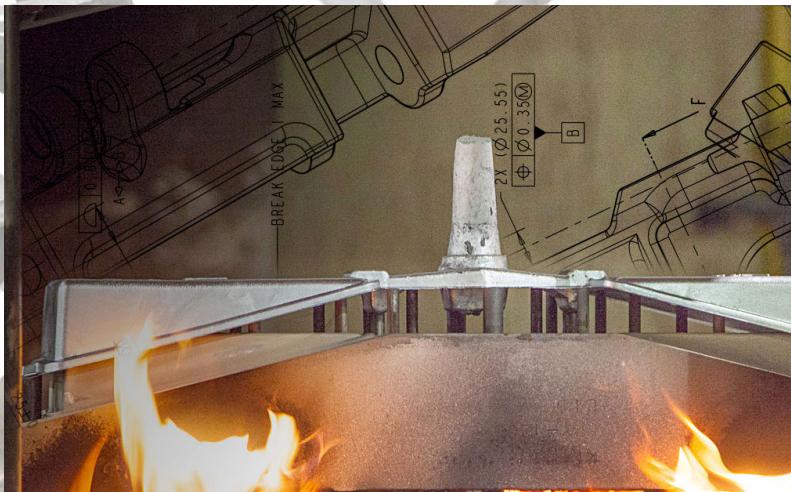


Permanent Mold Casting at Eagle Aluminum

Tolerances, Capabilities
and Design Recommendations

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- Casting Characteristics
- Mold & Pouring Capabilities
- Design Recommendations
- Inspection Services at EACP



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PERMANENT MOLD CASTING AT EAGLE ALUMINUM

Tolerances, Capabilities and Design Recommendations

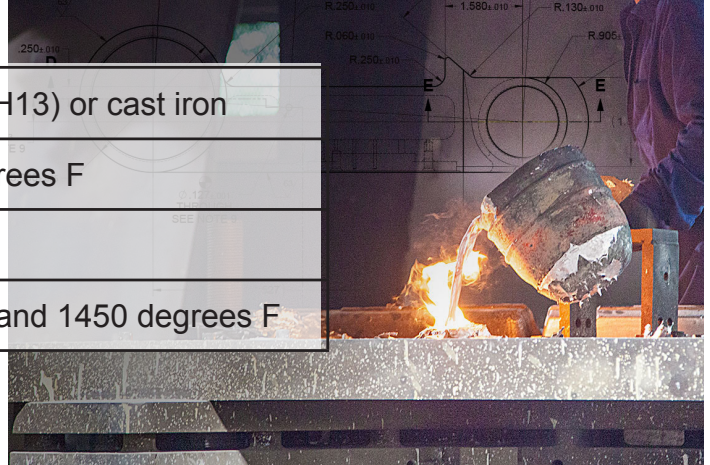
Permanent mold casting is a metal casting process involving reusable molds. Compared to casting methods that use disposable molds, permanent mold casting can dramatically reduce per-part costs for high-volume runs, while also improving a variety of casting parameters. Molds for permanent mold casting cost considerably less than for die casting, yet they are capable of producing larger volumes.

Characteristics of permanent mold castings at Eagle Aluminum:*

Typical tolerance held	+/- .015 for first inch; add .02" for every additional inch
Wall thickness	As low as .125"
Typical weight range	<1 lb to 50 lbs
Largest pattern dimensions	Up to 55" in diameter and a 6H Hall Tilt Press
Surface finish	MIN 300 RMS
Typical production quantity	100-5,000 per run

Mold and pouring capabilities:

Mold material	Steel (4140 or H13) or cast iron
Mold temperature	600 to 800 degrees F
Aluminum Alloys poured	319 and A356
Pouring temperature	Between 1350 and 1450 degrees F



Design recommendations:

- Minimum radius: 1/32"
- We recommend designing parts with rounded corners

Inspection & quality control services offered by Eagle Aluminum Cast Products, Inc.:

- Visual inspections
- Gaging
- EAGLE ALUMINUM CAST PRODUCTS, INC. IS ISO 9001:2015 CERTIFIED

*Tolerances and characteristics based on experience and on the Aluminum Association's Standards for Aluminum Sand Castings