

Classifications of Plastic Injection Molds

The following mold classifications are used by the Society of the Plastics Industry to define various standards of injection mold construction and the corresponding life expectancy.

SPI Class 101 Mold

Lifetime: One million or more

DESCRIPTION: Built for extremely high production. This is the highest priced mold and is made with only the highest quality materials. Detailed mold design required.

- 1, Mold base to be a minimum hardness of 28 R/C.
- 2, Molding surfaces (cavities and cores) must be hardened to a minimum 48 R/C range. All other details, such as slides, heel blocks, gibs, wedge blocks, etc. should also be of hardened tool steels.
- 3, Ejection should be guided.
- 4, Slides must have wear plates.
- 5, Temperature control provisions to be in cavities, cores, and slides cores whenever possible.
- 5, Electroless nickel plating of all water channels is recommended. This greatly inhibits the chance of rust and makes it easy to clear sediment from plugged lines.
- 6, Parting line locks are required on all models.

SPI Class 102 Mold

Lifetime: Under one million

DESCRIPTION: Medium to high production mold, good for abrasive materials and/or parts requiring close tolerances. This is a high quality, fairly high priced mold. Detailed mold design recommended.

- 1, Mold base to be a minimum hardness of 28 R/C.
- 2, Molding surfaces should be hardened to at least 48 R/C. All other functional details should be made and heat treated likewise.
- 3, Temperature control provisions to be directly in the cavities, cores, and slide cores wherever possible.
- 4, Parting line locks are recommended for all molds.
- 5, The following items may or may not be required depending on the ultimate production quantities anticipated. It is recommended that those items desired be checked and made a firm requirement for quoting purposes:
 - Guided Ejection
 - Slide Wear Plates
 - Plated Temperature Control Channel
 - Plated Cavities

SPI Class 103 Mold

Lifetime: Under 500,000

DESCRIPTION: Medium production mold. This is a very popular mold for low to medium production needs. Most common price range. Detailed mold design recommended.

- 1, Mold base must be minimum hardness of 8 R/C.
- 2, Cavity and cores must be 28 R/C or higher.
- 3, All other extras are optional.

SPI Class 104 Mold

Lifetime: Under 100,000

DESCRIPTION: Low production mold. Used for limited production preferably with nonabrasive materials. Low to moderate price range. Mold design recommended.

- 1, Mold base can be of mild steel or aluminum.
- 2, Cavities can be of aluminum, mild steel or any other agreed upon metal.
- 3, All other extras are optional.