

Economical Sand Molding

When looking at [sand casting design](#) considerations, it's most important to understand what the casting will be used for, as well as any additional processes it must go through after the casting is poured.

For example, if a casting will be visible it may need to be machined or coated to achieve a smooth finish. On the other hand, if the casting will be used as part of a structure or assembly where it must maintain good rigidity, heat treatment services may be required.

Regardless, most castings must undergo some [machining](#) or treatment process in order to achieve desired end results.

Detailed Prints & Drawings

The most important aspect of sand casting mold design is to provide highly detailed prints and drawings – a [sand foundry](#) usually prefers a drawing for the casting, as well as one for the machined finished part.

Detailed prints serves as a critical communication tool for the sand casting design process – describing the designer's expectations and requirements of the end product.

Your sand casting product design should include information, such as:

- Size
- Shape
- Draft
- Radii
- Tolerance Level
- Defect Level
- Surface Finish
- Inspection Requirements

If your casting requires cast-in identification markings, such as part number, foundry code or heat lot, make sure to include the size and location of the markings as part of your detailed prints.

Alloy Selection

Choosing the right alloy for your casting is critical. [Alloy selection](#) can have a profound impact on properties, such as:

- Strength
- Durability
- Toughness

- Corrosion Resistance
- Ductility
- Shrinkage
- Hardenability
- Weldability/Joinability
- Cost

Rounds & Fillets

Allowing for generous rounds and fillets are an essential part of the sand casting design consideration process.

Generous rounds and fillets improve the appearance of a casting, aid in distribution of strains and reduce cast stresses that may be present in the part.

Generous and adequate corner fillets also help with the pouring of the part by helping the molten material to flow and fill the casting properly by reducing turbulent flow occurrences.

Sand Casting Products for Over 50 Years

Badger Alloys has been successfully sand casting products for a variety of [industries](#) for 50+ years.

We regularly pour more than 200 different alloys to meet your product's specific needs.

Badger Alloys is an award-winning, full-service sand foundry, specializing in casting design, production and machining.