

Plastics and Injection Molding

Plastics and plastic processes are widely used in manufacturing and becoming even more popular.

They have a number of excellent features that make it preferable over other available materials.

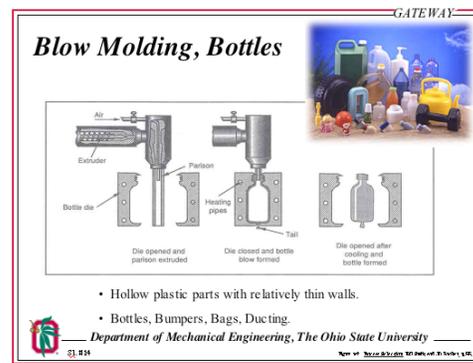
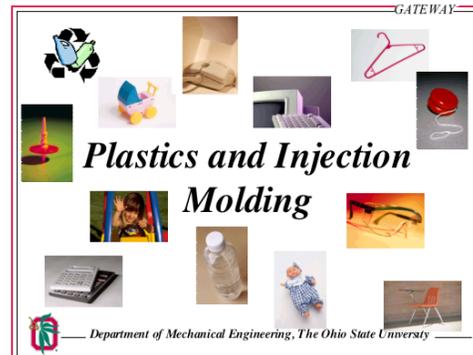
First, the module describes common plastic processes such as: extrusion, calendaring, molding, thermal forming, foaming, expansion, solid-phase forming, casting, and spinning.

Molding is the most common plastic forming method. The more common molding processes are:

- Transfer Molding
- Blow Molding
- Compressive Molding
- Reaction Injection Molding
- Injection Molding

The module then covers plunger type and screw type injection presses as well as clamping force, shot size, and injection pressure. In addition, common injection molding defects (such as short shot, flashing, weld lines, ejector pin marks, sink marks, residual stresses, and jetting) are identified and illustrated.

Guidelines and formulae for runner design gate and venting design are given. Several detailed examples show the use of classical methods to design a well-balanced mold layout. Finally, common polymers are given with their characteristics and the types of manufacturing processes used with them.



- Hollow plastic parts with relatively thin walls.
- Bottles, Bumpers, Bags, Ducting.

