

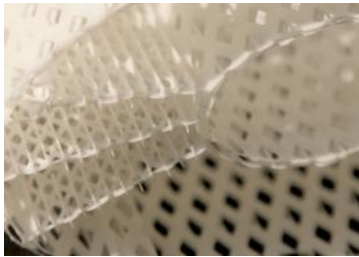


TOYOTA MOTORSPORT GmbH RAPID MANUFACTURING PORTFOLIO



RAPID MANUFACTURING

Whatever the requirement, with one of the largest rapid manufacturing facilities in all of Europe, covering stereolithography and laser sinter, TMG has the hardware and in-depth knowledge to react quickly and reliably.



No matter where you are in the world, production can begin on your item at TMG within just a few hours - simply deliver a suitably-detailed 3D CAD model or STL file and we will quickly turn your innovation into reality.

RAPID MANUFACTURING MACHINE SUMMARY

Our high-capacity stereolithography (STL) suite includes eight SLA5000 machines and two SLA7000 units from 3D Systems, providing flexible, fast and reliable services. All machines use RM-05 material, with one also capable of utilising RM-10.

The build volume of all our STL machines is of a similar size. The SLA5000 works to 508 x 508 x 584mm while the SLA7000 is larger at 508 x 508 x 600mm. All feature solid state, frequency tripled lasers and build layers of between 0.025 and 0.1mm.



Our two large-frame laser sinter machines are part of the EOSINT range by EOS and we have one example each of the P700 and P380 range. The adaptable P380 can work with RM-06, RM-07 and RM-08 material while the P700 functions with RM-06 only. Our two laser sinter machines offer a diverse range of size options; the P700's build volume is 700 x 380 x 580mm while the P380's is 340 x 340 x 620mm. All TMG's rapid manufacturing machines are serviced regularly to ensure reliability.



RAPID MANUFACTURING MATERIAL PROPERTIES

Name	Description	Type	Raw Media	Applications & Characteristics	Colour	Accuracy	Min. Resolution	Min. Wall Thickness	Ideal Wall Thickness
RM-05	DSM NanoTool	Epoxy + filler	Liquid resin with high viscosity (SLA)	Wind tunnel parts. High surface quality, very accurate, low warp, brittle	White	±0.1%	0.2mm	0.8mm	1.3mm
RM-06	EOS Alumide	PA12 (Nylon 12) + aluminium flakes	Powder (SLS)	Wind tunnel parts, brackets & boxes for race car, hinges, snap-on fixtures. High surface quality	Grey, metallic	±0.25%	0.4mm	1mm	1.5mm
RM-07	EOS CarbonMide	PA12 (Nylon 12) + carbon fibres	Powder (SLS)	Wind tunnel parts, brackets & boxes for race car. High strength and stiffness	Black	±0.25%	0.4mm	1mm	1.5mm
RM-08	EOS PA 3200 GF	PA12 (Nylon 12) + glass spheres	Powder (SLS)	Laminating tools, moulds for silicon, brackets & boxes for race car, hinges, snap-on fixtures	White	±0.25%	0.4mm	1mm	1.5mm
RM-10	DSM WaterShed XC 11122	Epoxy/acrylic blend	Liquid resin with low viscosity (SLA)	Wind tunnel parts, items with internal geometries (channels etc). High surface quality	Transparent (polished)	±0.2%	0.2mm	0.8mm	1.3mm

A horizontal banner with a dark, blurred background showing mechanical parts of a car. The text "TOYOTA MOTORSPORT GmbH" is written in a white, sans-serif font, with "THE HOME OF HIGH PERFORMANCE" in a smaller, all-caps font below it.

TOYOTA MOTORSPORT GmbH
THE HOME OF HIGH PERFORMANCE

This presentation is only a brief overview. For a detailed discussion on how to extract the full potential of your project or product we are happy to offer a no-obligation consultation.

As a multi-national company we have representatives speaking all major European languages and several more besides, while discretion and client confidentiality come as standard.

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