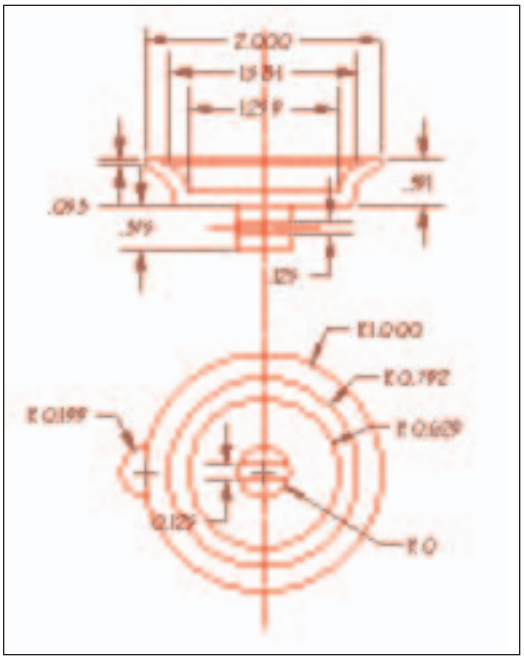
Corson Rubber Products, Inc.

Mold Design

Most rubber parts are going to be made in a mold of some type. The most common types of mold are Compression Molds and Transfer Molds. While we don't make molds we will help you design your mold and we have experts who can make the mold for you.



Before any mold can be made, we need to have a drawing for the tool maker to go by. The drawing at the right is an example of what our tool maker needs to make your mold.

If you supply us with a hand drawing with all of the required dimensions we will create the drawing in house for our tool maker to use. All molds we make for you are your property, however we will store the molds for you at no cost as long as we are making parts for you.

After the drawing is complete we will supply you with a quote for making your mold. In addition we will work with you on trying to get the proper number of cavities in the mold to balance the mold cost against the cost per part. The more cavities in the mold the more expensive the mold is and the lower the cost per part. Of course, the converse is also true, the fewer the number of cavities in your mold the more the cost per part will be. But, we will offer you options and the decision is yours!

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Rubber Industry Precision Tolerances

The dimensional tolerances given below provide a guideline of what can be considered "precision" in a rubber product. Although tighter tolerances are frequently available, there are many factors that must be considered. Please contact Corson Rubber Products with any specific questions.

Dimension Size	Fixed Dimensions	Closure Dimensions
Above 0.00" to 0.40"	±0.006"	±0.008"
Above 0.40" to 0.63"	±0.008"	±0.010"
Above 0.63" to 1.00"	±0.010"	±0.013"
Above 1.00" to 1.60"	±0.013"	±0.016"
Above 1.60" to 2.50"	±0.016"	±0.020"
Above 2.50" to 4.00"	±0.020"	±0.025"
Above 4.00" to 6.30"	±0.025"	±0.032"
Above 6.30" Multiply By:	±0.004/In.	±0.005/In.

Rubber molding transforms a formless piece of uncured rubber stock into a functional, useful product. The Rubber Molding Process is not a gentle transformation from raw material to finished part, but is a process performed with tons of pressure and blistering heat. The 3 basic types of molding processes are . . . .

Compression Molding

One of three processes used to mold rubber parts. Compression molding is the oldest and simplest way to make rubber products. In a number of applications it is considered the best and least expensive way to mold rubber.

Compression molding involves placing a measured and weighed piece of uncured rubber into the mold cavity.

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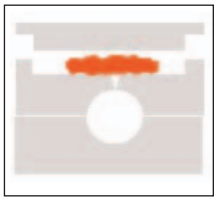
Step #1 - A piece of uncured rubber is placed in the mold.

Step #2 - The mold is closed up and held under hydraulic pressure while the rubber cures.

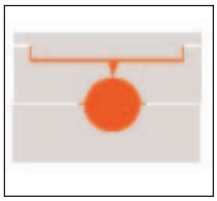
Step #3 - When the mold opens the part can be removed. The excess rubber, called flash, needs to be trimmed off the part.

Transfer Molding

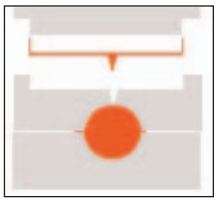
Involves having a "piston and cylinder" like device built into the mold so that the rubber may be squirted into the cavity through small holes.



Step #1 - A piece of uncured rubber is placed into a portion of the mold called the "pot." The plunger (on the top-most part of the mold) fits snugly into the "pot."



Step #2 - The mold is closed up and under hydraulic pressure the rubber is forced through the small hole (the "gate") into the cavity. The mold is held closed while the rubber cures.



Step #3 - The plunger is raised up and the "transfer pad" material may be removed and thrown away.

Step #4 - Mold is opened and the part is removed. The flash and the gate may need to be trimmed.

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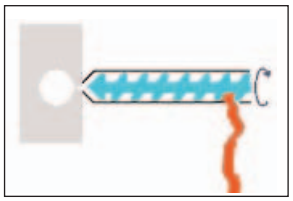
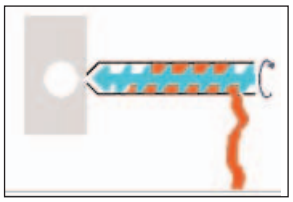
Injection Molding

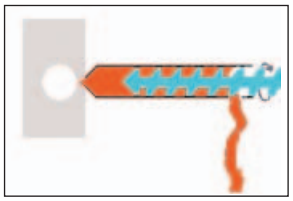
Is the most advanced method of molding rubber products. Injection molding produces the most consistent results by automating all aspects of how the rubber gets into the mold. In injection molding, the rubber is worked and warmed and then squirted into the mold at controlled speeds, pressures and temperatures.



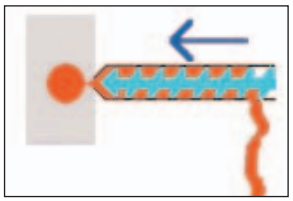
Step #1 - The uncured rubber is fed into the machine in the form of a continuous strip.



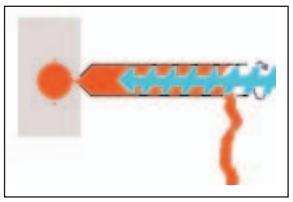
Step #2 - The uncured rubber is worked and warmed by an auger screw in a temperature controlled barrel.



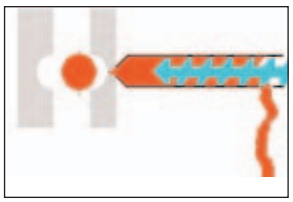
Step #3 - As the rubber stock accumulates in the front of the screw, the screw is forced backwards. When the screw has moved back a specified amount, the machine is ready to make a shot.



Step #4 - With the mold held closed under hydraulic pressure, the screw is pushed forward. This forces the rubber into the mold, similar to the action of a hypodermic syringe.



Step #5 - While the rubber cures in the heated mold, the screw turns again to refill.



Step #6 - The mold opens and the part can be removed. The machine is ready to make the next shot, as soon as the mold closes.