

# ToolcraftPlastics

*Moulding Your Ideas...*

## How To Get UK Engineering And Pay China Prices

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# Guide to Plastic Injection Moulding & the Benefits of Using Toolcraft's Link With a Chinese Tooling Partner

## Welcome

This Plastic Injection Moulding Guide will firstly explain a little about the Plastic Injection Moulding Process. The guide will then explain how you could benefit from the considerable cost savings that can be made from either having your existing mould tools adapted by Toolcraft, or by the using our Chinese partner company to manufacture very high quality injection mould tools.

Combine the cost savings of having the injection mould tools made in China with the **peace of mind** of having a UK contact and Toolcraft's guarantee and you have a winning formula.

## Our Expertise

Toolcraft's plastic injection moulding expertise enables us to make many different types of plastic mouldings in a wide range of plastic materials and colours.

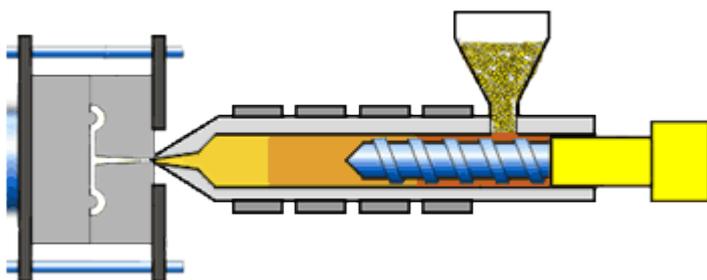
You can be confident that we will use our 30+ years experience in designing, tooling and injection moulding to deliver the highest quality, precision plastic mouldings at very competitive prices.

## A Brief Explanation of the Plastic Injection Moulding Process

The plastic injection moulding process involves heating and injecting plastic material under pressure into a closed metal mould tool.

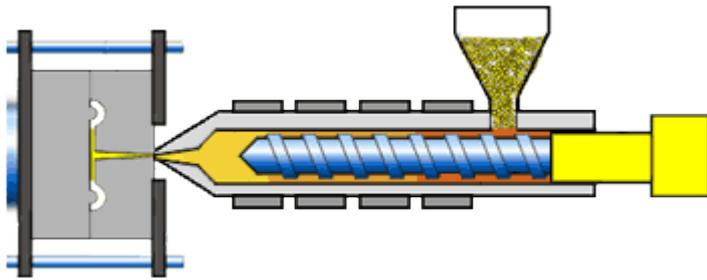
The molten plastic cools and hardens into the shape inside the mould tool, which then opens to allow the mouldings to be ejected or removed for inspection, delivery or secondary operations.

### Injection Moulding Process - stage 1

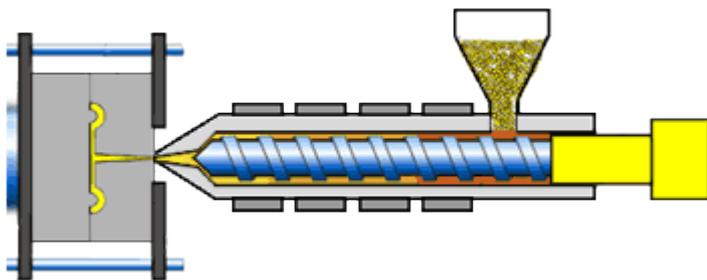


Material granules from the hopper feed into the heated barrel & rotating screw. Material melted by heat, friction & shear force is forced through a check valve to the front by the rotating screw.

### Injection Moulding Process - stage 2

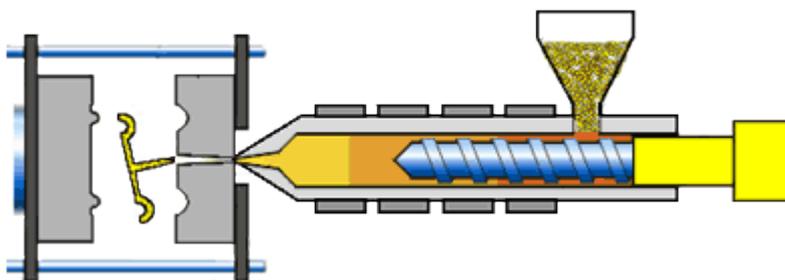


Having been moved backwards by the shot of material at the front, the screw is forced forward by a hydraulic ram. This action **injects** material into the mould cavity in the closed mould tool.  
**Injection Moulding Process - stage 3**



The tool is held closed under pressure until the plastic material cools & sets hard in the mould tool cavity. This is often the longest part of the injection moulding process.

#### Injection Moulding Process - stage 4



The screw starts to move back for the next moulding. The tool then opens & the finished plastic part is ejected. The tool is closed and the injection moulding process starts again at 1.

#### We Can Handle The Whole Process For You

Toolcraft can handle the whole process for you, right from designing the parts and the tooling through to the printing and delivery. We can produce insert, threaded, rubber, ultrasonic welded, printed and very small mouldings - typical mouldings include :-

- Inserts and outserts such as electrical connectors, plugs and moulded terminals.
- Threaded precision jobs such as instrument gears and ratchet wheels.
- Tinted, coloured and clear plastic items like lighting covers & colour tinted goggles.
- 2 part over-moulding and thermoplastic rubber mouldings.
- Antistatic items.

Plastic handheld terminal covers and gas detection terminals, phone clearers, plug covers, disc drive components, plastic screws and rubber components are just some of the many items that we produce to customer specifications.

We can produce mouldings in a wide range of different materials and colours. We've produced mouldings in a large number of standard, technical and specialist plastic injection moulding materials including thermoplastic rubbers, antistatic and biodegradable materials.

### Coloured Plastic Mouldings

We can produce a wide variety of tinted, coloured and clear plastic items such as those used in emergency or vehicle lighting or instrument dials.

### Small Runs Available Too

We use colour master batches and natural colour plastics to make parts in more than 200 standard colours. We use machine dosing and have considerable knowledge and experience in correctly colouring and working with the base plastic. We will also use some colour compounded material where necessary. This means that :-

You can benefit from very competitively priced short runs.

- You get perfect colour matches.
- You can even get small runs of coloured fire retardant ABS materials.

To save you money and trouble in ordering new lots of small batches we can make your requirement for the year now, hold it in stock here, and deliver any small batches you require quickly as and when they are needed by you.

We can assemble, pad and hot foil print you're mouldings here too, thus saving you more production time and money.

### Toolcraft's Moulding Capacity

With machines from 20 to 180 ton, we can make ISO9001:2008 approved precision mouldings for you from 1 to 300mm<sup>2</sup> and in batches as low as 50 mouldings.

### About Mould Tools

If you need millions of very complex mouldings, have few cost restraints, or need a tool with mechanisms which constantly rub against each other to make the mouldings, steel mould tools are best. We guarantee our mould tools to:

- Moulds made of **P20 steel** - guaranteed to **300,000** mouldings
- Moulds made of **H13 steel** - guaranteed to **500,000** mouldings (see [mould tool life](#))

### Benefit From Our Mould Tools Experience

Our Design engineers will take one look at your project and say, why don't we make it this way, it will be faster, save you money and result in better quality mouldings. They know what works well and where possible problems may arise. They will make a smoothly working tool and spare you production-line headaches.

## Precision Injection Mould Tools - Chinese Injection Moulding Tools from Toolcraft

People sometimes say to us “My parts are **cheaper from China**, so why should I place my work with you in the UK ?”

In our experience the initial cost from China may be cheaper, but many companies experience quality, delivery and communication issues and have difficulty getting faulty products put right.

Confidentiality laws are not as strict in China and if your product is a true innovation, you may well be beaten to market. We work to ISO 9001:2008 quality standards and as we're a British family company, communication is easy.

If your product is confidential, you can [download our confidentiality agreement from our website](#) and we'll stick to it.

### The Advantages of Using Our Chinese Tooling Partner

Although we provide product design & make tooling, injection mouldings, vacuum formings & more here in the UK, we can also use our Chinese tooling partner to make tooling for you at very competitive prices, but we manage & guarantee the tooling.

Manufacturing in China can save you a lot of cost, but it can come with problems such as miscommunications, delivery delays, inferior quality and the paperwork surrounding importation.

However, Toolcraft have developed an excellent working relationship with our Chinese partner and so Toolcraft's Chinese injection mould tools are **the best choice for you** if your project needs the **cost savings** of Chinese-made mould tools, combined with the **peace of mind** of having a UK contact and Toolcraft's guarantee.

#### How The Process Works

- We brief our Chinese partner thoroughly - we'll make sure they know what you need
- We take care of all **importation** issues - no paperwork for you
- We take care of all **communication** - you'll get none of the issues going directly to China might cause, and you'll have just one UK-based project manager to deal with
- We **test** the tools here in the UK - if something's wrong, we'll sort it all out
- We **service** the tools here in the UK - no need to send them back to China if they need some TLC
- We **guarantee** the quality of your tool, here in the UK - you'll get an excellent product and complete security
- We'll keep you updated on the progress of your tool, with photos if required

Once the tool is made, we can produce your mouldings here in the UK, ensuring a continuous and fast supply of your plastic parts.

## Customers Who Have Benefitted Already

We've worked with our Chinese partner for over 10 years and have provided a large range of customers with tools and associated precision mouldings in this way.

Don't just take our word for it. Here is what a customer who used tools made by our Chinese partner had to say:

*"Toolcraft have recently made several new tools for us through their Chinese Partners. **They took care of everything** and the resulting mouldings are of excellent quality at an excellent price. We're very happy to have selected them as our moulder & toolmaker."*

Luke Smith, Senior Mechanical Engineer, De Beers UK Ltd

*"We worked extensively with James Caldwell, the Designer and Projects Manager at Toolcraft, on the waterproof case and docking station for our revolutionary new paging system. Throughout the design, modelling, mould tool manufacturing and injection moulding process, Toolcraft provided excellent service. **The injection mould tools were made by Toolcraft's Chinese partner, but Toolcraft project managed, guaranteed and imported them.** The product changes we needed during the process were made quickly and reliably & the end result is excellent."*

Chris Booker, Bluebell Communications LLP

For more information about how Toolcraft can help you to make substantial cost savings by using Chinese injection mould tools and yet retain a high level of quality, call us now on 01793 641 040, email us at [help@toolcraft.co.uk](mailto:help@toolcraft.co.uk) or

**[SEND US DETAILS OF YOUR PROJECT NOW](#)**