



Rapid Prototyping & Additive Manufacturing Bureau

Machines & Materials



Stereolithography (SLA)

SLA Machines

iPro 8000	Largest Stereolithography machine in the UK & Ireland with a build capacity of 650 x 750 x 550mm
Viper Si2	Ideal for both standard and High Resolution builds, with a choice of 6 SLA materials available.
3500 Machine	Larger capacity SLA machine with builds available in Ceramic Filled and ABS-like materials.
250 Machine	Good quality builds with a choice of 4 SLA materials.
5000 Machine	Fast Building, Accurate large frame machine building ABS type materials.
NEO 450s	Large frame hi resolution with superior accuracy and build speeds

SLA Materials

Watershed	Water clear in colour - Simulates ABS - Water resistant, medical approved, high clarity plastic This water resistant SLA material can be finished to water clear. Watershed is suitable for medical prototyping and is USP Grade VI approved.
Xtreme	Grey in colour - Simulates PC/ABS - Very tough/functional Xtreme is a tough, functional PC/ABS simulant suitable for functional testing.
NeXt	White in colour - Simulates Tough ABS - Very Tough, Functional, Crack resistant NeXt is a tough, functional resin suitable for snapfits and living hinges, with excellent impact resistance
Perform	Opaque in colour - High Temperature Plastic (Postcure to 260oC) - Heat resistant, durable, stiff Perform is a durable and strong composite material, suitable for wind tunnel test and rapid tooling applications.
SL7820	Black in colour - simulates ABS - Exceptional surface detail The first black SLA material, SL7820 boasts exceptional surface finish and can be finished to a high gloss black finish. SL7820 offers excellent dimensional stability even in humid conditions
Si25	White in colour - Simulates PP - Flexible Si25 is a tough flexible PP simulant, suitable for the production of snap fits, concept models and functional assembly components.
Si60	Clear in colour - simulats PC - Durable, Stiff, Good clarity Si60 is a durable stiff PC simulant suitable for the production of prototype models requiring some level of transparency.
Taurus	Charcoal in colour – simulates PP – Strong and durable with thermoplastic like performance Taurus is ideal for mose demanding functional prototyping and even end-use applications

Selective Laser Sintering (SLS)

SLS Machines

- EOS P390** Offering both Standard and Glass filled Nylon builds the EOS P390 has a build platform of approx. 320 x 320 x 550mm.
- Formiga P100** Choice of all 4 Selective Laser Sintering Materials the Formiga P100 has a build platform of approx. 193 x 242 x 322mm.
- EOS P396** Offering both Standard and Glass filled Nylon builds the EOS P396 has a build platform of approx. 320 x 320 x 550mm.

SLS Materials

- PA2200** Off white Colour - Nylon - Flexible, Snap Fits/Living Hinges
PA2200 is a tough, functional material with a high temperature resistance (up to 150°C). Very suitable for under the bonnet applications.
- PA3200 GF** Off white Colour - Glass filled Nylon - High Temperature, Rigid
PA3200 GF is suitable for functional rigid prototypes and has a high degree of temperature resistance.
- PA2210 FR** Off white Colour - Flame retardant Nylon - High Temperature, Flame Retardant
Due to the high temperature resistance of PA2210 FR it is suitable for aerospace industry testing and use in electrical and electronic prototyping
- Alumide** Metallic colour - Aluminium filled nylon - Metallic appearance
Alumide is high temperature resistant and is suitable for wind tunnel tests, tool inserts, illustrative models and jig manufacture. It can be finished by grinding, polishing or coating.

Digital Light Processing (DLP)

DLP Machines

3 x DLP Build platform of approx. 70 x 124 x 194mm.

DLP Materials

- TOUGH-GRY 10** Dark Grey colour - simulates ABS - High speed, durable
Tough-Gry 10 is a high-speed material and with 25% elongation at break, it has the durability required for a broad range of applications. It is an extremely stable material, including under high humidity conditions.
- TOUGH-BLK 20** Black colour - simulates ABS - Strong/tough
Tough-Blk 20 is an ABS-like, strong material with industry-leading environmental stability. Parts feature an exceptional surface finish, high precision, durability and long-term stability which make them suitable for fast high-performance prototyping and production applications.
- JCAST-GRN 10** Green colour - Wax - casting material for metals
Jcast – Grn 10 is a high contrast green material most suited for producing finely detailed, high resolution jewellery patterns
- MED-AMB 10** Amber colour - Translucent parts that can be sterilized and tested at high temperature
Figure 4 MED-AMB 10 is a rigid, translucent material for a range of medical and industrial applications - autoclavable & biocompatible
- MED-WHT 10** White/Cream Colour - parts that can be sterilized and tested at high temperature
Autoclavable & Biocompatible - ISO 10993-5 & -10
- HI TEMP 300-AMB** Amber colour - Opaque tough parts that can be tested up to 300 degrees Celsius
Material properties include physical and mechanical properties, as well as thermal, UL flammability, and electrical (dielectric strength, dielectric constant, dissipation factor, and volume resistivity).
- Rigid Gray** Production-grade gray material
High contrast grey plastic for long term use parts with balanced thermal and mechanical properties.
- High Temp150C FR Black** Rigid, halogen-free, flame-retardant black
Rigid, flame-retardant black material that can be used for production parts requiring UL94 V0 rating as well as FAR 25.853 and 23.853 capability
- Tough 60C White** Versatile, biocompatible-capable production-grade white material
White plastic for long-term use parts with a good combination of impact strength, elongation, and tensile strength.

**Tough 65C
BLACK**

Versatile production-grade black material with good impact strength

Black plastic for long-term use parts with a good combination of impact strength, elongation, and tensile strength.

**Rubber - 65A
Black**

High tear strength rubber parts

Rubber-65A Blk is a medium tear strength, malleable material for hard rubber like parts.

Flex Black 10

Functional assemblies and prototypes

Flex Blk 10 is a flexible material for the production of exceptionally durable polypropylene-like parts

Direct Metal Laser Sintering (DMLS)

DMLS Machines

2 x Concept Laser Hi Res Mlabs Machine

High Resolution machine with build capacity of 90x90x80mm - Building components in Stainless Steel, Aluminium and Titanium.

2 x EOS M290 Metal Sintering Machine

Larger capacity Metal Sintering Machine with build capacity of 250x250x330mm - Building components in Titanium & Aluminium

DMLS Materials

Stainless Steel CL20ES

Stainless Steel - High or normal resolution
Very Tough, Functional, Heat Resistant. The Stainless Steel has very similar properties to 316L

Hardening Stainless Steel CL92PHL

Stainless Steel - High or normal resolution
Excellent Chemical Resistance, High Hardness

Titanium Ti64

Titanium Ti64 - High or normal resolution
High Temperature, Very Stiff, High Performance

Aluminium CL30AL

Aluminium - High or normal resolution
Light, Functional, Heat Resistant. The Aluminium has very similar properties to 6082

Vacuum Casting

Vacuum Casting Machines

- Variomatic 5/01** The Variomatic 5/01 machine allows us to offer silicon and quick pour materials with a build size of approx. 320 x 320 x 550mm.
- MCP 001 & MCP 003** Running both the MCP 001 & MCP 003 LPE can produce Vacuum Casting components up to 850 x 1200 x 600mm

Vacuum Casting Materials

Engineer Materials – Rigid and Semi-Rigid

SG95	ABS	Transparent with optical properties
PX 225 OP	ABS/PC	Opalescent Thermoplastic
PR 403	PS/HDPE	Polystyrene Shock Prototype Parts
F180	ABS	Good Impact Resistance, Low Shrinkage
PX205	HDPE	Unbreakable Hinge Effect
8040	PP	

Specialist Materials

VC 3398	ABS, PC	Water clear, High Temp
PX5213	PC	Water clear up to 10mm thickness & UV Stable
PX331	ABS	Flame Retardant, UL94 V-0 & FAR 25
8060 HT	PE/PP	High Temperature
VC 3392	ABS	High Temp. Excellent impact & chemical resistance
9012	ABS	Dry and Wet food FDA requirements, High temperature
8263	ABS	Flame Retardant - UL94V-0

Elastomers

F126	25A Rubber	Tough & good tear strength, ideal for seals and gaskets
F141	40A Rubber	Tough & good tear strength, ideal for seals and gaskets
F161	60A Rubber	Tough & good tear strength, ideal for seals and gaskets
F181	80A Rubber	Tough & good tear strength, ideal for seals and gaskets
6130	90A Rubber	High Tear Strength, Suitable for thin wall sections
UPX8400	Rubber	Shore 30 - 95A, High tear strength
VC 3342	55-60A Rubber hybrid	Shore 55 - 60A, Water Clear
VC 332	60-65A Rubber hybrid	Shore 60 - 65A, Excellent tear strength
VC 3300	Rubber	Shore 35-95A. High Tear Strength
3175	Rubber	Flexible Rubber

Silicon Rubbers

Essil 291	Silicone	Good Chemical and Heat Resistance
SortaClear 18	18A Siliicone	FDA Compliant
SortaClear 40	18A Siliicone	FDA Compliant