

Brass Casting Information And The Process Of Brass Casting

Brass casting, as the name suggests, involves the use of brass as the molten metal. Brass casting can be carried out by the way of sand casting only. Sand casting can be defined as a 'cast part' produced by formation of a mold from a mixture of sand and pouring the casting liquid (mostly molten metal) into mold. Then the air-cooling of the mold takes place. After the solidification of metal, the removal of mold takes place. The metal used here is brass. It is a known fact that brass is an alloy of copper and zinc. Hence, to be precise, the molten metal consists of two elements.

Sand molding consists of two types- 'Green sand' molding and 'air set' molding. The first one consists of a blend of moisture, clay, silica sand and other additives. The second one makes use of dry sand bonded to all the above materials except moist clay, by the way of using an adhesive, which is fast curing.

At times, there is a placing of a temporary plug (in the mold cavity) to enable the formation of a channel to pour the fluid which is to be molded. The molds of the second type, i.e. the air-set molds result in the formation of a 2-part mold. The two parts are bottom and top. The tamping-down of the sand mixture takes place as it gets added. Many a times, the final assembly of the mold is vibrated to get the sand compacted and get the unwanted voids filled. Then the molten alloy (brass) gets poured into mold. After the solidification and cooling of brass, the separation of casting from sand mold takes place. Normally, such molds are one-time usable.

Patterns: A designer or an engineer provides the design of the object to be produced. On the basis of this design, a pattern is built by an efficient pattern maker by the use of plastic, metal, or wood. Polystyrene can also be used. The casting brass would get contracted during solidification. Non-uniformity can also result out of this. Therefore, the size of the pattern should be a bit larger as compared to the final product. 'Contraction Allowance' is the name given to this difference. Brass enters the mold cavity through a runner system including sprue and other feeders.

Molding box: A molding box having multiple parts (also known as casting flask whose bottom and top halves are called drag and cope respectively) is constructed for receiving the pattern. There may be an addition of sand to nullify the defects introduced due to the pattern getting removed.

Chills: To have a proper control over metallurgical structure and solidification of brass, plates of brass, or any other metal can be placed in mold. A hard structure may get formed at these places. Chills can be used for promoting directional solidification as well.

Design Requirements: The thing in making and the pattern corresponding to it should be designed in such a way that every stage of process can get accommodated. One should be able to take away the pattern without causing any disturbance to molding sand.

About the Author

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