



SILVER

Metal Cast

Specialists In The Manufacture Of Engine
Cylinder Wet, Dry Liner & Sleeves

www.silvermetalcast.com



About us

Silver Metal Cast - is An ISO 9001:2015 Certified Company. We are fastest growing and leading manufacturer and exporter of Wet & Dry type of Cylinder Liners, Sleeves and Air Cooled Blocks. We have started operation in 2017 and after third time of expansion now our company is spread over 54,500 sq. ft. of area with production capacity of 2500pcs per day. Our company is situated in the automobile component manufacturing hub Rajkot, Gujarat (India).

We have proprietary process developed in house to produce highest quality of centrifugal casting. The melting process is done by Induction Furnace. This process is pollution / smoke and noise free, ensuring fine result and excellent mix. This also eliminates the possibility of hidden porosity, blow holes and casting defects common to conventional castings. The castings produced by a combination of induction melting and centrifugal casting processes are superior, consistent and have better microstructure.

Our machine shop has CNC, special purpose boring, plateau honing, grinding and customized lathe machines for the accurate job under strict tolerance. We have invested in equipment's, like various special gauge, height gauge, Ferro lab, metallurgical microscope and spectrometer to help our QA team do the best job. We also have ultra-modern laser-making machine to facilitate proper part marking & identification.

Today, the company, a dream action by a huge team of dexterous and deft professionals who successfully enable us to meet the diverse requirements of our clients within the committed time frame is one among the very focused and forte manufacturer and exporter of Wet & Dry Cylinder Liners, Sleeves and Air Cooled Blocks.

The product length and breath is expected to be further increased in near future, enabling our customers a One Stop Solution. Silver Metal Cast believes in delivering not only the best but also offering a wide range to its clients.



Our Vision

We are committed to exceed customer satisfaction by consistently supplying high quality products at the most competitive prices through constant evolution and innovation. We continuously focused on highest customer satisfaction and will maximize share for our products globally.



Our Goal

To attract and retain customers by providing best-in-class services while supplying high-quality goods.



Our Strength

- Fast development & Flexibility in Planning is done by well experienced team.
- Products supply with Zero rejection.
- Delivery on time with best quality products.
- Quick respond to customer on RFQ.
- Continuously reducing Non-value added activities.

Our Quality

We have ultra-modern quality assurance facilities to strengthen our capability to meet customer requirements and expectation with a strong thrust on R&D and quality control system. A team of well-experienced, dedicated, professionally qualified personnel operates the all the precision measuring equipment's. We have adopted the Statically Quality System for incoming, in process and final inspection as per Quality Management System to improve Quality Standard and reduce cost by controlling non-conforming product.



TECHNICAL DETAILS

Raw Material

A FE based 26 Channel Spectro (Germany Make) to check the chemical composition of metal.
Normal Composition of Casting as per A-159 (G-1800 to G-4000) grade.

Constituents	Carbon	Silicon	Manganese	Sulphur	Phosphorous	Chromium	Moly	Copper	Nickle
Composition (Min - Max)	3 To 3.5 %	1.8 To 2.4 %	0.60 To 1 %	0.15 Max	0.20 To 0.40 %	As Required	As Required	As Required	As Required



Hardness

The Hardness testing machine with capacity 3000Kg/750Kg and ball diameter 10mm/5mm to test hardness of final products in BHN.

- Min 200 BHN - Max 260 BHN or
- Min 95 HRB - Max 103 HRB



Micro Structure

Matrix	Graphite	Free Ferrite	Free Carbide
Pearlite	A & B Type	Max. 5%	Max. 5%



Dimensions

Dimensions – Semi Finish		
Description	Wet Type	Dry Type
Inner Diameter	60-250mm	60-325mm
Outer Diameter	65-350mm	65-350mm
Length	up to 550mm	up to 700mm

Dimensions – Full Finish	
Description	Dry & Wet Type
Inner Diameter	60-250mm
Outer Diameter	65-350mm
Length	up to 375mm



Roughness Tester

We have Roughness tester to check quickly and accurately determine the surface texture or surface roughness of a material. A roughness tester shows the measured roughness depth (Rz) as well as the mean roughness value (Ra) in micrometres or microns (µm).



Finishing

- Phosphating / Blackening
- Chrome Plating (Inner & Outer diameter)



Geometrical – Parameters

- Ovality / Roundness (Circularity) - Within 1 thou (0.025 mm)
- ⊥ Perpendicularity - Within 1 thou (0.025 mm)
- Tapper - Within 1thou (0.025 mm)
- ∠ Angularity - Within 1 thou (0.025 mm)
- Cylindricity - Within 1 thou (0.025 mm)
- Concentricity - Within 1 thou (0.025 mm)

Our Range Comprises of components suitable for



INFRASTRUCTURE

Foundry



Melting process is carried out by 2 crucibles by dual track induction melting furnaces with continues monitoring melting process by Pyrometers and Spectrometer. The most commonly used melting system is the induction crucible furnace. The induction crucible furnace has a crucible which heated by an induction furnace coil surrounding the crucible.

Furnaces: - 2Nos

Capacity: - 300Kg/Each

Melting Capacity:- 250 tons/month

This process based on the centrifugal force principle and required of the liner is achieved with particular die. We have in house centrifugal casting die facility. The process is so essential for liners and sleeves because it provides very dense structure, ultimately increase the life of liner and performance of the engine.

Machining



Machine shop is well equipped with CNC & SPM machine, along with heavy duty Lath Machines. Rough & Semi Finish machining done by heavy duty Lath Machine and Fully Finish is done by CNC machine to give high accuracy in dimensional parameters, Surface roughness & Geometric parameters. We are also having SPM for Outside & Bore machining combine operation.

Boring Operation

Boring Operations done by Vertical Boring Machines Centre (Super Wolga) to maintain dimensional accuracy, taper, Ovality and Surface finish.



Grinding



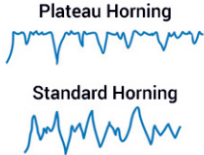
Grinding is the process where super surface finish can be maintained on products. We have two type of grinding process center less grinding and cylindrical grinding. Grinding controls dimensional parameters, surface parameters and geometrical parameters.

INFRASTRUCTURE

Honing Operating



Difference between Plateau Honring & Standard Honring



Honing Process done by honing machine, our cylinder Liners bores are cross honed and diameters are properly ground finish to achieve the highest level of accuracy and Surface roughness as per customer specifications.

Final Inspection



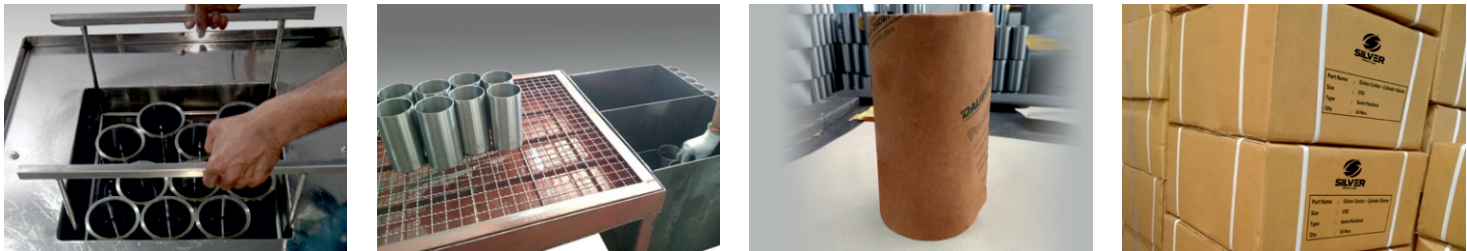
Our Final inspection departments is well experience and well equipped by all instruments. It consists of inspection the surface of the casting with naked eye or sometimes with a magnifying glass or microscope. It can only indicate surface defects such as blow holes, fusion, swells and external cracks. Almost all castings are subjected to certain degree of visual inspection.

Laser Marking



We have Laser Marking machine for traceability and mark the Logo. Neat, Clean & Indelible markings of Logos & Part no. are marked which doesn't produce stress or change in physical properties of materials. Marking are proof from chemicals, water, Oil, Grease and other fuels.

Packing & Dispatch



Cleaning machine to clean the Cylinder Liners and Sleeves before the packing. Finish Cylinder Liners are duly Oiled & placed in VCI paper and packed in corrugated box as per customer requirements.

Safe, quick and undamaged - that's how our products reach any destination all round the world. To assure comprehensive quality methods that prevent damage in transit, because what matters is to deliver the components safely to the end user in the quality in which Silver Metal Cast produced for them.

OUR PRODUCTS



Cylinder Liners - Dry & Wet

The cylinder liner also known as cylinder sleeve, is fitted into the engine block as the inner wall of a cylinder, forms a sliding surface for the piston rings while retaining the lubricant within. Cast iron is the material used for cylinder liners. There are three types of liners, dry, wet and finned cylinder liners.

Dry cylinder liners are thin. They do not interact with the engine coolant. Instead they provide a very close fit with the jacket in the cylinder block to protect the piston from heat and impurities.

Wet cylinder liners come in direct contact with the engine coolant. Sometimes the wet cylinder liners are fitted with tiny openings to help disperse the heat and impurities. These types of liners are called water-jacket liners which are simply a type of wet cylinder liner.

Finned cylinder liners are designed for air-cooled engines. They operate much like the dry cylinder liner in that the cooling medium for the motor is air. However, these liners are fitted with tiny fins which allow the inflowing air to draw with great force around the cylinder to provide cooling.

Cylinder Sleeves

Cylinder Liners - Sleeves, made of grey cast-iron, ought to have desired casting and machining qualities, viz. strength, toughness, hardness and wear resistance. These are mainly of two type - Dry liners and Wet liners. The liners-sleeves are 'Cast-In', force (press) fit or slip fit. The interference between its outer diameter and bore-hole walls depends on fit-type from 0.050 to 0.075mm. These are available in wide range suitable for light, medium and heavy duty application.



Air Cooled Blocks

We manufacturer air cooled block for which casting is done in graded grey cast iron in such a way so as to achieve paralytic structure free from ferrite and graphitic as per international standards. Air cooled block are cast by shell molding process & used for diesel engines, automobile engines. The casting of these air cooled blocks/barrels are machined in the machine ship equipped with precision CNC turning centre, hydraulically operated NC controlled honing machines. We maintain hardness of the cylinder barrels strictly as per international standard. The usage of hardned liners with plateau finish improves the engine life, lowers lube oil consumption and improves fuel efficiency.



Survey No. 40/1, Nr Rahil (CPP) Films Pvt Ltd., Shapar Mian Road, Shapar (Veraval) - 360 024
Tal. - Kotda Sangani, Dist. Rajkot (Gujarat) India.

✉ info@silvermetalcast.com 🌐 www.silvermetalcast.com

☎ +91 99745 57999 | +91 02827 253519 / 20

WE SUPPORT

