

Session Code: **DC01**

**Manufacturing  
Improvement  
Training Program**

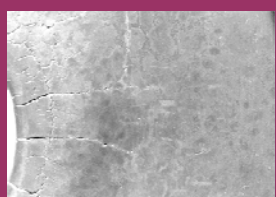
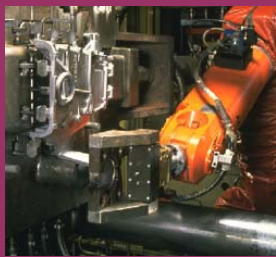
2-day Technical Training Course

**Program: MANUFACTURING INSIGHTS SKILLS (MIS)**

**Session Topic:** Die Casting Process, Defects & Die Life Improvement

**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**

Pressure die casting provides an economical way of producing bulk quantities of complex, high tolerance parts in aluminum, magnesium, zinc and copper alloys. This 2-day intensive technical learning course will present the principle of die casting production process & to review the various manufacturing issues influencing the die casting quality & economy. Identification and prevention of casting defects is also dealt with in detail. Case studies will be presented to guide course participants with basic procedures of casting product design, casting materials selection, die materials & fabrication and process control. Course attendees will gain a strong fundamental knowledge on die casting process from this informative technical short course.

**Benefits**

1. Gain an overview of various casting process.
2. Review of die casting process and factors influencing the die casting quality & productivity.
3. Recognize the casting defects and aware the causes and prevention.
4. Understand the various manufacturing design issues in die casting production.

**Course Contents**

**1. Overview of Casting Process**

Sand casting, investment casting, evaporative casting, permanent mould casting, centrifugal casting and die casting.

**2. Manufacturing Design Issues in Die Casting Process**

Specifications & procedures in materials selection, gates, runners, overflows & venting design, thermal management.

**3. Die Casting Defects, Causes and Solutions**

Surface defects, porosity, laminations, blisters, flash, sinks, inclusions, cracks, coarse structure, incomplete filling and dimensional errors.

**4. Wear & Failure Modes in Die Casting Dies**

Acceptance criteria of die casting die materials, Erosive & abrasive wear, Chemical attack or corrosion, Thermal fatigue or heat checking, Gross cracking including thermal shock.

## 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

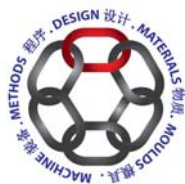
improvement. Over the years, he has developed a series of patented Manufacturing Insights Skills (MIS) Training programs for various manufacturing industries. He is now a full time contract speaker for a few training organizers as well as professional associations in ASEAN & Australia. William will bring 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 aimed at people who wish to understand the overall picture of die casting. It is directed towards personnel (such as designers, engineers, supervisors, die makers, leading hands, die casters) who are involved in any facet of the die casting process. Buyers, quality managers and industry executives would also gain a better understanding of the benefits and issues involved with die cast components.

## 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:

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