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CASTING

- Casting is a process in which molten metal flows by gravity or other force into a mould where it solidifies in the shape of the mould cavity.
- Term is also applied to the part that is made by this process.
- The sequence of operations involved in casting are:
 - Pattern making
 - Mould and core making
 - Melting and pouring - furnaces and solidification
 - Casting - Shakeout, removal of risers and gates
 - Heat treatment
 - Cleaning and finishing - fettling
 - Inspection - defects, pressure tightness, dimensions

Casting Terms

- **Flask:** This holds the sand mould intact. According to Position:
 - **Drag** - lower moulding flask
 - **Cope** - upper moulding flask
 - **Cheek** - intermediate moulding flask used in the three piece moulding. Made of metal for long term use.
- **Pattern:** It is a replica of the final object to be made with some modifications.
- **Parting line:** It is the dividing line between the two moulding flasks that makes up the sand mould.
- **Bottom Board:** Used at the start of the mould making process. First, the pattern is kept on the bottom board and sand particles sprinkled on it and then the remaining is done in the drag.

- **Pouring Basin:** Funnel shaped cavity at the top of the mould into which the molten metal is poured. Reduces the eroding force of the liquid metal stream coming directly from the furnace.
- **Strainer:** A ceramic strainer in the sprue removes dross.
- **Splash core:** A ceramic splash core placed at the end of the sprue also reduces the eroding force of the liquid metal stream.
- **Skim Bob:** It is trap placed in a horizontal gate to prevent heavier and lighter impurities from entering the mould.
- **Sprue:** A passage through which the molten metal from the pouring basin reaches the mold cavity.
- **Runner System:** It has channels that carry the molten metal from the ~~pouring~~ basin sprue to the mould cavity.

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- Gate : It is an actual entry point through which molten metal enters the mould cavity.
- Core : It is used for making hollow cavities - or otherwise defines the interior surface of the castings.
- Chaflet! It is used for support cores inside the mould cavity to take care of its own weight and overcome the metallostatic forces.
- Chill: This is a metallic object which is placed in the mould to increase the cooling rate of castings to provide uniform or desired cooling rate.
- Riser : It is a reservoir of molten metal provided in the casting so that hot metal can flow back into the mould cavity when there is a reduction in volume of metal due to solidification.