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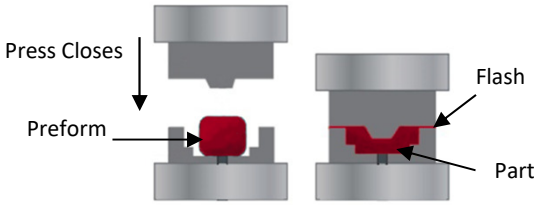
A closer look….

at Rubber Molding

There are two common methods for molding rubber into a useable part-compression and injection. Each process requires uncured material be placed or inserted into a metal chamber (mold). Heat and/or pressure is then applied to the mold, which chemically alters the rubber as it takes the shape of the finished part. A third method, called transfer molding, is a form of injection molding.

Compression Molding

This is the simplest form of molding. A pre-form is made from uncured rubber that is close to the weight and volume of the finished part. The pre-form is placed in one half of the mold. Both halves of the mold are hydraulically pressed together. After a specific amount of time, the mold is opened and the part can be removed. The flash, or excess rubber, is trimmed from the part. Excess flash is greatly reduced in this method of molding. Compression molding is mostly used for compounds with medium hardness, expensive materials, or low production requirements.



Advantages of Compression Molding
Low tooling cost
Medium precision
Large parts

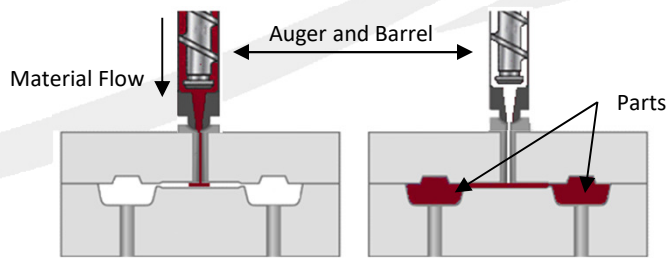
Disadvantages of Compression Molding
High labor cost
Process time is slow
Not suitable for complex parts

Injection Molding

A continuous feed of uncured rubber is fed into an injection barrel. It is then warmed by an auger screw within a temperature controlled barrel. The auger screw is pulled backwards as the rubber material accumulates in front of it. Once the auger screw is retracted, the rubber material is injected into the mold cavities by an injection press. The mold is closed, and the auger screw is pushed forward under high pressure, forcing the material into the mold cavities. After a specific amount of time, the mold opens and the finished parts are removed.

Advantages of Injection molding
Fast production
Material waste minimized
Labor cost is low

Disadvantages of Injection molding
Initial tooling cost and equipement is high
Not suitable for small runs
Restricted part designs



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