the “Offset” to 1/3rd larger then the spot size diameter of your lens. (Examples in step #5)

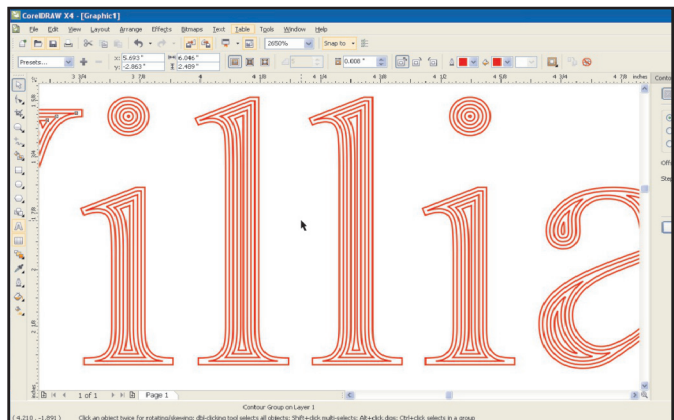
HPDFO and 1.5” Lenses are not recommended

5. Offsets are determined by the lens you are using on your laser system, change the offset to the number below for step 4 in the “Offset” section based on the lens you are using:

- 2.0” lens should be 0.008”
- 2.5” Lens should be 0.010
- 3.0” lens (ILS only) should be 0.012
- 4.0” lens should be 0.015

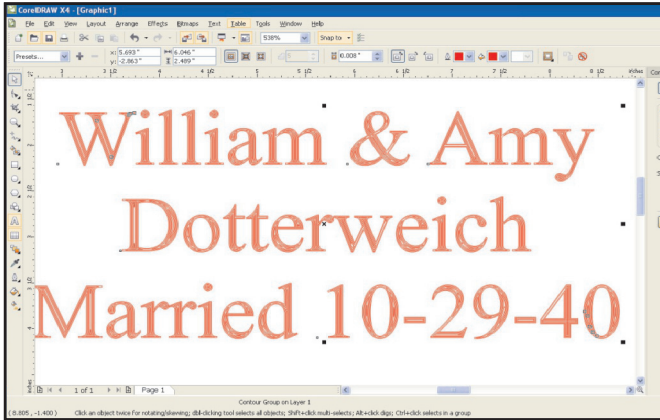
Larger offsets can be accomplished by taking laser out of focus, the more out of focus the larger the offset, This will increase speed but reduce quality.

Note that as you take a lens out of focus it will require more power or less speed to produce the dark mark onto the brick.



6. Apply your contour to produce multiple vector lines offset to the center. This process will produce a “Tool path” for the laser to follow as it vectors each line to produce enough heat to melt the clay.

BRICK MARKING



7. Run Finished file on your Laser System.

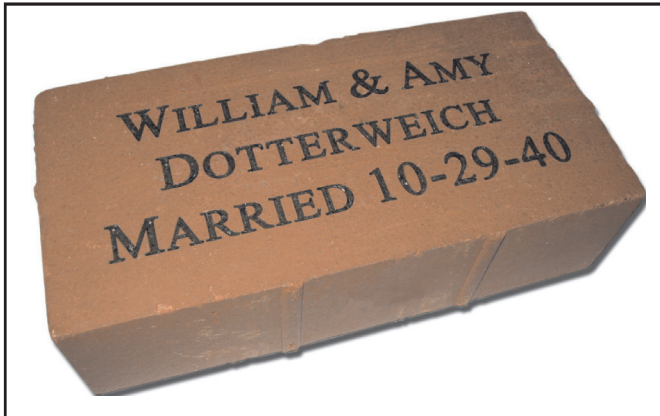
NOTE There is no materials database preset for Brick, this is an advanced application so manual setting are required.

8. High laser power is needed to produce enough heat to melt the clay into glass, this is why standard engraving will not work for this kind of application.

Recommended starting settings:

- 150 watts 100% power, 12% speed
- 120 watts 100% power, 10% speed
- 100 watts 100% power, 9% speed
- 75 watts 100% power, 7% speed
- 60 watts 100% power, 6% speed
- 50 watts 100% power, 5% speed
- 40 watts 100% power, 4% speed
- 30 watts 100% power, 3% speed

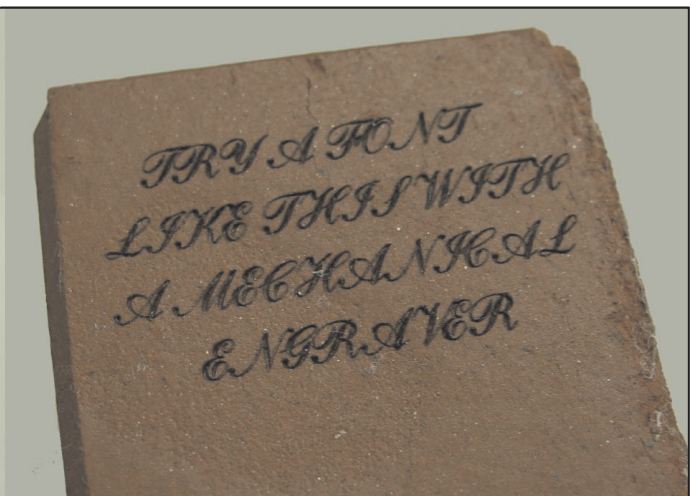
Settings will vary on each brand and color of brick, testing settings is recommended.



9. Finished Brick



10. Closeup of laser mark



Examples