




PLASTICPARTS3D

PLASTIC COMPONENTS

MANAGE DEMAND VOLATILITY AND
REDUCE COST OF OWNERSHIP



3D print tooling | rapid aluminium tooling



Contact us to see what we can do for you. Be it injection moulding, toolmaking, 3D modelling, prototyping or finishing.

Introduction

Plastic Parts 3D is part of the Plastic Parts Direct group, a privately owned company, whose team of enthusiastic professionals have over 35 years of experience in plastic injection moulding and tool making.

Plastic Parts 3D is a leading player in the market offering a solution to the increasing need for a rapid route to end use plastic parts, be it from injection moulding on 3D printed tooling and rapid aluminium tooling or 3D printed parts, production parts can be ready in just days.

Initial tooling costs can be kept to a minimum by utilising our in-house services and new developments whilst delivering within a short timeframe.

Our state of the art UK manufacturing facility and qualified valued personnel guarantee the

highest possible product quality consistently. As part of the Plastic Parts Direct group there is full in-house design, tooling, moulding and finishing.

A considerable investment has been made in the latest microprocessor controlled machinery giving consistent repeatability. All our mouldings and 3D prints are produced in a quality 'white room' facility. This, together with an emphasis on detailed quality control procedures to ISO9001:2015 throughout the production process, ensures a high level of customer satisfaction.

We process all types of thermoplastics from sophisticated engineering polymers to basic commodity polymers in a full range of colours. Our components are supplied to a variety of industries including the fenestration, medical, automotive, engineering, furniture, packaging, closures, building and electrical.

- Custom moulded plastic parts
- 35 years of experience
- Full design service available
- Manufactured in the UK
- Delivery date guaranteed

We also offer a full contract moulding service, producing parts from your existing moulds.



3D Printed Tooling

Here at Plastic Parts 3D we have developed an exciting process of 3D printing mould inserts in a proprietary material for conventional injection moulding.

If you can only use injection moulded parts for your project but only need a small quantity, then this is a very economical route to take. Just send us your 3D file of the part(s) required and we'll let you know if this form of production is suitable or whether you may need to consider our Rapid Aluminium Injection Mould Tool service.

What is 3D Printed Injection Mould Tooling

By utilising new materials developed for 3D printing and our on-site printing facility we have a process now of printing injection mould tool cavity inserts. These inserts are formed in the usual way of first producing a 3D model of the tool from the 3D model of the component then downloading

to one of our printers for production of the inserts at a resolution of 50 microns.

The inserts are then assembled within our own steel and aluminium injection mould bases for mounting directly on to our injection moulding machines for conventional production of parts. This is very useful for when actual injection moulded parts are required for a small production quantity or for testing and trialling before committing to full injection mould tooling.

At this stage 3D Printed Injection Moulding Tooling only allows us to produce certain components due to the technology involved, but the saving in time and expense over CNC machining is worth looking at.

Dependent on design and material, typical production quantities are anywhere between 10 and 500 injection moulded components. This technology is still in its infancy, but progress so far is very promising with future developments enabling more complex parts to be made – watch this space!

Rapid Aluminium Tooling

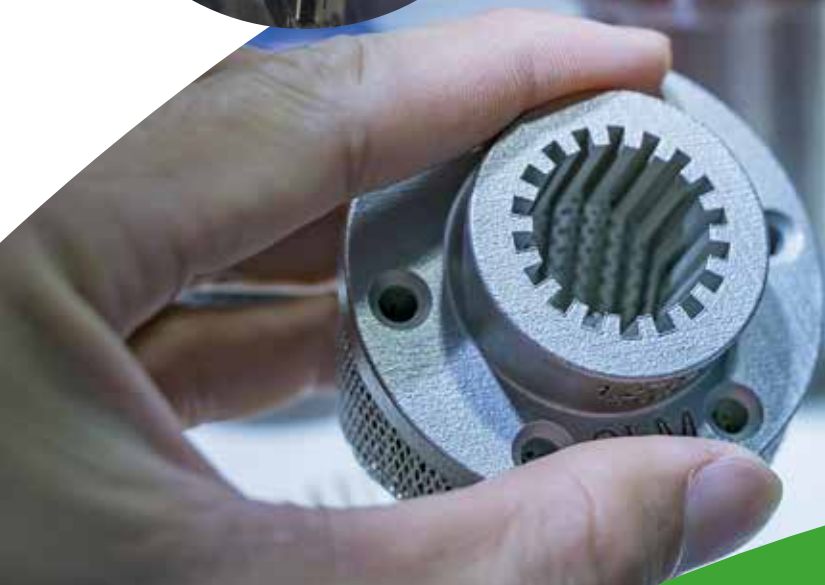
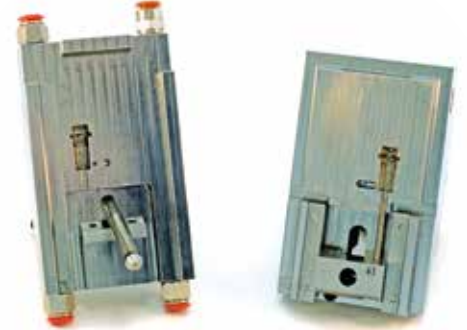
As an addition to our conventional injection moulding tooling service at Plastic Parts Direct, here at Plastic Parts 3D our service extends to Rapid Aluminium Tooling for production of rapid prototypes and end-use production parts in as little as 10 working days.

By producing injection moulding tooling cavity inserts out of aluminium to fit our own mould tool bases your costs are kept to a minimum and so are your lead times to production parts.

We use mould grade aluminium which is both hard and durable and has a huge advantage over steel in its dispersion of heat aiding the injection moulding to cool quickly along with its ease of machining.

Production quantities can be as little as 10 or as many as 10,000+ parts with a tool life expectancy running into years in a lot of cases, allowing you to take a number of batches of product over time.

Just send us your 3D file of the part(s) required and we'll let you know if your part is mouldable and if this form of production is suitable, or whether you may need to consider our Conventional Injection Mould Tool service over at Plastic Parts Direct.



3D Printing

Here at Plastic Parts 3D we use a variety of 3D printing technologies that enable us to produce the components that you need when you need them. Simply send us a 3D file of your component or a dimensioned drawing and we'll get a reply to you within hours.



Which 3D printing method should I use?

FDM (Fused Deposition Modelling)

We run Stratasys FDM machines in an assortment of polymers which give a very close representation of an actual injection moulded product of your design, giving you an item that you can test for form fit and function. These can also, in most cases, be utilised as end use mouldings if you only require a few parts or used for proving prior to committing to injection mould tooling.

SLA (Stereolithography)

SLA 3D printing is very popular for its ability to produce high-accuracy, isotropic, and watertight prototypes and parts in a range of advanced materials with fine features and smooth surface finishes with other materials in the range giving high strength and rigid properties. Again, these parts give a close representation of injection mouldings which can be end use products or used for proving prior to committing to injection mould tooling.



Polyjet

Our Polyjet printing can combine two or three base resins in a single print job to simulate over moulding, generate multi-material tools and models, or produce trays of assorted parts – all for immediate use without assembly.

Multi-material technology gives you the versatility to create models from 17 available base resins. Simulate rubber, polypropylene, standard manufacturing plastics and more.

This process can give highly accurate components due to the laying down of 16-micron layers with each pass giving a very high level of accuracy.

All in all very useful for product testing and proving before the move to injection moulding.



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