Continuous casting

Pouring molten metal into one end of metal mould which is open on other end and keeping it filled all the while.

Metal at other lower end is cooled to solidifies and thus solid form is formed

Extracted at lower end in a continuous length

Most commonly used process is continuous casting.

Operation

Molten metal is transferred to ladle from holding furnace.

From ladle molten metal is poured on to the top of bottom less graphite mould of required shape .

Naturally as the molten metal is poured in open end and with out any turbulence the residues and slogs stay on the top of the molten metal. Hence there would not be any mould friction.

At the beginning of pouring a dummy bar is placed in mould open on which the first liquid metal falls.

Liquid metal is cooled by water passing through mould surrounding passage and drawn by the pinch rollers along with dummy bar

Molten metal shrink from the mould walls and gives a minute gap friction thus reduced in mould and allows the cast to move continuously with proper cast shape.

Pinch and guide rolls regulates the rate of setting of caste to the shape and keep proper allingment.

The pouring of molten metal from ladle is controlled by the x ray unit

The passing out casting by the action of pinch roller is cut with saw or oxy acetylene flame to the required length.

Advantage

Cheaper than rolling from ingots

No need of rough forming and breakdown rolling operation

Casting surface finish is better than static ingots

Cooling rate will be controlled easily and there by grain size of structure regulated in casting

Casting more dense and uniform than the casting made by individual process

Improved quality of casting obtained

Since it is automatic less unit labour costs can be achieved.

Application

Any shape of uniform cross section can be moulded (rectangular,square,hexagonal,gear toothed, solid or hollow.)

Production of blooms, billets, and sheets and slabs is possible

All casing is possible in material like brass,zinc,copper and its alloys, aluminium and its alloys, alloy steel.