



Industrial Molds Group



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Moldmakers Create Value - But Take Risks

Industrial Molds Group has been providing mold engineering, part design assistance and manufacturing services for more than 40 years. The experience, expertise and creativity among our team members provides a tremendous value to what we do for our customers. When a customer comes to us with a challenging part, we can typically find a solution that results in better manufacturability, higher quality and often reduced cycles.

A customer came back to us with an automotive component assembly that we had worked on previously for another vehicle. They had never gone into full production with this particular component assembly because initially it had been designed for a high-end sports car. While we built a limited production tool for this very low volume assembly, the product design had numerous problems.

"The initial parts had many molding and manufacturing issues," says Kerry Smith, Engineering Coordinator for Industrial Molds Group. "They had a design that had some inherent molding problems but because it was a low-volume product, they lived with the issues and made adjustments in order to get the product to function. Going into a higher volume vehicle platform meant that they needed to make changes to solve the



Industrial Molds, will be exhibiting at the Plastec Midwest Show at McCormick Place North in Chicago. Show dates September 20-22, stop on by and see us!

manufacturability and assembly issues."

The customer liked this assembly because it provided a lot of value, in terms of consumer convenience and ease of use, they decided to take that same product concept and implement it into a higher volume vehicle. Because of our experience with this product previously, we were able to come up with ideas that would make it more manufacturable for a high-volume tool.

The original product had part features that made it difficult to mold - there were very inconsistent wall thicknesses. The specified gating locations led to warpage issues. "But when you're only producing a couple thousand components you can tip-toe around some of these issues. When you get to hundreds of thousands of components, you have to make it a more repeatable, consistent molding situation with a broader processing window," Smith says.

The customer redesigned their product based on their own analysis of "effectiveness in-use" and brought it back to Industrial Molds Group. "Based on our past experience we began to study the parts knowing we would need to engineer the molds differently," Smith notes.

The customer submitted the product files to us for review, including all the components and the complete assembly files so we could analyze how each component interfaced with all the others. We took into account in-use sealing considerations, areas that needed to be more robust, and talked through the product assembly in terms of how the parts had to mate with each other and the challenges in the real world in terms of heat and dust.

We then looked through the files, collaborated with the customer in a number of conversations, and made recommendations for new tooling based on what we determined could be improved for manufacturability in a high-volume molding environment. The new prototype molds would replicate production tooling to improve cycle and widen the process window. We modified various components to make the molds more robust as well.

The customer revamped their product's CAD details to reflect these recommendations. Industrial Molds then provided the prototype tooling for all the parts. "At that point they had product to assemble, fit and use under real world conditions to evaluate and test the parts for vibrations, heat resistance, and the effects of dirt and dust," Smith explains. "These parts would be consistent with those produced by production grade tooling.

Once they'd gone through enough testing, we performed some engineering changes to the prototype tooling, making modifications until the customer had the parts and assembly required to move forward to the production tools."

Because of Industrial Molds previous experience with the product, and because we were able to use our knowledge of molding and manufacturability, we were able to limit the engineering changes and iterations, with some tools only requiring one modification to become production-ready. Considering that some developmental parts require many product iterations, Industrial Molds understands the value of doing a lot of homework up front.

"The reason we had fewer iterations than with many other tools shows the value in being proactive and scrutinizing the entire process," Smith says.

The Risk -

When it came time for the production tooling to be let, imagine how surprised we were that we lost the business because we weren't as cheap as another company. What was really disappointing to Industrial Molds is that our customer went to four shops, including ours, for a quote based on our recommendations, engineering designs and knowledge. Industrial Molds and another shop were virtually identical in price. One other shop was substantially higher than our price, and another shop was substantially lower. "We were right in the mean and knew that our price was right-on, based on our previous experience," says Smith.

The customer didn't understand why we were higher than the low bidder, and wanted us to compete with that shop. We declined to do that. We had built the first tool for the original product. We then built all the prototypes for the new product, and had engineered the product in great detail, so we knew all the nuances of the tool. Our intellectual property is very valuable, as is our expertise and experience. The knowledge base we have here at Industrial Molds is the best in the industry, and our customers know there is value in that.

This is where the risk for the mold manufacturer comes into play. We work hard to provide our customers with the most innovative, creative solutions to their manufacturing challenges and like to consider our customers "partners" with us in these collaborative efforts.

There are many advantages to giving an entire program to one mold manufacturer, including the R&D, prototype molds, and product design assistance. That provides the foundation for building a high-quality, precision production mold that ensures you get the highest quality parts at the best cycle times to optimize manufacturability.

At Industrial Molds Group, we provide extensive services to help you meet your most challenging product designs and manufacturability issues. From the first concept drawing through to production tooling, Industrial Molds Group can get you there. Learn the advantages of Industrial Molds Group's full-service capabilities on your next project.

Contact Information: Industrial Molds Group - Rockford, IL, 815-397-2971 or customer.service@industrialmolds.com.

Have a safe and happy 4th of July!
Sincerely,
Industrial Molds, Inc.

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