

**PERMANENT
MOLD
ALUMINUM
CASTINGS**



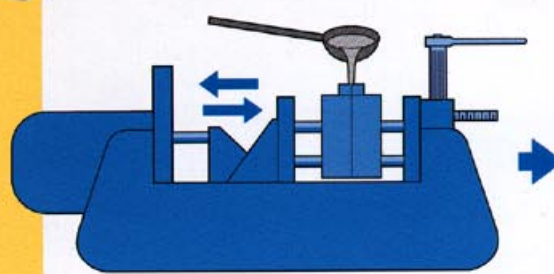
**GUPTA
PERMOLD**
CORPORATION

Gupta Permold Corporation has been furnishing the world with the finest aluminum castings for nearly two decades. Our distinctive Permanent Mold process consistently delivers high quality, tight dimensional control, high strength, fine surface finish, reduced machining and an attractive appearance at a low cost for our customers.

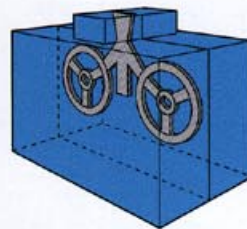
Whatever your requirements, Gupta Permold can guarantee your satisfaction. When you put Gupta Permold to work for you, you may even have more time to spend on the golf course ...



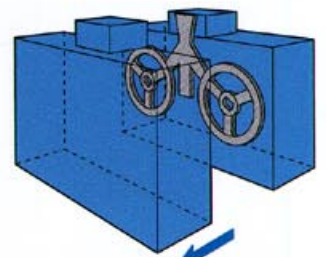
THE GUPTA PERMOLD PROCESS AT A GLANCE



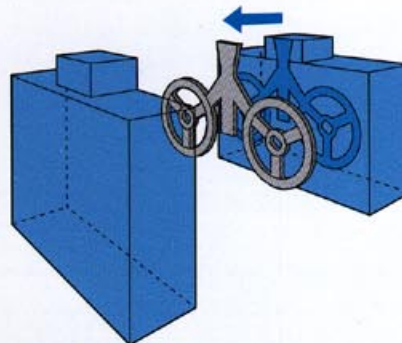
1. Molten aluminum is poured into the mold.



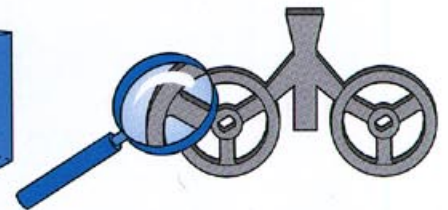
2. Aluminum is allowed to solidify.



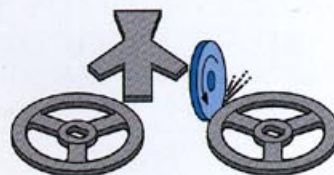
3. Mold is opened.



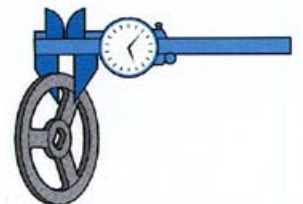
4. Casting is removed.



5. Hot inspection is performed to ensure high-quality, defect-free castings.



6. Gates and risers are hand-trimmed.



7. Casting undergoes 100% final visual inspection before packaging.



FINE SURFACE FINISH

Gupta Permold castings have a finish that is fine enough for O-ring seals and gaskets, smooth enough to

be put against metallic surfaces, and a clean,

silvery appearance that eliminates the need for costly operations like polishing. Our castings also can be easily welded, impregnated, painted, plated or anodized and letters or logos are cast crystal clear.

Process control is the key to guaranteeing high-quality castings. Gupta Permold strives for **Zero Defects** by continuously monitoring all processing and performing a 100% final visual

HIGH QUALITY

inspection to make sure only the highest quality castings reach our customers.



HIGH STRENGTH

In our Permanent Mold process, molten aluminum is poured into a metal mold that chills the aluminum

rapidly so it will solidify into a very fine-grain

texture free of porosity and trapped gas. This gives our castings superior metallurgical properties with a high degree of pressure tightness, while making them over 10% stronger than sand castings.

Machining is a costly operation. Gupta Permold castings eliminate machining—and its costs—by providing close dimensional control, a smooth finish and total repeatability. Surfaces can be cast truly flat, free from any draft or

LESS MACHINING

taper by suitable mold design. Time after time, switching from other casting methods to Permanent Mold has cut our customers' costs dramatically.



LESS COST

The greatest advantage of Gupta Permold castings is our low piece and tooling costs. Eliminating the need

for machining gives our customers a low piece cost while our skilled designer and mold

makers use their years of experience and extensive knowledge to produce innovative mold designs that result in minimum tooling costs. In fact, Gupta Permold has produced a complete Permanent Mold tooling for only \$1,200—a record low cost.

Our castings are made in metal molds, so dimensional variation from piece to piece is negligible and close tolerance is consistently held. Because of our ability to achieve the highest accuracy and precision, we have

CLOSE TOLERANCE

successfully cast many parts that have been used as-cast, with no machining, resulting in great savings for our customers.



BETTER CASTING AT LESSER COST.

QUALITY CONTROL

Gupta Permold uses process control to ensure castings meet the customer's quality requirements. In order to eliminate defects, all manufacturing processes are controlled and continuously monitored as part of our Zero Defect policy.

It is imperative to find defects as early as possible in the manufacturing process and invoke immediate corrective action before the casting goes any further. To this end, the molder performs a "hot" inspection, visually checking every casting for flaws as it comes out of the mold and looking for known defects that may be characteristic of that particular job. If the casting meets all quality criteria, the molding continues. Otherwise, the casting is returned to the troubleshooting team. Hot castings are taken away, quenched and measured for critical dimensions as needed. As the casting proceeds through trimming, it is visually inspected at each processing station and

a 100% final visual inspection is conducted before packaging.

Our Zero Defect policy extends to our incoming materials as well, including metal ingots, supplies and inserts. Gupta Permold uses aluminum ingot exclusively and does not buy scrap aluminum. Composition of the ingot is always checked to see that it meets specifications, eliminating the chance of producing castings of incorrect alloys. Our Quality manual is available for your review.

OTHER ADVANTAGES OF GUPTA PERMOLD

To take maximum advantage of the Gupta Permanent Mold process, draw upon the wide-ranging experience of our staff. Our degreed engineers are available to provide casting consultation for your upcoming project. By reviewing new designs and exchanging ideas during the early stages of development, significant savings may be realized.

At Gupta Permold, new projects always take first priority. When we receive a new mold, it is immediately inspected and run for debugging until it produces satisfactory sample castings. The Quality Assurance Department measures the sample casting using a CORDAX (computerized dimension measuring) machine and produces a full dimensional report based upon your drawing. Once we're satisfied, the sample and dimensional report are submitted to you for your approval. Only when you're completely satisfied do we proceed with production.

Gupta Permold can supply you with castings complete as turn-key items, whether you prefer them partially machined, fully machined, painted or even assembled. We want to be your single source for aluminum parts the way you want them to be. And who knows, maybe we can help lower your handicap, too!



GUPTA PERMOLD CORPORATION

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Minority-owned and -operated company.

Your inquiry is invited.



AFFILIATIONS

Member of American Foundrymen's Society, American Society of Metals and Aluminum Association of America