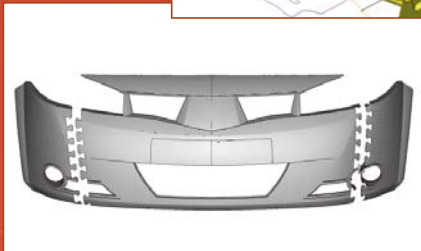
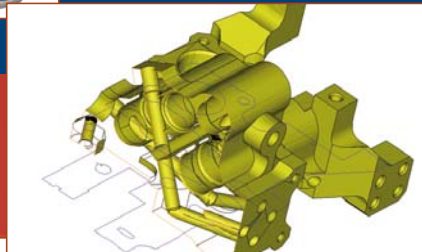


Magics

Software for the RP&M professional



Quickly building high quality parts constitutes the essence of rapid prototyping (RP). Producing parts of premium quality implies that every step in the RP process is carried out meticulously, from data import to platform preparation. Magics RP software skilfully optimises all steps in your RP process, helping you build the perfect part.

Software for the RP&M professional

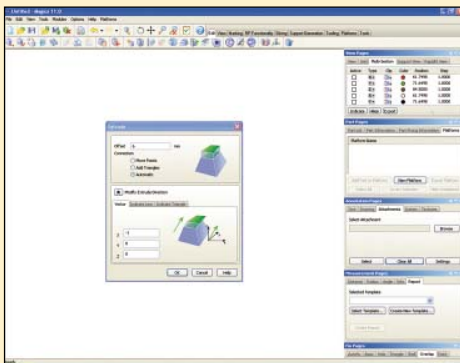
By allowing you to gain a good understanding of your part before building, Magics RP ensures you won't have to deal with quality issues later on, when handling them has become costly and time-consuming. In addition, Magics RP has several tools to make process-related design changes directly

on your part. These, in turn, enable you to get the most out of your RP machine.

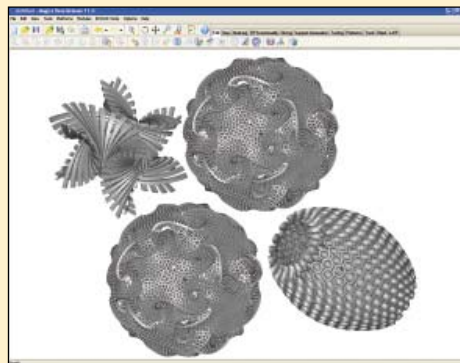
You can add on modules to your Magics RP software to tailor it to your individual needs and the specific requirements of your RP process.

Prepare RP files in a breeze

Magics RP is the ultimate in user-friendliness and speed, guiding you through the file preparation process as quickly and easily as possible.



Customise Magics' user interface to match your workflow



Work with multiple files simultaneously

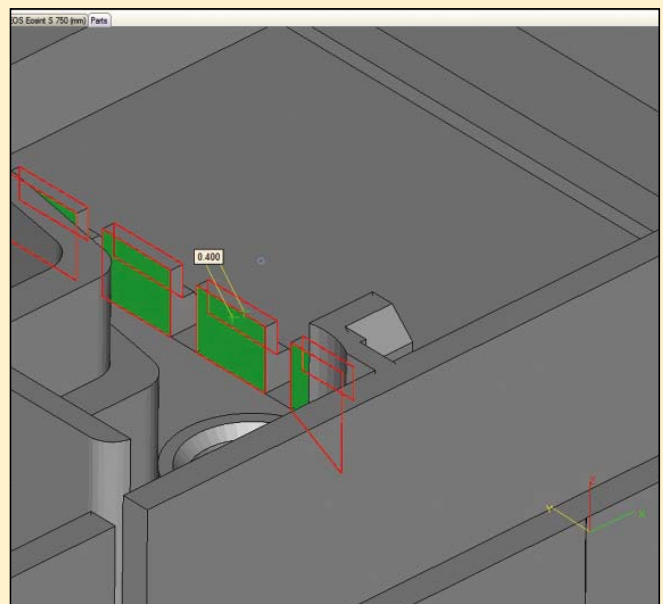
- As the **ultimate in user-friendliness**, Magics RP offers a customisable user interface, allowing you to create your own toolbars and shortcuts to match your workflow.
- Magics RP is the **ultimate in speed**, thanks to its superior memory management and advanced rendering capabilities. Together, they enable you to **work with large files easily or with multiple files** simultaneously. The **triangle reduction** feature rationalises the size of large files such as scan data with sophisticated options to considerably facilitate and speed up data handling.

Get a good understanding of your part

Magics offers a whole range of tools that allow you to visualise and analyse parts, so you can immediately see whether your part is ready to be built or not. By dealing with product quality and manufacturability at an early stage, these tools help you save heaps of time and money.

It takes only a few mouse-clicks to:

- Quickly orientate, resize and assemble parts.
- Highlight problems in STL files.
- **Wall thickness analysis** helps you to quickly identify problem areas that are too thin or too thick to be built properly. You can also instantly gain in-depth understanding of a part by performing a detailed **STL analysis** and using the advanced **section tools**.
- Perform a wide variety of **2D and 3D measurements**. This allows quality control after the part is built and guarantees your part has the right dimensions.

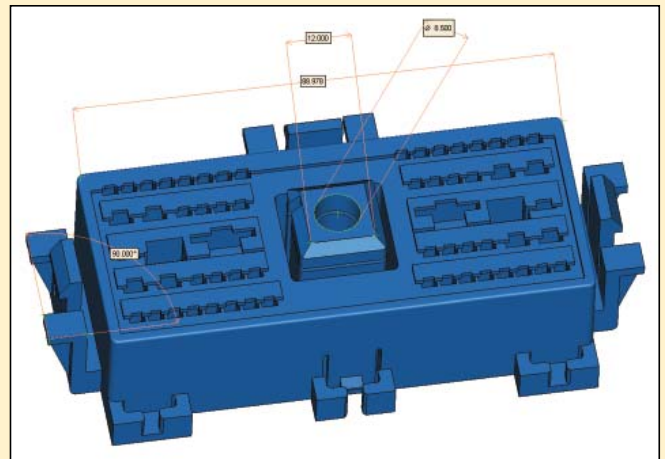


Quickly identify problematic wall thickness before manufacturing

- Generate customised print-outs of e.g. part features and platforms that can guide the workflow.

The image shows two screenshots from the Materialise software. The left screenshot displays a table of part properties for three different parts, each with a small 3D model. The right screenshot shows a 'Platform report' for 'Platform for SLA 2500.pdf', including a 3D model of the platform and a table of platform properties.

Part	Name	Class	Value
1	Part 01	101.000000.000000.00	100000.000000
2	Part 02	102.000000.000000.00	100000.000000
3	Part 03	103.000000.000000.00	100000.000000



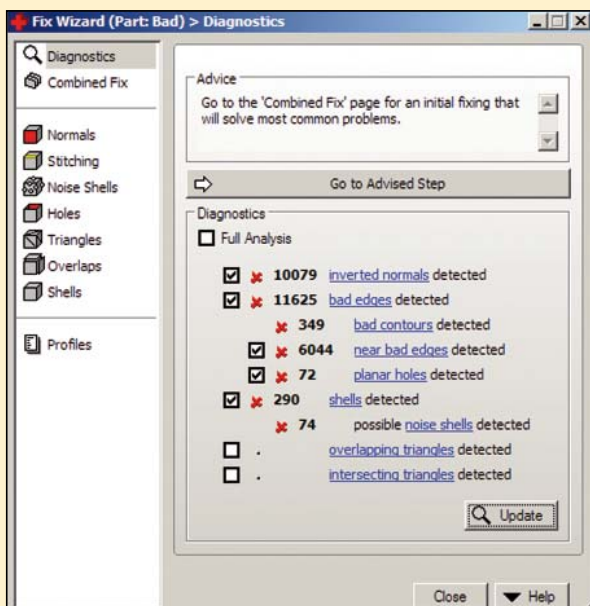
Perform measurements to obtain a better understanding of your part

Have customised print-outs generated automatically

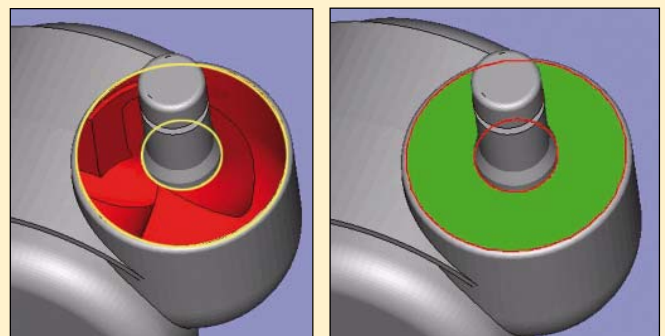
Create perfect STL files fast

Many STL files contain flipped triangles, bad edges, holes or other defects that require repairing before they can be sent to an RP machine. Magics provides unmatched capability to interact directly on defective triangles, allowing you to create a watertight STL file in a matter of minutes.

- The Fix Wizard automates the repair of your STL model, which drastically reduces the skill level and time required to repair files. Its intuitive interface quickly identifies errors and recommends the best next step for correcting them.
- All defects can also be repaired manually. Magics allows the user to invert flipped triangles and shells, stitch bad edges, and smoothly fill the most complex holes. Double surfaces can be detected easily, identical triangles can be removed and separate parts or shells can very quickly be merged to obtain a single-shell part.
- Using a 3D scanner to create an STL file of an object always entails noise. The triangle smoother eliminates this noise, improving the quality of the surface.



Fix STL models automatically, using the Fix Wizard

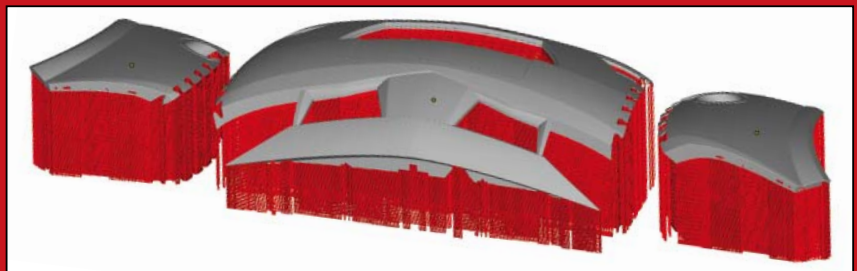


Fill holes with a single mouse click

Get the most out of your RP machine

Looking for an easy way to speed up your time to market? Use Magics to make direct process-related design changes and eliminate the need for a separate CAD package. It also reduces iterations between the CAD and RP departments every time the RP process dictates a design change.

Intelligent and powerful STL manipulation tools enable you to modify designs directly on the STL data. Some of the most important tools are listed below.

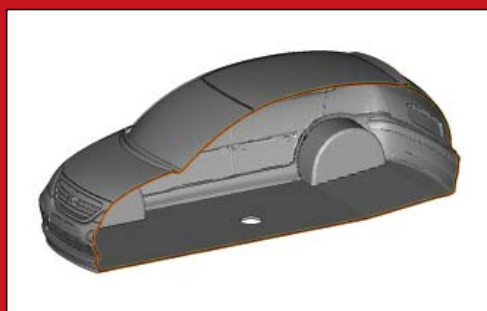


Optimise the build platform by cutting your part

- Identify your parts easily by generating labels in any size Windows True Type Font, including images and logos, even on complex surfaces.
- Fit a large part on the machine or reduce the build height to build faster by **cutting** your part. You can also save time and material by cutting damaged features out and rebuilding only these. Different styles and options are available, ensuring an easy, strong, perfect fit of the cut parts.
- Ensure accuracy of the final part by applying **offsets** to compensate for finishing processes like machining, painting and sandblasting.
- **Creating various objects** in STL format is easy to do.
- Quickly prepare data for production on colour capable machines. You can **paint parts easily** by assigning colours to triangles or surfaces. The colours can be adjusted to compensate for colour changes due to the RP process.
- Magics enables you to build life-like, **textured prototypes** directly. You can import textured files or apply an image onto the surface of a model. These textured models can then easily be further manipulated or prepared for RP production.



Manipulate textured models directly



Hollow parts to build faster and to save material

- **Boolean operations** turn Magics into an STL based CAD system. Volumes can be added or removed by uniting, intersecting or subtracting STL files.
- Cut down material cost significantly and build faster by **hollowing** parts, even those with the most complex geometries. Hollowed parts are also more accurate because less internal stresses are created.



Identify parts easily by labelling them

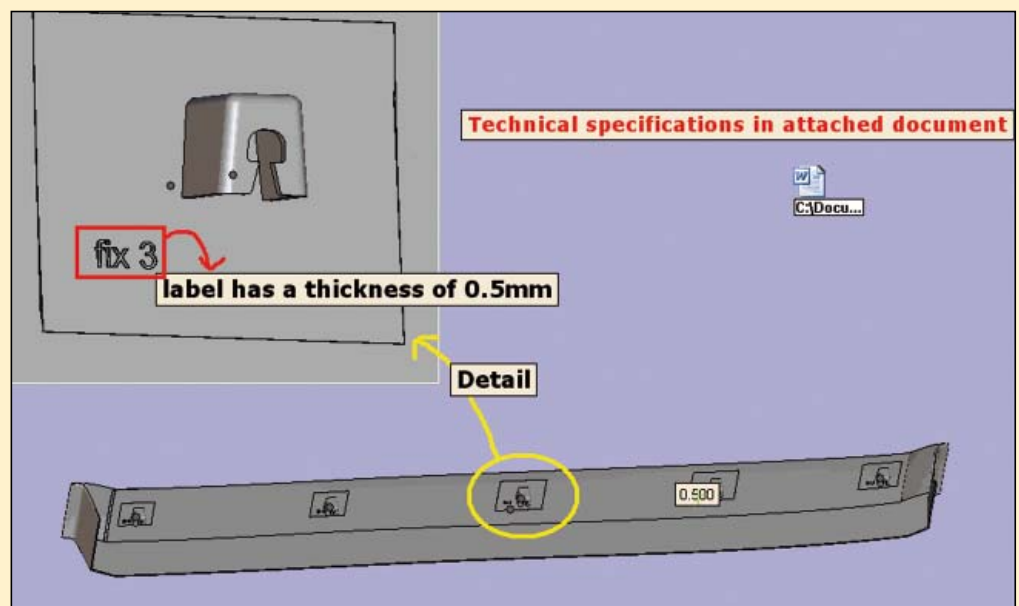
Magics offers everything your RP process requires

Because it's closely conformed to industry needs, Magics maintains its reputation as state-of-the-art software, offering applications that are of real interest to RP&M professionals. Whatever your RP machine demands, Magics will be able to offer a solution.



Maximise the number of parts on the build platform

- Save time and space by nesting parts on the build platform in a single mouse-click. Your **parts are positioned automatically**, based on their geometry. The results are an optimal load in no time and a significant increase in machine capacity. By maximising the number of parts on the platform, you'll be able to avoid waste and lower your production costs.
- Magics allows you to visualise the different platforms of your machines and to prepare these platforms simultaneously. During the same Magics session, you can easily swap parts between platforms. This **multiplatform handling** significantly speeds up and facilitates the build set-up process and helps you to operate multiple machines as efficiently as possible.
- **Z-Compensation** compensates for the overcure which causes extra material to build up on down-facing surfaces. This ensures your part has the desired measurements.
- Perform exports in the format your RP machine demands. Whether it's STL, slice format, etc., Magics provides a **direct link** to your RP machine.
- **Accurate, timely communication** among design and project team members is crucial to a project's success. Without it the chances of failure, scrap and delayed lead-times become significantly higher. By adding attachments, pictures and annotations to your Magics project, you'll be able to improve the communication process considerably and avoid misunderstandings.



Avoid misunderstandings by adding annotations and attachments

Integrated solutions for the RP&M professional

You can tailor Magics precisely to the needs of your RP process, by adding dedicated modules to the Magics RP software. If you would like to receive more information on these additional modules, please contact your nearest Materialise office.



Magics is the result of over **15 years of industry know-how** and provides integrated solutions for the RP&M professional. Materialise' Industrial Services division houses the world's largest RP capacity based in a single location. The software division develops its solutions based on the input of the service bureau, which, in turn, conducts extensive live tests on all Materialise software before it's launched in the market.

The world's most advanced service bureaus and the RP departments in top automotive, consumer electronics and aerospace companies use Magics. With at least two releases each year, Magics is the product of continuous innovation and progress. Magics can even be customised to meet your specific needs. Users can benefit from a worldwide technical support system, as well as training programs that teach them the optimal use of Magics' features.

Worldwide support

Ten good reasons to choose Magics:

1. Magics is the product of extensive experience in software development and continuous innovation.
2. Magics facilitates the most complex RP tasks.
3. Magics speeds up your RP process without sacrificing accuracy.
4. Magics is extremely user-friendly, intuitive and state-of-the-art software.
5. Magics is the ultimate in speed, thanks to efficient memory usage and large file handling.
6. Magics helps you to avoid quality issues later on, by visualising problem areas and analysing a part.
7. Magics allows you to manipulate designs directly on the STL data, helping you to get the most out of your RP machine.
8. Magics helps you to create perfect STL files, ready to be sent to an RP machine, in a matter of minutes.
9. Magics can be tailored to the needs of your RP process by the addition of several modules.
10. Magics offers everything your RP process requires.