Science and Technology Facilities Council

Additive Manufacturing Facility
Building R9 Room G.07
Email: sam.allum@stfc.ac.uk
dave.wilsher@stfc.ac.uk
Phone: 01235 445472

Manufacturing Facilities Group - Additive Manufacturing Facility

The Manufacturing Facilities Group within the Technology Department at RAL supports all departments with their manufacturing requirements. Including Additive Manufacturing (3D Printing) – Print from a CAD model in a range of plastics, supported with technical advice at the design stage to support the process.

FDM 3D Printers

FDM® (Fused Deposition Modelling) 3D Printers offer unparalleled versatility to turn your CAD files into durable parts.

FDM technology works with engineering-grade thermoplastics to build strong, long-lasting and dimensionally stable parts.

FDM machines make parts with the most used thermoplastics, such as ABS, ASA, Polycarbonate, as well as specifically engineered thermoplastics for aerospace, medical, automotive, electronics and other specialty applications.

	FORTUS 450mc FDM Fortus 450mc Info	
Build Envelope	406 x 355 x 406mm	
Layer Thickness	0.127mm to 0.330mm depending on material	
Part Accuracy	Parts are produced within an accuracy of ±0.127mm or ±0.0015mm/mm whichever is greater	
Material Options	ABS-M30 ABS-M30i ABS-ESD7 Antero 800 NA ASA PC-ISO	PC Nylon 12 Nylon CF Ultem 9085 Ultem 1010 FDM Material Information

Polyjet 3D Printers

Polyjet® 3D Printers offer unbeaten surface finish and high detail. The parts are made from a 'digital' version of ABS. Due to the printing process this isn't as strong as conventionally made ABS but still produces strong rigid parts.

Polyjet sprays the liquid resin onto the build tray, as this is happening it is rolled flat and then cured with an ultraviolet light. The J55 offers full colour printing and can print 640,000 different colours in the pantone range. It can also print a 'rubber' material which can be printed in shore hardness between 25 and 90 (scale A). Below is further information on this printer.

	J55 Polyjet J55 Info
Build Envelope	Round print tray with up to 1,174cm2 Print height: 190mm
Layer Thickness	0.019 mm
Part Accuracy	Parts are produced within an accuracy of ±0.150mm or 2% of the models overall length whichever is greater
Material Options	Vero Clear Vero Black Vero White Vero Vivid Elastico Polyjet Material Information