



**3DXpert™ for SOLIDWORKS®**

# Export Data

## Slice & Send to Print

Tutorial\_V3 - Updated: 14,0200,1599,1024(SP2)

In this exercise, we will learn about exporting data from 3DXpert for SOLIDWORKS to the printer.

 Notice/ Remember		Left mouse button name is " <i>pick</i> "
		Middle mouse button name is " <i>Exit</i> "
		Right mouse button name is " <i>Click</i> "

In this Exercise the user has already performed the following:

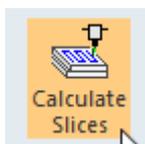
- a) Started a new AM project
- b) Defined the printer
- c) Added a part called 'Bottle Opener'.
- d) Positioned the part on the tray
- e) Created a Lattice

Note: For the purpose of this exercise, supports were not created.

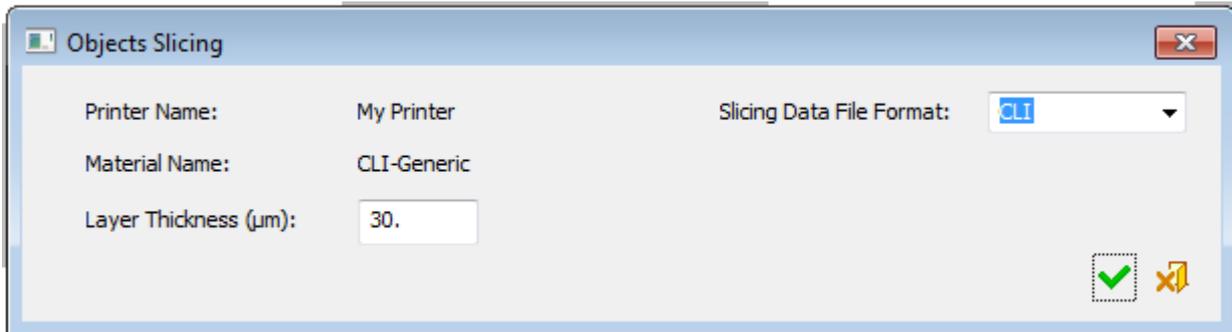
1. Unpack the file **Export Lattice.ctf** on your PC.
2. Load the file Export Lattice.elt
3. The first action is to slice the part. Slicing is a necessary operation when preparing the part for printing, as this creates the layers that will be sent to the printers. Each layer describes the outer boundary of the model.

For actual printing, additional printing information should be added on each layer. This is done through the printer software.

From the 3D Printing guide on the right select 'Calculate Slices'



4. The following dialog appears:



**Printer Name**

Indicates the selected printer name (as defined in Edit printer dialog)

**Material Name**

Indicates the selected Material name (as defined in Edit printer dialog)

**Slicing Data File Format**

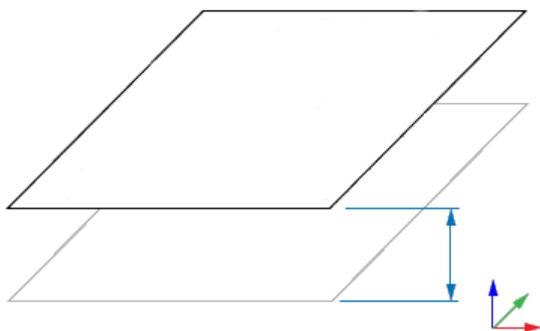
Note: In 3DXpert for SOLIDWORKS, CLI format is the only option.

CLI stands for Common Layer Interface. It is universal format that describes, layer by layer, the outer contour of the sliced geometry and is often used to transfer slicing data to 3D printers.

When slicing Wall supports with thickness or Wall Infills, the result may include additional, parallel contours, depending on the thickness of the walls (i.e., when there is room for additional, offset, contours).

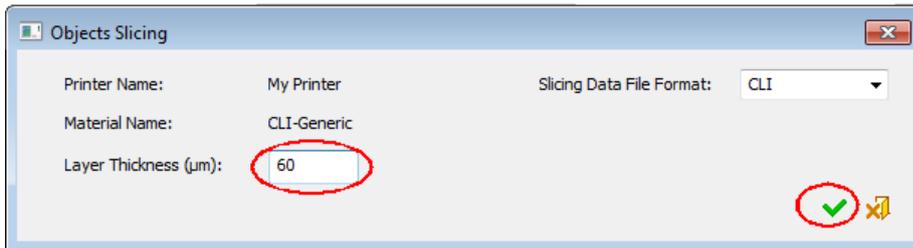
**Layer Thickness**

Set the thickness of each layer (in microns)

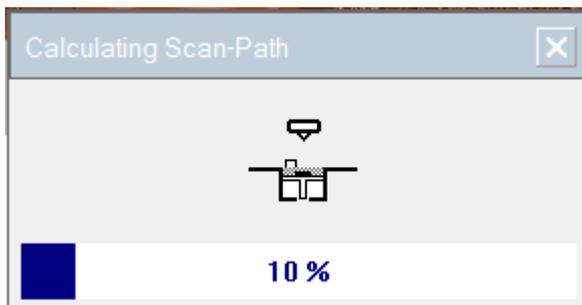


The image shows two layers (outer contours) and the distance between them (Layer Thickness).

- Set Layer thickness to 60 microns and press the OK button



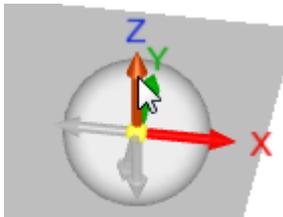
- The system calculates the Scan-path. Wait for this to finish.



- Enter the Slice viewer and select the Z axis of the interactive UCS to set top view



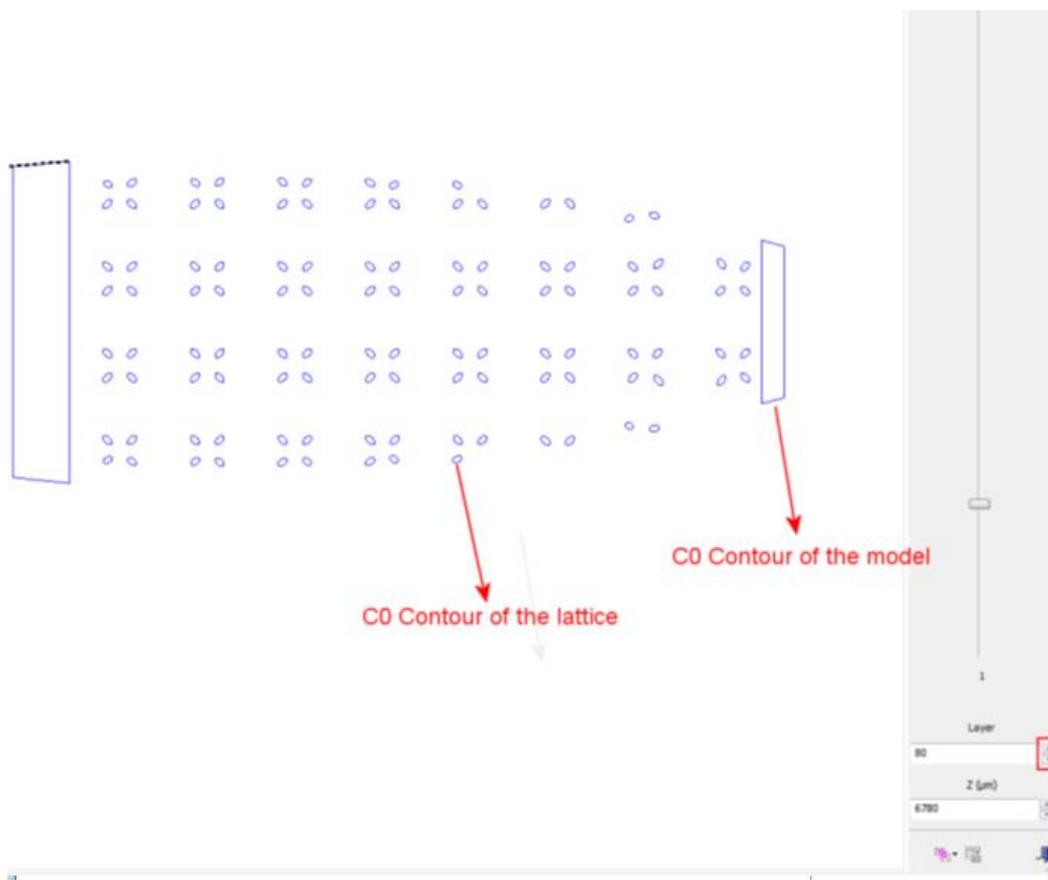
Click the Z axis:



8. Navigate between the layers using the bar, or click the up and down button alongside the layer number. The height of the layer above the tray is displayed at the bottom (Z).

As you move up or down, what you see is the slice at that specific layer (height).to see the C0 contour of the model and the lattice.

If you use the up and button, see that the Z value is changing by 60 microns each time. In each layer, the boundary contours (called C0 contours) are displayed. Some layers may show only part contours and some layers include both part and lattice contours.

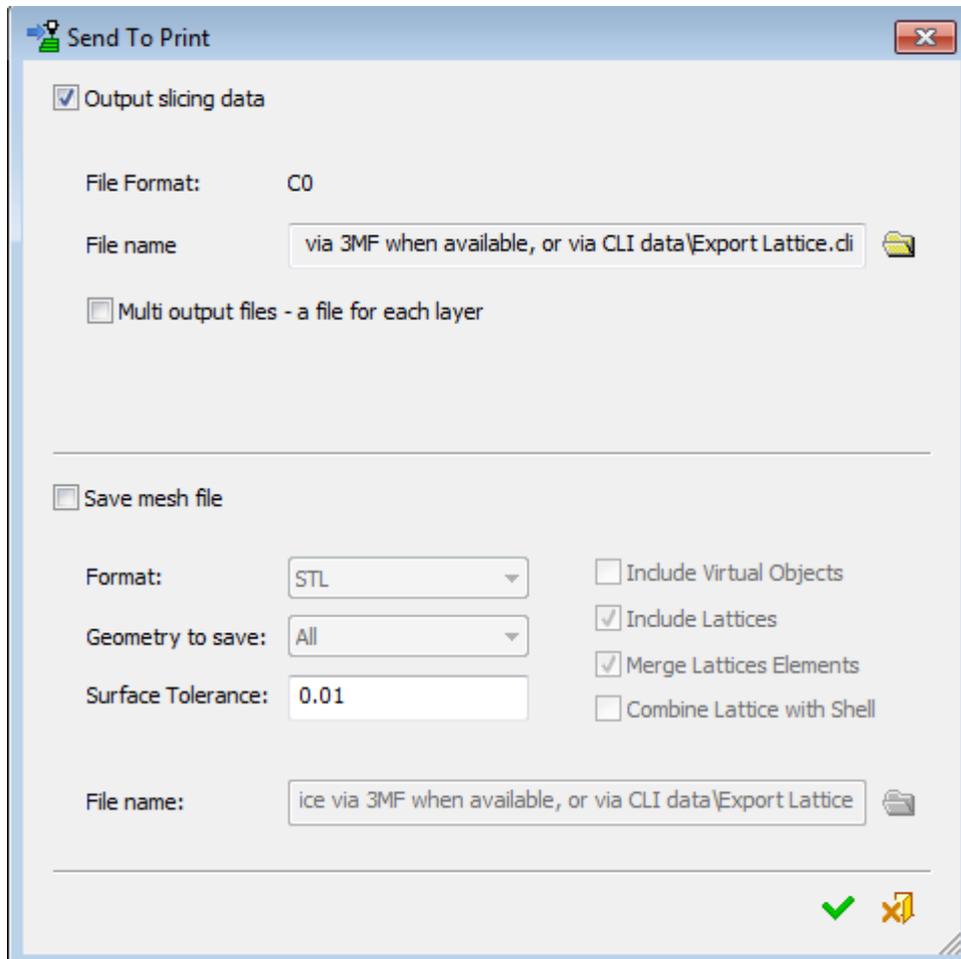


Now that slicing data exists in the file, we can export it to the CLI file.

9. Press the Send to Print button on the Guide bar.



10. The Send to Print dialog includes the export settings, for both slicing and model data.  
The slicing export format is CLI.



### Output Slicing Data

When this option is checked, the slicing data created by the Calculate Slices function is output. This option is only available if slicing data exists (if it has been calculated).

If slicing data does not exist, this option is unavailable (grayed out).

When checked, the parameters below are available:

#### File Format

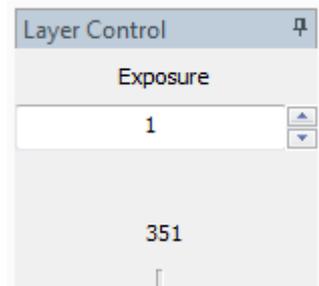
Displays the file format that the printer knows to read (C0 equals CLI)

#### File Name

Define the file and path name for the printer file

### Multi output files - a file for each layer

When this option is checked, the system creates a CLI output file for each layer (in this example this results in 351 files).



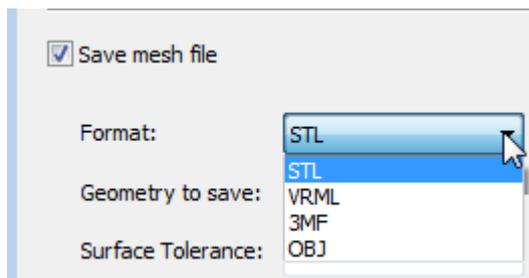
### Save Mesh File

Save the geometrical data in Mesh format.

When checked, the parameters below are available:

#### Format

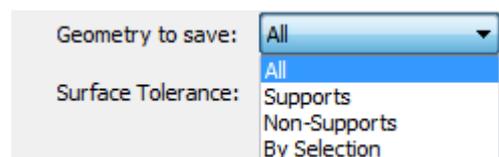
Define the format of the mesh file from a dropdown list



#### Geometry to Save

Define what objects are to be exported:

- All
- Supports
- Non-Supports
- By Selection



### Additional Export Parameters for Mesh:

#### Include Virtual Objects

This option is applicable only to files containing Virtua Objects.

Virtual Objects cannot be created with 3DXpert for SOLIDWORKS., and therefore, ignore this option.

#### Include Lattices

When checked, lattice structures are exported as well.

### Merge Lattices Elements

The elements are lattice nodes and connectors.

This option is relevant when exporting a lattice structure to one of the mesh formats (3MF, OBJ, PLY and STL) and also to PDF.

When not checked, a mesh object is created for each node and connector, resulting in multiple (smaller) mesh objects.

When checked, the lattice components are merged into a single object and the result is a one mesh object.

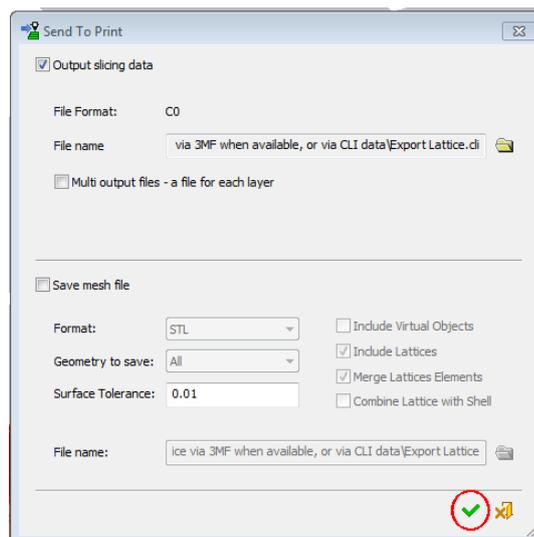
### Combine lattice with Shell

Combine and merge the lattice elements with its outer shell.

### File Name

Define the file and path name for the mesh file.

- Keep Save mesh file unchecked, to export only the slicing data, and select OK to create the output file.



- Once the operation completes, browse to the folder where the files were created, one for the lattice and one for the part.

	Export Lattice_-_Bottle Opener#1_1_Lattice_BL_C0-O.cli	30-Jan-18 3:48 PM	CLI File	11,700 KB
	Export Lattice_-_Bottle Opener#1_1_Part_BL_C0-O.cli	30-Jan-18 3:48 PM	CLI File	159 KB

End of Exercise.