

SIDDHASANKALPA CASTINGS

Firm- Siddhasankalpa Castings

Address- Plot no. D-128, Five Star M.I.D.C. Kagal,

Dist. – Kolhapur, Maharashtra 416236

GST No- 27ADVFS5252Q1ZY

Production – Steel castings

Plant Tonnage Capacity - 70 Tonnes/month

Staff Employed -5 (Staff) + 20(Workers) = 25

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ABOUT US

We are one of the growing Steel foundries based at Kolhapur. We are expertise in the manufacture of Plain carbon steel, Alloy steel, Stainless steel & Heat resistant steel castings. We are having a complete setup to manufacture castings of reliable quality that will exactly meet with Customer specifications. We manufacture premium quality that is widely used in different industries. All types of Steel Castings are being manufactured, using the synergy of skilled man power & fully fledged machinery. Various material grade standards such as **IS, ASTM, DIN, EN, BS & JIS** standards are being properly followed in the manufacturing process so as to ensure high standard of quality. Besides a manufacturer, we are among the prominent steel casting suppliers based in India. Low carbon steels contain mainly carbon as the principal alloying element. Other elements are present in small quantities, including those added for de-oxidation. They have been cast to various chemical compositions. Heat treatments such as Annealing, Normalizing, Hardening & tempering etc. can be employed to achieve specific combinations of properties, including hardness, strength, ductility and toughness.

With present installed capacity we can manufacture steel castings of numerous grades such as Plain carbon steel, Alloy steel, Stainless steel & Heat resistant steel etc. belonging to the Indian/International standard grade. **We can cast a part, that weighing from 2.5-400Kg. Our monthly production capacity is about 70 Tonnes/month.**

APPLICATIONS

We are presently manufacturing variety of castings required for Industry segments like -

- Material Handling (Break drum, Wheels, Pulleys)
- Power & Transmission (Pulleys, couplings, Shafts, Carrier etc.)
- Tool Room Manufacturers for Auto Industry (Dies, Base frames etc.)
- Rubber & Process Equipment manufacturers
- Pump/Valves Industry (Valve body, frame etc.)
- Sugar & Centrifuge Industry (Centrifugal castings, Hubs, shaft.)
- Cement Industries(Support roller,Segments,Thrust roller)
- Steel Plant Equipment Manufacturers (Heat resistant parts)
- General engineering- Diaphragm, Roller, Hub, Torque arm etc.

Material Grade Specifications:

We manufacture the castings of most of the popular steel grades such as **IS-1030 , IS2708, IS2707, EN8, EN19, ASTM A216 Gr. WCB, EN10293 GE240 & 300, M16,GM190, BS3100, ASTM A351/743 CF8M, , DIN17445#1.4581, SS316, SS310, SS304, SS410, etc.**(As per customer Requirement all Standard & Non standard Grades).

MANUFACTURING PROCESS

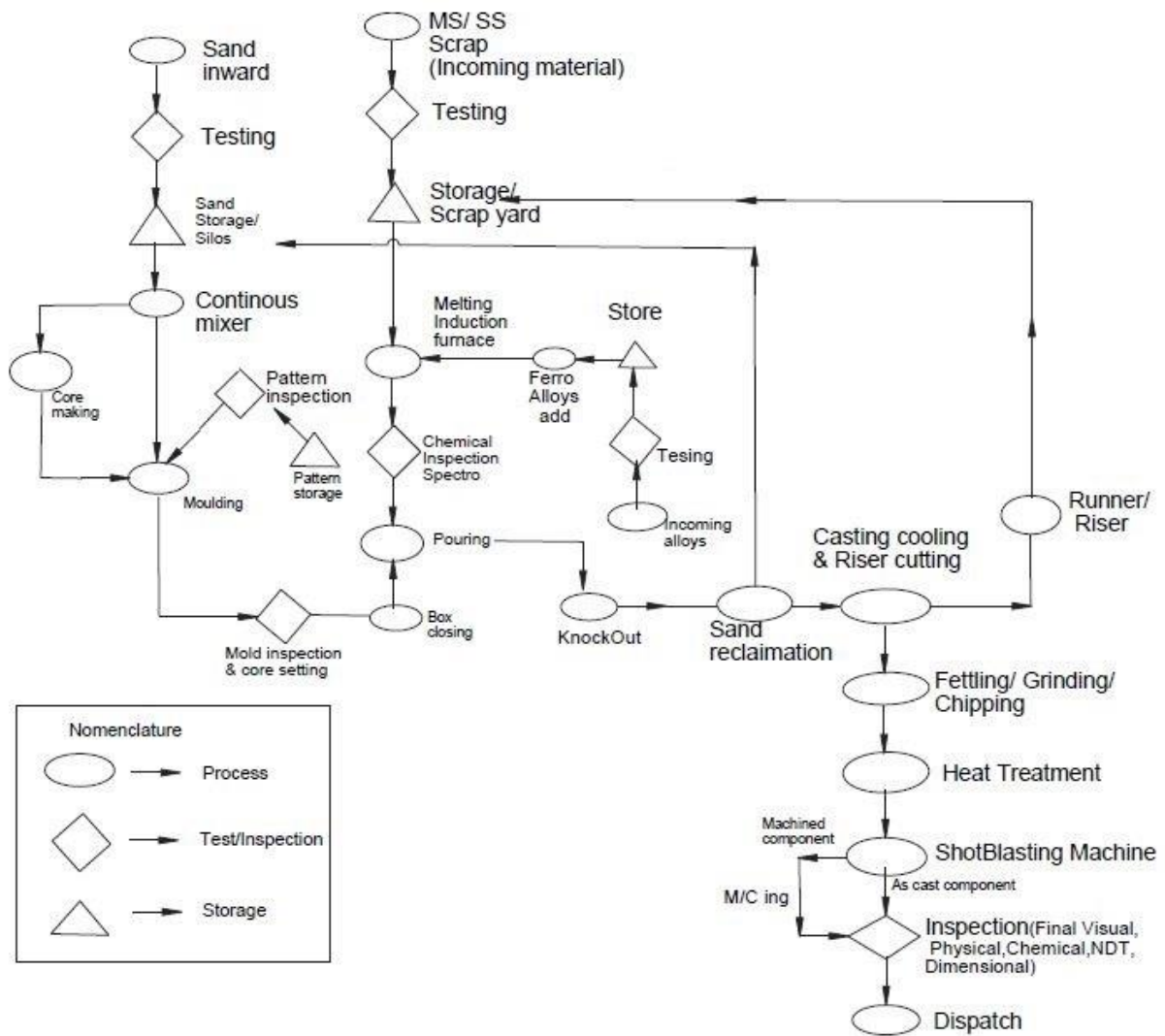


Fig. Manufacturing process

MANUFACTURING FACILITIES & EQUIPMENTS

➤ Pattern shop:

We make pattern as per customer requirement. Generally, the patterns are made out of **Wood & Thermocole**, but if customer asks for a pattern of specific material such as Aluminum, Cast-iron etc. we produce it in-house/ outsource it. We have a well laid pattern shop with racks for easy & convenient storage & access to the patterns. The easy accessible pattern shop is supported by trained & efficient patternmaker team to achieve efficient pattern management. Standard color coding is adopted for pattern. E.g. Black paint is applied to pattern, indicating core print.

➤ Moulding:

Sand moulding is being done by skilled & experienced moulders by means of mechanized & semi-automatic equipments. We perform **CO₂ moulding** using Silica sand, Glass sand & Chromite sand. For binding of sand we use Sodium Silicate as additive in it. We also perform No-bake moulding process which is preferable for big castings. As we're engaged in **job type** production we prefer/opt for the hand moulding. Pin Lifting machine moulding is available at site which leads faster & effective molding.

➤ Melting:

We have installed 2 nos. of IndoPower Coreless Induction Furnaces (Equipment Detail: 175kW, 3000Hz, with 150kg & 300kg Crucible) with well-equipped panel & with online molten temperature measurement facility. With the help of these furnaces we can manufacture a single piece casting of up to 400kg per

heat. The melting capacity of the furnace is 325 kg/hr. Our monthly production capacity is **70Tonnes/month.**



Fig. Furnace Panel



Fig. Melting Furnace

➤ **Knock-out:**

Knock-out operation means removing the casting from the mould and separating out the burnt-out sand stuck around the casting. For this purpose we have eccentrically vibro knock out supplied with heavy duty coil spring with capacity of 1000kg.

➤ **Runner / Riser Cutting:**

After removal of sand the casting is made available for cutting of Risers/Runners. The said process is carried out fettling. The process is carried out by using Oxy-acetylene gas/ LPG for the carbon steels & in case if breaker core is provide for separating the riser and gating system from the casting hammering action is used. For the Stainless steel castings Gouging method is preferred. The Runners & risers are stored separately in fabricated shelves as per their grades. We have also written Work Instructions for Riser Cutting department & Color coding for different grades riser.

➤ **Heat Treatment Facility :**

Heat treatment of steel or Heat treatment is an important operation in the manufacturing process of machine parts and tools. It is defined as an operation or a combination involving the heating and cooling of a metal or an alloy in the solid state to obtain certain desirable properties without change composition. The process of heat treatment is carried out to change the grain size, to modify the structure of the material and to relieve the stresses set up the material after hot or cold working. The heat treatment is done to improve the machinability, to improve magnetic and electrical properties, to increase resistance to wear, heat and corrosion and much more reason. The heat treatment processes which we carry out are **Annealing, Tempering, Normalizing, Spherodizing and Quenching**. To carry out the above listed process we have 2MT Bogie Hearth type heat treatment furnace provided with 1 Nos. of Temperature Controller (PID through Thyristor) and 1 Nos. of Safety Controller with Digital Graph Recorder –PPI with Pen drive Model

➤ **Shot-blasting Facility:**

Shot blasting is a finishing process used to clean & improve the surface finish of castings and prepare them for further treatment. It is widely used in many industrial areas, such as the automotive, aviation, rail and shipbuilding sectors. Recently we have equipped ourselves with a Spinner Hanger type shot blasting machine to enhance the surface finish of the castings. The Abrasive particles bombarded by compressed air onto the casting. Capacity of this shot blasting machine is 500 kg/hr.

➤ **Surface Preparation Facility:**

Generally this process is employed for cleaning of the casting surface and removal of the gates, in-gates, riser, feeder, chill impressions, fused sand & other unnecessary material from the castings.

To meet the customer requirement of sand & dust free castings we have 2 nos. of table grinders, 5 Nos. of angle grinders, 2 nos. of swing grinder & 10 HP Screw air Compressors with pneumatic tools for fettling of the castings.

➤ **Welding Facility:**

Welding is the important part in manufacturing of steel castings. It is used for repair of the defect in castings. To carry out the welding on the castings we have facility of arc-welding machine (IGBT 400 amps.). We have skilled & certified welders.

➤ **Material Handling Facility:**

We have installed 2 MT EOT cranes for easy & convenient handling of castings & other heavy objects. Other equipments such as trolleys, 4-wheel dolly etc. for internal material handling.

➤ **Machining:**

We supply castings in Proof/Finish machined condition as per the customer's requirement. All the machining activities are been outsourced from approved & dedicated vendors. Generally the machining is done using conventional lathes, boring machines, milling machines, drilling machines etc. Use of CNC/VMC machining is in cases where customer has demanded the same.

➤ **Testing Facilities:**

Testing type	Equipment Details	Description
Mechanical Testing	Computerized UTM machine fitted with Extensometer	40T Capacity.
Chemical Testing	Optical Emission Spectro machine	Fe base: MS/CS/LAS, CI/SGL, Cr-Ni Steel, Cr-Steel, Cr-Mn Steel
Impact Testing	Charpy/Izod	300/170J
Hardness test	FASNE Digital Portable Hardness Tester ,DHT 6	All types Ferrous Material (80-647 BHN For steel Castings.)
Ultrasonic testing	Da Vinci Alpha-MODSONIC Dynamic With D.G.S, Dynamic D.A.C. Curves.	Lev. II(As per relevant standard)
Magnetic particle testing	Hymech Engineers, Pune (Prod type –Up to 2000 Amp. Yoke type-AC & DC For Fluorescent Method.)	Lev. II(As per relevant standard)
Dye Penetrate test	Visible method, Fluorescent Method	Lev. II(As per relevant standard)
Radiographic testing	Gamma ray IR 192	Lev. II.(As per relevant standard)

➤ **Safety:**

The workers are provided with the Personal Protective Equipments (PPE) such as, leather shoes, gloves, Ear plugs and safety glasses with a side shield.

LIST OF MAJOR CUSTOMERS

We have been catering to casting requirements of various customers all over Maharashtra, Karnataka & Gujarat. It is not feasible to mention all the customers here however we are giving here under a short comprehensive list of our major customers from different industry segments for your kind perusal.

- Metso India Private Limited, Gurgaon
- L & T - MHPS Boilers Private Ltd, Hazira, Surat.
- Walchandnagar Industries ltd. , Walchandnagar
- Poiner Engineering, Kolhapur.
- Vrudhi Heavy Engineering, Kolhapur.
- Shivdatta Castings Pvt. Ltd., Kolhapur.
- Caspro Metal Industries Pvt. Ltd, Kolhapur.

