

Ashtabula Rubber Co.

DESIGN • PROTOTYPING • PROJECT MANAGEMENT • GLOBAL MANUFACTURING & SOURCING

Flashless Molding: Used For Specific Cases to Yield Specific Results

When we initially speak with engineers about rubber component design, we determine the most important factors of the operating environment. We can then successfully design a component custom made to fit those specifications. However, the “cost” of the part can often dictate whether or not the design is ever used.

One large factor in the cost of a component comes in the form of tooling. As a manufacturer of rubber components, Ashtabula Rubber tries to limit the amount of money spent on tooling, while still providing a superior product. However, depending upon the geometry and the compound used, tooling costs sometimes exceed the price range a customer had in mind.

The burden of finding affordable tooling to generate the “best fit” component often rests with the rubber manufacturer. However, there are cases where expensive tooling can actually save a company more money in the long run. Flashless molding is one such case.

Flashless molding is simply a process of manufacturing parts with no excess material, or flash. Although a flashless mold is often more expensive when compared to more traditional molding processes, the benefits often outweigh the cost.

Low material waste: With no excess material to be removed from the component, flashless parts are removed from the mold as a finished product. This lack of wasted material can help cut down on material costs. The cost savings may be significant, particularly for components that require expensive compounds such as fluorocarbons, HNBR, and silicone.

Reduction in Labor Costs and Production Time: Because this process is almost fully automated, there is no secondary operation to remove flash. This in turn eliminates labor costs required by non-flashless tooling. In addition, eliminating production steps (such as deflashing) reduces cycle time enabling quicker delivery.

Another determining factor for using a flashless mold versus a conventional mold is the annual quantity. For a high volume component, the cost of flashless tooling is quickly offset by the reduction in labor and material. If the quantity is determined to be low volume and used for a limited amount of time, a more standard method of manufacturing is more cost-effective.

Some may feel that at the heart of the matter, flashless molding is simply a tradeoff between capital cost and piece price. Although cost is a significant reason for choosing one molding method or another, there are other reasons for choosing this process.

Maintaining Chemical Bond: Ashtabula Rubber often manufactures bonded rubber-to-metal (or other substrates) components. This process achieves a stronger chemical bond during molding than using cold adhesion in a secondary operation. However, in some cases, using a secondary process to remove flash, such as cryogenic deflashing, will damage the chemical bond and adversely affect part performance.

Eliminating Defects: In addition to bonded parts, high-precision components are also better suited for flashless molding. Because these parts are manufactured with a small edge or thin wall, removing flash by hand or by cryogenics can easily cause the component to rip and tear. Flashless molding will eliminate the risk of damaged and defective parts.

When you contact Ashtabula Rubber, we will help you determine the most cost-effective way to manufacture your components. If you require assistance with rubber component design or materials, or simply want to learn more about what Ashtabula Rubber can do for you, please contact our Engineering Manager, Aaron Hall, directly at (440) 813-5848 or via email at ahall@ashtabularubber.com

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