Ezcad3 2.5D Marking

User Guide

Version 1.0 (2022.09)

PREFACE

Dear Customer:

Thank you for choosing Cloudray Laser System.

This fiber laser marking machine is intended for personal and professional use.

Cloudray is committed to providing the highest level of customer satisfaction and support. To ensure a favorable customer experience, we urge you to thoroughly read the documentation provided with your equipment.

Your satisfaction is essential to us, and we welcome your feedback. Tell us about your experience with Cloudray Laser Systems and our products.

Should you have any questions, please email the Cloudray Support Team.

Again, thank you for choosing Cloudray.

Sincerely,

Cloudray Laser

Cloudray cannot be held responsible for any direct or indirect damages, which result from using or working with the products electric circuits or software described herein. The apparatus must be used only by trained and skilled personnel. Before use the manual should be read and followed carefully.
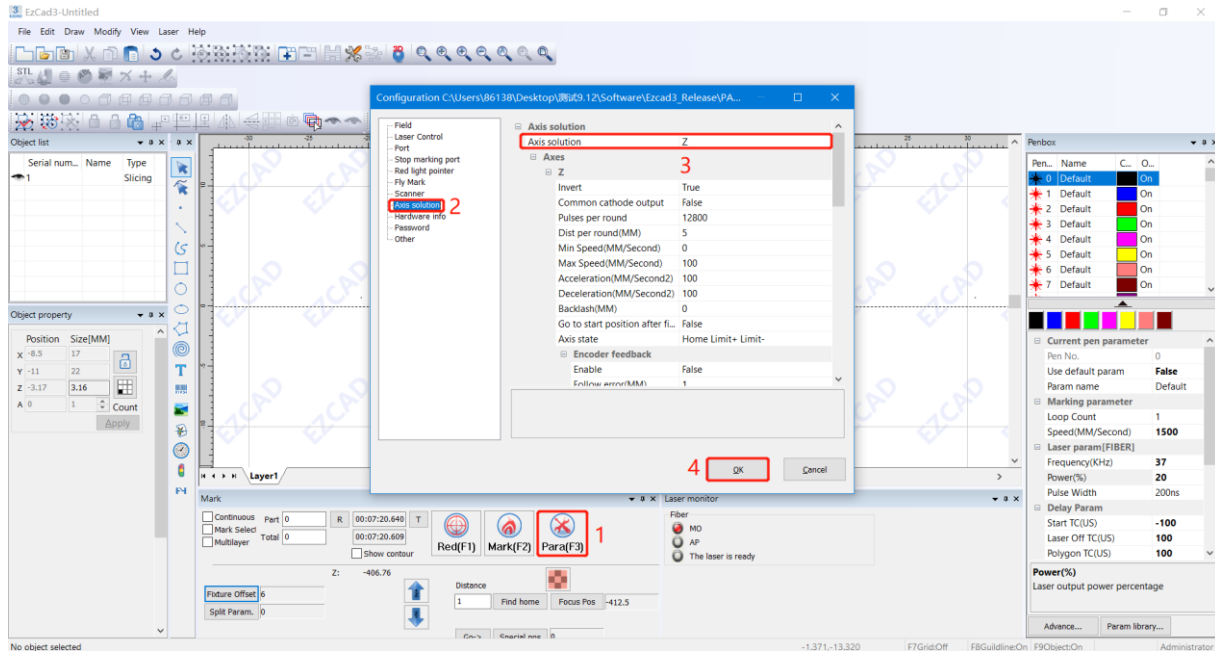
Furthermore, Cloudray reserves the right to change or alter any product described herein without prior notice.

Important: Following steps are the operation steps after the laser control and the galvo control are normally debugged.

1. Set extended axis parameters

● Para(F3) >> Configuration parameters >> Extended axis solution >> Z Axis >> OK.

➤ Number of pulses per revolution: the number of pulses set on the driver: such as common 6400, 12800, 20000, etc.

➤ Movement distance per revolution: usually the pitch distance of the lead screw.

➤ Reverse: control the forward and reverse movement of the axis;

➤ Common cathode output: Choose whether to output common cathode according to the actual wiring method, and choose differential output otherwise;

➤ The number of pulses per revolution: the number of pulses required for one rotation of the extended shaft motor, and the number of pulses per revolution required by the software is calculated by the following formula X, $X=(360/N)\,n$

➤ Among them: X represents the number of pulses per revolution; N represents the step angle of the motor; n represents the number of subdivisions set by the driver;

➤ Movement distance per revolution: the linear movement distance of the corresponding axis when the extended axis motor rotates once

2. Import 3D Files

- Click ![3D] icon in the creation bar at the top of the software to enter the 3D mode.
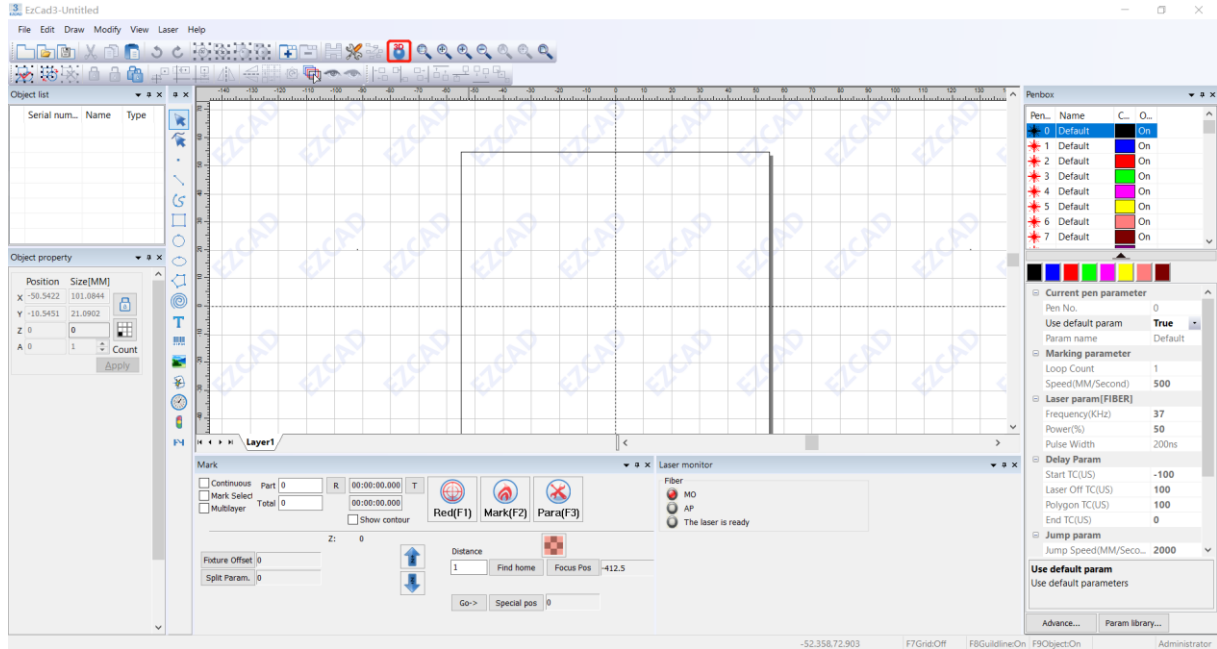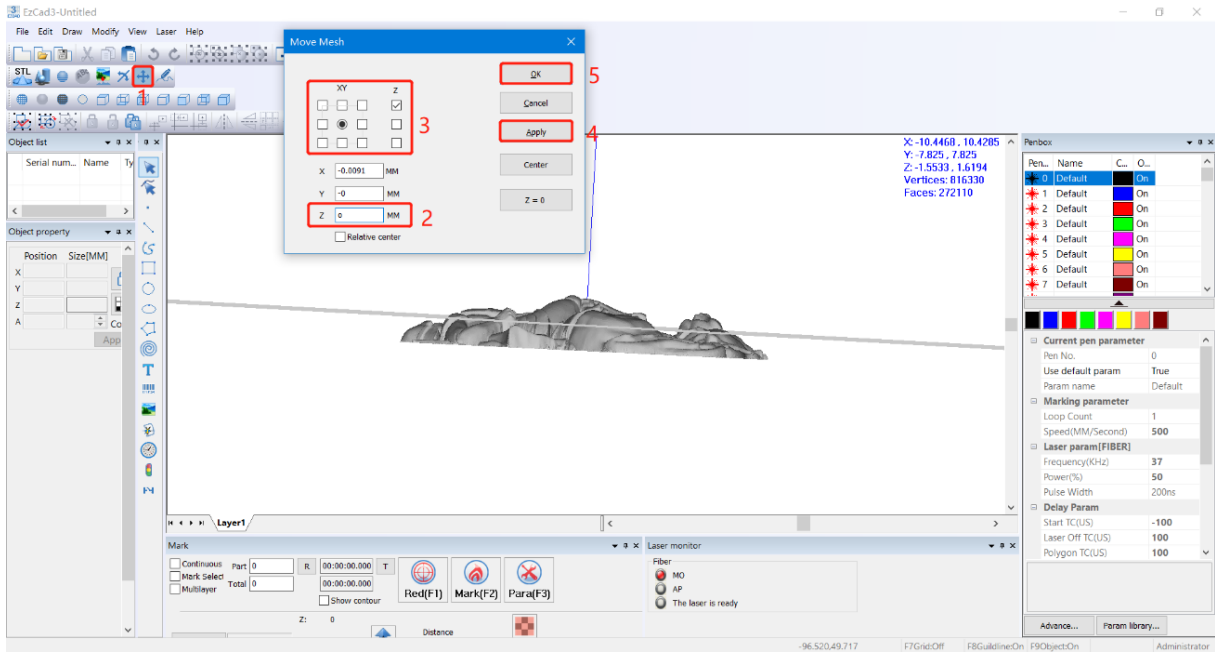

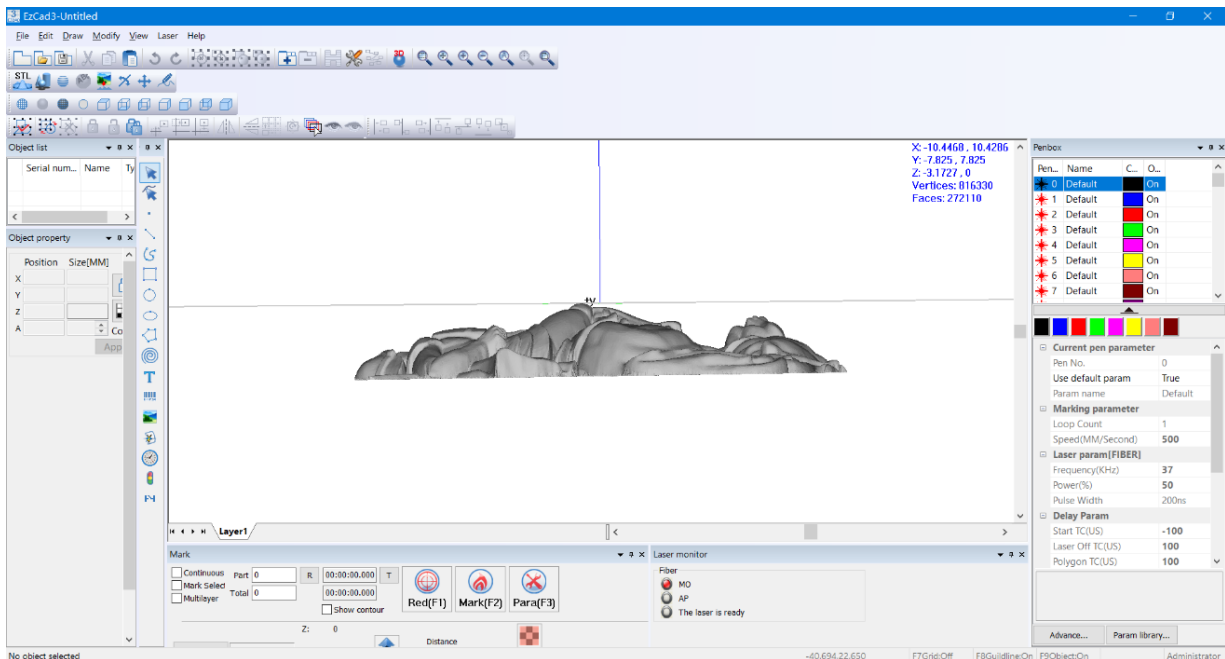- Click ![STL] icon to import the STL format file.
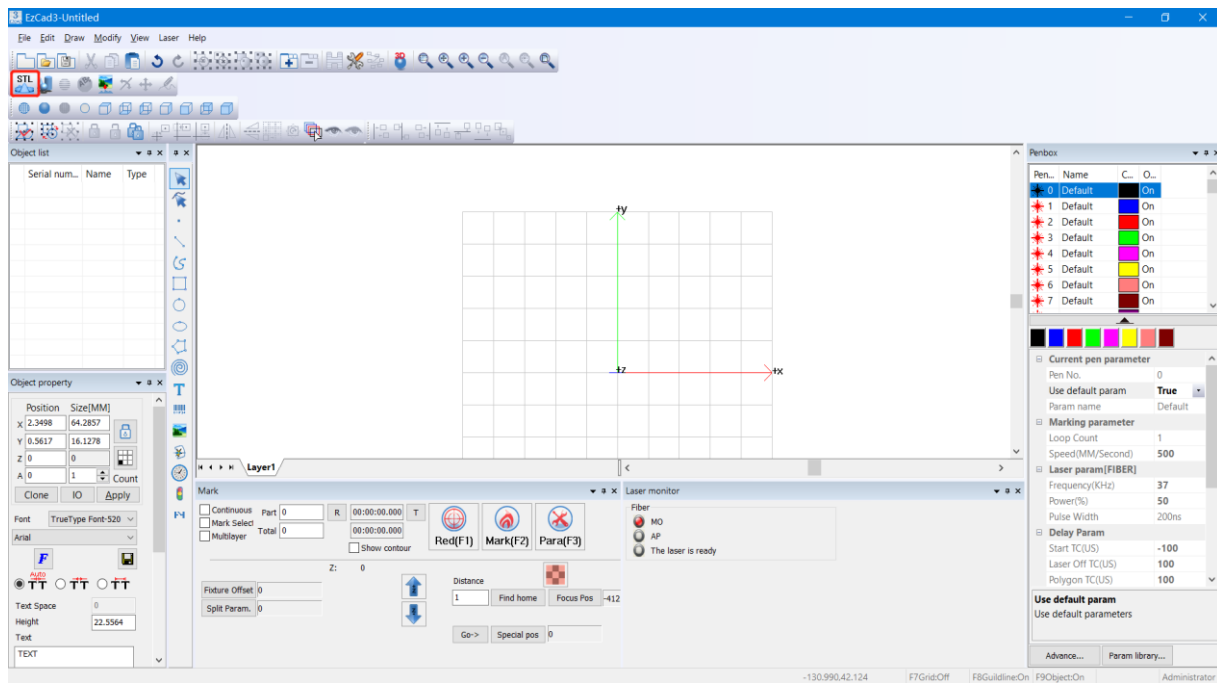
3. Adjust File Location

- Click to translate surface:

    Z: 0mm >> XY- center, Z- top >> Apply >> OK.

- After adjustment, the file is moved below the surface, as shown in the image below.
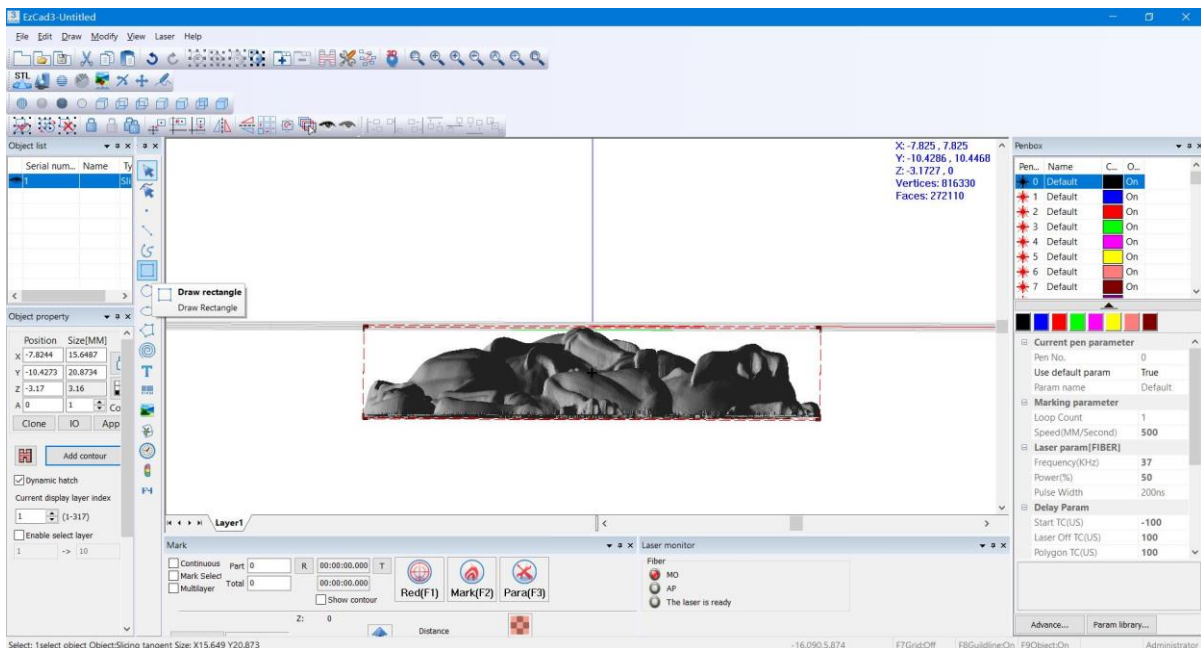
4. File Layering

- Click [icon] set the depth to be marked, and set the maximum and minimum values respectively.

  * Z value from large to small: You can change the processing direction, whether it is from top to bottom or from bottom to top.

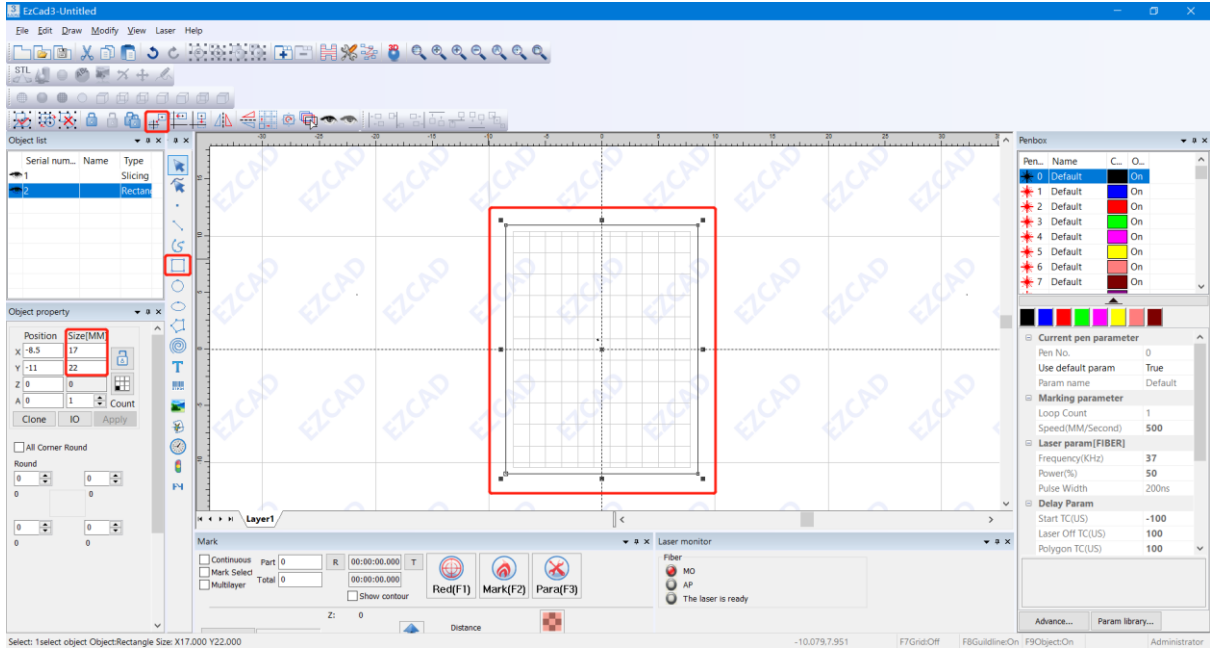 *Thickness: The depth of a layer of markings processed by the laser.
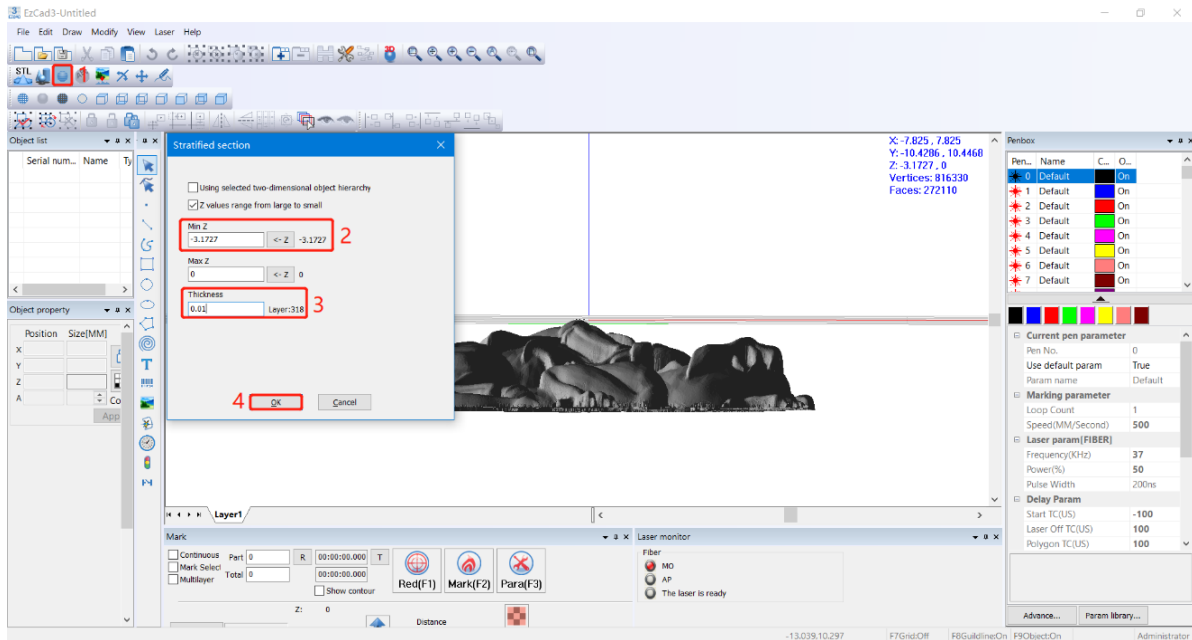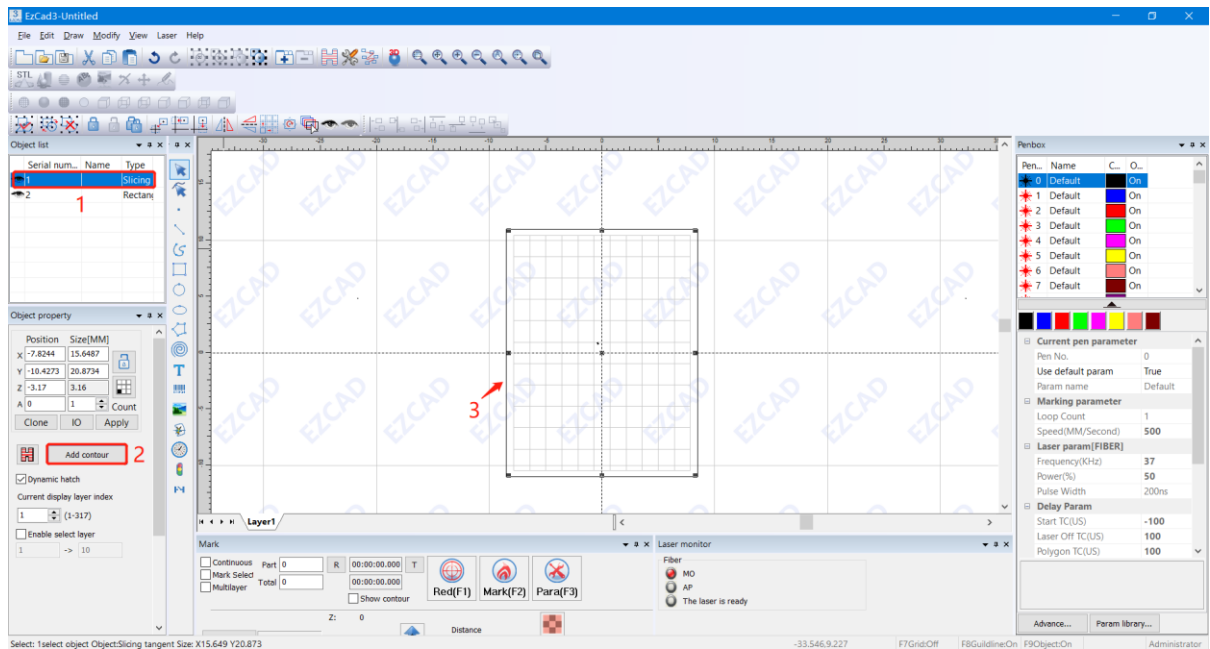

- The effect after layering is shown in the figure.

5. File Add Contour

● Create a new rectangular outline, modify the size, and center the contour.
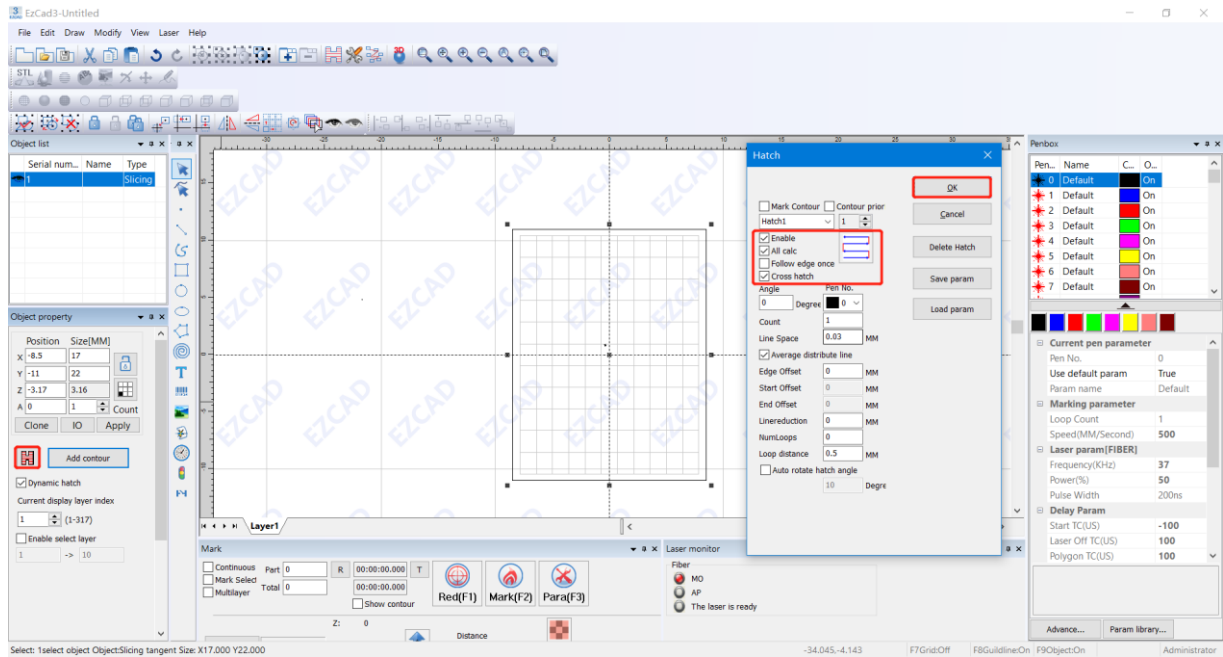

● Click left side object list #1 object (3D file), click add contour, and click "contour", finish add contour.
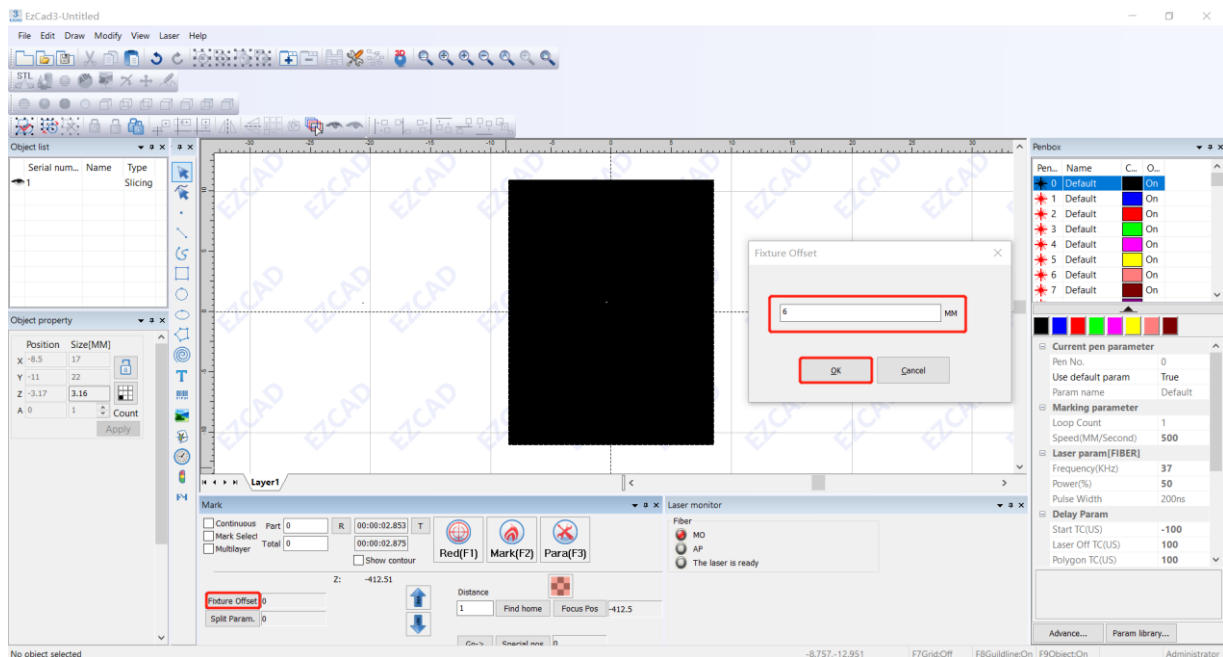
- Select contour filling: Click hatch >> Enable, all calc, cross hatch >> Choose hatch type >> OK.
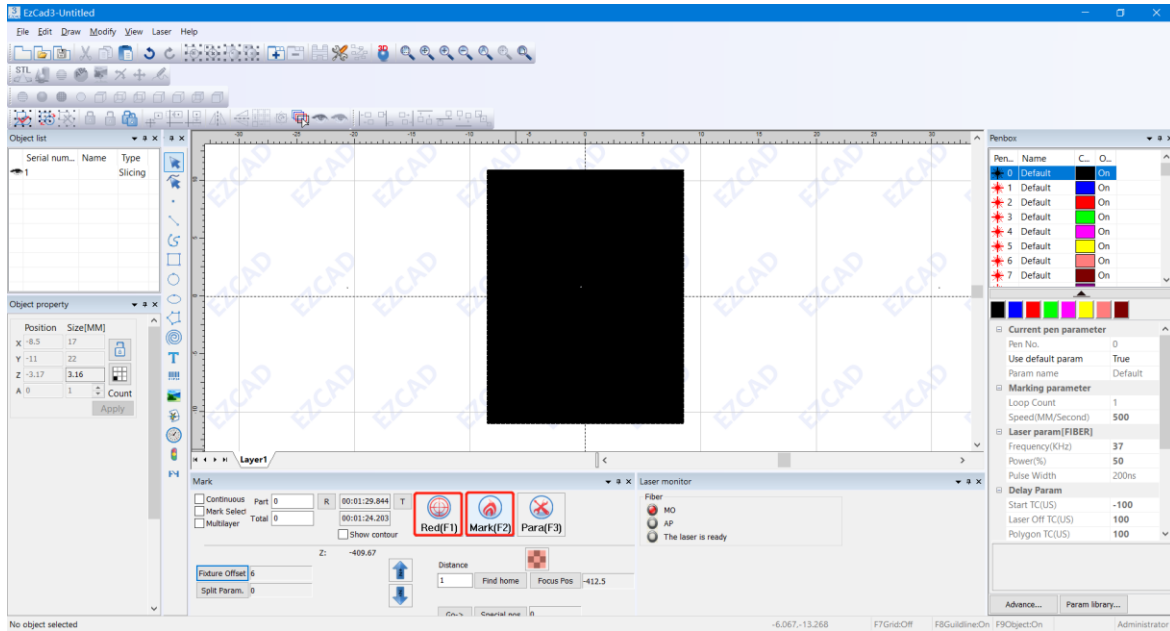

- Measure the thickness of the workpiece, click "Fixture offset", and enter the measurement value.
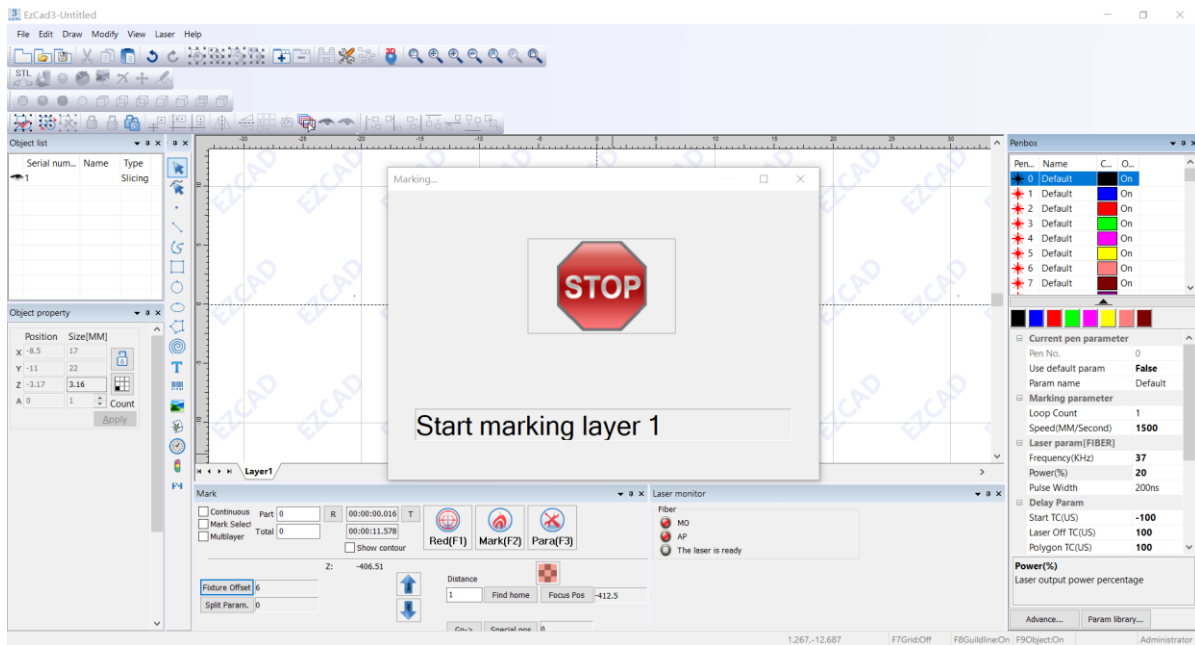
6. Start Marking

● Click Red(F1) preview marking range, click Mark(F2) start marking.

● After marking starts, the number of layers being marked will be displayed.

*Note: Due to the different laser configurations of different machines, different materials need to be set with different parameters, and the parameters may need to be adjusted several times before normal work, thank you!