

PENTAGON
PLASTICS GROUP



Introduction

The Pentagon Plastics Group provides a full turnkey solution for customers bespoke plastic injection moulding needs inclusive of design, development, mould tooling, production and post moulding support.

As technical experts within the plastics industry we deliver both mould tooling solutions and repeat production of customer specific injection moulded components.

About Pentagon

Founded in 1972, the business has grown steadily through self-funded investment and acquisition covering low to medium volume production. The organisation encompasses the Moulding Division and Tooling Division which operate from one-site of manufacture based in Horsham, West Sussex.

Pentagon is home to a highly skilled team of toolmakers and precision engineers within the Tooling Division delivering quality mould tooling solutions to exacting standards. The Moulding Division is run by a dedicated and experienced team of technicians delivering process optimisation at every stage of production.

Managing Director and business owner, Paul Edwards is fully supported by his management team to deliver outstanding service at every level.



Design

Our extensive technical knowledge of plastic injection moulding makes us well placed to provide a high level of assistance at every stage of a project.

Support begins on receipt of your enquiry with a Design For Manufacture (DFM) review of the component. At the earliest stage the DFM process will focus on ease of manufacture and optimal mould tool configuration.


The part is reviewed for moulding material, part specification and profile with a consideration to the design and manufacture of an optimum tooling solution that meets quality and capital expenditure expectations. Any issues or improvements that we see are reported for discussion.

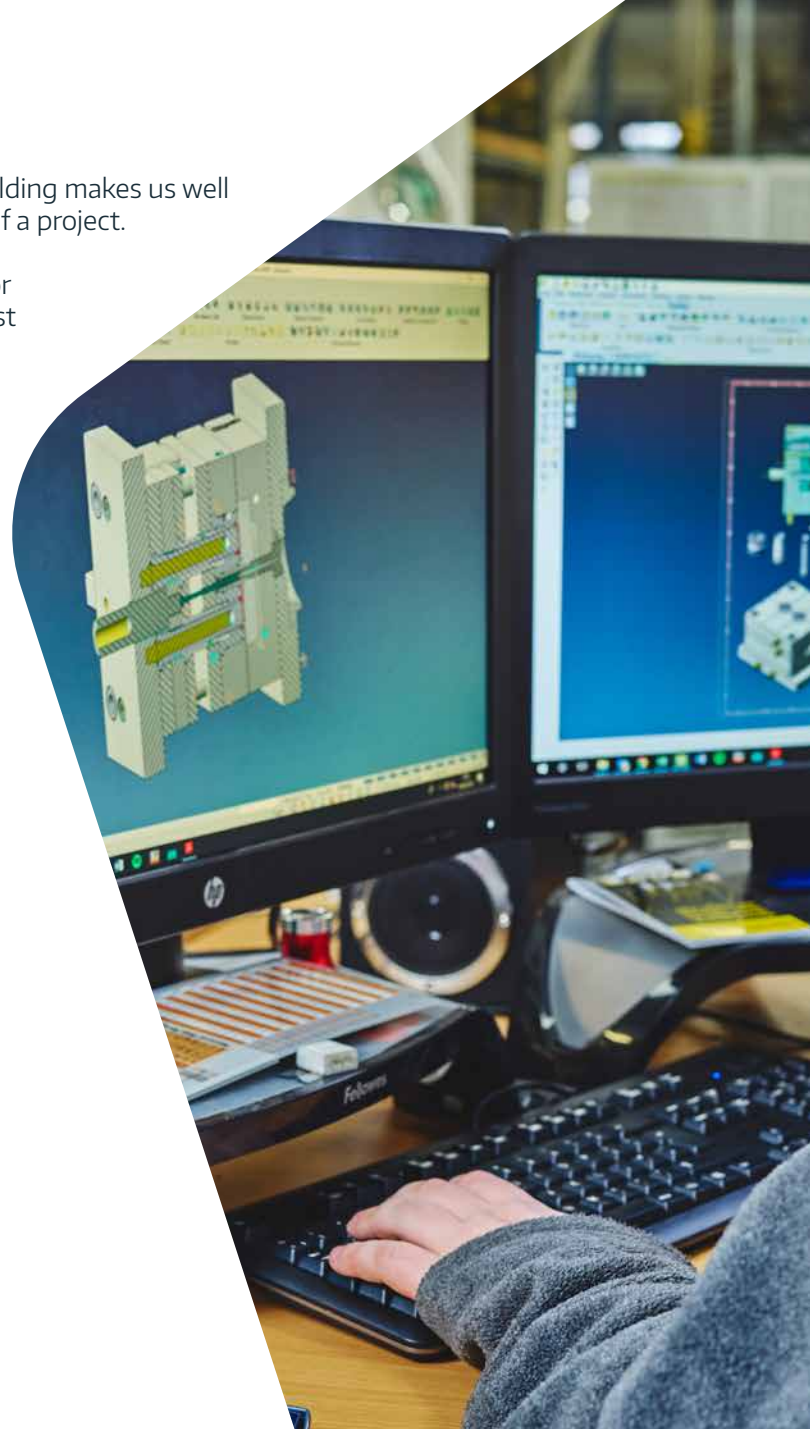
Tool design is a crucial element in the overall success of a product and our in-house tool designers are supported by our moulding technicians and toolmakers to ensure optimum tool design is achieved.

Areas for Review:

 Product Review

 Material Consideration

 Tool Design



Development

When developing a component for plastic injection moulding it is essential that your product will be fit for purpose and is designed for the intended manufacturing process. We draw on our experience and technical knowledge to support you at this early stage.

The method of development can be:

- Cad to determine the form of the part with suitable draft for the intended surface finish identifying proposed feed points and tool split lines
- Additive Manufacturing in available materials to generic process tolerances
- In-house through an array of tooling solutions to allow products to be produced in a variety of thermoplastic materials or colours.

By understanding your specific requirements we can help identify the best solution.

How we can support you:



Additive Manufacture



Tooling Solutions



Product Trials



Tel: 01403 264 397




Tooling Division

Our ISO9001 accredited tooling division provides a comprehensive UK manufacturing solution to support our customers mould tooling requirements. The toolroom facility is on the same site as the production area giving full breakdown support to the moulding process as well manufacturing new tools, servicing, refurbishment, repairs, modifications and a preventative maintenance program for the life of a tool.

We run state of the art CNC machining centres, CNC erosion and laser welding alongside cleaning tanks and the traditional machines such as grinders, lathes and mills. Dedicated tool measuring equipment is calibrated to standards including CMM, shadowgraph, micrometres, callipers and gauges.

Our extensive team of tooling technicians have a wealth of experience to support all your tooling requirements and give their time gladly to support apprentices, new team members, process technicians and customers. We are trusted to manufacture and maintain tooling through the life of the product whether we are moulding the production on-site or providing a mould tool support and trialling service.

Technical Tooling Services:

-  Development tooling
-  Production tooling for in-house moulding
-  Routine tool maintenance
-  Production tooling for moulders
-  Servicing
-  Refurbishment
-  Repair
-  Modification



Moulding Division

Our ISO9001 accredited moulding division is the core of our manufacturing facility and is home to a range of modern plastic injection moulding machines. Presses range up to 300 tonne clamp force which enables us to mould shot weights from 0.5 gram upwards.

As a technical moulder we have experienced technicians who process a wide range of filled and unfilled thermoplastic materials to exacting standards and from many types of mould tooling. In addition to the mould shop the moulding division provides post moulding, light assembly and packing services.

Regular investment ensures that presses and ancillary equipment are maintained to a high standard and replaced when required.

Making Moulding Better:



Plastic Injection Moulding



Production Methods



Quality



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Beyond the Mould

There can be processes required that are deemed too complex or costly to have completed during the moulding cycle. Therefore our plastic injection moulding process does not stop when the product is released from the tool.

We provide added value beyond the mould through a selection of in-house and fully managed service options. In-house post-moulding operations include insert fitting, machining, finishing, wax-infilling, basic painting, light assembly and basic packing. Our supply chain network support us with coatings, full paint, ultrasonic welding, detailed assembly and packaging.

Going the extra mile:



Post Moulding Services



Sub-Contract Machining & Welding



Customer Service



Your technical experts for plastic injection moulding and toolmaking

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What Else?

Education & Careers:

We work with various schools, colleges and Universities to support the learning process and help develop employees of the future. Opening the doors to the exciting world of manufacture and engineering, we provide work experience placements, student site visits and educational seminars for young people.

Community:

As a medium size employer in a rural town we recognise our responsibility to support the local community and encourage a healthy and active lifestyle. Proud sponsors of local youth football teams we also support local emergency services as a Defibrillator host.

Charity:

Dedicated to supporting the outstanding work of local charities through various fundraising activities and initiatives.

Industry:

Committed to raising awareness of the polymer industry, we work closely with various industry bodies and affiliations.

Pentagon, putting the positivity in to plastics manufacture