RapidFit +

Modular Fixturing Solutions
Driven by Additive Manufacturing
About RapidFit+:

When faced with the challenge of accurately measuring large, 3D printed automotive parts for major OEMs, Materialise, a leader in Additive Manufacturing (AM), came up with a unique solution. Instead of using conventional fixturing systems, which were not only expensive, but also time consuming to create, Materialise created their own fixturing system using the AM equipment at their disposal. Thus, RapidFit+ was born: a system that changes how fixtures are designed and manufactured.

As a modular system, RapidFit+ offers a high degree of customization and accuracy while also allowing for the re-use of standardized elements. In addition, thanks to the design freedom of AM, advanced functionality can be integrated into the fixtures, such as snap-fits and clips. These in turn enable increased repeatability and a better representation of the part environment. Modifications also become straightforward and quick to accomplish, leading to a reduction in risk and production downtime.

The freedom of design, the integrated functionality, and the drastic increase in manufacturing speed make RapidFit+ the ideal solution for your fixturing needs.

Discover the Next Generation of Measuring Fixtures

The Benefits of the RapidFit+ System:

- The design process is driven by your needs, resulting in highly precise and customized measuring fixtures for your part
- As well as being sleek looking and easy to use, these fixtures are able to incorporate highly complex internal and external geometries and functions
- By being modular, RapidFit+ delivers a highly adaptable and partially re-usable system, leading to long term savings
- The Fixtures are made with advanced materials: PA, PA-GF, Alulon in combination with highly durable steel inserts and high tensile Aluminium
- The system makes use of the latest and best in Additive Manufacturing technology, which in turn enables:
  - Limitless freedom of design
  - The integration of functionality
  - Fixtures that are 50% lighter
  - Produced with laser precision
  - Easy modifications and quick turn-around for new iterations

There is always a RapidFit consultant close-by to help you with your projects

- Strategic locations
- Certified partners
- Production & fixture assembly worldwide


Working With You, From Concept to Certification

1. Requirement Definition
RapidFit+ starts the design process by listening to you and discovering your specific needs. Each fixture is customized to make it easier for you to accurately measure and check the quality of your parts.

2. Design
The fixture’s design is customized to meet your specific needs and is optimized for Additive Manufacturing using Materialise’s market-leading software.

3. AM Production
Thanks to software developed in-house, like Magics and Streamics, the designs that are prepared and sent to production get the most out of Additive Manufacturing in terms of efficiency, accuracy and quality. The fixtures are produced using top-of-the-line Additive Manufacturing equipment and materials.

4. Assembly
Assembly is done in a temperature-controlled environment by in-house assembly experts.

5. Certification
Certification and calibration are done in a temperature-controlled lab environment, ensuring a high-quality, accurate result.

6. Final Approval Together with the Customer
Throughout the process, you can use our Online Project Platform to find important details about your project and track its progress.

Through detailed discussions, we help you discover the right solution for your needs. We use our experience in Additive Manufacturing to deliver creative solutions.

Our climate-controlled assembly area meets the highest standards. Our engineers excel in the assembly of high-quality fixtures.

We use state-of-the-art equipment in the design of your fixtures. We support Catia V5 and other CAD systems to ensure that your specific CAD requirements are met.

We use the latest optical and tactile measurement machines available on the market. The adapters and contours are adjusted to the required accuracy.

New possibilities are opened thanks to the technological advantages of Additive Manufacturing. Our Additive Manufacturing technology is top-of-the-line.

The RapidFit+ software platform enables online approvals and project monitoring. Final approval belongs to you, ensuring that your needs are met.
Innovative, Customised Fixturing Solutions

Checking fixture with quick release mechanism for a side cover. Hinged measuring clock holders.

Rear bumper fixture with contours milled in Alulon for checking gap and flush.

Explosion sketch of a checking fixture for air ventilation grill of an instrument panel.

Checking fixture for air ventilation grill of an instrument panel now assembled.

Detail: Locator with integrated spring clamping mechanism and steel datum.

Ready-to-Use Measuring Fixtures

Checking fixture with quick release mechanism for a front grill of a MPV.

Front bumper checking fixture with measuring clock positions for fast and easy measurement.

Checking fixture for plastic part with adapter with integrated functionality.

Quick release mechanism on a rear bumper fixture which allows simultaneously release of all clamps.

Fixture for wheel arch cover.
With its headquarters in Leuven, Belgium, and branches worldwide, Materialise has been playing an active role in the field of Additive Manufacturing (AM) since 1990. In addition to having the largest capacity of AM equipment in Europe, Materialise also enjoys a stellar reputation as a provider of innovative software solutions. They have used their experience and expertise to create a better and healthier world through their involvement in AM for industrial and medical applications, and by providing bio-medical and clinical solutions such as medical image processing and surgical simulations. Materialise has developed unique solutions that make a world of difference for its many customers with their prototyping, production, and medical needs. These customers range from large companies in the automotive, consumer electronics, and consumables sectors; to famous hospitals, research institutes, and clinicians; to individual consumers interested in bringing their own unique creations to life through i.materialise or who want to purchase a celebrated MGX design.

RapidFit is part of the Materialise Group.

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