

## Learning Objectives: Mold Design & Engineering

1. Analyze mold cooling systems and components, and identify ways to improve the uniformity and efficiency of removing heat from the molded part.
2. Recognize the primary mold components, and recall key considerations, for ejecting plastic parts and runner systems .
3. Identify various mold types and recall the purpose, and key considerations, for each of the five primary mold systems and associated components.
4. Recognize how complex melt flow conditions develop during molding and describe the interdependency between those material properties, and the injection process and the design of the melt delivery system.
5. Recall and explain key plastic shrink and warp considerations.
6. Recall the various gate styles and explain the influence that gating location(s) have on part quality and manufacturing efficiency
7. Analyze the melt delivery system of injection molds and evaluate how its design impacts the molded part quality and manufacturing efficiency.
8. Analyze and solve engineering, strength of material, problems related to the structural integrity of injection mold plates and components.
9. Identify the primary elements of a mold vent and recognize the relationship between the material classifications and viscosity, and recommended vent depth.