

# Blow Molding

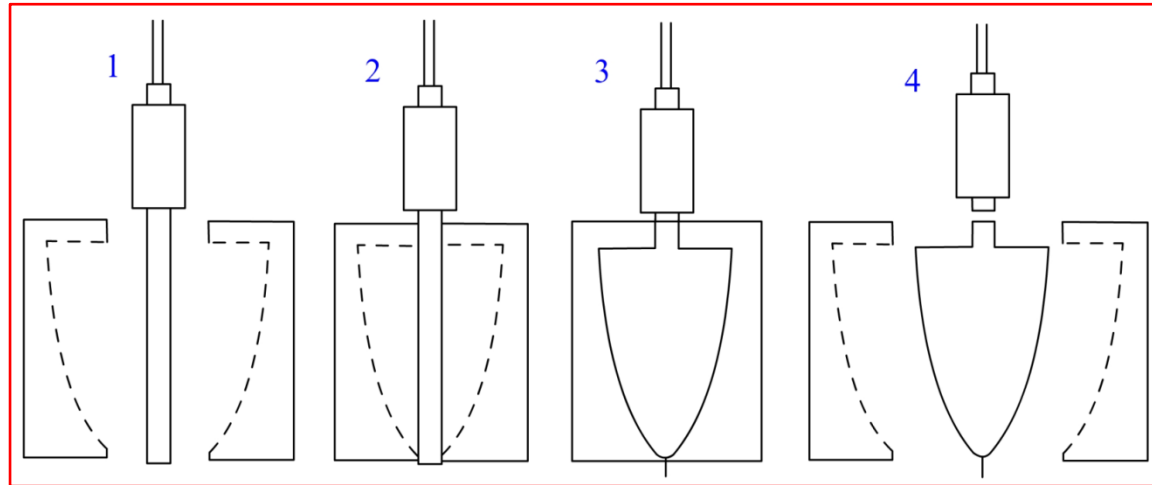
Blow molding is a manufacturing process that is used to produce hollow plastic parts by inflating a heated plastic until it conforms to the mold shape and form the desired product.

# Blow Molding

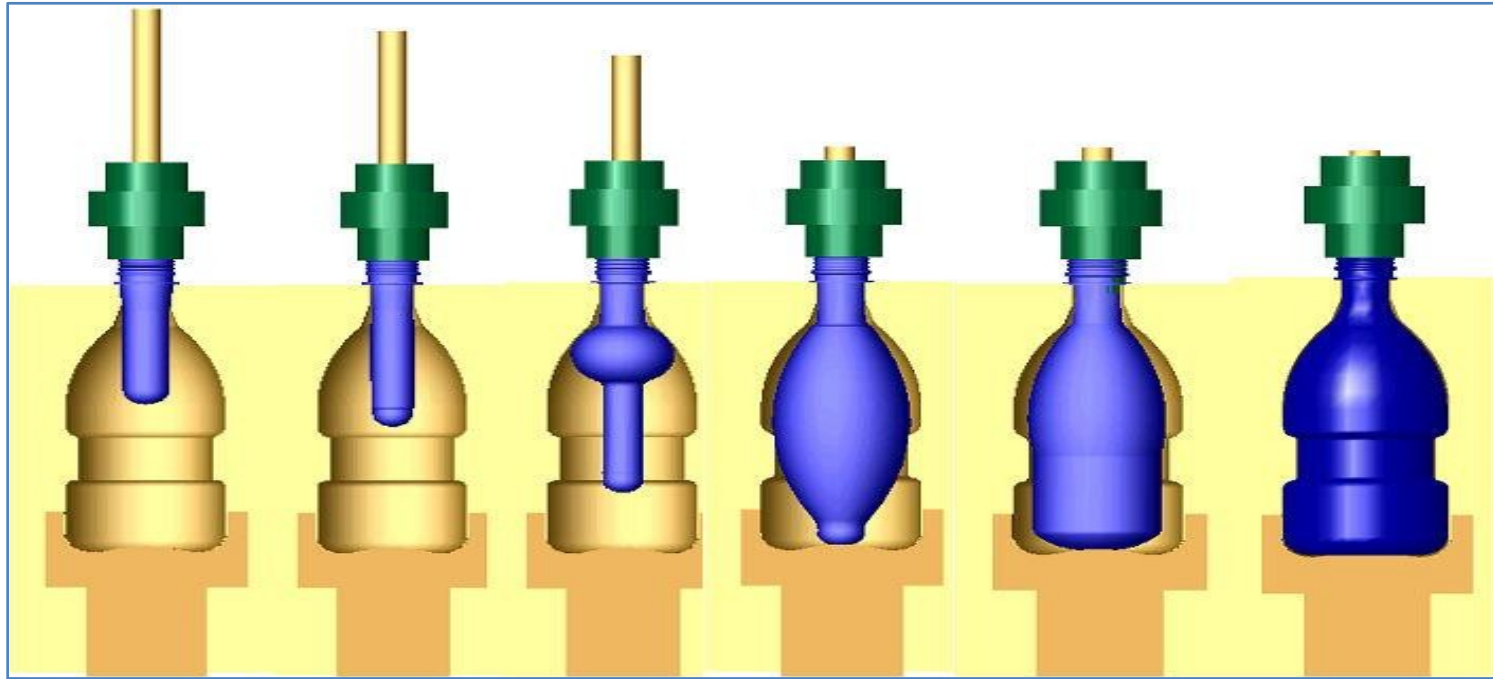
Types of blow molding:

- Extrusion Blow Molding
- Injection Blow Molding
- Stretch Blow Molding

# Blow Molding



# Stretch Blow Molding



# Blow Molding Process

- The blow molding process begins with melting of the plastic and forming it into a parison or preform, it can be done by extrusion or injection molding.
- The parison is a tube-like piece of plastic with a hole in one end in which compressed air can pass through.

# Blow Molding Process Cont..

- The parison is then clamped into a mold and air is pumped into it.
- The air pressure then pushes the plastic out to match the mold.
- Once the plastic has cooled and hardened, the mold opens up and the part is ejected.

# Blow Molding Animation

Source:

[https://www.youtube.com/watch?v=qn16JtE\\_vLc](https://www.youtube.com/watch?v=qn16JtE_vLc)

# Process Parameters

- Amount of plastic material
- Melting temperature of plastic material
- Air pressure required
- Cooling time



# Materials Used

Different types of thermoplastic material is used, for example: High Density Polyethylene (HDPE), Low Density Polyethylene (LDPE), Polypropylene (PP), Polyvinyl Chloride (PVC), Polyethylene Terephthalate (PET), and Polycarbonate (PC).

# Advantages

- Low tooling cost and fast production rates
- Ability to mold complex part
- Little scrap generated
- Large hollow shape can be produced
- Produced parts can be recycle

# Limitations

- Limited to hollow parts
- Thick parts can not be manufactured