



The other day a customer asked why poly spring bushings cost so much. I explained everything that goes into making a poly bushing and told him when all factors are considered the bushings are actually reasonably priced. We're ready to place some new poly bump stop molds into service so I thought this might be a good time to address that question on this page. There are a number of reasons for the expense of poly spring bushings and bump stops.

1. Engineering – We have to take the time to design and draw up the part we need. A sketch on a napkin won't do. When our drawing is ready we send the drawing to our poly supplier who then draws up the mold for the part. The drawing of the mold is very intricate because the mold has to account for shrinkage of the poly material as it cures and also has to allow for the release of any entrapped air during the pouring process. Although poly bushings don't appear to be made to precise tolerances this is deceiving because the tolerances on our mold drawings are $\pm .005''$.
2. Molds - We strive to provide the highest quality poly bushings available. Because of this, unlike some of our competitors, all of our poly bushings are made in permanent steel molds. Our molds are machined on a CNC machine to the tolerance mentioned above, $\pm .005''$. Molds consist of multiple pieces because they have to allow the poly material to enter the mold, hold the poly in place during the cure process, and then separate after curing to extract the finished poly bushing. To ensure timely delivery to our customers multiple molds for every poly part are required. Consequently a set of molds costs thousands of dollars which has to be built into the cost of the finished product. As an example, the mold in the picture is one of six going into production for a new line of bump stops.
3. Production Time - The production of the poly part is time consuming. The material has to be mixed with the correct combination of poly, chemicals and dye. The softer the durometer the longer it takes for the poly bushing to cure. Many of the softer bushings have to remain in the

mold for several hours while they cure. When molds are tied up waiting for parts to cure they can't be used for anything else. Time is money.

4. Material - Lastly, high quality polyurethane material is not cheap. The material has to be engineered for chemical resistance, hardness, abrasion resistance, temperature and environmental concerns and most importantly dynamic performance.

The combination of engineering time, cost of molds, labor and materials all affect the cost of poly spring bushings and bump stops. Our goal is not to provide the least expensive poly bushing but to provide poly bushings at a fair price which hold up to the demands of racing. Hopefully you found this to be informative.