ProMold plastics
Custom Injection Molding & Moldmaking

How to purchase an injection Mold

Traditionally in the past when an engineer designed a new plastic part he would hand off a detailed part drawing to purchasing to go out for competitive bid. Purchasing would send off the drawing to multiple molders and request a tooling cost and part cost.
The problem with this method is that unless the molder asks the right questions they are shooting in the dark and end up not giving the purchasing department enough or the right information to make a good sound business decision.

The problem with this is that the piece price or unit cost needs to be looked at as an expense and the tooling cost as an investment. Many times a molder will try to low ball the mold price in hopes to get the production work. In some cases the piece price may be artificially inflated to cover the mold cost. Does the molding supplier actually have enough information to satisfy the customers longer term objectives and throughput constraints? In a true partnership these games can be eliminated.

If you have two or three suppliers that you are confident can handle the job it makes things a lot easier. First of all the molder should know a target unit price range you expect to pay for the part. Since the part price and quality is directly related to the Mold cost the supplier will be able to design and quote the right mold suitable for satisfying your part requirements. Deciding up front adequate cavitations, mold construction and cooling requirements for the mold will enable the molder to meet your requirements for unit cost, part quality and consistency and longevity of the mold.

For some companies giving a target price range to a supplier might seem uncomfortable at first in fear that they may leave too much money on the table. On the other hand if you go out for competitive bid you can be assured that all bidders have enough information to quote a mold that fits your needs. You are still in control in deciding which supplier will give you the most bang for you investment dollars. After all don't we all want to control our expenses and make the right investment decisions to prevent the common pitfalls that create the daily fires we are always trying to put out?

Checklist for Buying Injection Molds

The following information should be considered before submitting an RFQ for Injection Molds as this information may have a large impact on price, delivery and quality and will enable you to make the most cost effective choice when comparing quotes among suppliers.

1. Anticipated daily throughput requirements – How many parts will you be able to consume per day. Do not under estimate this. It is OK to inflate this number 2 or 3 times. If you do not you run the risk of losing sales opportunities if your product takes off. Usually a molder should have no problem staying two or three times ahead of the customer without significant investment costs assuming your part is not too complex. With this information the supplier can determine the right number of cavitations in the mold to satisfy your short and long term needs. The more the cavities, the higher the tooling cost, however, your unit part cost will decrease. Depending on your estimated annual usage and the complexity of your part, additional cavities may be worth the investment.

2. Delivery requirements - From concept to production, the mold building time takes up a smaller portion of time than most people think. However spending all your time in the design stages and waiting until the last minute to place the tooling order can

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leave you hanging high and dry. After the initial design stage you should start working with your molding supplier to determine if the part design is feasible for manufacturing and give you a good idea how much time to allocate for the fabrication of the mold.

3. Resin - If this is not critical, your supplier may have some suggestions for a plastic material that will help minimize unit part cost. If your parts will be ordered in smaller quantities, custom colors can have an impact on unit cost and delivery of your parts. Unless a custom color is absolutely necessary, ask your supplier about what standard colors are available.

4. Mold life expectation - If you have small annual volumes (less than 1,000 pcs.) and do not expect the program to last over five years, the supplier can design and quote a cost effective mold for you application depending on the complexity of your part.

5. Mold Sampling Requirements – How many samples do you require to approve the mold? Do you need any capability or statistical measurement studies? Does your quality department have any specific C_{pk} requirements?

6. Gate/Ejector Pin and Parting Line Locations - If there are any critical surfaces on your part that can not have any blemishes, this should be noted up front as this will limit the ways the tool can be built which may have an impact on cost, delivery or quality control of the molded part.