Laser Processing Guide: Engraving Glass

Glass can be a difficult material to engrave because of its tendency to chip or flake. This guide will cover how to adjust settings to properly work with glass to achieve a crisp, consistent mark.

Standard Method

Unlike most materials, contrast in glass is achieved by creating micro-fractures in the glass's surface. By properly controlling the laser's intensity, these fractures can be created without causing chips or flaking.

1. Begin by altering your logo or text to a 60% grayscale fill with a black hairline outline. This will cause the Print Driver to halftone the image and produce a patterned engraving less likely to chip.

2. Place and align the glass in the system. Engrave the grayscale graphic using standard Database settings for glass. A 2.0, 1.5, or HPDFO lens can be used for this. The 1.5 or HPDFO will give the best results and highest detail.


3. The engraved area should have a patterned appearance and should not flake when rubbed over. If flaking does occur, lower the power setting to achieve a more consistent look.

Note: See the Color Fill Processing Guide for information on adding color to your engraving.

Deep Engraving

Deep engraving into glass can be achieved with an HPDFO lens and a bit of patience. Follow the instructions for standard glass engraving. Once the glass has been engraved, do not move it. Simply start the job again using the same settings to run a second pass of the laser. Continue running passes until the desired depth is reached.

Note: It may be helpful to use a wire brush to remove debris between passes. Tape the glass to the table before beginning the job so that it will not move during this cleaning process.
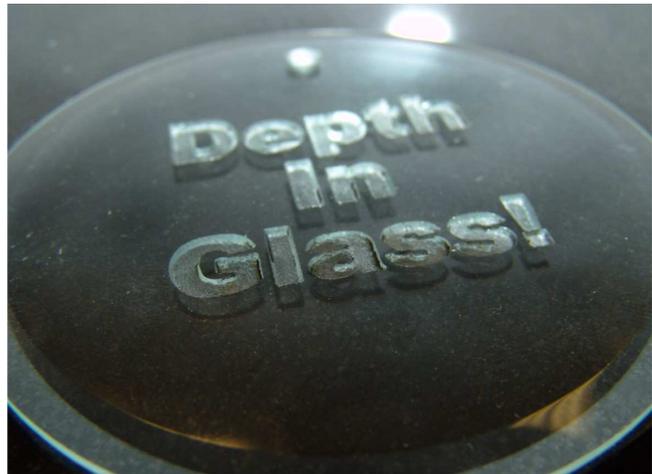
Special Techniques

There are two special techniques that can be applied to glass: inlay and color fill. Please refer to the Color Fill Processing Guide for more information in adding color to glass.

Inlay into Glass

1. Use the deep engraving method to achieve a depth equal to the thickness of your inlay material into the surface of the glass.

2. Return to your original graphic to create a cut file for the inlay.

3. Once the inlay is cut, apply glue to the engraved surface of the glass. Use transfer tape to move the inlay into position on the engraved glass. Allow the glue to set and remove the transfer tape to reveal the finished piece.