

Product Code: **ME03**

Manufacturing
Improvement
Training Program

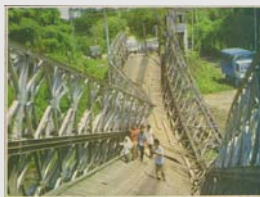
2-day Technical Training Course

Program: MANUFACTURING INSIGHTS SKILLS (MIS)

Session Topic: Metallurgical Failures Understanding & Prevention

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

Almost any component of machines, structures and tooling that fails in service does so because it wore out, it corroded, it broke, or it distorted. Some components suffer two or all of these modes of deterioration.

Equipment, tooling and product failures represent one of the most persistent and expensive problems in the operation of many companies and industries. Chronic problems cause significant losses of availability of plant while catastrophic failures can cause injuries and major disruption to industries.

This course present a systematic approach to failure understanding for the non-metallurgist as well as those who are new to the field or those who want to acquire knowledge of the principles of various mechanical and metallurgical failures.

Benefits

1. Learn fundamental sources of failures.
2. Understand general failure mechanism.
3. Be able to identify typical failure characteristics.
4. Profit from failure prevention methods.

Course Content

1. **Distortion Failures** - Temporary & Permanent distortion, Yielding, Creep, Buckling, Internal Stress.
2. **Wear Failures** – Abrasive (low stress & high stress), Adhesive (static & dynamic), Erosion (by gas or fluid), Contact Stress Fatigue or Pitting Wear.
3. **Cracking Problems** - Single-load & Multiple-load Fracture, Brittle & Ductile Fracture, Fatigue cracks.
4. **Corrosion Failures** - Galvanic corrosion; Uniform corrosion; Crevice corrosion; Stress-Corrosion; Pitting; Intergranular Attacks; Dealloying; Erosion; Oxygen-concentration cell.

Course Instructor



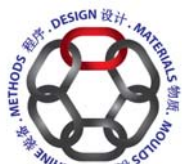
William Lee - Malaysian, Materials Engineer with an honorable Bachelor Degree awarded by The Engineering Council of London (EC, UK). He has over 25 years working & teaching experience in manufacturing industry. William possesses strong fundamentals knowledge in technical science & has special talent 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

Participating companies can be from any metal parts manufacturing & fabricating industries. Target audience can be those involved in activities related to metal parts, products or tooling maintenance, usage and production such as technical group personnel, production & maintenance staff, managers, supervisors, engineers, engineering specialists, quality controllers and R&D researchers, designers, machinists, technicians and heat treaters.

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

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(Registered Training Provider under PSMB: LLP0003449-LGN)

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◆ Developing K-Workers; Promoting Scientific Manufacturing ◆