

Course Objective

The objective of this patented MIS program is to raise technical competency of technical employees from local manufacturing industry for product quality & productivity improvement through understanding of vital manufacturing variables. At the end of the MIS training, participants will realize the importance of technical details study & the introduction of science & engineering procedures to their existing practices for a profitable manufacturing operation.

Session Overview

Plastic injection moulding process demands precise control of the functionality of various machine & moulding setup. Optimizing machine and processing parameters will ensure a long term quality & profitable moulding process. Machine features and processing setup such as machine & moulding shot sizes, available injection pressure & speed, screw selection, plasticizing rate, clamping tonnage requirement, barrel temperature setting, holding time, cooling time, cycle time, analysing balance fill for multi-cavity mould etc are vital for successful moulding. This call for critical analysis of the machine & moulding specifications and determination of the material's process window to ensure there is a set of conditions that can make good parts.

This course will assist production & quality control personnel from plastic moulding industry for a thorough understanding of injection machine & moulding parameters and the use of scientific & systematic techniques to optimize the conditions for injection moulding in order to produce quality products with minimum moulded-in stress at lower manufacturing cost.

Benefits

1. Recognize injection machine specifications and its capabilities.
2. Understand the functions of different systems found in the machine.
3. Establish process window & optimizing the parameter settings.
4. Determine what combination of process variables must be changed to resolve moulding defects.

Course Contents

1. PIMM –Injection System/Unit:

Machine shot capacity; Practical shot size; Residence time; Maximum & minimum allowable machine size; Metering stroke; Machine screw compression ratio; Screw size; Screw L/D ratio; Screw speed; Injection speed; Hydraulic pressure; Injection Pressure; Machine intensification ratio; Plasticizing capacity; Plasticizing heat; Injection power and injection rate.

2. PIMM – Clamping System/Unit:

Clamping mechanisms; Clamp tonnage requirement & calculation; Tie bars stressing & breakage; Effective platen size; Preloading; Clamp over tonnage.

3. Process Optimization – Part 1:

Viscosity study to optimize injection speed & fill time; gate seal study to optimize holding time; Melt temperature & holding pressure to determine process window; Pressure drop study to prevent pressure limited moulding process; Cooling study & melt temperature check.

4. Process Optimization – Part II:

Cavity imbalance due to shear induced and mould steel factors. Traditional & grouping method for cavity imbalance calculation & analysis.

Course Instructor



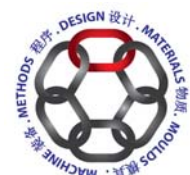
William Lee - Malaysian, Materials Engineer with an honorable Bachelor Degree awarded by The Engineering Council of London (EC, UK). He has over 25 years working & teaching experience in manufacturing industry. William possesses strong fundamentals knowledge in technical science & has special talent to communicate and explain to others the principles involved in various engineering fields. His ability to present and link the various engineering disciplines with real industrial use has made many of his course participants to appreciate the significant of technical details study for manufacturing improvement. Over the years, he has developed a series of patented Manufacturing Insights Skills (MIS) Training programs for various manufacturing industries. He is now a full time contract speaker for a few training organizers as well as professional associations in ASEAN & Australia. William will bring a wealth of teaching experience to this program along with his strong industrial background as a former engineering practitioner in tooling, materials, heat treatment, moulding & metal forming divisions. In addition, William is a versatile trilingual instructor who can instruct technical courses in English, Bahasa Malaysia or Mandarin (or a combination of the languages) to ensure full understanding of his presentation by his trainees from all levels.

Target Participants

This course is recommended for all those concerned with improving quality & productivity of moulded plastic products. A variety of people will benefit by attending this training including process & manufacturing engineers, moulders & technicians from shop floor, project engineers, materials engineers, injection machine maintenance staff, quality control personnel, designers, machine purchaser & buyers for injection moulded parts.

Administrative Details

1. Should public training not be scheduled for this program we will consider opening an ad hoc public training class if you've minimum guaranteed participants to attend this program.
2. We can bring this program to your premises as in-house training event for your in-house employees only. Interested participating company may contact us for an in-house training proposal.
3. In-house training can be conducted on weekdays or weekends (including public holidays) to meet the scheduling needs of your targeted staff.
4. For in-house training, a list of participants complete with their full name & designation must be presented to training provider one week prior commencement of each program. The total no. of training manual is supplied to the actual no. of turned out attendees only.
5. Substitute is allowed to replace the earlier registered person if he / she is unable to attend the training program (both public and in-house training). Participating company must inform us the details of replacement person.
6. All programs are of SBL (Skim Bantuan Latihan) type. Eligible company (Human Resources Development Fund contributor) must apply through themselves for the rebate of any eligible expenses (including training fees) from Human Resources Development Council. Training provider bears no responsibility for the approval of training grants or any form of rebates between participating company and HRDC.



Organized by:

METALLOY CONSULTANT SERVICES PLT

(Registered Training Provider under Ministry of Finance: 357-02128315)

(Registered Training Provider under PSMB: LLP0003449-LGN)

Tel: 03-80751529 Fax: Go Green; Avoid Fax

Email: training@metalloy.com.my Website: www.metalloy.com.my

◆ **Developing K-Workers; Promoting Scientific Manufacturing** ◆