



Permold Vs. Pressure-Die Casting

Also known as gravity-die casting, our Permanent Mold offers many advantages over pressure-die casting...

DENSER CASTING: Our unique gravity-fed process system reduces metal turbulence dramatically and therefore virtually eliminates pin-hole porosity commonly found in pressure-die casting. Moreover, even machined surfaces are pressure tight.

LOWER TOOLING COSTS: Less up-front investment. It's just like free money. Often 1/10 the cost. In addition, future design changes that require tooling modifications are tremendously less expensive in Permold when compared to pressure-die casting.

NO "SKIN-EFFECT": Permold castings possess consistent mechanical and physical properties throughout the cross-section. Large bulky castings are actually our cup of tea.

CASTABLE UNDERCUTS/RE-ENTRANTS: With sand cores and other sacrificial coring methods, undercuts and re-entrants are routinely cast (floways, wire-paths, coolant channels, etc).

FULLY MACHINABLE: Need a tight dimension that just can't be cast? No problem. Our castings are fully machinable, throughout the casting (not just in the "skin"). Also, surfaces can be machined to mirror finishes.

FULLY WELDABLE: Our castings are easily welded into assembly with excellent weld strength. Our castings are commonly welded with extruded aluminum tubing to make high-strength structural units. Most notably, our castings are welded into high-performance aluminum mountain-bike frames.

SHORTER LEAD-TIMES: Shorter tooling lead-times gets your product to market faster. Shorter production lead-times reduces your excess inventory.

BETTER DUCTILITY: Our Permold castings have better impact resistance and won't shatter. This is also known as "Louisville Slugger" resistant.

SHORT RUNS: Stop paying set-up charges and short-run fees. Get lotsizes as low as 250 pcs. without surcharges.

NO BLISTERING OR DISTORTION: Absolutely no casting blistering or distortion, even at near melting temperatures. Why? No entrapped gas in the microstructure.

NO BURRS OR FLASH: All of our castings are hand-trimmed; never by trim press which inevitably leaves burrs and flash as it wears. Thus, our process is perfect for handles or other applications where hands-on contact requires safety.

MOLDED INSERTS: Any metallic or ceramic piece can be cast-in. Save cost over pressing inserts. Get stronger threads by casting threaded steel, brass, or stainless steel bushings and eliminate drilling and tapping. Reduce weight by casting a steel insert in high stress areas while keeping the bulk of material in lightweight aluminum.

POWDER-COAT READY: Castings easily take powder coating for a beautiful finish. Pressure-die casting often causes blistering of the powder coat during the heating cycle.

CONTACT

GUPTA PERMOLD:

If you would require more information on any of the ideas suggested, please feel free to contact us at your convenience. We look forward to working with you on your next project.

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