

Learning Objectives: Part Design

1. Design injection molded plastic parts for manufacturability considering the complex interdependencies of the design, the polymer material, mold and the injection molding process. Demonstrate a recognition of alternate methods of injection molding
2. Interpret mechanical polymer material data including complex viscoelastic, non-linear and environment dependent properties, as applied to injection molded plastic parts
3. Identify appropriate plastic materials for a defined application considering both performance and cost requirements
4. Interpret and apply Plastic Part Design Guidelines considering manufacturability, performance and stability of the injection molded plastic part
5. Evaluate and recommend plastic part assembly methods
6. Design plastic parts for structural applications considering the complex viscoelastic, non-linear and temperature dependent properties of plastic materials
7. Evaluate and recommend decoration options for injection molded plastic parts
8. Interpret, critique and analyze injection molding simulation results of injection molded plastic parts