



Metal Casting Processes

The metal components required for industrial use today are formed using many divergent technologies, such as casting, forging, and machining. Here at Stainless Foundry, we make steel, stainless steel and high alloy castings by pouring molten metal into pre-formed molds, using both the sand and investment casting processes. Here is an explanation of how we make castings at Stainless Foundry & Engineering.

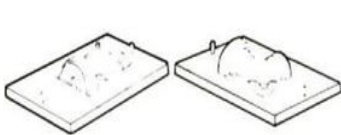
SAND CASTINGS

Permanent Pattern Method

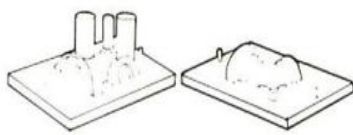
Description: A sand and binder mixture is packed around halves of a pattern constructed from wood, metal or plastic. When the pattern is removed from the sand, an impression or mold of the desired casting remains. Cores may be installed to form internal passages, and then the two mold halves are assembled. Molten metal is then poured into the mold cavity. After solidification, the sand is shaken away from the casting.

Process Applications: Produces low-cost parts, especially in smaller quantities. Short processing time. Better suited to parts weighing over 5 pounds; best choice for large castings. More appropriate where tight dimensional repeatability is not required.

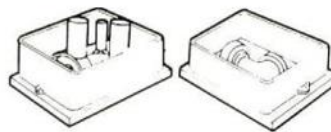
Process Applications: Well-suited to high-volume intricate parts with no-bake molding.



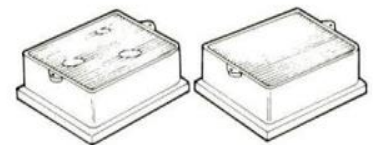
1) Mount pattern halves (cope and drag) on hoards.



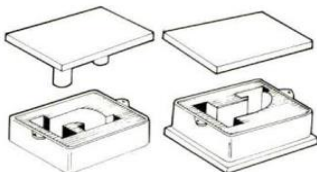
2) Add risers and sprue to cope.



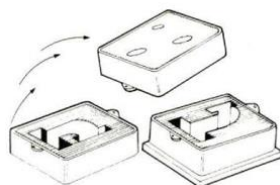
3) Position flasks on the boards.



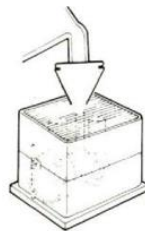
4) Add and compact sand.



5) Remove patterns from molds



6) Invert cope and place it on drag.



7) Pour molten metal into mold.



8) Remove casting from mold. Prepare for cut-off.



9) Completed casting ready to ship.

