



Industrial Molds Group



Industrial Molds Newsletter

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The Price of Poor Quality; the Value of High Quality

There's a quote from the writings of Benjamin Franklin that still holds true today: "The bitterness of poor quality remains long after the sweetness of low price is forgotten." As you may remember, Franklin was not only one of the founding fathers but an inventor as well.

Who pays for the poor quality of a mold? Many buyers of molds focus on price, believing that the bottom line is the important part of a quotation. Certainly price needs to be taken into consideration when purchasing a mold, but a far more important consideration is the value that the mold will provide for your company. After all, a mold is an investment in the future success and profitability of your company - it is a valuable asset, which is why there are many things to be considered when purchasing a mold.

There are many components of the mold quote that need to be considered over and above just the price when choosing a mold supplier. The factors that make up a quotation may be different depending on the supplier that is doing the quoting, as each mold maker may see the design a bit differently.

What does an OEM need to consider when purchasing a mold? First, consideration needs to be given to the number of parts that need to be molded over a specified period of time, because that determines the number of cavities that will be required. That will also impact cycle time which also determines the number of parts that can be molded within a certain time frame. Additionally, will you benefit more from a cold runner system - a system that in which parts are attached to a runner system -- or a hot runner system? Do you want runner scrap? Perhaps you don't mind having runner scrap if your parts can use a specified amount of regrind obtained from the runners, which also has the benefit of reducing your overall

material costs.

A hot runner system is also a "runnerless" system which means you don't have runner scrap. That can be especially beneficial if your part must be 100% virgin material - no regrind allowed. While hot runner systems can add as much as 40% to the cost of the mold, you'll make that back in the fact that you'll use less material (no runner system to worry about) which also means your cycle times will be faster because you're not filling runners prior to filling the part.

What else impacts cycle time? Cooling is the number one determinant of cycle time. Getting the heat out quickly results in faster cycle time, which means you need to decide on the type of cooling system required. For complex parts that have thin to thick wall sections, a conformal cooling system might be most beneficial as it allows the water to get closer to the thicker sections of the parts.

The ejection method is also important to the cycle time and there are varied methods for getting the parts out of the mold. You'll want to talk to the mold maker to determine the most efficient method of getting the parts from the mold depending on the size of the mold and the number of cavities.

OEMs and the molding companies that supply the OEMs, consider automation as a way to reduce cycle time such as pick-and-place robots that can set the parts on a conveyor system rather than letting them free-fall into a box. Robots on molding presses are quite common on the production floor of most molding companies. Conveyor systems that take parts to a secondary operations area for further work such as assembly or decoration using hot stamping or pad printing, or putting labels on the parts are common as well. Specially designed automation cells are a big investment, but the ROI on these is quite good and can continue to save time and money over the long term.

Eliminating these types of secondary operations is something that OEMs are looking at as a way to reduce total costs to manufacture. Many of these secondary operations can be eliminated by in-mold operations such as in-mold labeling (IML) or in-mold decorating (IMD). There are even molds - called rotating stack molds - that can even perform in-mold assembly operations such as closing a lid on a cap by flexing the living hinge, and much more. However, keep in mind that while these in-mold operations save time and manual labor, the initial cost of the mold can be significantly higher. These molds must be designed and built for automation and in-mold operations from the get-go. That's why it is important to do the math when deciding what type of mold to purchase.

There have been many molds purchased on price alone that end up

costing the OEM far more in time and money than they originally thought. Remembering that price doesn't provide the whole picture when buying a mold is a good thing. Collaboration with the mold supplier is important because your goals must be established from the outset.

In the mold making business there is a saying: "There is price, quality, and delivery. Pick two." In today's high-speed production environment and the use of 3D modeling software, you can typically get all three, but that will require working closely with your mold manufacturer. Buying a cheap mold is never the best use of an OEM's money because it will cost much more in the long run. The total cost of manufacturing your products is dependent upon the type of mold you choose to buy. Spending up front for a mold that will produce quality parts in a repeatable manner at optimal cycle times is well worth the cost. Many buyers have rued the day they bought a mold on price alone.

You know what they say: If it looks too good to be true, it probably is.

Need help with your next mold project? Let Industrial Molds work with you to decide the right type of mold for the job you require. We have the engineering expertise, the software and machine tool technology, and a history of excellence in mold design and manufacturing to help you be successful! Call Mark Hill at 1-815- 397-2971 for a consultation on your next project.



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