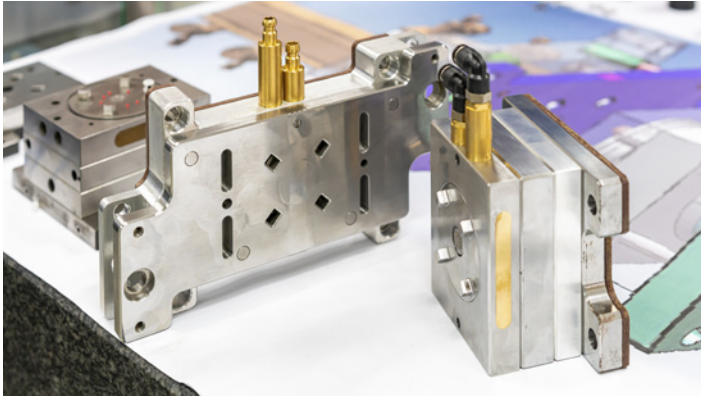


Injection Molding Design Fundamentals

eLearning courses designed to increase productivity and profits



Learning Made Simple, Visual, and Interactive

The THORS *Injection Molding Design Fundamentals* is an advanced-level course focused on mold design for the injection molding process where learners are introduced to part design and mold design considerations. The course also provides an interactive learning experience on molding machine selection factors, mold filling analysis, and mold functional systems design.

Credit Hours **2.5**

Learning Objectives

- 💡 Explain the various part features to be considered when designing a part for injection molding.
- 💡 Determine the arrangement and specifications of the mold's core components.
- 💡 Identify the appropriate materials used for the construction of mold components and the part.
- 💡 Understand the different factors involved in molding machine selection.
- 💡 Differentiate the types of mold filling analysis.
- 💡 Recognize the importance of mold functional systems in mold design.

Table of Contents

I. Mold Design Considerations

- **Part Design**
 - Part Features
 - Wall Thickness
 - Ribs
 - Corners
 - Internal Threads
 - Part Material
 - Shrinkage
 - Warpage
 - Material Properties
- **Mold Design**
 - Cavity and Core Design
 - Projected Area

I. Mold Design Considerations (Cont.)

- Parting Line
- Draft Angle
- Undercuts
- Mold Base Design
 - Cavity Layout
 - Mold Base Sizing
- Mold Material

II. Mold Design Concepts

- **Molding Machine Selection Factors**
 - Tonnage
 - Injection Pressure
 - Tie Bar Spacing

II. Mold Design Concepts (Cont.)

- Daylight
- Ejector Stroke
- Ejector Knockout Pattern
- Barrel Capacity
- Part Removal
- **Mold Filling Analysis**
 - Manual Lay-Flat Analysis
 - Computer Process Simulation
- **Mold Functional Systems Design**
 - Runner System
 - Gating System
 - Ejection System

