Leading Manufacturer of:
Cylinder Liners, Sleeves & Air Cooled Blocks
More than 5000 different types of Wet / Dry Cylinder Liners and Air-Cooled Blocks for AUTOMOBILE (Passenger Cars, Pickups, Buses, Trucks, Trailers), EARTH MOVING, MARINE, GENERATOR, TRACTOR, COMPRESSOR and INDUSTRIAL applications.
Esteem Auto Pvt. Ltd. is an ISO/TS 16949:2009 certified leading manufacturer and exporter of Wet & Dry Cylinder Liners, Sleeves, Air – Water Cooled Blocks, Valve Guides and custom made casting parts for automobile and industrial engine applications. We are in this business for past 38 years and now produce over 1.8 million cylinder liners per year. We are proud of our more than 350 plus employees, who are well experienced and technically qualified to produce highest quality product.

Our manufacturing facility is strategically located at industrial area in Rajkot, India. Foundry consists of Induction Furnaces with 5 Automatic, 300 manual centrifugal casting machines and automatic shell molding with core shooter machines. We have proprietary process, developed in-house, to produce highest quality of centrifugal casting.

Our goal at Esteem Auto Pvt. Ltd is to ensure the highest quality of our products and to attain that we follow rigorous quality assurance process. Machine shop has CNCs (Horizontal and Vertical), special purpose boring, Plateau honing, Centre less grinding and custom made lathe machines for the precise job with strict tolerance. We have invested in equipments like various Special Gauges, Roughness Tester, Slip Gauges, Height Gauges, Ferro lab, Metallurgical Microscope, Spectrometer from Spectromaxx Germany, Tensile Tester, Hardness Tester, Equator from Renishaw UK and Profile Projector etc. to help our QA team to do the best job. On-site Spectrometer helps us to maintain our chemical composition for each casting batch conforming to the I.S.S., B.S.S. or ASTM specifications provided by our customers. We also have a state of the art Laser-Marking machine to facilitate proper part marking & identification.
To be the preferred OEM and after Market Manufacturer and supplier of Quality Cylinder Liners, Sleeves and Air Cooled Blocks capable of catering to customers requirement from various facts of the Automobiles, Marine, Agriculture & Earth Moving Equipment industry.

Bhavesh Limbasia (Managing Director)

**Regd. Office:**
11, Bhaktinagar Station Plot, Gondal Road, Rajkot - 360 002.
Gujarat, INDIA
Phone : +91 2816 6450275, 6450276
Fax : +91 281 2464012

**Works:**
G-1311, Metoda GIDC, Gate No. 3, Kalawad Road, Rajkot - 360 321. Gujarat, INDIA
Phone : +91 2827 287361, 287372
Fax : +91 2827 287122
E-mail : exports@esteemauto.com
Web : wwwesteemauto.com

**USA OFFICE:**
4 Jamieson Pl, Princeton Jct, NJ 08550, USA
E-mail : sales@esteemauto.com
Contact : Mr. Nilesh Limbasia (USA) (Director, International Sales)

**Production Area:**
<table>
<thead>
<tr>
<th>Description</th>
<th>Sq. Feet</th>
<th>Sq. Meter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Area</td>
<td>275,550</td>
<td>23,500</td>
</tr>
<tr>
<td>Foundry (Division 1, 2 and 3)</td>
<td>40,600</td>
<td>3,750</td>
</tr>
<tr>
<td>Semi Finished Machine Shop</td>
<td>16,500</td>
<td>1,600</td>
</tr>
<tr>
<td>Finish, Turning, Boring &amp; Honing Shop</td>
<td>27,400</td>
<td>2,500</td>
</tr>
<tr>
<td>Finish Grinding &amp; Final Inspection</td>
<td>12,600</td>
<td>1,150</td>
</tr>
<tr>
<td>Finish Goods Packing &amp; Storage</td>
<td>16,500</td>
<td>1,600</td>
</tr>
<tr>
<td>Office Area</td>
<td>5,000</td>
<td>470</td>
</tr>
</tbody>
</table>

**Manpower Employed:**
- Total : 400
- Administrative Staff (office) : 25
- Administrative Staff (plant) : 35
- Workers : 340

**Plant Capacity:**
- Foundry shop : 1000 M. Ton per month
- Machine shop : 150,000 pcs. per month

**Quality system :**
ISO/TS 16949:2009 Certified by TUV Nord,
Certificate No. 44 111 130730  Date 12-07-2013

**Product Range in Size :**
- Internal Diameter : 40 mm to 325 mm
- Outer Diameter : 45 mm to 350 mm
- Length : Up to 600 mm

**Products :**
- All type of Cylinder Liners and Sleeves
- Air - Water Cooled Blocks
- All types of Casting Parts
- Valve guides

**Plant Location :**
- 50 minutes from Mumbai by Air
- 225 Kms. from Ahmedabad City

**Nearest Ports :**
- Kandla Port : 200 km.
- Mundra Port : 250 km.
- Pipavav Port : 150 km.

**Import Export Code Number :** 2404002244

**Membership :**
- Engineering Export Promotion Council (EEPC)
- Confederation of Indian Industry (CII)
- Rajkot Engineering Association (REA)
- Automotive Aftermarket Industry Association (AAIA-USA)

**Achievements :**
- 2004-05 : Greenery Award from by GIDC Metoda
- 2009-10 : Star Performer Award From EEPC
- 2010-11 : Highest Exporter Award in Trust Market for Trust Product From EEPC
- 2010-11 : Top Exporter Award from Central Excise and Customs
- 2012-13 : Top Leading Exporter Award from Central Excise and Customs

**Bankers :** ICICI Bank
We make over **5000** types of Cylinder Liners, Sleeves and Air/Water cooled Blocks for different types of engines.

<table>
<thead>
<tr>
<th>Products Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>We make over 5000 types of Cylinder Liners, Sleeves and Air/Water cooled Blocks for engine variants suitable for:</td>
</tr>
</tbody>
</table>

- ANDORIA
- ASIA
- AUDI
- AUSTIN
- BEDFORD
- BELARUS
- BENDIX
- BMC
- BMW
- CASE
- CATAPILLAR
- CBT
- CHEVROLET
- CHRYSLER
- CITRON
- CLAYTON
- COMMER
- CUMMINS
- DAEWOO
- DAF
- DAIHATSU
- DAIMLER BENZ
- DAMAS
- DAVID BROWN
- DETROIT DIESEL
- DEUTZ
- DONGFENG
- DORMAN
- FIAT
- FORD
- FORDSON MAJOR
- GARDNER
- HANOMAG
- HENSCHEL
- HILLMAN
- HINO
- HONDA
- HYUNDAI
- INTERNATIONAL (IHC)
- ISUZU
- IVECO
- JAGUAR
- JEEP
- JOHN DEERE
- KAMAZ
- KARAZ
- KIA
- KOMATSU
- KUBOTA
- LADA
- LANCIA
- LAND ROVER
- LEYLAND
- LIAZ
- LISTER
- LOMBARDINI
- LOTUS
- MACK
- MAN
- MARUTI
- MASSEY FERGUSON
- MAXION
- MAZDA
- MERCEDES BENZ
- MG
- MIDLAND
- MITSUBISHI
- MORGAN
- MORRIS
- MWM
- NAVISTAR
- NEW HOLLAND
- NISSAN
- NUFFIELD
- OPEL
- PEGASO
- PERKINS
- PETTER
- PEUGEOT
- RABA-MAN
- RENAULT
- ROLLS ROYCE
- ROVER
- RVI
- SAVIEM
- SCANIA
- SEAT
- SHAKTITAN
- SIMCA
- SINGER
- STEYR
- SUZUKI
- TALBOT
- TATA
- TATRA
- TOYOTA
- TRIUMPH
- URSUS
- VAUXHALL
- VOLKSWAGEN
- VOLVO
- WALKIESHA
- WOLSELEY
- YANMAR
- YAZ
- ZASTAVA
- ZETOR
Efficiency is essential for our economic success and lasting profitable growth. We consistently compare ourselves with the best in the industry and strive to achieve continuous efficiency improvements not only on our daily work, but also in dealing with natural resources.

Global Presence
To underline this fact that, from last few decades, we have been exporting to more than

countries around the globe

1. Algeria
2. Argentina
3. Australia
4. Bangladesh
5. Brazil
6. Chile
7. Colombia
8. Costa Rica
9. Dominican Republic
10. Egypt
11. France
12. Germany
13. Greece
14. Guatemala
15. Iran
16. Iraq
17. Italy
18. Jordan
19. Malaysia
20. Mexico
21. Morocco
22. Netherland
23. Nigeria
24. Panama
25. Paraguay
26. Peru
27. Philippines
28. Poland
29. Romania
30. Russia
31. Saudi Arabia
32. South Africa
33. Syria
34. Tanzania
35. Tunisia
36. Turkey
37. UAE
38. Uruguay
39. United Kingdom
40. USA
41. Uzbekistan
42. Venezuela
43. Zambia
:: We shall achieve this by ::
Continual Improvement in Product Quality & Customer satisfaction.
Process refinement and automation to improve efficiency
Effective implementation of ISO/TS 16949:2009 QMS Involvement of Employees
Continuously reducing Non - value added activities

Quality Assurance

We truly believe that the quality of product is the reflection of the process; to that extent we follow the best practices in the industry for all our manufacturing process. We also allow our customers to fine-tune the process to meet their needs. Our main goal is to supply the best quality parts at a very competitive price and our strategy revolves around that. Our engineers continuously look to improve the product quality by in-house R&D activities and tweaking our manufacturing process from casting until packing to remain best in the industry in terms of cost and quality.

We at Esteem Auto Pvt. Ltd. are committed to enhance customer satisfaction by providing quality products, attractive price and timely
Induction Melting

Induction melting is done by induction furnaces. The advantage of the induction furnace is that, it is a clean, energy-efficient and well-controllable melting process compared to most other means of metal melting. Material is added during the melting process to bring the final chemistry within a specific range specified by industry and/or internal standards. Melting process is carried out as per the customer requirements. We have Seven [3x300 Kg., 1x500 Kg., 1x900 Kg. (Dual Track), 1x700 Kg. (Dual Track) and 1x1500 Kg. (Tri Track)] induction furnaces.

Carousel Centrifugal Casting Machine

This is a Multi Station Heavy Duty Indexing Machine used for centrifugal casting. It consists of a set of 8 spinning molds/dies mounted on a Rotary indexing table with heavy load capacity and other associated robots. These eight molds pass through different stations like Pouring, Cooling, Extraction, Cleaning and Coating. After all these operations mold comes again to the Pouring Station. The whole operations are controlled by a control panel.

RC-8 Automatic Centrifugal Casting Machine

The Model RC-8 machine is used to produce Cast Iron Cylinder Liners. The machine utilizes Eight Spinning molds clamped between two face plates.

Features

- Eight Horizontal Axis Mold Spinning Stations
- Station 1: Pouring (Includes Metal Weighing and Metal Temperature Monitoring)
- Stations 2 to 5: Mold Heating/ Cooling, Idler Bore Cleaner Assembly Mold Temperature Control System
- Station 6: Casting Removal
- Station 7: Mold Coating
- Station 8: Mold Coating Drying Motor/Drive System Indexing System LC/Touch Screen Controls

Shell Mold Casting

Core Shooter

Shell Molding

Shell molding is an expendable mold casting process that uses a resin covered sand to form the mold. As compared to sand casting this process has better dimensional accuracy, a higher productivity rate and lower labor requirements. This process provides customers with the best quality Air-Water cooled blocks. Specially designed Core Shooter machine to shoot the sand in the complicated shape of core box.
Machine Shop

We perform outer diameter of liner on CNC machine, which gives high accuracy in dimensional, surface roughness and geometrical parameters. Main benefits of final OD CNC Turning are minimizing of cycle time, repeatability of quality and consistency product.

1. SPM for Vertical ID / OD with CNC Programming

In this machine ID and OD can be proof machined in single reference. Wall thickness variations can also avoided. Productivity and accuracy is higher than conventional lathes. After this operation, product can be directly finished in CNC lathes.

2. CNC Turning Machine

To achieve the productivity and quality the final machine of all the Liners are in CNC turning centers. They are designed to use modern carbide tooling and fully utilize modern processes. The part may be designed and the tool paths programmed by the CAD/CAM process.

3. Centerless Grinding

Our centerless OD grinding process guarantees a part that is perfectly round and to exact size specifications.

4. Plateau Honing Machine

This generate a rough surface and remove the high areas in a controlled manner. The Surface texture through this has the benefits of a smooth surface and benefits of a rough surface. This can be measure Ra, Rz, Rk, Rpk, Rvk etc.
1. Profile Projector
2. Renishaw Equator
3. Surface Roughness Tester
4. Hardness Tester
5. Laser Marking Machine
6. 6 Tank Ultrasonic Cleaning Mach.
7. SPECTROMAXx Germany
8. Microscope

## Chemical Composition

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>3.00</td>
<td>3.50</td>
</tr>
<tr>
<td>Silicon</td>
<td>1.90</td>
<td>2.40</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>--</td>
<td>0.40</td>
</tr>
<tr>
<td>Sulphur</td>
<td>--</td>
<td>0.12</td>
</tr>
<tr>
<td>Manganese</td>
<td>0.60</td>
<td>0.90</td>
</tr>
<tr>
<td>Chromium</td>
<td>0.20</td>
<td>0.50</td>
</tr>
<tr>
<td>Moly</td>
<td>--</td>
<td>0.50</td>
</tr>
<tr>
<td>Copper</td>
<td>--</td>
<td>0.50</td>
</tr>
<tr>
<td>Nickel</td>
<td>--</td>
<td>0.50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hardness (BHN)*</th>
<th>Tensile Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum 190</td>
<td>220 N/mm²</td>
</tr>
<tr>
<td>Maximum 285</td>
<td></td>
</tr>
</tbody>
</table>

## Micro Structure*

<table>
<thead>
<tr>
<th>Graphite Type</th>
<th>Distribution Type 'A' &amp; 'B' Flake Size 4 to 8 'D' &amp; 'E' permitted to max. 20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matrix</td>
<td>Free Ferrites Max. 5%</td>
</tr>
</tbody>
</table>

* Above details are for reference only and this will vary as per the technical standards and customer requirements.
Air Cooled Blocks

Dry Liners