Session Code: **IJM01**

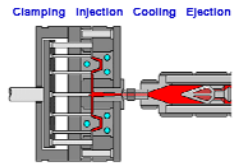
Manufacturing Improvement Training Program

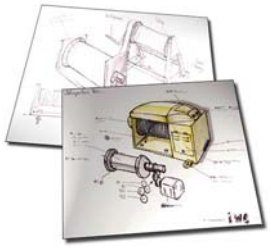
2-day Technical Training Course

Program: MANUFACTURING INSIGHTS SKILLS (MIS)

Session Topic: Fundamentals of Moulding Engineering

By: William Lee
SBL TRAINING PROGRAM





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

Fundamentals of Plastic Injection Moulding reveal principle of the injection moulding process. This course will discuss how the process works, typical moulding problems experienced in the field, how moulding parameters, materials, machine elements and tooling / product designs affect the molded parts. Participants will be introduced to the variables that could affect the quality & productivity of an injection moulding process. This course is recommended for those who are new or anyone that would like to acquire a strong foundation in injection moulding prior any advanced plastic training courses.

Benefits

1. Learn the terminology needed to effectively communicate in the industry.
2. Understand the fundamentals of process injection molding machine operations.
3. Study & recognize the important functions of moulding variables & their impact on a successful injection moulding.
4. Gain an overview of plastic-specific attributes for processing.

Course Content

1. ***MOULD PROCESSING:*** The clamping phase, injection phase, cooling phase, ejection phase, melt temperature, mould temperature, thermal balance, pre-drying temperature, injection pressure, cavity pressure, back pressure, switchover position, decompression, cushion, injection stroke, injection speed, screw RPM, cycle time, filling time, holding time & others control variables.
2. ***PLASTIC MATERIALS:*** Thermoplastic, thermoset plastics, commodity plastic, engineering plastic, high performance plastic, thermal transitions in plastics, glass transition temperature, melting temperature, amorphous plastics, semi-crystalline plastics, molecular weight, orientation, relaxation, shrinkage factor, viscosity & additives.
3. ***INJECTION MACHINE:*** Machine rating, hydraulic system, accumulator, clamping system & force, machine shot weight, part shot weight, residence time, injection screw, injection stroke, injection rate, mould opening stroke, tie bar spacing & platen thickness.
4. ***INJECTION MOULD:*** Injection mould construction, mould materials, cold runner, hot runner, feeding system, gate types, venting, cooling & ejection.
5. ***PRODUCT DESIGN:*** Wall thickness, corner design, draft angle design, rib design, boss design, external & internal undercut, threads & holes.

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

All those concerned with improving their knowledge of plastic injection moulding technology and the processing terminology needed to succeed in the business of plastics should plan to participate. A variety of people will benefit by attending this course including product designers, mold makers, process engineers, purchasing agents, project engineers, manufacturing engineers, materials engineers, CAD designers, and sales and marketing people in the plastic industry.

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.

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