



## Sand Casting

### What is Sand Casting Process?

Sand casting process is an industrial metal casting process that involves creating a mold from sand and pouring molten metal into it, generally used to cast the shaped parts of nearly any design, including large parts and those with internal passages. Baoding Guokun can produce various sand cast parts in cast iron, ductile iron, gray iron, low-carbon steel, mild steel, alloy steel for pump, valve, agriculture, railway, road, forklift, tillage, mining, automotive, medical, food, and aircraft, etc.

Baoding Guokun casting factory can offer you green sand casting process, resin sand casting process or shell mold casting process.



The process of Baoding Guokun sand casting involves several steps after producing a professional tool or mold, including:

No.	Steps	Details
1	Pattern Creation	A two-piece metal pattern is created in the shape of the desired part, typically from iron, aluminum or wooden material. For a single casting or small batches of castings, we prefer to produce to use the wooden material to manufacture the mold to save money for customers. For other sand casting parts in large quantity, we prefer to use aluminum or iron to improve the mold's service life.
2	Mold creation	The two shell halves are joined together and securely clamped to form the complete shell mold. If any cores are required, they are inserted prior to closing the mold. The shell mold is then placed into a flask and supported by a backing material.
3	Mold assembly	Removing the wax, the shell is placed into an oven, melting the wax so that it can run out of the shell.
4	Pouring	The mold is securely clamped together while the molten metal is poured from a ladle into the gating system and fills the mold cavity.
5	Cooling	After the mold has been filled, the molten metal is allowed



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		to cool and solidify into the shape of the final castings.
6	Casting removal	After the molten metal has cooled, the mold can be broken and the casting removed. Trimming and cleaning processes are required to remove any excess metal from the feed system and any sand from the mold



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## Advantages of sand casting process

- Versatility: Sand casting process can be used to produce a wide range of shapes and sizes, from small & intricate parts to large & simple parts, weight up to 10,000 kgs.
- Short lead time: Compared with die casting or Investment precision casting process, sand casting has short lead times because of short mold production time.
- Widely material choice: Almost any metal can be sand mold casted, for example, cast steel, ferrous and non-ferrous cast iron, aluminum and bronze.
- Low Cost: The sand casting of Baoding Guokun is cost-effective for small-quantity runs, and the molds are inexpensive to make, especially the wooden mold.

## Disadvantages of sand casting techniques

The sand casting parts is often with rough surface finish, lower strength, high labor cost (if done manually). And Secondary machining often required.

## Sand Casting Application

Pump casting, Valve casting, agricultural casting, aircraft casting, railway casting, road casting, motor casting, mining casting, power generation investment casting, Medical casting, marine industry casting

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