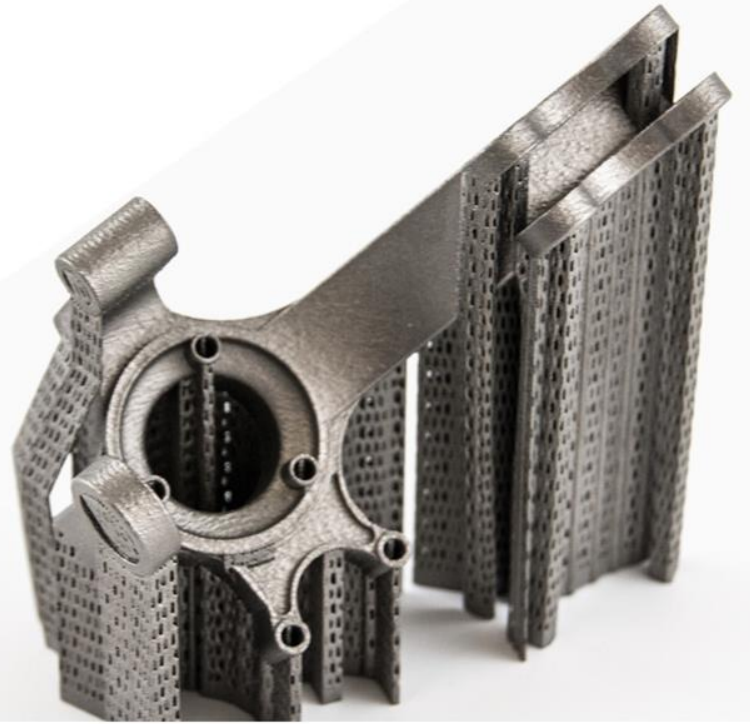


Materialise Magics 25

What's new



Materialise Magics 25 feature highlights

Magics is the pre-print software component that helps you 3D print in a profitable way. It is recognized as the standard for 3D printing data and build preparation by the majority of industry professionals.

Usability

- ▶ *Updated fixing pages* enhance your access to various tools
- ▶ The license wizard's *new, clearer interface* and *automatic renewal option* reduce the hassle of reactivating your license
- ▶ Read our *release notes* for an in-depth look into the new features

Control

- ▶ Mark faster and more precisely with *updated marking tools*
- ▶ Customize Magics in new ways thanks to *new toolpages*
- ▶ Easily *add local honeycomb structures* where you need them

Quality

- ▶ *Stabilization walls* strengthen parts against extruders' vibrations
- ▶ Ensure parts are printed correctly with the Simulation Module's new *results summary* and the *probe and graph tool*

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Magics RP

Release notes

materialise
innovators you can count on

Materialise Magics RP

25.0 – Release Notes

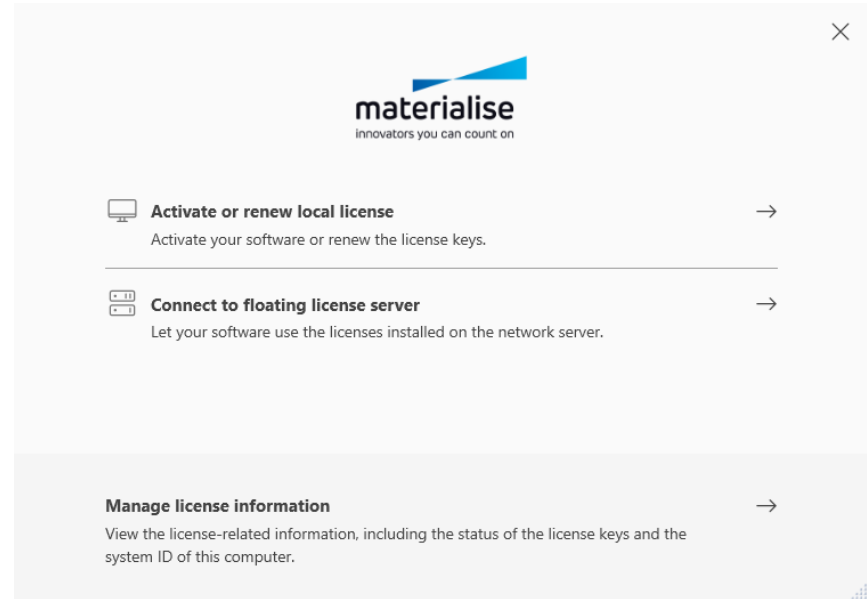
materialise.com



- Access the new, extended release notes to find all the new features, fixed bugs, compatibility information, and known issues.
- They provide you with in-depth explanations on how to use the new features.
- This What's New presentation is a summary of the new major items from the release notes.
- You can find the release notes in the Help Center, via help.materialise.com

New license wizard

- ▶ The new license wizard, added in Magics 24.1, provides an easier and more intuitive activation.
- ▶ In Magics 25.0, we added an automatic renewal option when activating Magics, so you'll never have to worry about reactivating your license.



Renewed toolpages

The screenshot displays the Materialise software interface with several toolpages and toolbars. On the left, the 'MULTI-SECTION' toolpage is active, featuring a table with columns for Active, Type, Clip, Color, Position, and Step. Below the table are buttons for 'Indicate', 'Align', and 'Export'. To the right, the 'PART LIST' toolpage is visible, showing a 'Modeler Scene' dropdown and a table with columns for #, Select, Visibl, Shadli, Transj, Color, Mem, and Part Name. Below this, the 'PART INFO' toolpage is active, displaying 'DIMENSIONS' with a table for Min, Max, and Delta values for X, Y, Z, Volume, and Surface. A vertical toolbar on the left contains various icons for selection, manipulation, and measurement. At the bottom right, a small 3D model of a box is visible.

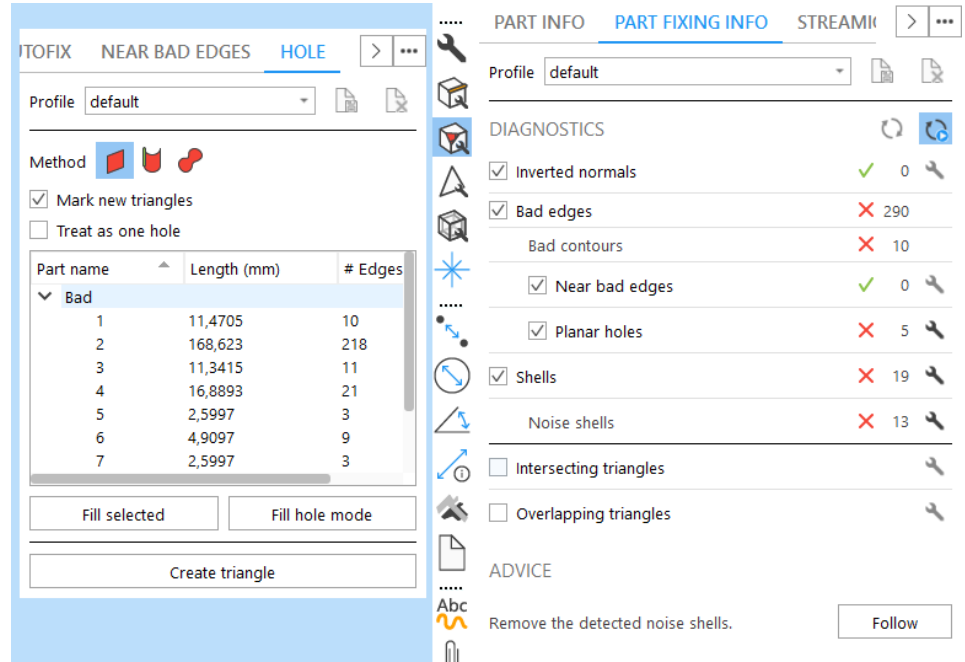
| Active | Type | Clip | Color | Position | Step |
|--------------------------|------|------|--------|----------|-------|
| <input type="checkbox"/> | Xv | | Red | 0.000 | 1.000 |
| <input type="checkbox"/> | Yv | | Green | 0.000 | 1.000 |
| <input type="checkbox"/> | Zv | | Blue | 0.000 | 1.000 |
| <input type="checkbox"/> | Xv | | Purple | 0.000 | 1.000 |
| <input type="checkbox"/> | Yv | | Yellow | 0.000 | 1.000 |

| Min | Max | Delta |
|---------|-----|-----------------|
| X | | mm |
| Y | | mm |
| Z | | mm |
| Volume | | mm ³ |
| Surface | | mm ² |

- ▶ Toolpages can now be added to a special toolbar, so the most important pages will always be visible.
- ▶ You have full freedom over the positioning of your toolpages: on the side, in a toolbar, or anywhere else on the screen. With the default profile, the focus is on the information pages.
- ▶ Each toolpage has a small menu at the top right for pinning, closing, or collapsing the toolpage.
- ▶ In the Customize UI window, you have full control over the position and visibility of the pages.

Fixing toolpages

- ▶ The FixWizard has been fully integrated into the toolpages. This gives you faster access to any fixing functionality.
- ▶ In the Part Fixing Info page, the advice is now shown with a more convenient Follow option, which fixes your parts with fewer clicks. Additionally, you can automatically fix per error type.



The screenshot shows two toolpages from the FixWizard. The left panel is titled 'HOLE' and contains a 'Profile' dropdown set to 'default', a 'Method' section with three icons, and two checkboxes: 'Mark new triangles' (checked) and 'Treat as one hole' (unchecked). Below these is a table with columns 'Part name', 'Length (mm)', and '# Edges'. The table lists seven 'Bad' items with their respective lengths and edge counts. At the bottom of this panel are buttons for 'Fill selected', 'Fill hole mode', and 'Create triangle'.

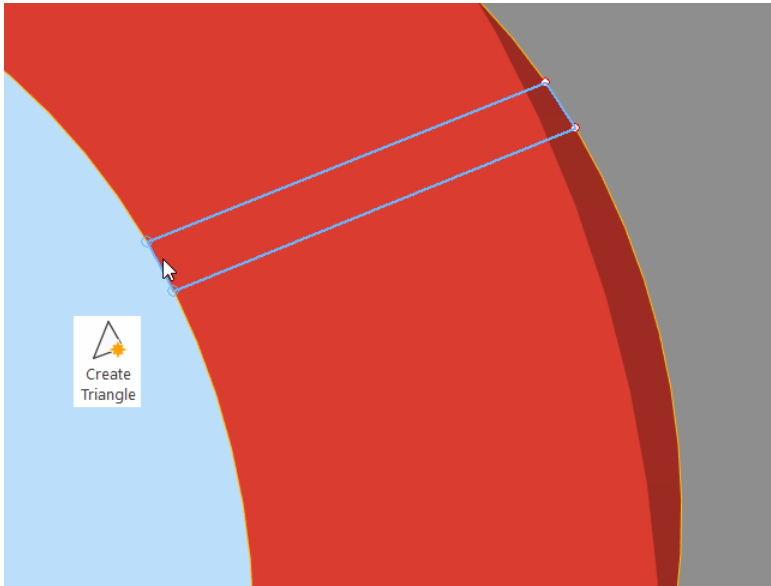
| Part name | Length (mm) | # Edges |
|-----------|-------------|---------|
| Bad | | |
| 1 | 11,4705 | 10 |
| 2 | 168,623 | 218 |
| 3 | 11,3415 | 11 |
| 4 | 16,8893 | 21 |
| 5 | 2,5997 | 3 |
| 6 | 4,9097 | 9 |
| 7 | 2,5997 | 3 |

The right panel is titled 'PART FIXING INFO' and shows a 'Profile' dropdown set to 'default'. Below this is a 'DIAGNOSTICS' section with a list of error types and their counts:

- Inverted normals: 0 (green checkmark)
- Bad edges: 290 (red X)
- Bad contours: 10 (red X)
- Near bad edges: 0 (green checkmark)
- Planar holes: 5 (red X)
- Shells: 19 (red X)
- Noise shells: 13 (red X)
- Intersecting triangles
- Overlapping triangles

At the bottom of the right panel is an 'ADVICE' section with the text 'Remove the detected noise shells.' and a 'Follow' button.

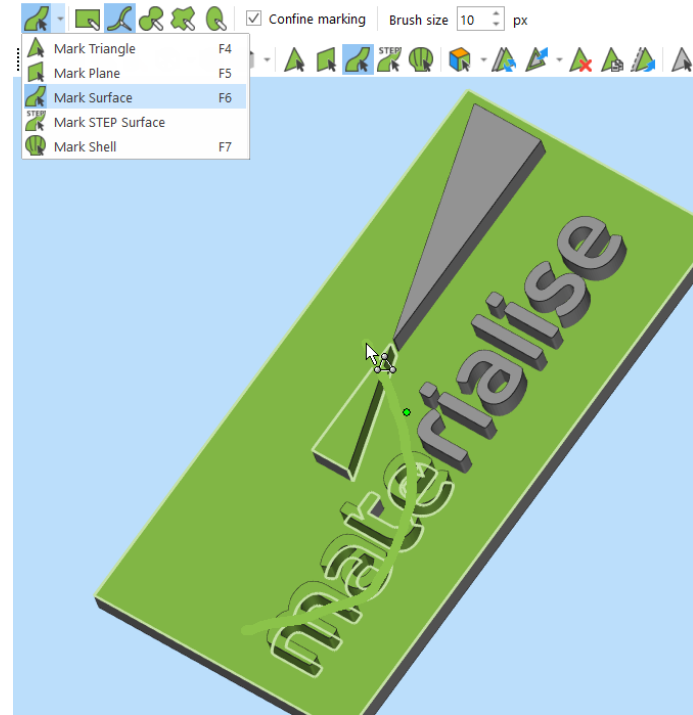
Fixing improvements

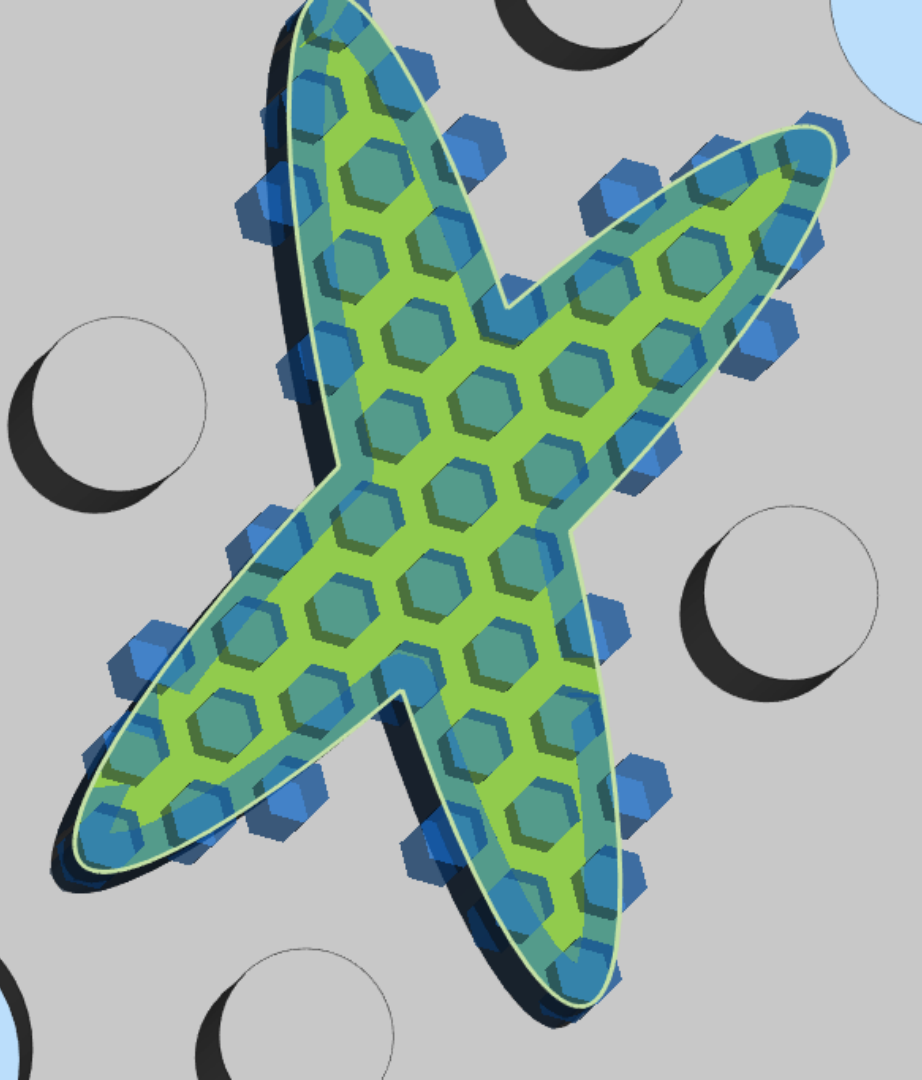


- ▶ The Create Bridge function has now been incorporated into the Create Triangle function, allowing both edges and points to be selected.
- ▶ The new Invert Normals function in the Fixing ribbon inverts either any marked triangles if something is marked or the entire part if nothing is marked.
- ▶ The AutoFix function is 40% faster on average.

Marking improvements

- ▶ The marking functions have been improved to allow users to work faster and have more control while marking.
- ▶ Marking functions like Brush Selection or Rectangle Selection have been extended beyond marking single triangles to mark entire shells, surfaces, or planes.
- ▶ A specific marking toolbar pops up when a marking function has been activated, allowing you to choose what and how you mark. It also provides additional control over brush size as well as remesh options.



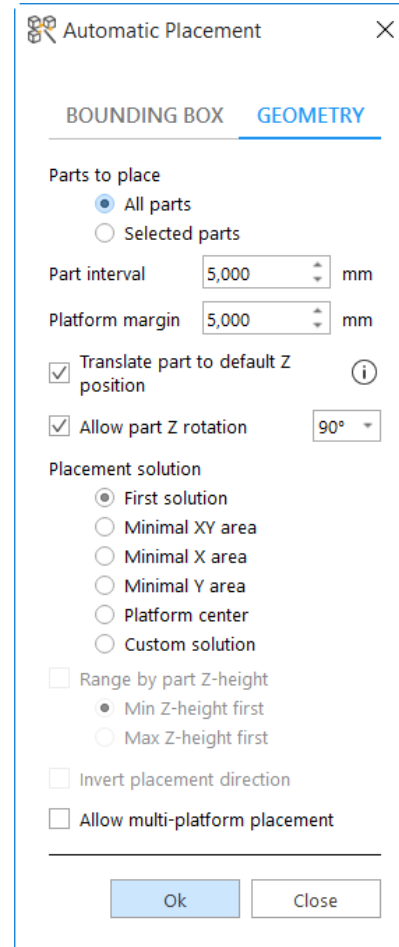


Local honeycomb

- ▶ Get more control over your honeycomb structures by creating them locally on a marked region.

Automatic placement

- ▶ The Automatic Placement bounding box option has now been sped up, from seconds to milliseconds.
- ▶ Additionally, Automatic Placement has a new interface that makes it easier to use.



The screenshot shows the 'Automatic Placement' dialog box with the 'GEOMETRY' tab selected. The 'BOUNDBOX' tab is also visible. The 'Parts to place' section has 'All parts' selected. The 'Part interval' and 'Platform margin' are both set to 5,000 mm. The 'Translate part to default Z position' and 'Allow part Z rotation' (set to 90°) are checked. The 'Placement solution' section has 'First solution' selected. The 'Range by part Z-height' section has 'Min Z-height first' selected. The 'Invert placement direction' and 'Allow multi-platform placement' options are unchecked. The dialog has 'Ok' and 'Close' buttons at the bottom.

Automatic Placement

BOUNDBOX GEOMETRY

Parts to place

- All parts
- Selected parts

Part interval 5,000 mm

Platform margin 5,000 mm

Translate part to default Z position ⓘ

Allow part Z rotation 90°

Placement solution

- First solution
- Minimal XY area
- Minimal X area
- Minimal Y area
- Platform center
- Custom solution

Range by part Z-height

- Min Z-height first
- Max Z-height first

Invert placement direction

Allow multi-platform placement

Ok Close

Support Generation (SG)

Support parameters page restructuring

- ▶ All support parameters toolpages have been combined into a single page to provide you with a clear overview.
- ▶ To make it even more intuitive, the common and advanced parameters have been given a more logical structure in this toolpage, allowing you to work faster.

TYPE SUPPORT PARAMETERS ...

Profile 📄 🔗 📄

▼ GENERAL

- Offset
- Critical points
- Reinforcement line
- Support height
- Support thickness
- Angled support
- Rescale support
- Support reinforcement

▼ BLOCK

- Hatching
- Hatching Teeth
- Hatching Teeth Breakp...
- Teeth Synchronization
- Fragmentation
- Fragmentation at Cros...
- Heat sink
- Hatch Removal

XY offset mm

Z offset

- Upper mm
- Lower mm

Vertical wall offset mm

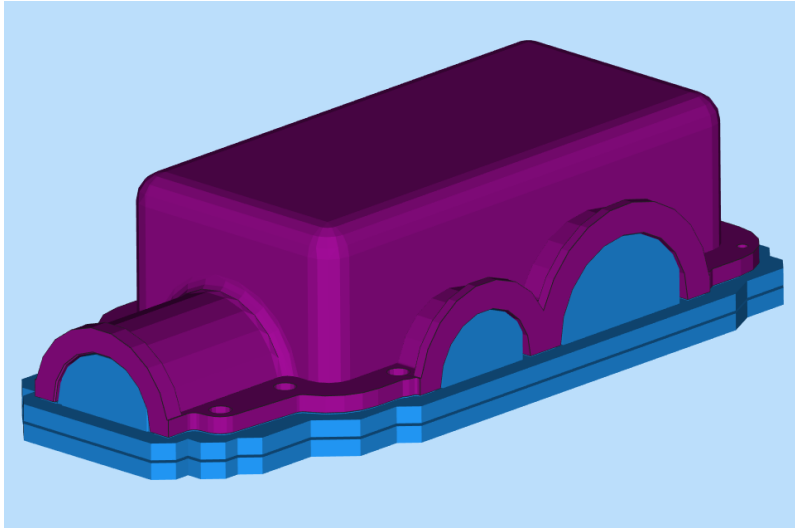
No support

- Wall offset (a) mm
- Min height supporting wall (b) mm

Volume SG*

* Volume SG is fit for metal binder jetting and extrusion technologies.

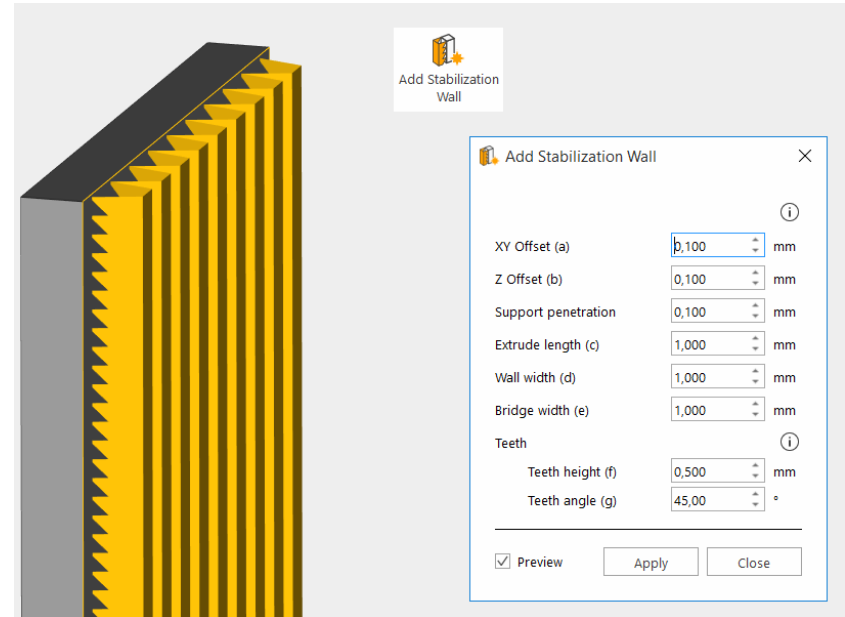
Raft for metal binder jetting



- ▶ We added rafts for binder jetting technologies to our support functionality.
- ▶ The raft fits neatly around the chosen part.
- ▶ Rafts improve part quality by keeping the powder in its place.

Stabilization wall

- ▶ Stabilization walls are a new kind of support aimed at extrusion technologies like FDM and HSE.
- ▶ For long, thin parts, this feature decreases the effect of vibrations due to the movements of the extruder, improving the quality of the part.

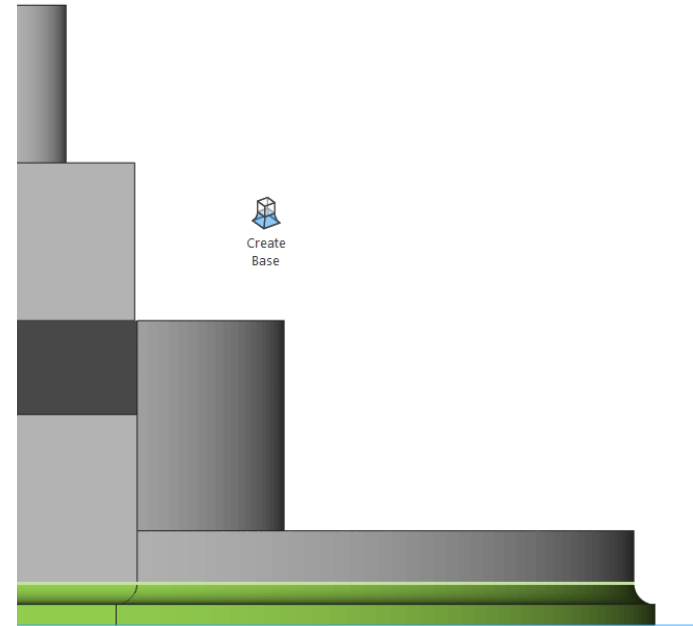


Metal Support Generation (SG+)*

* Includes all features from SG and Volume SG

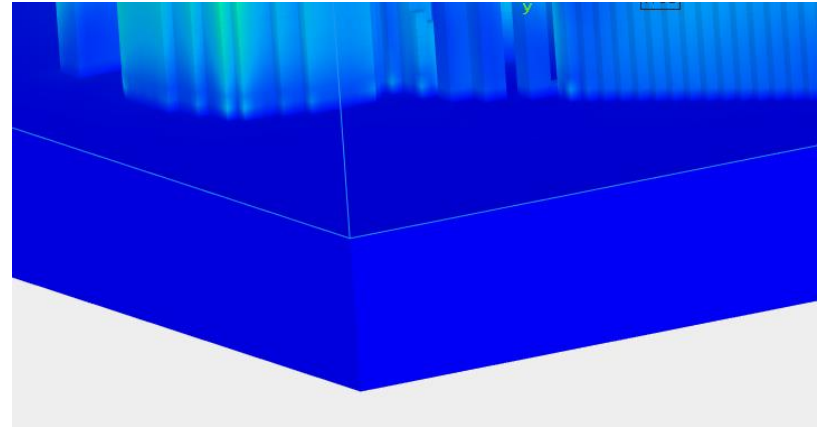
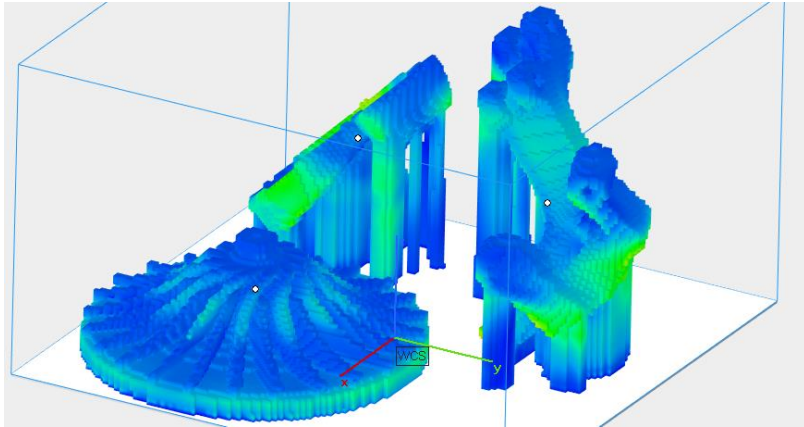
Create base

- ▶ As the former Base Rounder was valued by our users, we have included the feature for all SG+ users under the name Create Base.
- ▶ This function promotes heat to flow away from the part.
- ▶ Thanks to the rounded offset, a stronger connection to the baseplate is achieved and cracks can be prevented. These result in fewer build crashes, saving time and money.



Simulation Module

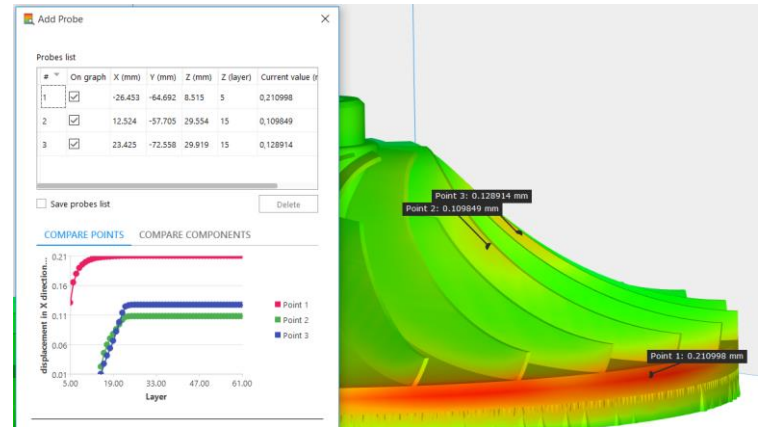
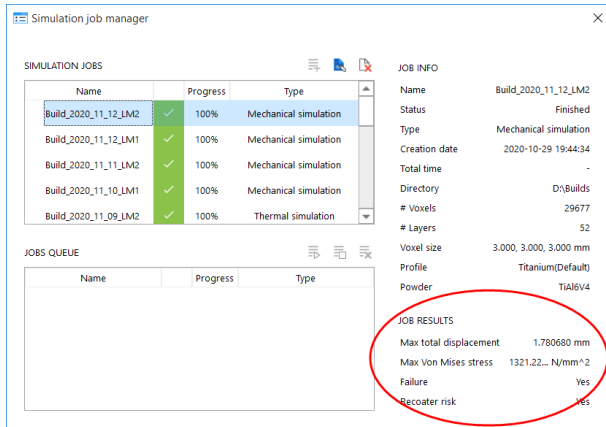
Full-build simulation



- ▶ Simulate multiple parts or even an entire build at once.
- ▶ Improve quality by simulating the effects neighboring parts have on each other.

- ▶ Simulate your base plate to predict deformation.
- ▶ Avoid rebuilding a part due to base plate overheating.

Simulation results



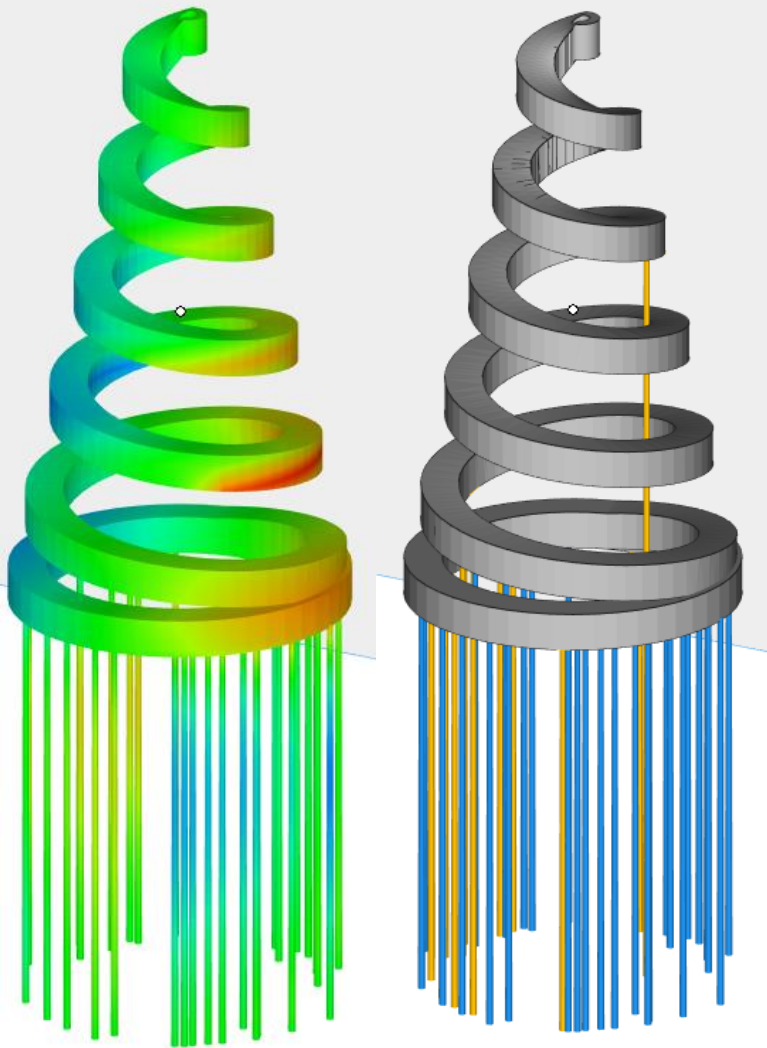
- Get a summary of your Simulation results before entering Magics
- Find out faster whether your part or build will print well

- Locally inspect your parts with the new probe and graph dialog
- Gain more control over the quality of your parts

Physics-based support*

- Automatically improve the support of your part based on simulation.
- Support will be added where needed, based on mechanical/ thermal problems, to result in an optimal print.

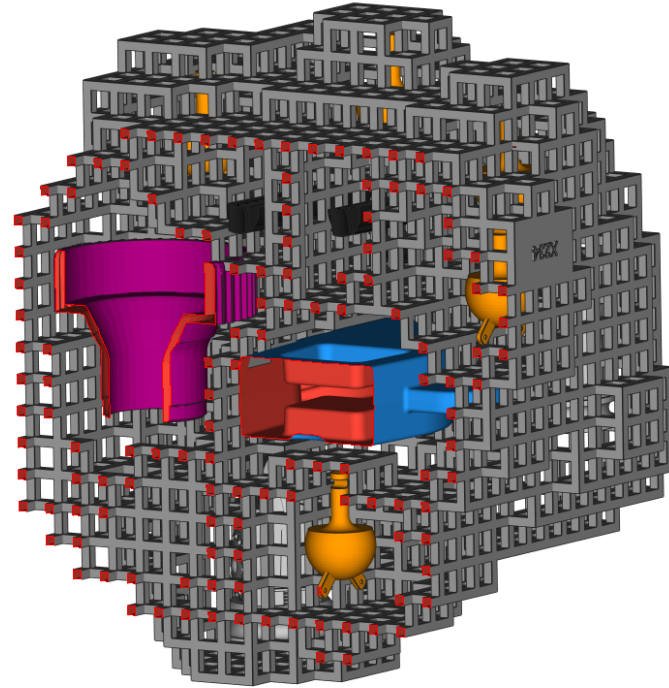
* Still undergoing validation as beta feature

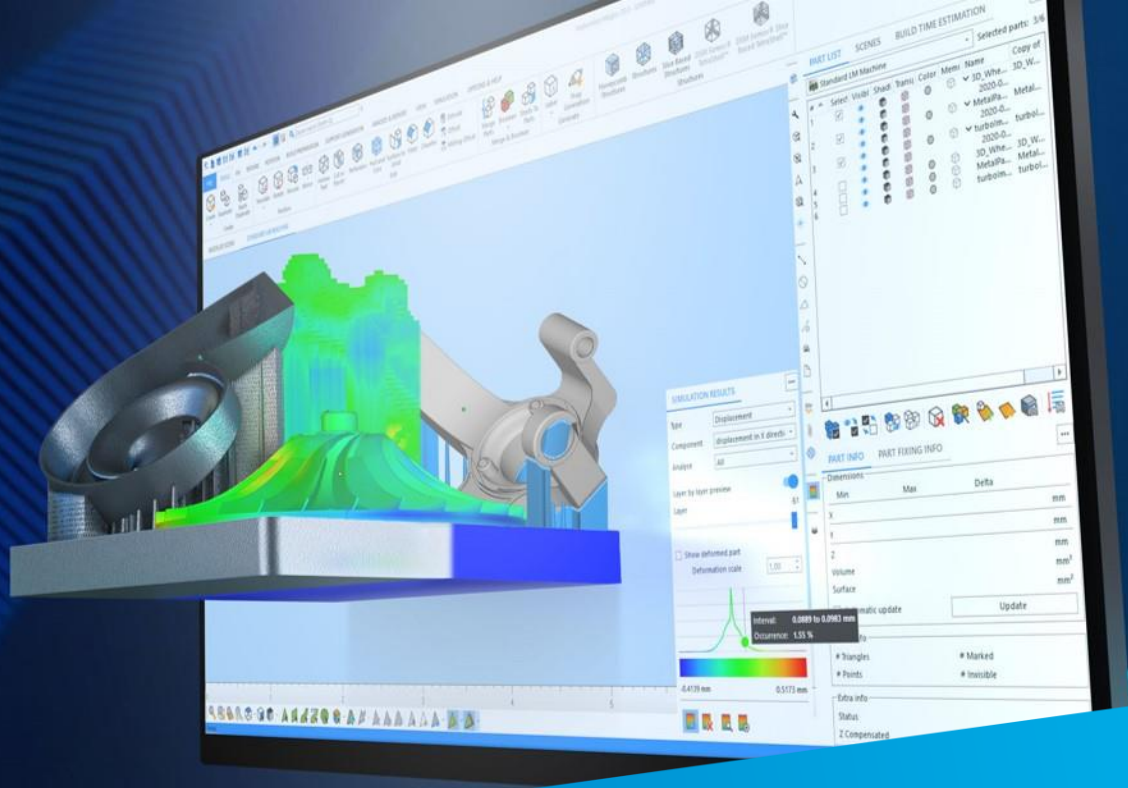


Sinter Module

Sinterbox

- ▶ The sinterbox window has received a unified operation window, making it easier to use.
- ▶ A new freeform sinterbox has been introduced, which enables denser packing thanks to its close fit around the part(s).
- ▶ Internal walls are now possible within the sinterbox to keep parts away from each other, allowing a clearer distinction between the parts as well as more specific post-processing per part.





For more information,
contact your local Materialise office.

mils.me/magics-contact