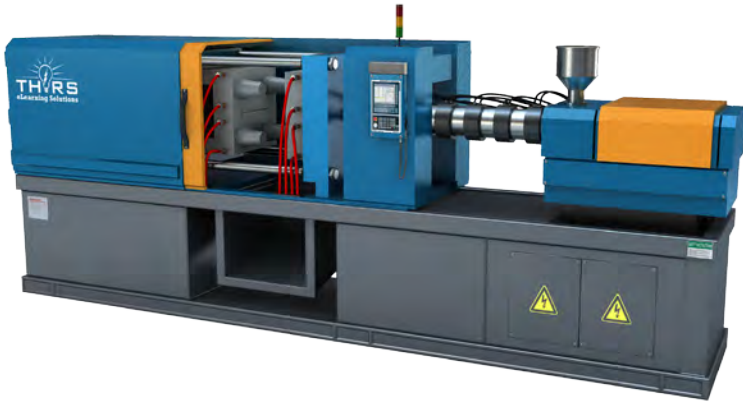# POLYMERS:
INJECTION MOLDING TERMINOLOGY

eLearning courses designed to increase productivity and profits

Learning made Simple, Visual, and Interactive

The Injection Molding Terminology course is an informative, entry-level introduction to the key injection molding terminology. In this course, learners are presented with the basics of injection molding, the types of injection molding machines and equipment used, as well as the mold tooling components. Learners in quality, manufacturing, sales or related, and research and development in the industry will find value in this course.

Credit Hours 2

Learning Objectives

- Understand what injection molding is and the basics of the process.
- Recognize the types of plastics, molding styles, and machine systems used.
- Identify the different components of the injection molding machine/equipment.
- Differentiate between the individual mold tooling components.

Table of Contents

I. Injection Molding Basics

- **What Is Injection Molding?**
- **Advantages and Limitations of Injection Molding**
- **Injection Molding Materials**
- **Types of Injection Molding Plastics**
- **Types of Injection Molding**
  - o Standard Molding
  - o Over Molding
  - o Insert Molding
- **Types of Injection Molding Machines**
  - o Hydraulic System
  - o Electric System
  - o Hybrid System

II. Injection Molding Machine and Equipment

- **Injection Molding Machine Components**
  - o Injection Unit: Drive Unit
  - o Injection Unit: Hopper
  - o Injection Unit: Barrel
  - o Injection Unit: Screw
  - o Clamp Unit: Toggle Unit
  - o Clamp Unit: Hydraulic Unit
- **Auxiliary Equipment**
  - o Bulk Loading Dryer
  - o Thermolator
  - o Conveyor
  - o Granulator

III. Injection Mold Tooling

- **Mold Components**
  - o Sprue
  - o Runner
  - o Gate
  - o Cavity
  - o Core
  - o Ejection System
  - o Cooling Lines
  - o Vent
- **Types of Mold Tooling**
  - o 2-Plate Cold Runner Mold
  - o 3-Plate Cold Runner Mold
  - o 2-Plate Hot Runner Mold