Plastic Injection Moulding Process Optimization and Defects Troubleshooting

Training Programme
by
Dream Catcher Consulting Sdn Bhd

14 - 15 Oct 19
Dream Catcher Consulting Sdn Bhd, Penang

303-4-5 & 303-4-6 Block B, Krystal Point
Jln Sultan Azlan Shah 11900 Sg Nibong Penang, Malaysia
http://dreamcatcher.asia
enquiry@dreamcatcher.asia
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Synopsis

This is a course of continuing education specifically designed for technical personnel in the plastic industry who wish to deepen their knowledge of injection moulding process and improve their problem-solving skills in injection moulding. Companies desiring to improve and optimize their plastic injection moulding process, reduce part rejects, increase productivity and/or solve their existing process variation problems will find this course highly relevant and useful.

The course expounds on the plastic injection moulding process and its machine and process parameters affecting the success and quality of moulded products. With this knowledge, the course will then focus on the optimization of the injection moulding process. It also provides a detailed discussion on multi-stage injection control and essential tips for saving moulding cycle time. The course also offers an in-depth discussion of the various types of injection moulding defects, the diagnosis of these defects and the remedies. These defects are commonly caused by the lack of process controls, poor part design, inadequate mould design, unsuitable choice of material, or any combinations of these factors.

The course instructor will draw on his extensive experience in plastic injection moulding to illustrate the subject matter with practical examples. There will be group discussions and classroom exercises to maximize the learning and knowledge dissemination. Attendees are encouraged to bring along samples of moulding defects for added benefits of diagnosis and discussion during the course.

What You Will Learn

- understanding of plastic materials
- plastic injection moulding process and process optimization
- tips for saving moulding cycle time
- multi-stage injection control for problem solving
- shrinkage and warpage, and how to eliminate warpage
- troubleshooting injection moulding defects
- major moulding defects when moulding semi-crystalline engineering polymers and remedies

Who Should Attend

This course is recommended for those who wish to improve their problem solving skills in plastic injection moulding process. It is also highly beneficial to companies aiming to improve productivity and optimise their injection moulding process. A variety of people will benefit from this course. They include:

- product designers
- mould designers
- mould makers
- moulding engineers
- process engineers
- project engineers
- manufacturing engineers
- production engineers
• any technical personnel involved with plastic injection moulded parts

**Prerequisite**

Some technical familiarity and/or working experience in plastic injection moulding industry.

**Course Methodology**

• This course is conducted in a seminar room.
• Interactive and action based with personal examples.
• Combination of short lectures, visual presentations, workshops, demonstrations, simulations and games. More emphasis is placed on workshops to allow the participants to learn the material presented in a fun and easy manner.

**Course Duration**

2 day(s), 9am - 5pm

**Course Structure**

**Day 1**

Introduction to Scientific Processing

• The 5 critical factors of molding

Introduction to Polymers & Plastics

• Mold filling speed
• Melt processing range
• Mold temperatures
• Barrel heat profile
• Screw recovery speeds
• Nozzle temperature control
• Cooling times

Polymer Rheology

• Viscosity
• Flow imbalance

Plastic Drying

• Hygroscopic polymers
• Drying temperatures & times
• Drying equipment
• Moisture measurement
Injection molding machine specifications

- Clamp force calculation
- Shot size
- Screw diameter and L/D ratio
- Plasticating capacity

Day 2

Scientific processing & molding

- Process robustness
- Process consistency
- The injection molding cycle
- Process optimization

The Aesthetic, Dimensional & Control Process Window

Mold Qualification Flowchart

Production Release

Miscellaneous topics affecting the process

- Mold cooling
- Venting
- Regrind

Troubleshooting injection molding defects

Course Instructor(s)

Mr Steven Goh

Professional Qualification and Experience

Mr Steven Goh graduated from Tunku Abdul Rahman College in Material Engineering and joined the industry in 1988. He has over 20 years of technical experience in plastic injection moulding industry, specialising in plastic injection moulding product design, tooling design and troubleshooting of injection moulding problems and defects.

Mr Goh started his career with Philips Audio Electronics as a project cum product engineer. He spent 9 years at Philips during which he led the development of failure mode and effect analysis (FMEA) and design for assembly (DFA). He was also steering the plastic tooling and moulding support and production support teams. His responsibilities included managing design changes, qualification of tooling and parts, and improving the production.
He joined BenQ Technologies in 1997 to lead the Product Mechanical group. He spearheaded various cost saving projects and brought his wealth of expertise to the product design, plastic tooling and mould design and production teams. He saved BenQ Technologies more than RM450,000 per month through these projects and received many outstanding performance and team performance awards from the company. With his expertise and experience in plastic injection moulding he received an overseas appointment as a project manager in 2003 to manage the design and production of LCD monitors.

Today Mr Goh continues to work overseas as a technical consultant. For the last 6 years he has started offering training courses and consultancy services to the plastic industry in Malaysia and China. He currently holds the position of Technical Advisor for the International Companies. He is also the Technical Training Advisor and Contract Speaker for the Metalloy Group of Companies in Malaysia.

Participants of his training courses will benefit from Mr Goh’s presentation with his wealth of training experiences along with his strong industrial background.

Some Previous Teaching Experiences

Injection Moulding Troubleshooting & Process Optimization
Plastic Materials & Product Design
Suzhou, China.
Sunway Lagoon Resort Hotel, Petaling Jaya.
Pearl View Hotel, Penang.
Hyatt Regency Hotel, Johor Bahru.
Sunway Lagoon Resort Hotel, PJ.
Equatorial Hotel, Penang.
Sunway Lagoon Resort Hotel, PJ.
HIL Industrial berhad, Shah Alam. (In-house course)
Pearl View Hotel, Penang.
Palace Beach & Spa, Seri Kembangan, Selangor.

18 & 19 Dec 2006: Injection Moulding Troubleshooting & Process Optimization
Sofitel Palm Resort, Senai, Johor.

22 & 23 Dec 2006: Injection Moulding Troubleshooting & Process Optimization
Omni Precision Snd.Bhd, Johor Bahru. (In-house course)

Pearl View Hotel, Penang.

Pearl View Hotel, Penang.

11 & 12 Jun 2007: Injection Mould design
Sofitel Palm Resort, Senai, Johor.

23 & 24 July 2007: Injection Mould design
Pearl View Hotel, Penang.

Sofitel Palm Resort, Senai, Johor.

3 & 4 Dec 2007: Injection Moulding Troubleshooting & Process Optimization
Agilent, Penang (In-house course)
Administrative Details

Programme Logistics

Duration: 2 day(s), 9am - 5pm  
Date: 14 - 15 Oct 19  
Venue: Dream Catcher Consulting Sdn Bhd, Penang

Morning break, lunch and tea break will be provided throughout the course duration. Course Manual and Certificate of Attendance will be provided.

Your Investment

<table>
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<th>Condition</th>
<th>Price per Pax</th>
<th>SST (6%)</th>
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<tr>
<td>Regular fee</td>
<td>RM2,200.00</td>
<td>RM132.00</td>
<td>RM2,332.00</td>
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<td>Saver Package (2 pax)</td>
<td>RM1,700.00</td>
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<td>RM72.00</td>
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Additional cost may incur for customization or extra material request. Course fee is 100% claimable from PSMB (SBL scheme) in accordance to PSMB guidelines.

3 Easy Steps to Register

- **Phone** +604 640 7111 / 7112
- **Fax registration form** to +604 640 7110
- **Email registration form** to register@dreamcatcher.asia
Method of Payment

Crossed cheque / bank draft made in favour of DREAM CATCHER CONSULTING SDN BHD. Registration form together with payment to be couriered to:

Dream Catcher Consulting Sdn Bhd
303-4-5 & 303-4-6
Block B, Krystal Point
Jln Sultan Azlan Shah
11900 Sg Nibong
Penang, Malaysia

Payment must be received no later than 10 working days before the course commences. An undertaking may be accepted in cases where payment is delayed. However all payments must be made before the course commences. **Closing registration date is 30-Sep-2019.**

Refund and Cancellation

Fees will only be refunded in full for cancellation received in writing more than 10 working days prior to the commencement date. Substitute attendee(s) will be accepted at no extra charge.

Disclaimer

Dream Catcher Consulting Sdn Bhd reserves the right to change the instructors, date and to vary/cancel the programme should unavoidable circumstances arise. All effort will be taken to inform participants of the changes. Upon sending the registration form, you are deemed to have read and accepted the terms.

Enquiries

call us at +604 640 7111 / 7112 or email us at enquiry@dreamcatcher.asia
## Registration Form

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<tr>
<th>No.</th>
<th>Name</th>
<th>Job Title</th>
<th>Department</th>
<th>Email</th>
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**Total Amount**

*(Emails are required to ensure notification of any changes reach the participant)*

**Submitted by:**

Company Name: 
Company Address: 
Contact Person: __________________________ Designation: __________________________ 
Dept: __________________________ Phone: __________________________ 
Email: __________________________

*Please complete this form with an authorised signature below and fax to fax registration form to +604 640 7110 or email to email registration form to register@dreamcatcher.asia. Call us at phone +604 640 7111 / 7112 for any enquiry*

**Authorised**

Signature: __________________________

*Please print full name (authorised signature) if you submit via email*

Name: __________________________ Designation: __________________________
Dept: __________________________ Date: __________________________

This registration is invalid without a signature. Payment must be made no later than 10 working days before the course commences. An undertaking may be accepted in cases where payment is delayed, however all payment must be made before the course commences. Participants who registered but did not attend will be invoiced accordingly. Fees will only be refunded in full for cancellation received in writing more than 10 working days prior to the commencement date. Substitute attendee(s) will be accepted at no extra charge.

Please send payment with this form to

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Penang, Malaysia

Enclosed cheque/bank draft no __________________________ made in favour of DREAM CATCHER CONSULTING SDN BHD