

MOLD MAINTENANCE TECHNICIAN [Level 1] Program

Technical Learning Outcomes (TLOs)

INTRODUCTION

The intent of the program is to prepare individuals to be Mold Maintenance Technicians [Level 1] through a combination of e-learning, classroom learning and direct on-the-job experience

- such that their level of performance at the end of the program is defined as being competent across a wide range of basic manufacturing and mold sector and firm-specific practices and
- will be assessed as such by industry experts other than the firm where the participants were principally trained.

The purpose of this document is to outline the industry-agreed Technical Learning Outcomes in terms of measurable competencies that define a competent level of performance for a Mold Maintenance Technician [Level 1].

The learning outcomes, to the degree possible, will be defined as competencies, not as job duties or tasks. Thus, the learning outcomes listed below are described as levels of performance, as capabilities and as the levels of knowledge required to perform required tasks.

Each of the learning outcomes has been defined in a precise fashion such that it can be assessed at the end of the program as part of a certification of technical competence. Where necessary, the definitions allow for interpretation to address specific sectors' various mixes of businesses and manufacturing processes and technology.

TECHNICAL LEARNING OUTCOMES FRAMEWORK

The learning outcome framework categorizes the outcomes into three separate elements –

- The employee's capability to carry out mold maintenance functions as per the work order or approved drawings, meeting all required quality standards and productivity standards. Learning objectives in this section of the framework can be primarily assessed by visual inspection.
- The employee's knowledge of specific technical work practices. While closely related to the objectives in the first component of the framework, learning objectives in this section of the framework can be primarily assessed by testing.
- The employee's knowledge of general manufacturing technical practices and procedures, that are applicable to all sectors of manufacturing. Learning objectives in this section of the framework can be primarily assessed by testing.

TECHNICAL LEARNING OUTCOMES - OVERALL

1. Capable of assembly and disassembly of new and refurbished molds that are relatively simple to medium in complexity in a safe and productive manner.
2. Can accurately explain in detail the main principles and techniques of mold assembly and disassembly; can explain root cause analysis and its application to mold maintenance and assembly.

TECHNICAL LEARNING OUTCOMES - SPECIFIC

3. Knowledgeable about shop floor safety.
4. Knowledgeable about the types of machines used in mold manufacturing.
5. Proficient in use of commonly used tools in the molding and machining workplaces.
6. Able to demonstrate the correct use and handling of measurement instruments.
7. Reads and interprets bills of material, work orders, blueprints and specifications sheets, without supervision.
8. Capable of accurately interpreting injection mold component drawings, without supervision.
9. Knowledgeable of basic mold design, plastic processing; injection and mold theory.
10. Knowledgeable of the basic components of electrical, hydraulic, cooling and pneumatic systems.
11. Knowledgeable of hot-runner functions.
12. Capable of cleaning, assembling and disassembling molds.
13. Knowledgeable on how to examine mold functionality for air, water and hydraulic effectiveness, without supervision.
14. Knowledgeable about the importance / expense of types of texturing and how to perform polishing techniques.
15. Able to demonstrate the correct procedure in hand grinding, etching and cleaning of new and refurbished mold components.
16. Able to demonstrate general knowledge of the machining characteristics of various materials commonly machined.
17. Reviews tools prior to their use, selects the most appropriate one to use, can determine if it is in a condition to be used for the application and, if not, is able to sharpen a variety of drills,
18. Knowledgeable about safely operating hoist/crane to move materials, parts and assemblies. *Employer has to provide proof that the trainee has been certified by a reputable trainer in this field.
19. Capable of evaluating molds to determine root cause of relatively simple to medium molding issues.
20. Capable of accurately performing in-process inspection of parts including visual inspection and/or dimensional measurement by verifying dimensions, alignments, and clearances of finished parts for conformance to requirements on defined drawings.
21. Able to explain the role of tolerances and part acceptance in quality control.
22. Able to demonstrate correct procedure for simple cleaning and lubrication of molds