

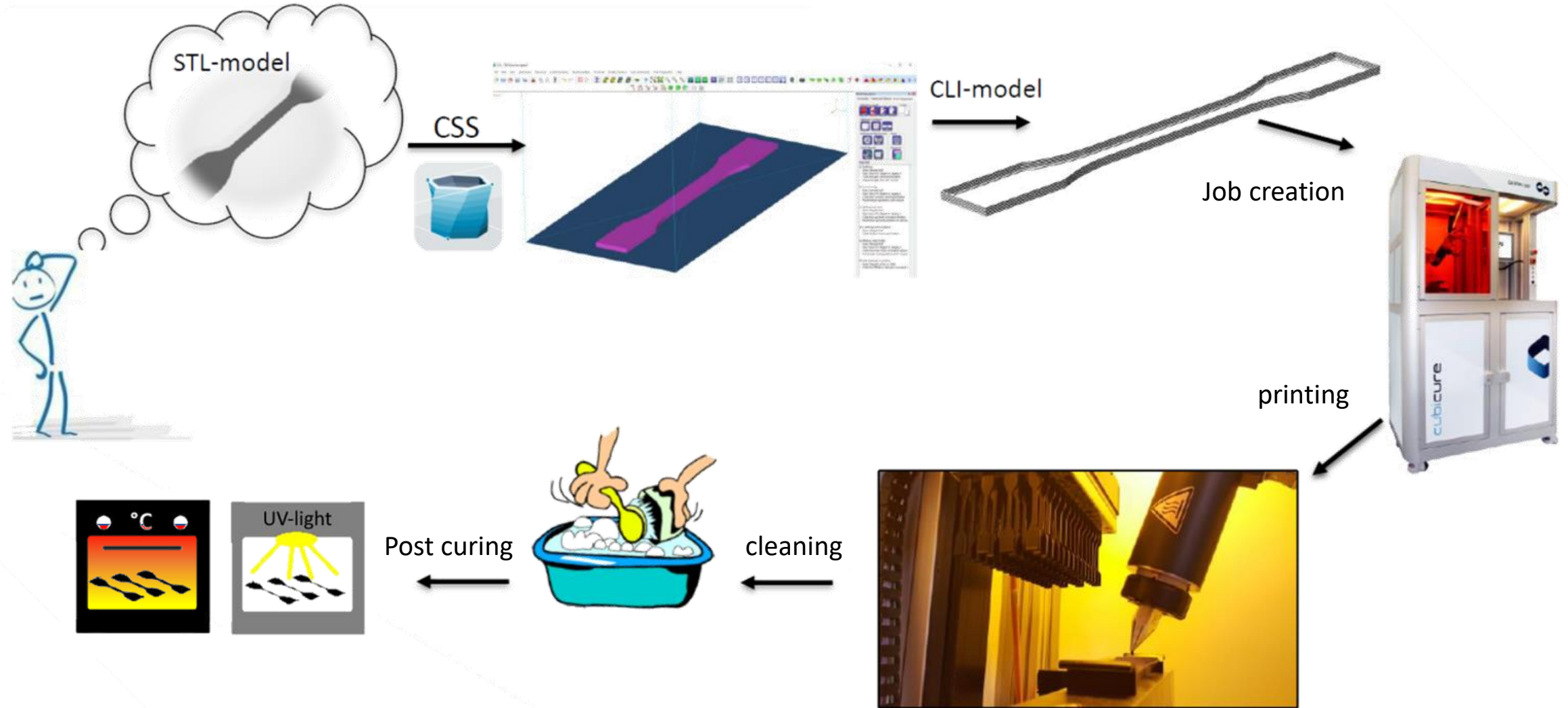


# CSS-Software

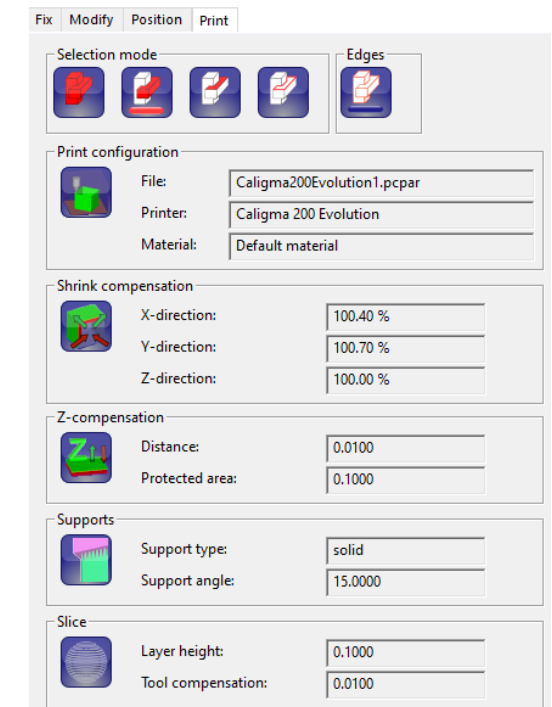
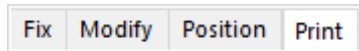
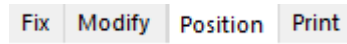
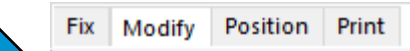
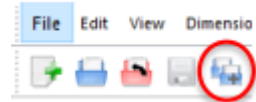
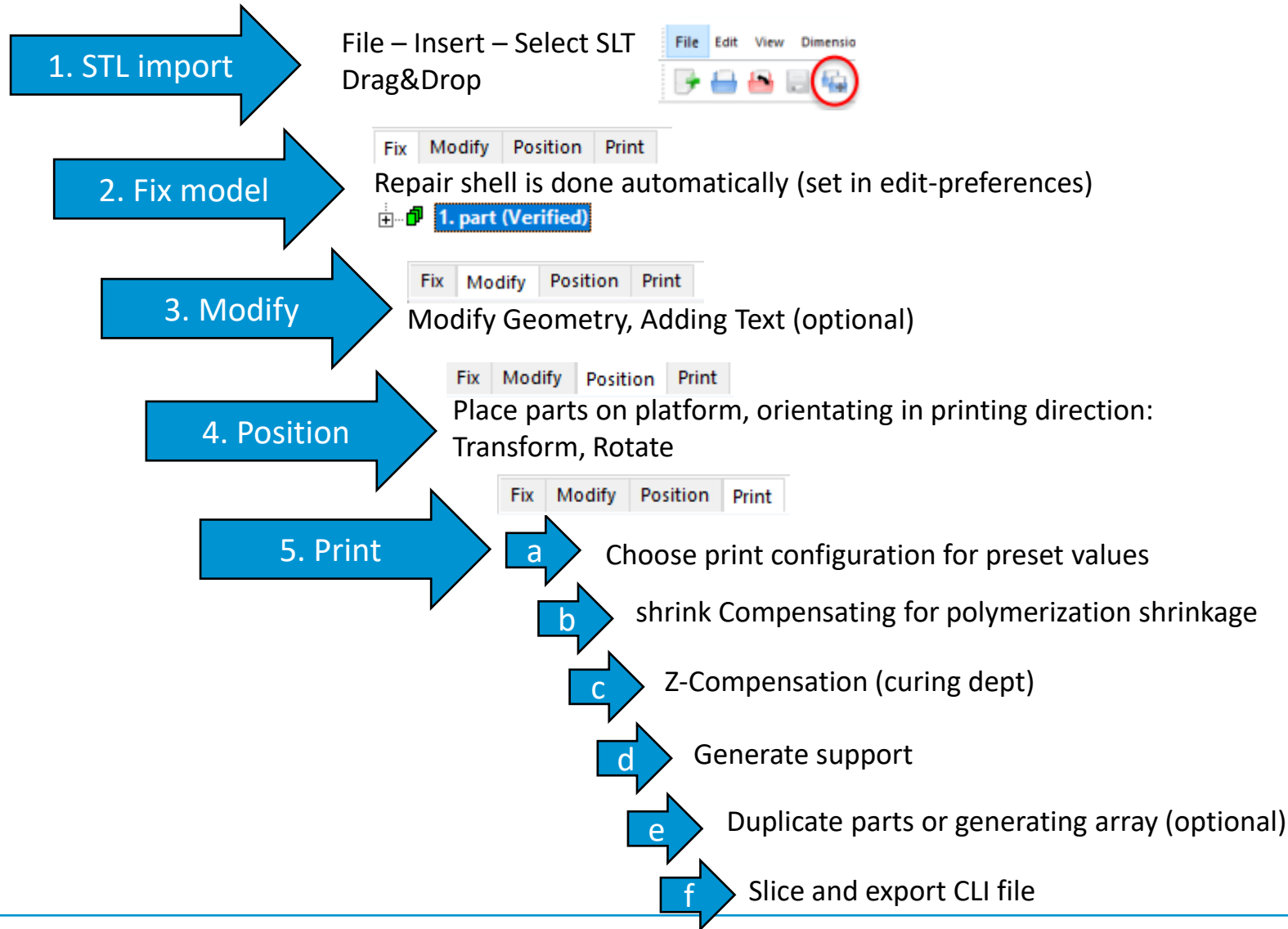
Digital preparation workflow for additive manufacturing with CSS and Hot lithography

[support@cubicure.com](mailto:support@cubicure.com)

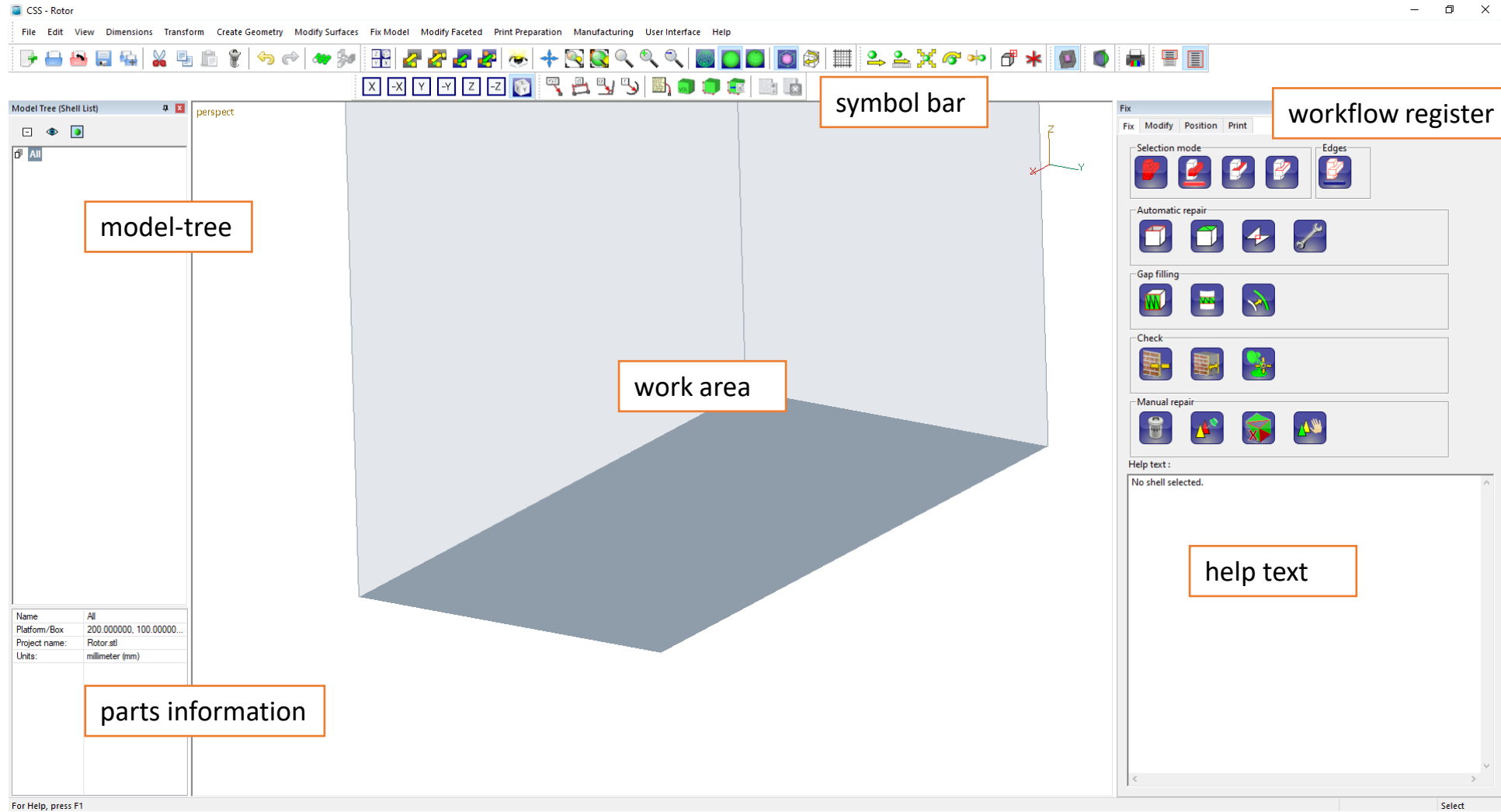
# General Workflow



# CSS-Workflow



# Overview





# Edit >> Preferences

The screenshot displays the Cubicure software interface with the 'Edit >> Preferences' dialog box open. The 'General' tab is selected, and the following options are checked:

- Enabled
- Transformation
- Automatic fixpoint selection for scale and rotate
- Auto repair when dialog is hidden
- Position model to platform XY center

The 'Fix' panel on the right contains the following sections:

- Selection mode: [Icons]
- Automatic repair: [Icons]
- Gap filling: [Icons]
- Check: [Icons]
- Manual repair: [Icons]

The 'Help text' area at the bottom right of the 'Fix' panel displays: "No shell selected."

Name	All
Platform/Box	200.000000, 100.000000...
Project name:	Rotor.stl
Units:	millimeter (mm)



# User interface >> Edit shortcuts

The screenshot shows the 'CSS - Rotor' software interface. The 'User Interface' menu is open, with 'Edit Shortcuts...' highlighted. The 'Command Shortcuts' dialog box is displayed, showing a table of keyboard shortcuts and their corresponding commands.

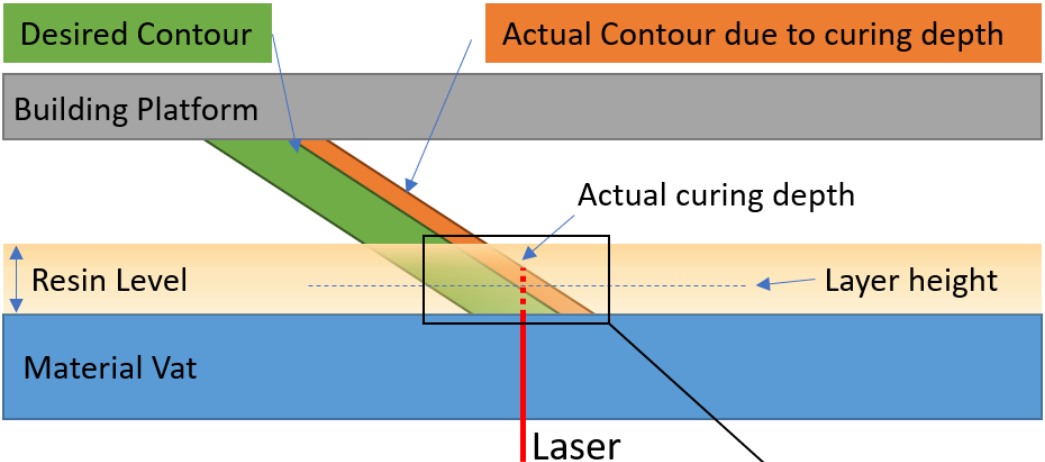
Keyboard k...	Modifiers	Command
VK_A	Ctrl	unknown cmd
VK_C	Ctrl	Copy - Edit Copy
VK_D	Ctrl	Duplicate - Transform Duplicate
VK_D	Ctrl+Shift	Z-compensate... - Prototyping Z-...
VK_E	Ctrl	Move level - Prototyping Move Le...
VK_H	Ctrl	Hide Object - Hide Object
VK_I	Ctrl	Fill Gaps - Solid Fill Gap
VK_M	Ctrl	Numeric... - Transform Mirror Nu...
VK_N	Ctrl	New - File New
VK_O	Ctrl	Open... - File Open
VK_P	Ctrl	Print... - File Print
VK_Q	Ctrl	Move center - Prototyping Move ...
VK_R	Ctrl	Repeat Trans - Transform Repeat ...
VK_S	Ctrl	Save - File Save
VK_S	Ctrl+Shift	unknown cmd
VK_T	Ctrl	New Shell - Edit New Part
VK_V	Ctrl	Paste - Edit Paste
VK_W	Ctrl	Move positive - Prototyping Mov...

The dialog box also includes 'Add', 'Delete', and 'Modify' buttons for the 'Shortcut' field, and a 'Load' button for the 'Shortcut table' field. The 'Shortcut table' field contains the following text: classic(IDS), CSS, CSS v2, direct.

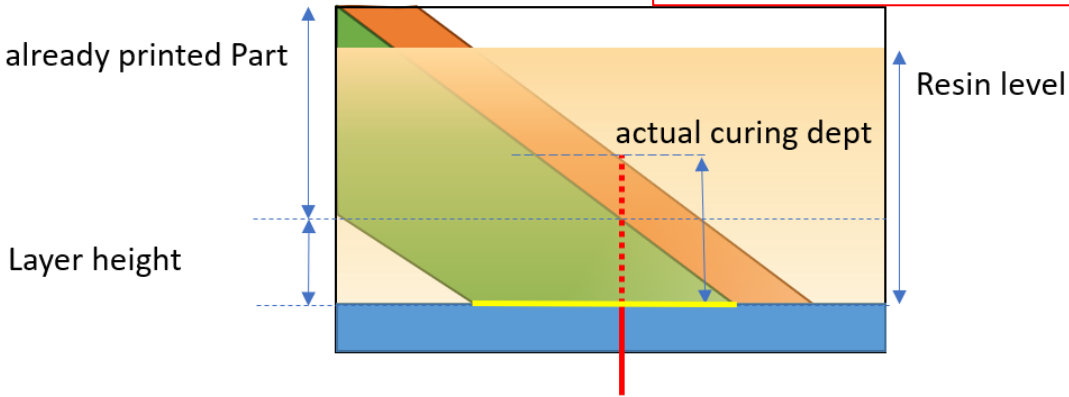
Change command shortcuts.

Select

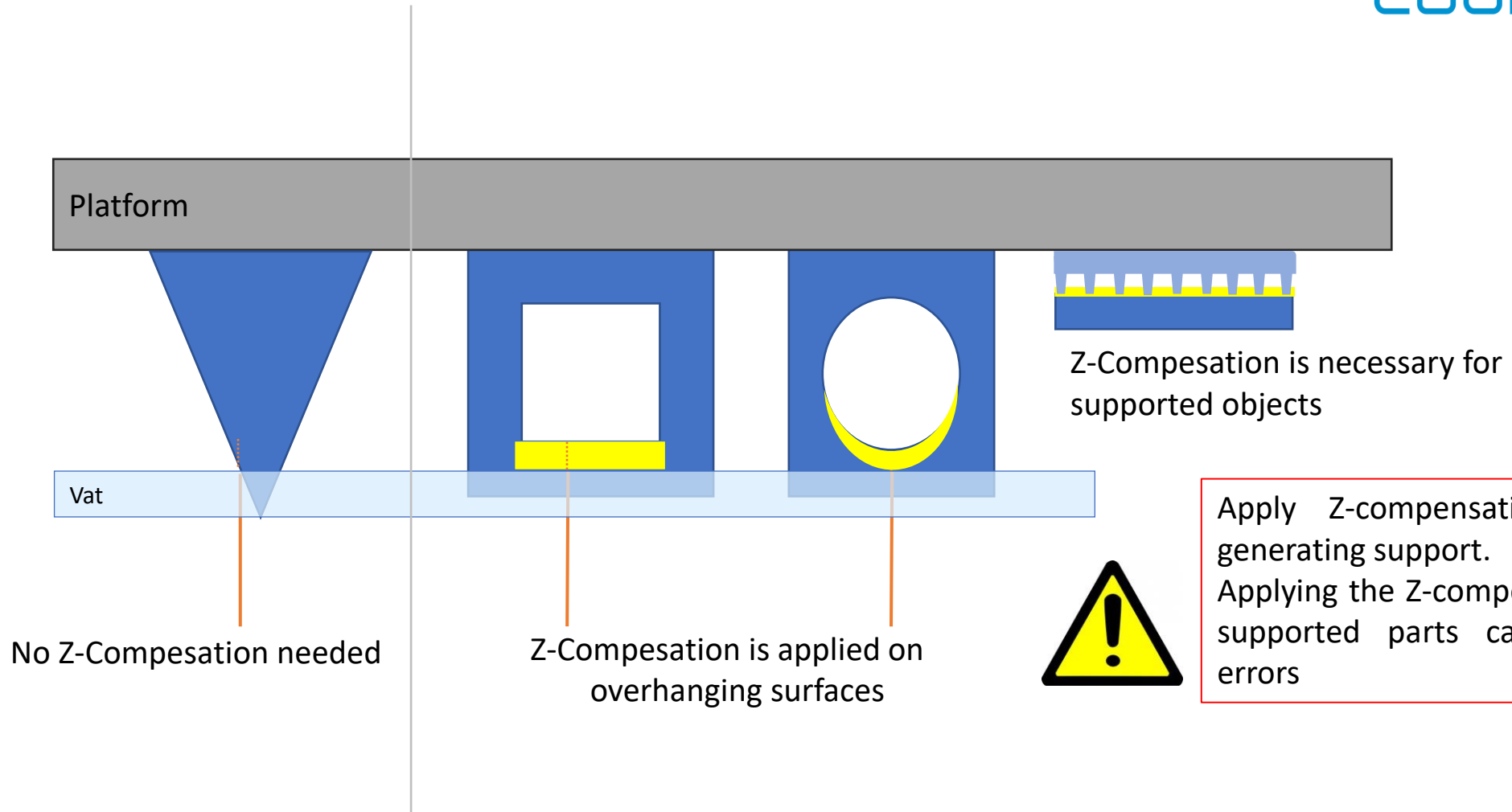
# Curing dept



The curing dept is explained based on the Material data from Evolution: The layer thickness (layer height) is 100µm. The coating height of a resin film is 600µm. The material curing depth is ~ 300µm. If a surface is overhanging (facing towards the building platform), the laser hardens the material, because of the curing depth mor than 100µm layerheight. This leads to a distortion of the contour. This is compensated by the Z-Compensation

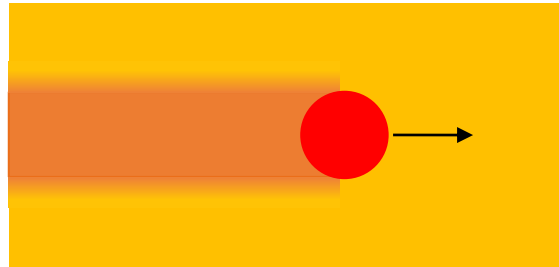


# Curing dept

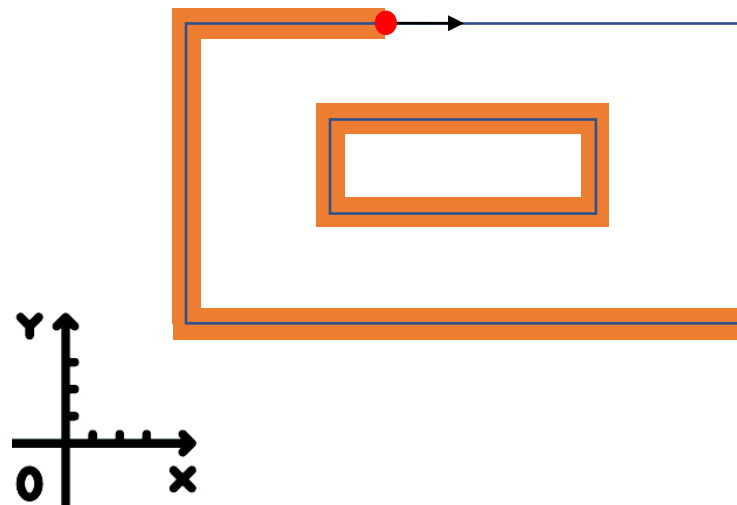




# Tool-Compensation



The laserspot is 18 $\mu$ m (FWHM)  
 Overpolymerisation occurs on each side  
 Dependend on engery density and resin reactivity



This leads to inaccuracy of the part's dimensions:

- Outer conturs get bigger
- Inner contur get smaller

# printing performance polymers

## Questions

[support@cubicure.com](mailto:support@cubicure.com)

[www.cubicure.com](http://www.cubicure.com)

