materialise

innovators you can count on

Materialise Magics RP

25.0 – Release Notes

materialise.com

Contents

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1 What's New

These are the main changes and fixes compared to Magics 24.1 Web Release:

1.1. General

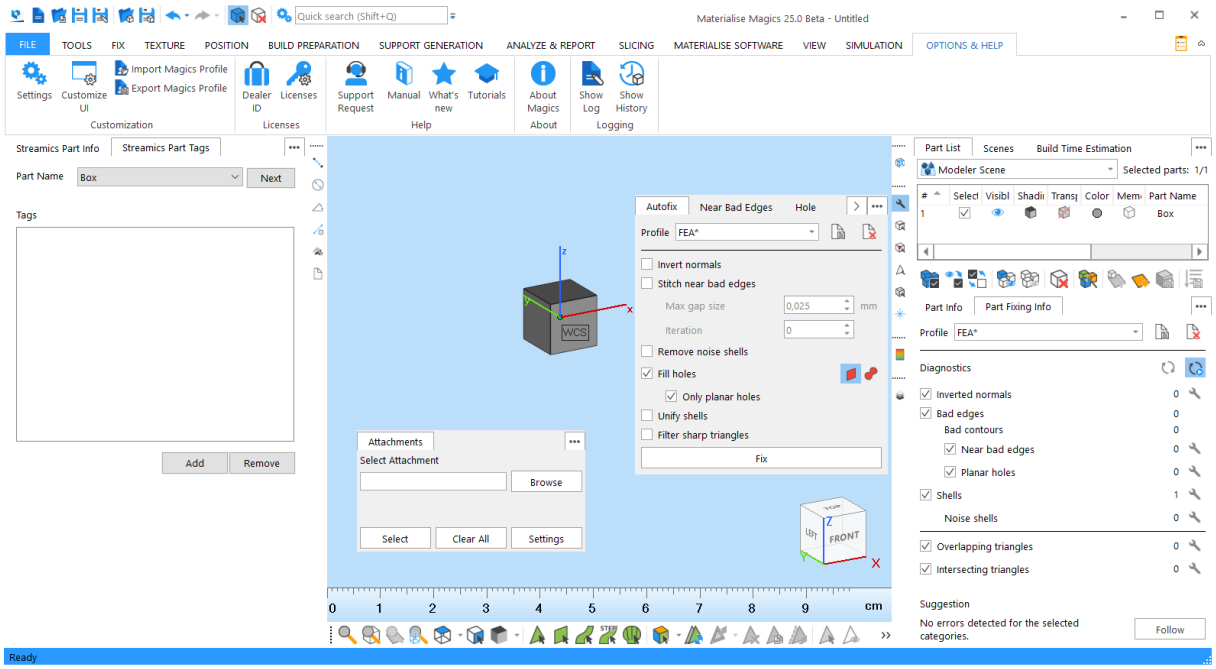
[Fixed issue] License wizard: sorting on version is not correct.

[Fixed issue] License wizard: cannot load key file when there are 2-byte characters in the file name.

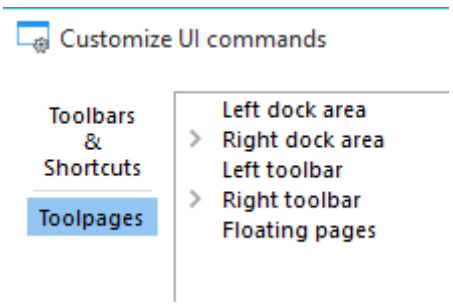
[Fixed issue] License wizard: tooltip is absent for 'Copy' button in Local license page.
[Fixed issue] BP: Magics freeze if some BP machine is paused.

1.2. Toolpages UI Restructure

Magics workspace has 4 areas for toolpages to be docked: left dock ares, left toolbar, right dock area and right toolbar. Same as before, each toolpage can be moved out from those areas and becomes floating.



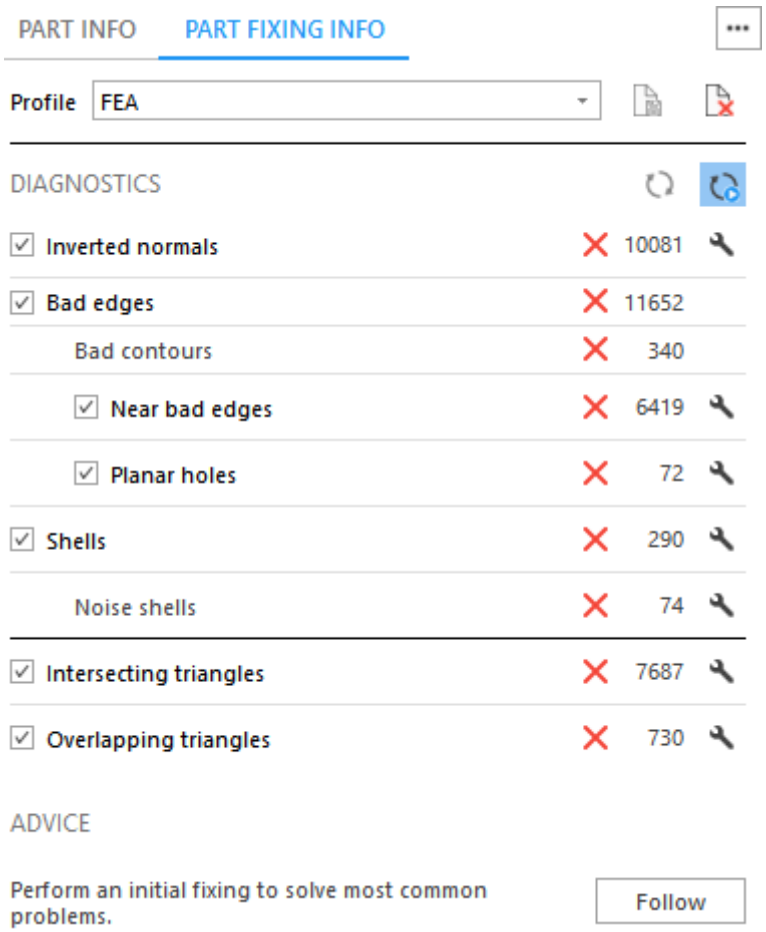
Everything could be customized in "Customized UI" -> Toolpages.



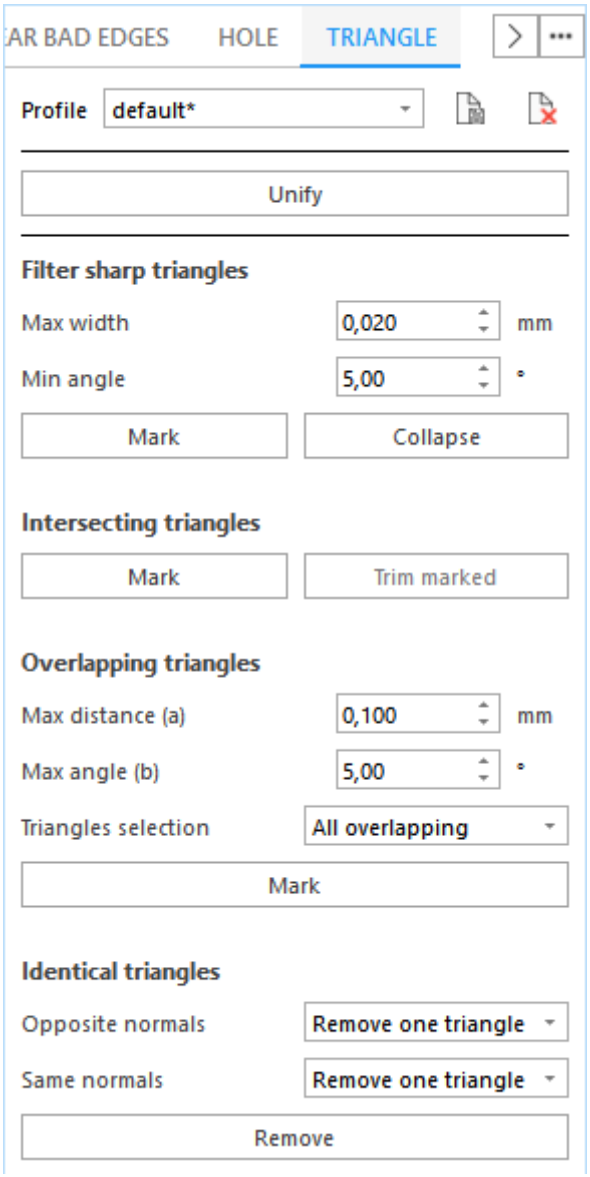
1.3. Data Preparation

1.3.1 Fixing UI and workflow

- Fix wizard has been removed and the “Diagnostics” with “Follow advice” workflow has been moved to “Part Fixing Info” toolpage:



- For manual fixing, parameters are located in Fixing toolpages.



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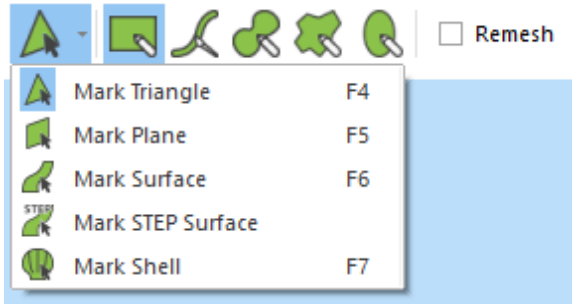
"Invert Normals" becomes a command in Fix Ribbon
- 

"Creat Triagnle" combines the previous "Create Triangle" and "Create Bridge" functions.
- The previous  function is switched to "Double click" in the hole and shell list.
- In Hole toolpage, "Treat as one hole" option can be worked together with "Fill hole mode" to achieve multiple contours hole filling.

1.3.2 Marking UI and workflow

The marking tools in the toolbar have been restructured and expended. Users can pick what they want to mark: Triangle, Plane, Surface or Shell from the toolbar and a toolbar with marking options will pop up above the workspace.



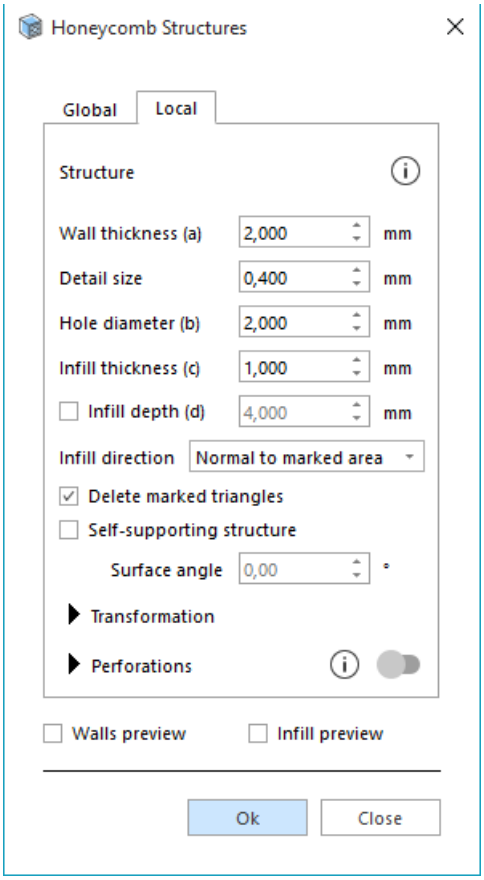
- Clicking works will all 5 marking options
- Mark with rectangle – hold Alt to make a square selection
- Mark with Ellipse – hold Alt to make a circular selection
- Context menus are introduced for an easy switch under the marking mode.

M + RMB to switch among marking objectives. The shortcut can be customized in the Customize UI dialog.

Ctrl + RMB to switch among marking options

1.3.3 Local honeycomb

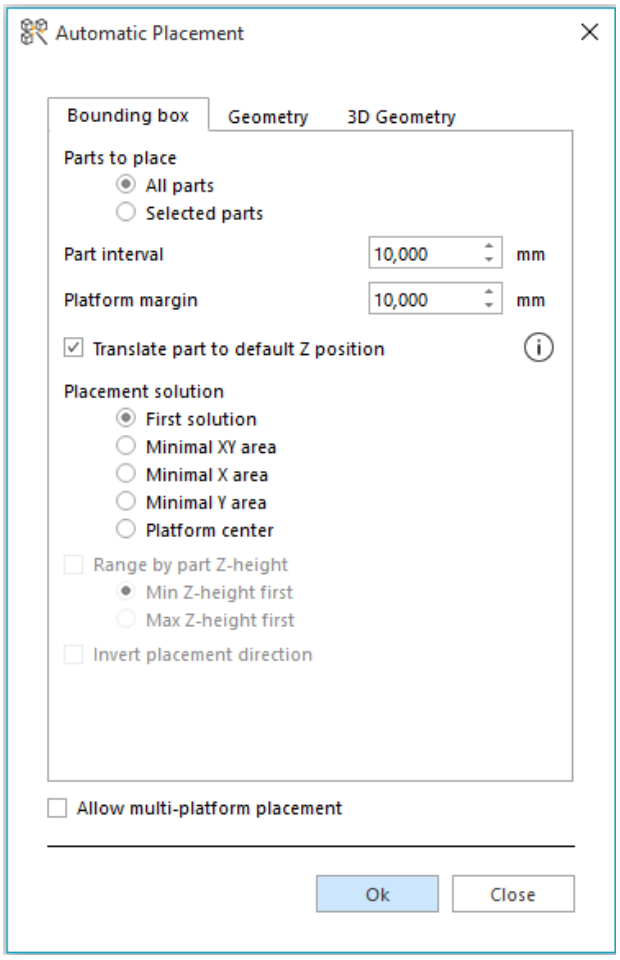
User is able to generate a honeycomb structure at local level, meaning that only a portion of the part volume is filled with this structure.



1.3.4 [Fixed issue] Merge part. Vertex colors are lost by merging.

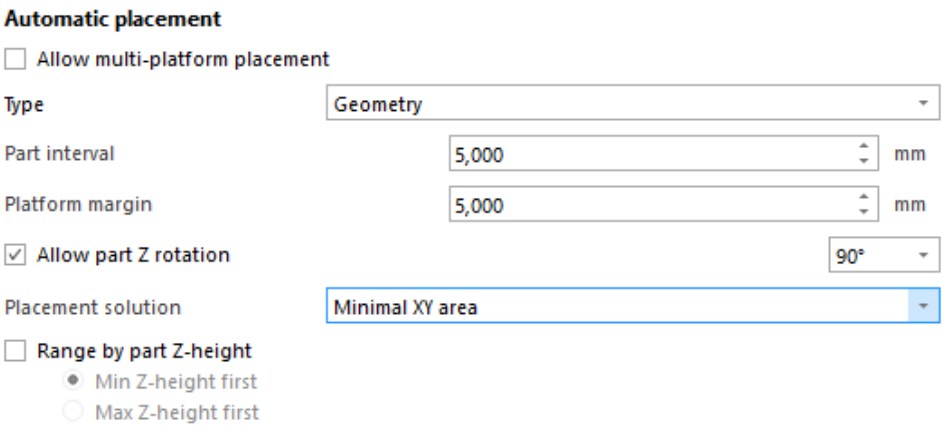
1.4. Build Preparation – Automatic Placement

- New UI design of the dialog



User can change parts selection and view while dialog is open.

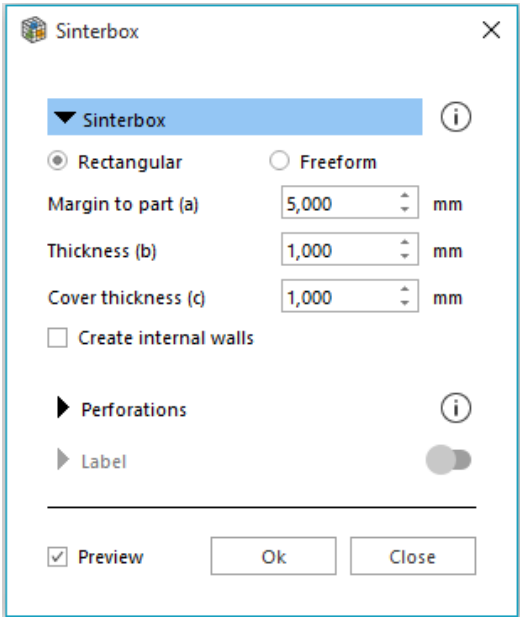
- Same as previous versions, user can define the default values for some of the parameters inside the Machine Properties. The UI design there has been updated too.



- Better Information, warning and error messages are given under certain situations.

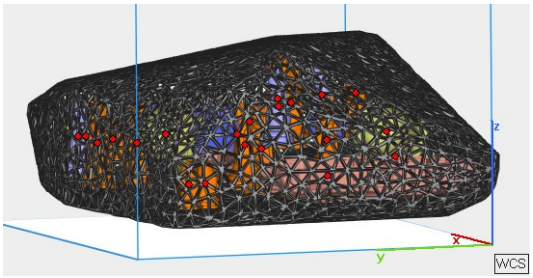
1.5. Sinter Module – Sinterbox

- The new Sinterbox dialog contains both Rectangle and Freeform options.

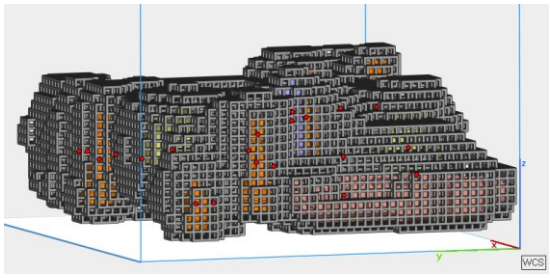


User can change parts selection and view while dialog is open.

- There is a new and faster way of Freeform sinterbox generation.

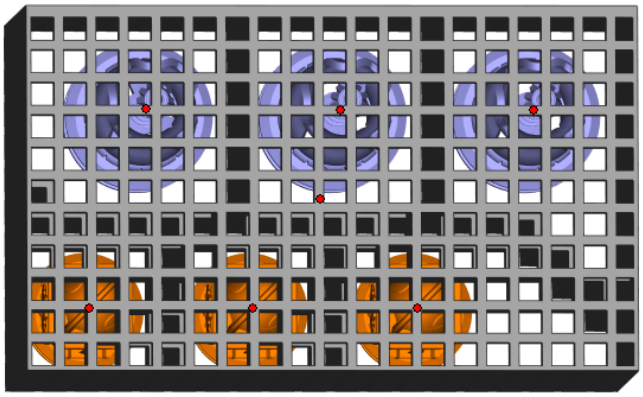


Before



Now

- User is able to create internal walls between the parts.

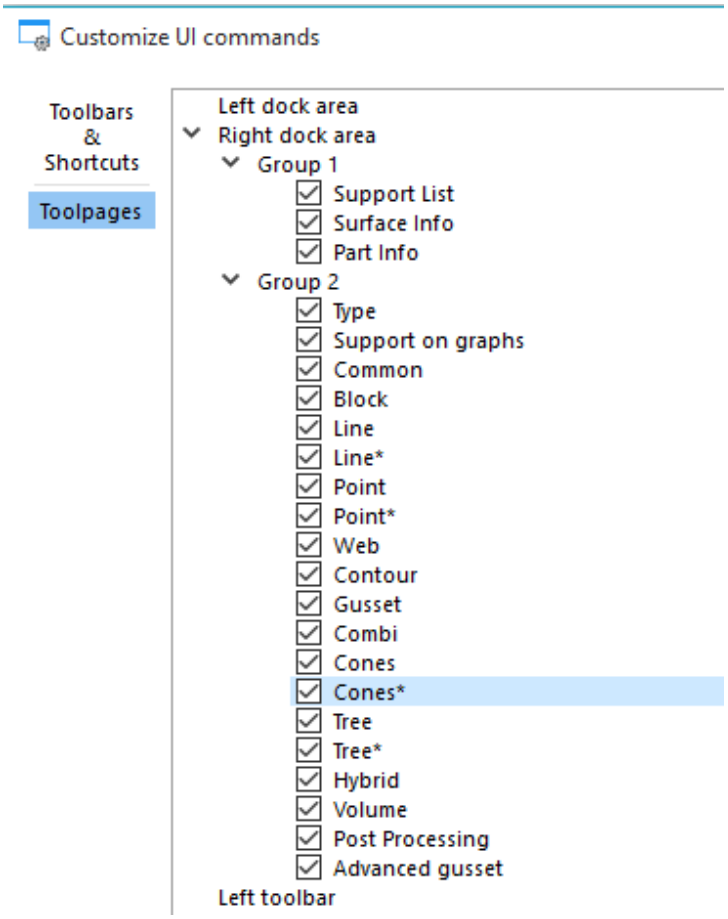


- User is able to add label to Freeform sinterbox.

1.6. Support Generation (SG & SG+)

1.6.1 Toolpage UI restructure

Support generation parameters toolpages have been restructured. They also fit in the new UI framework and can be customized from Customize UI:



1.6.2 Common tab restructure

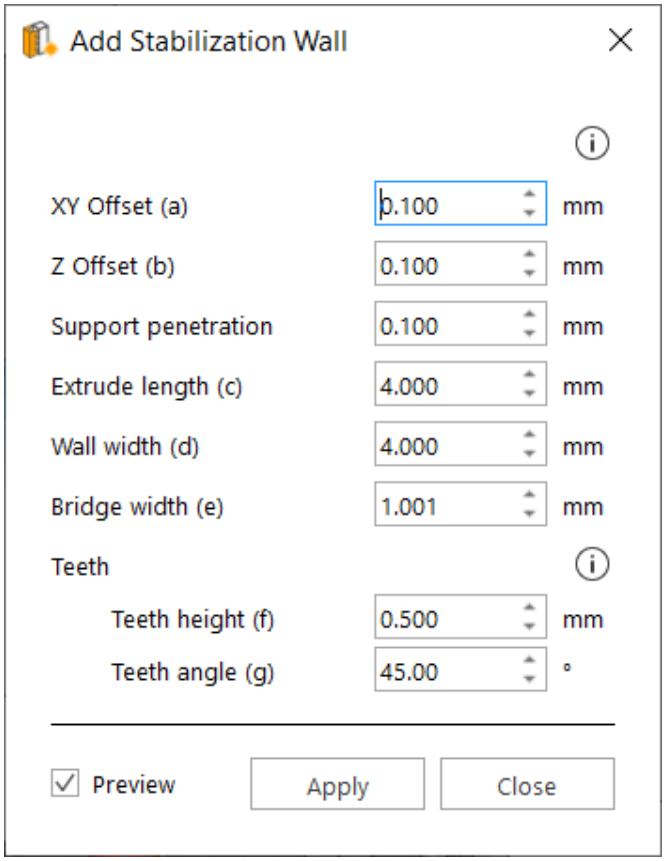
"Common" tab will include all the common parameters for all support types. "Advanced" tab will be reduced and parameters moved to Common tab or Type tab.

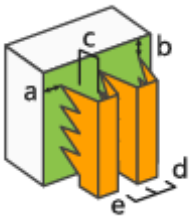
The Common tab will include following pages in the following order:

1. Offset
2. Critical Points
3. Support Height
4. Support reinforcement
5. Reinforcement line
6. Support thickness
7. Angled Support
8. Rescale platform projection area

1.6.3 Stabilization wall (SG+)

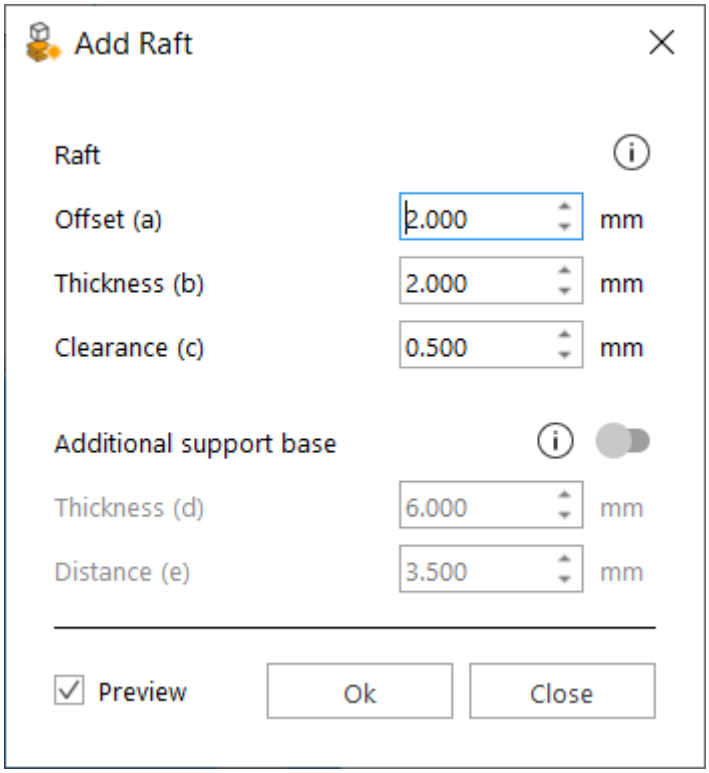
In FDM, vibrational forces within the machine can affect large, thin parts and may lead to dimensional inaccuracies. Adding stabilizing walls can prevent this. Stabilizing walls are sacrificial support columns, made out of model material, that help brace and anchor the part to the build sheet.

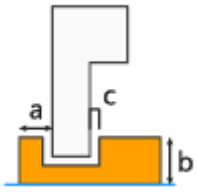




1.6.4 Add raft (SG+)

For binder jetting technology, a raft feature was developed serving the purpose of a sacrificial flat plate printed directly underneath the part or support to prevent part smearing.



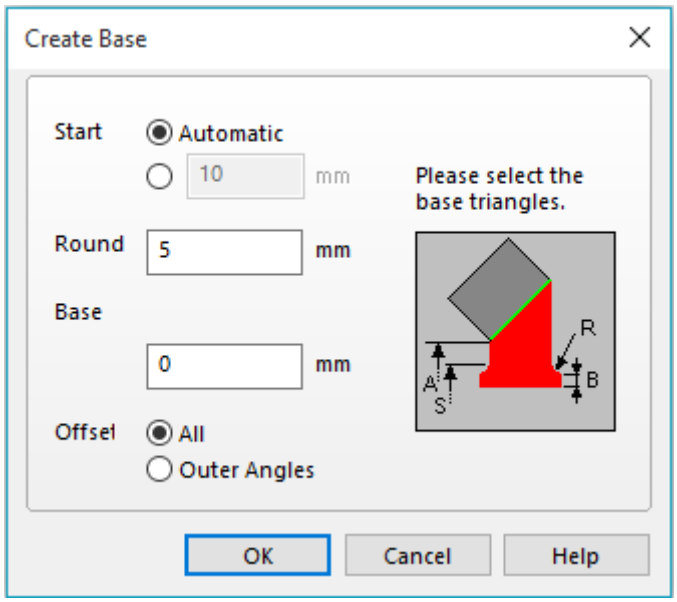


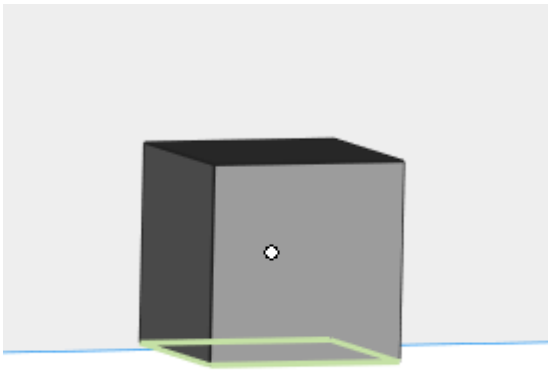
- If the plate interferes with the part, a Boolean subtraction is executed after the raft generation. Part, with the its specified additional clearance, is subtracted from the plate(s).
- An additional support plate can be added to establish a stable base for sintering. This base is generated above the raft at the desired distance, and is attached directly to the support.

1.6.5 Create Base (SG+)

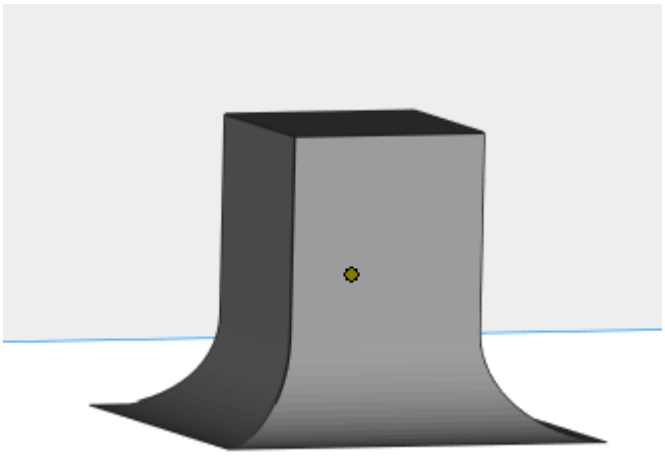

Create base is a new command located in Support Generation ribbon. User could make an extrusion from the marked triangle(s) to generate a part base.

This function is for metal printing that uses wire cutting in the post processing steps. This kind of rounded edges base attached to the build platform could help conducting the heat and lowering the chance of printing failure.





Part with marked triangles

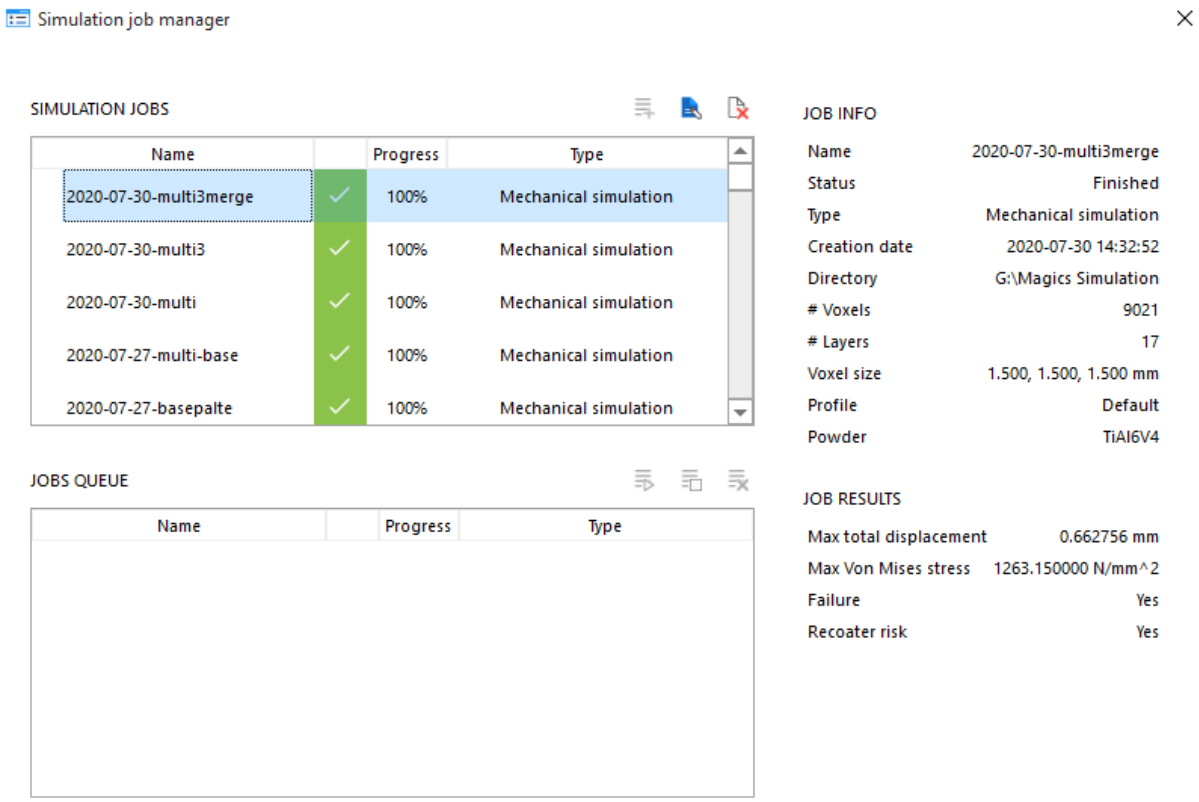


After applying

1.7. Simulation Module

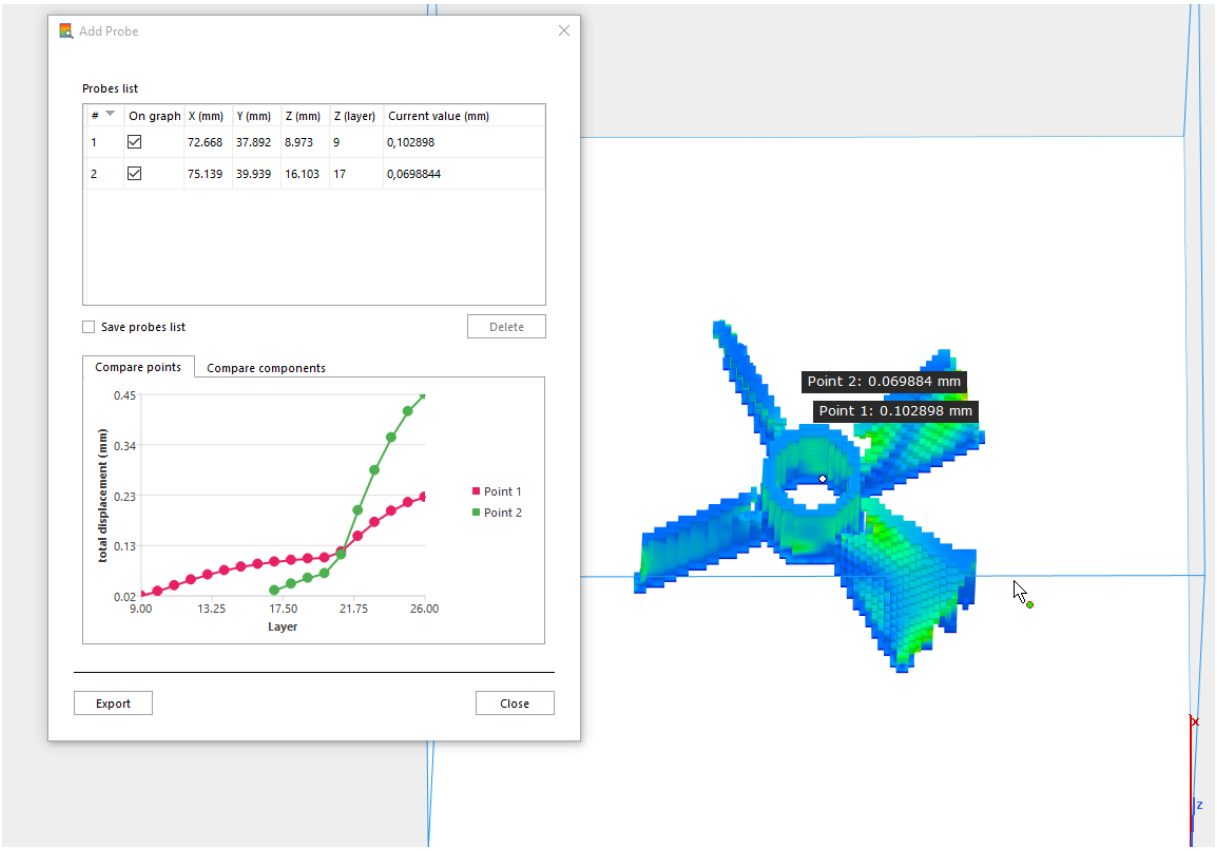
1.7.1 Brief result summary in job manager

A summary of simulation results will appear on the right bottom of the job manager after completion of the simulation. This summary includes; Maximum total displacement, Maximum Von Mises stress, Failure, recoater risk and Overheating.

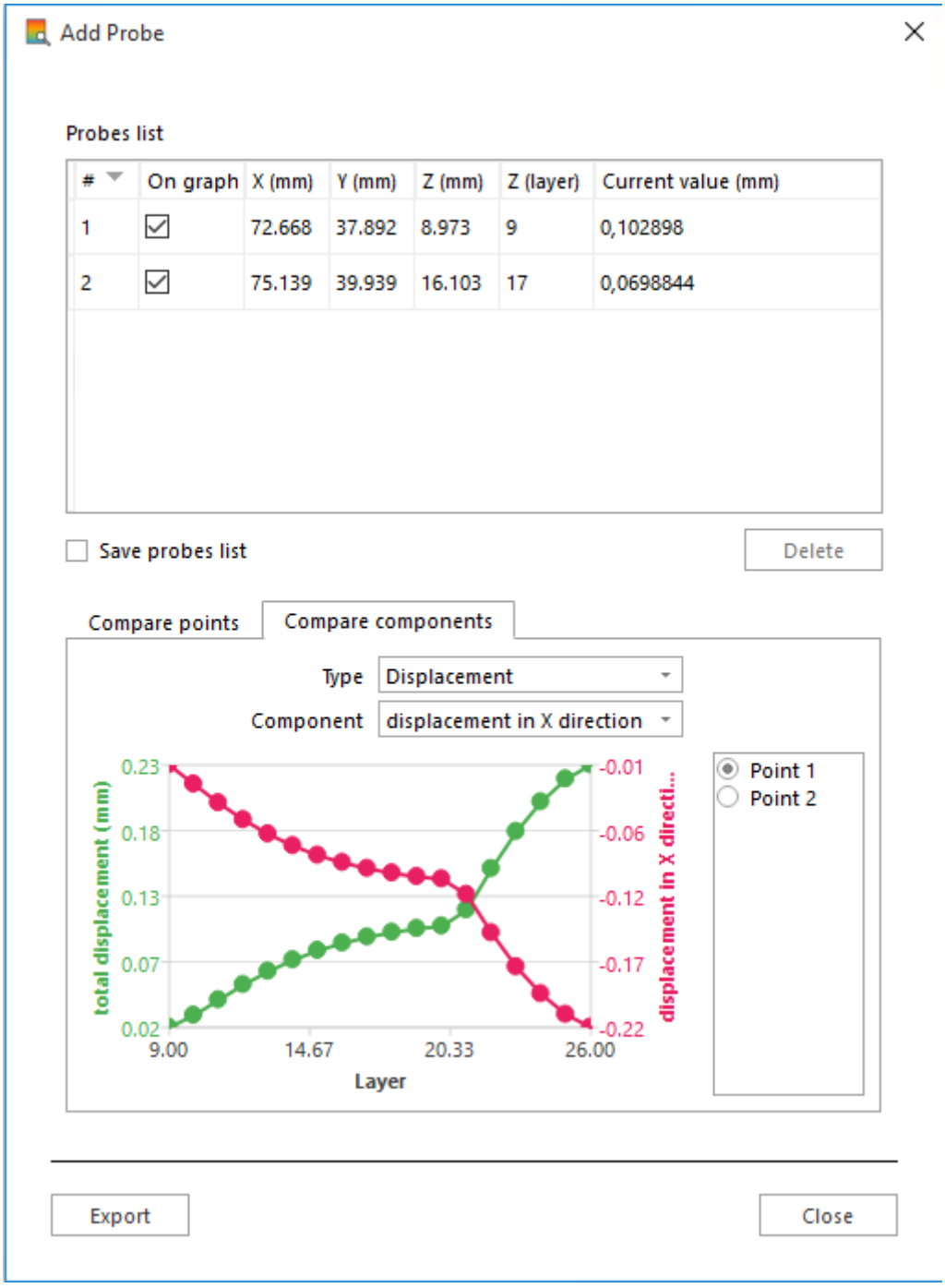


1.7.2 Probe and Graph:

By click on “Add Probe” command in the “Simulation results” toolpage, mouse mode for probe is activated and dialog for probe graph is open. Table and graph in the dialog are empty at the beginning. When hover a part point with the mouse, the specific point value for the selected map is visualized and by click on a part point with the mouse, an annotation is added to that point and is automatically selected. Selected types and layers can be changed from simulation results toolsheet.



Different types and components on a certain point can be compared form “Compare components” tab:



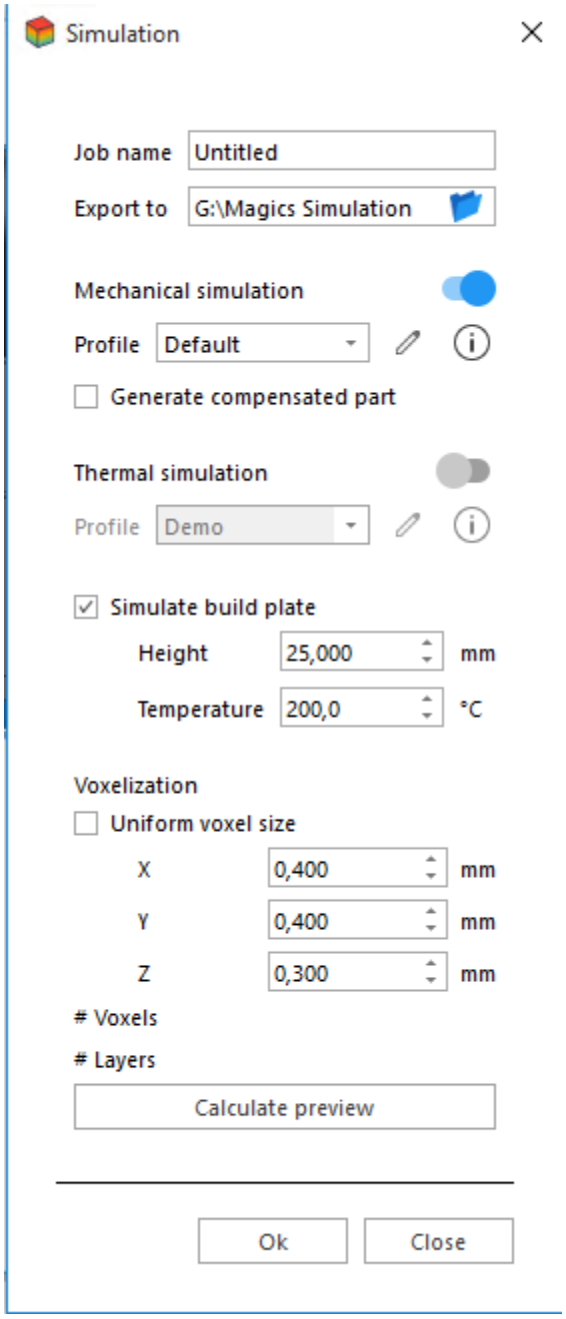
All data for points that are on the table can be exported as .csv file.

By closing the window the list will be clean out unless the “save probes list” is checked.

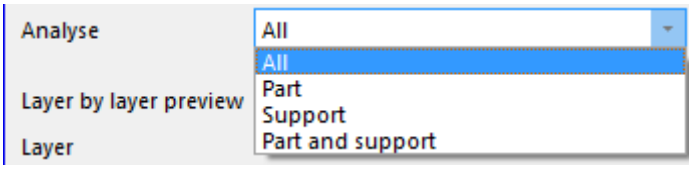
1.7.3 Build plate simulation

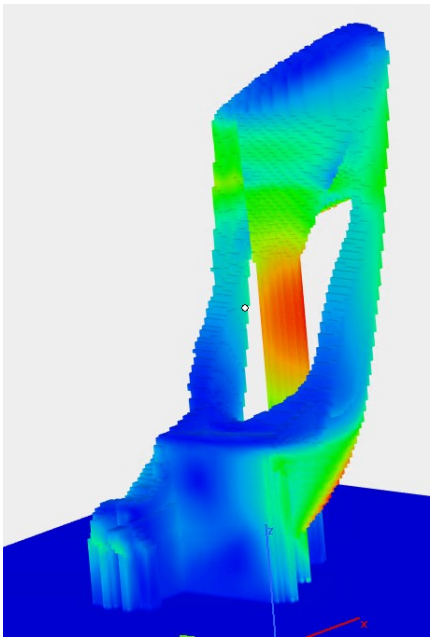
Build plate simulation is enabled also for mechanical simulation. The simulation results can be visualized together with the part and support.

- UI change for a shared build plate simulation section.

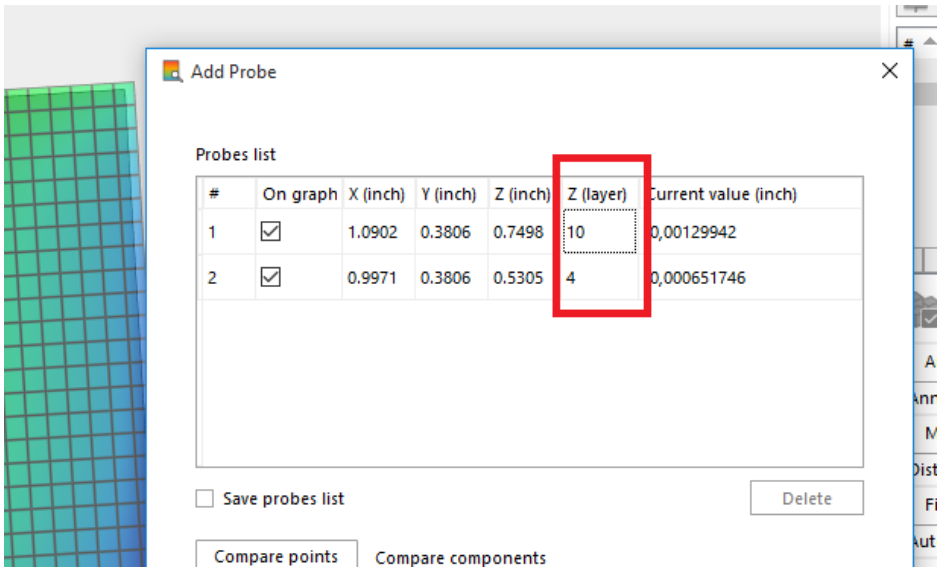


- These are 4 possible options available for the Analyse combo-box in Simulation results toolpage. “All” represents “Part, support and build plate”.





- In the Add Probe dialog, Z (layer) will be indicated as "Build plate".



1.7.4 Simulation of multiple parts

- Mechanical and/or thermal simulation is generated for all selected parts on platform scene
- Compensated parts are generated for all selected parts on platform scene

2 Known issues

2.1. General

- Some STEP geometry may not be saved when using Export Platform.
- Background color of Part List tree view and messages is not always correct under certain skin.
- The toolpages are not restored automatically after the license was lost and caught-up.
- Some UI elements (marking toolbar, toolsheets) flicker/jump

2.2. Data Preparation

- Up/down button cannot be used on the Quick Search/Hole/Shell list when triangles are marked.
- Memory estimation for Shrinkwrap is incorrect.
- Rescale factors is impossible to add and edit from the first try
- In the list of shells, the eye icon only works for 1 item.
- In certain cases, small geometry errors can occur when using lapjoint cut.
- In Honeycomb, when using the “Local” option, more triangles might be generated, and the result might contain overlapping and intersecting triangles.
- In Honeycomb, Wall and infill preview is not working sometimes
- When a project contains parts with many holes and shells, the performance might be impacted (ex. Marking operations and toolpages checkboxes)

2.3. Build Preparation

- Teaching platform added from toolsheet are not displayed in the list when Build Time Estimation page is opened from Machine properties.
- In Export slices, Beam Compensation parameter work incorrect.
- In Sinterbox dialog, 'Cancel' doesn't interrupt label generation

2.4. Support Generation

- Line* support disappears when trying to regenerate 2D & 3D.
- Surface info has wrong value (contour, surface, thinness) in stabilization wall.
- Support edge is not visualized for Stabilization wall, non-solid support and e-stage.
- Asterisk is missing in modified Surface Profile.
- Some manual supports are transferred with wrong position.

- Manual Point, Line, Gusset supports are transferred incorrect.
- Block support intersects with part after support thickness is added.
- Sometimes Volume support not trimmed correctly
- Reinforcement height is only functional for point supports, not for point* supports.
- Line support which has part-to-part support goes through part and connects to platform.
- Broadening does not work for reinforcement walls of reinforced point supports
- Surface filter related parameters don’t work consistent.
- Line/Line* support cross line teeth sync does not work correctly if 'full teeth in ends' is enabled
- If "do not perforate hatching for" is enabled, enable border teeth flag also controls generation of part of the hatching teeth.
- The ‘On part’ / ‘On platform’ functionality does not work for any of the solid support types.
- There are some inconsistencies between preview & full mode for cone supports.
- Inverted triangles are generated if cone support is exported as stl.
- Fragmentation "start from Z height" ignored for volume supports that rest on the model.
- Perforation parameter rules are not consistent over the different support types.
- "Rescale platform projection area" functionality incorrect for supports that rest on the input model.
- Block support with thickness creates open contour.
- When importing old profile, Magics crashes on SG mode enter.
- e-stage duplicated triangles when exiting SG or export as stl

2.5. Simulation Module

- In calibration, when profile has name with “*, ?”, no new .xml profile is created.
- Wireframe is not updated when deformation is applied to smooth simulation results with Shade&Wire shading.
- Backwards tabulation in Simulation dialog works incorrectly.
- Part of support colormask is grey if change step for smooth thermal result.
- Colormap is displayed differently on same layer after layer slider is moved
- Build plate simulation results is shown for Failure criteria type.
- Error message related to not existing SimulationPlugin folder in ProgramData is shown.
- SIMULATION ribbon with buttons is still present after Simulation plugin is uninstalled.

- Probes cannot be added if simulation results are loaded in Magics after specific rendering scenarios.
- Job Manager disables controls in Simulation results toolsheet if opened after simulation results are loaded.

3 Compatibility with other Materialise product releases

Product		Versions
Streamics		8.2, 8.3
Robot		8.2 (included in Streamics), 8.3
e-Stage		7.0.4.157, 7.2.0.168
MatConvert		9.4, 9.5
Simulation module		3.0
Build Processor System		3.1
Build processors	SLM	3.2.3.0, 3.2.7
	Trumpf	5.0.94, 6.0.88.0
	HP	2.1.7.0
	Renishaw	1.3.1
	Union tech	1.2.14.0
	Arburg	2.6.1.0
	Concept Laser	1.2.2
	Standard DLP	2.0.25.0
	Materialise SLx	4.0.163
	EOS	3.0.42.0
	Arcam	2.3.7

Bundled components

Magics 25.0 * MatConvert 9.5.0.12 * License Server 7.3.1.9

4 System Requirements

Hardware

CPU

- Intel Core i7
- AMD Phenom II X4/ X6 at 3.0 GHz or higher with SSE2 technology

Memory

- 16 GB RAM or higher

Free Disk Space

- Win 64-bit system
- 2GB of free disk space

Display

- 1920 x 1080 resolution or higher
- 32-bit color depth (True color)

Video Card

- NVIDIA GeForce GTX 1060' or AMD Radeon RX 480 or better
- DirectX 11 compatible video card
- At least 1 GB of memory
- At least a memory interface width of 192-bit (256-bit is recommended)

Software

Materialise Magics 25 **is only supported on** Windows 64-bit:

- Windows 10
- Windows 8/ 8.1

Materialise Magics 25 **is recommended on**:

- Windows Pro edition
- Windows Enterprise edition

Materialise Magics 25 **is not supported on**:

- Windows 98
- Windows 2000
- Windows XP
- Windows Vista
- Windows Server Editions
- Virtualization systems such as VMWare
- Windows 7

Materialise Magics **does not run** natively on **Mac OS X**, **Linux**, or **any other operating system** not listed above.

.NET 4.5 or later or a working internet connection during the installation is required.

5 Contact Information

For more information, check out our website: materialise.com/software/magics/

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