**Compression Molding**

Simplest, lowest cost tooling
- *Usually 2 mold plates*
  - Longest cure/cycle time.
  - Rubber material/compound is placed in mold cavity, mold is closed using hydraulic or electric pressure, “compressing” the material to conform into the mold cavity shape.
  - Rubber is then cured thru the heating of the rubber from the heated mold.
  - The cured rubber part is removed and allowed to cool.
  - Excess material, called “flash”, is trimmed from the part using special scissors, trimming dies, tumbling or cryogenic deflashing equipment.

**Transfer Molding**

Slightly more complicated tooling
- *At least 3 mold plates*
  - Shorter cure/cycle time.
  - Rubber material/compound is placed in mold “pot” (located above top mold plate).
  - Using hydraulic pressure, the tight fitting plunger squeezes rubber material from the pot, through the sprues or gates into the mold cavity.
  - Rubber is then cured thru the heating of the rubber from the heated mold.
  - After rubber is cured, the mold opens, the plunger is raised up from the pot and the “transfer pad” is removed and thrown away.
  - The cured rubber part is removed and allowed to cool.
  - Sprues, gates and/or excess material, called “flash”, is trimmed from the part using special scissors, trimming dies, tumbling or cryogenic deflashing equipment.
Injection Molding

Moderately complicated tooling
- At least 2 mold plates
  - Shorter cure/cycle time.
  - Rubber material/compound is fed into injection barrel and is warmed by the temperature controlled barrel and/or through the “shearing” action of an auger type screw or plunger.
  - The rubber material/compound is then fed into the runner system and into the mold cavity via hydraulic or electric ram pressure.
  - Rubber is cured thru the heating of the rubber from injection process and the heated mold.
  - The cured rubber part is removed and allowed to cool.
  - Excess material, called “flash”, is trimmed from the part using special scissors, trimming dies, tumbling or cryogenic deflashing equipment.

LIM – Liquid Injection Molding

Most complicated tooling
- At least 2 mold plates
  - Shortest cure/cycle time.
  - Two-part silicone (Component A & Component B) is fed into a mixing head (static mixer) via hydraulic ram pressure.
  - From the mixing head, the mixed liquid silicone is fed into injection barrel.
  - From the barrel, the mixed liquid silicone is then fed into the runner system and into the mold cavity, via hydraulic or electric ram pressure.
  - The liquid silicone is cured thru the heating of the material from the hot mold. The curing time of LSR is typically about 1/3 to 1/6 of the time required for solid/gum rubber.
  - The cured rubber part is removed and allowed to cool.
  - Excess material, called “flash”, is trimmed from the part using special scissors, trimming dies, tumbling or cryogenic deflashing equipment.