

Product Code: **PE04**

Manufacturing
Improvement
Training Program

2-day Technical Training Course

Program: MANUFACTURING INSIGHTS SKILLS (MIS)

Session Topic: Carbide Materials & Hard Surface Coatings

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

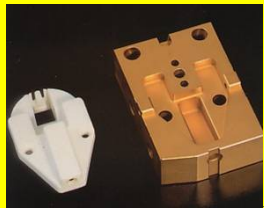
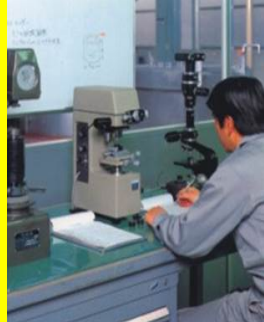
Carbide tool materials have gained most acceptance in metal cutting sector, however, the applications of these group of hard metal as press working tools are steadily growing as a result of advancement in today's production technology emphasizing high speed, high accuracy, high productivity as well as longer tool life duration. As for machining applications, nearly 50% of errors made in metal cutting processes are the wrong choice of carbide grades. The potentials of applying carbide materials in certain manufacturing operations which may yield higher production economy are not fully exploited. Also, the applications & characteristics of various thin-film coatings such as TiN, TiCN, TiAlN, CrN and DLC layers to improve tooling performance are not fully understood. This course reveals the secret of cemented carbides and will present the classification, manufacture and composition of cemented carbides, physical and mechanical properties, carbide cutting tools & press tools failures & prevention, various hard surface coatings employed to condition working surface, machining & non-machining applications of carbides tool materials.

Benefits

1. Learn the basic of different carbide materials properties & its limitation.
2. Explore different types of cemented carbide materials.
3. Study carbide tooling materials failure modes and its preventative measures.
4. Gain new technology information on the applications of thin-film coatings.

Course Contents

1. **Introduction & Classification of Cemented Carbides**
- The Most Common Non-ferrous Tool & Die Materials
2. **Manufacturing of Cemented Carbides**
- Quest for Quality Products
3. **Properties of Cemented Carbides**
- The Why Behind Where They Are Chosen
4. **Carbides Cutting Tools & Forming Tools Failures**
- Identifying The Problems
5. **Hard Surface Coatings**
- Surface Modification for Performance Improvement



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 electronic, metal stamping, forming & machining, automotive, hot extrusion, die casting, moulds & dies, carbide, tool steels as well as heat treatment industry. Target audience can be those involved in activities related to tooling, parts or products manufacturing such as technical group personnel, production managers, supervisors, tooling engineers, tool makers, 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

(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** ◆