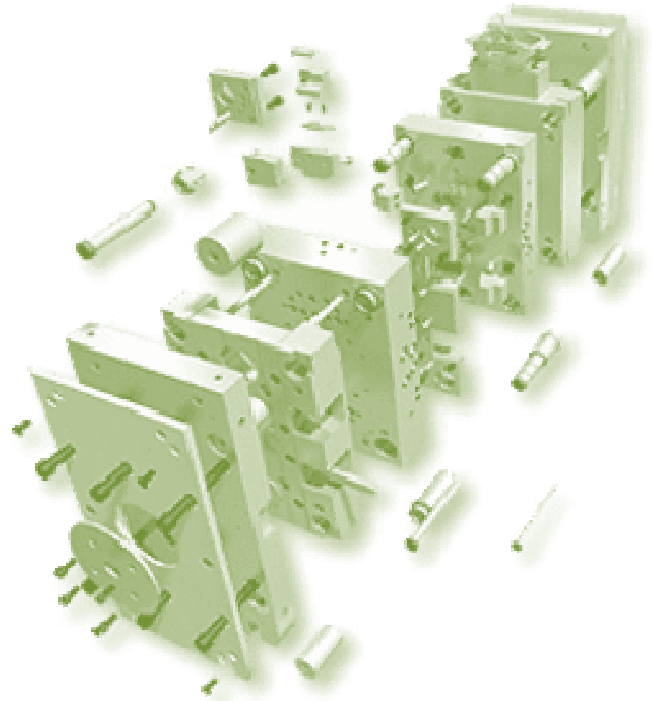


# Injection Moulding Training

Mould Design  
and  
Procurement  
2 day course



## POLYBRIDGE Training Ltd

Practical Mould design using



Mould Design Software

Courtesy of

ForeGone  
Solutions

agents for

Moldex3D

### Training Dates 2011

February 15<sup>th</sup> & 16<sup>th</sup>

March 15<sup>th</sup> & 16<sup>th</sup>

May 24<sup>th</sup> & 25<sup>th</sup>

July 12<sup>th</sup> & 13<sup>th</sup>

October 4<sup>th</sup> & 5<sup>th</sup>

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# Mould Design & Procurement

## *Who is it for?*

Anyone involved in the design, procurement or use, of injection moulds & products

- **Device engineers.**
- **CAD Engineers**
- **Purchasing & procurement staff**
- **Concept, Designers.**
- **Product designers.**
- **Sourcing & Liaison Engineers**
- **Toolmakers & Tooling Engineers,**
- **Project & Process Engineers**
- **Validation & Feasibility engineers**
- **Senior company executives**
- **Sales & Marketing executives**

## **Course Objectives**

- Improve your communication skills
- Guide you through the design & procurement process
- Create designs for efficient production
- Understand how product design affect mould costs
- Evaluate existing designs for flaws & improvements
- Identify problems caused by poor mould design
- Evaluation of product faults
- Choose the right mould type: how & why
- Take part in decision making processes, confidently
- Understand how plastic behaviour dictates mould design
- Choose the right plastic for your product
- Control of the design & procurement process effectively
- Identify cost reduction areas.
- Understand the technicalities clearly and relevantly

## **Content:**

- The moulding process
- Mould Cost structure

## *Mould Types; Factors in deciding which one to use*

- 2 Plate , in its many forms
- 3 Plate & Stack Moulds;
- Hot Runner moulds
- Family Moulds
- Their individual advantages & disadvantages

## *Mould construction*

- Materials used in mould construction
- Methods of manufacture; EDM 5 Axis etc
- Hardening & surface treatments
- Choosing number of Cavities
- Cores & cavities inserts.
- Strength Requirements

- Cooling channels; location & construction
- Mould alignment
- Venting & parting lines
- Surface treatments; plating, surface finishes/ textures
- Draft & line of draw
- Ejection Methods
- Clamp force & minimum Platen area
- Hydraulic & mechanically actuated cores
- Unscrewing moulds: continuous internal threads
- Collapsible cores & expanding cores
- Surface finishes Texturing Grain release angles

## *Polymers, their influence over mould design*

- Gate position; type; size, how many?
- Runner systems; balanced, dimensioning
- Wall thickness & flow ratio
- Shrinkage allowance
- Effects of fillers & reinforcements in polymers
- Effects from cooling systems on final part properties

## *Moulding & Product Faults: Cause & Cure.*

- Common Mould faults
- Faults caused by design errors
- Faults caused by poor mould design
- Faults caused by poor material choice

## *Flow analysis in mould design*

- 3d Polymer Flow analysis
- Fibre orientation & FEA Analysis
- Virtual Mould Trials

## *Procurement schedules*

- Manufacturing process time line
- Mould trials schedules
- Validation protocols & process
- Continuous improvement

## *Mould design workshop*

- Case Study exercises
- Practical design scenarios

## *PRACTICAL Mould Design by Forgone Solutions*

- Designing the mould from a CAD model
- Parametric design
- Design decision making processes
- Concurrent design & Manufacture
- Cutter path creation & Machining strategy
- Parting line identification
- Incorporating side actions
- Selecting Mould Bases using existing catalogues
- Producing the final design

**Locations** Stafford & Telford

**Course Fee:** £550.00 + VAT per person and includes course materials, lunch and refreshments.

# Registration Form

Injection Mould Design

Fax to +44 (0) 1746 761 875

Email to [info@polybridgetraining.co.uk](mailto:info@polybridgetraining.co.uk)

## Select Desired Course Date: 2011

Please use a separate form for each delegate, photocopies are acceptable

February 15<sup>th</sup> & 16<sup>th</sup>

March 15<sup>th</sup> & 16<sup>th</sup>

May 24<sup>th</sup> & 25<sup>th</sup>

July 12<sup>th</sup> & 13<sup>th</sup>

October 4<sup>th</sup> & 5<sup>th</sup>

November 8<sup>th</sup> & 9<sup>th</sup>

Surname: \_\_\_\_\_ Title \_\_\_\_\_

Forename: \_\_\_\_\_

Position/ Job Title \_\_\_\_\_

Company: \_\_\_\_\_

## Contact Details;

Company \_\_\_\_\_

Contact name \_\_\_\_\_

(if different from above)

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Postcode: \_\_\_\_\_

Tel: \_\_\_\_\_

Fax \_\_\_\_\_

Email \_\_\_\_\_

## Invoice Address (if different from Contact Details opposite)

Company \_\_\_\_\_

Contact \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Postcode \_\_\_\_\_

Tel \_\_\_\_\_

Fax \_\_\_\_\_

Email \_\_\_\_\_

## Payment Information

### NOTE:

Payment must be received prior to attending the course

Cheque payable to "Polybridge Training Ltd"

Payment enclosed

Please Invoice my company:

Purchase Order No: \_\_\_\_\_

NOTE: Please read this carefully

Cancellation Terms,

By completing & returning this registration form, delegates are agreeing to be bound by the Conditions of Registration which can be found on the following page.

Full terms & conditions can be found on our website:  
[www.polybridgetraining.co.uk/downloads/calculator/terms](http://www.polybridgetraining.co.uk/downloads/calculator/terms)

Please return to:

Training /Seminars,  
Polybridge Training Limited  
42 Linley View Drive,  
Bridgnorth,  
Shropshire.  
WV16 4RT  
United Kingdom.

Fax +44 (0) 1746 761 875

[Info@polybridgetraining.co.uk](mailto:Info@polybridgetraining.co.uk)

## **BOOKING TERMS & CONDITIONS**

### **Payment is accepted in £GB**

Discounts given for multiple registrations: 10% discount for 2 or more delegates from the same company registering at the same time for the same dates

### **Conditions of Registration**

Written confirmation is required: letter, fax, email.

**Payment must be received prior to attending the course.**

**Accommodation** is NOT included in the fee.

**Cancellation** up to 14 days prior to the course start date will be refunded minus a 20% administration charge. Cancellation after this date will be subject to the FULL fee with NO REFUND.

**Transfer** to a later course, prior to the course start date can be accommodated without charge.

Transfer within the 14-day period prior to course start date will incur a 20% administration charge.

All transfer requests must be confirmed in writing by the delegate requesting transfer or their representative. The option to transfer can only be used once after which non-attendance will be treated as a cancellation subject to the terms above

**Delegate substitutions** can be made without incurring penalty

### **Locations**

The final course delivery location will be advised at the time of booking. Location choice is dependent on majority course candidates moulding discipline and travel logistics.

### **Tailor Made "In-House" Courses**

This has for many years been our core business, providing companies with cost effective solutions to meet their own specific needs.

Please contact us if this route will be more effectively meet your company's individual needs.

Polybridge reserve the right to modify this course schedule without notification.



# **POLYBRIDGE Training Ltd**

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