

Paep



Let's Cast Your Imagination ...



AEP INDUSTRIES PRIVATE LIMITED

WE STAND BEHIND OUR PRODUCT

Our Company

AEP Industries Pvt Ltd, earlier known as Powergrip India Fasteners Pvt Ltd, is a subsidiary of AEP Company established way back in the year 1975. AEP Company, an ISO 9001-2000 company, is one of the leading manufacturers of high tensile and stainless steel fasteners for high/low temperature and high pressure applications, particularly in ASTM 193, 194, 320, 325, 540, 563 and other IS, DIN and BS specifications.

AEP Industries Pvt Ltd specializes in manufacturing and supply of all kinds of high tensile and stainless steel fasteners in sizes above 3/8" diameter (M10).

It also has a state of the art electrically heated heat treatment plant where various heat treatment processes are carried out.

Using its vast experience of over 30 years, it diversified into investment casting in the year 2009 and started a state-of-the-art investment casting plant at Vithal Udyognagar in Gujarat, India. The current capacity of the plant is 480 tonnes per annum.

Our Management

Our management comprises of visionaries and qualified intellectuals. They have vast experience in business management and in the manufacturing of engineering products. Each of the promoters who form a part of the top management is competent to handle his/her respective portfolio.

Our Mission

We, at AEP Industries Pvt Ltd, produce investment casting components using internationally accepted practices, in order to deliver superior quality castings at acceptable rates and within agreed timelines to our esteemed customers.

Investment Casting

Investment casting is basically a metal shaping technique. It is a foundry practice by which high precision castings are manufactured. This is a specialized foundry technology and is considered a high tech area.

The process has gained popularity based on the superior quality of castings produced and the fact that the cost of a finished component produced by investment casting is less than or comparable to that of the conventional production techniques.

Advantages of Investment Casting

This is a high precision casting technique, hence, near net shapes very near to the finished component is produced.

Machining requirements for the finished component is reduced by up to 90%, substantially reducing machining and material cost.

The process is extremely versatile – almost any intricate shapes, thin walls and tiny delicate components can be cast. This allows for extreme design flexibility.

Excellent surface finish is a major advantage of this process.

There are no metallurgical limitations for investment casting. Difficult to machine metals are best shaped by this process.

Dimensional accuracy of the components cast by this process is high.

The qualities of investment casting are markedly superior to other casting methods. This is an inherent advantage of this process.



The Investment Casting Process

WAX INJECTION

Replicas of the desired investment casting are produced by injection molding or for smaller volumes using rapid prototyping. These replicas are referred to as patterns.

ASSEMBLY OF WAX TREE

Patterns are then attached to a central wax stick, called a sprue, to form a wax tree.



CERAMIC SHELL BUILDING

The shell is built by immersing the wax tree assembly in liquid ceramic slurry and then into a bed of fluidized fine sands. Up to eight layers may be applied in this manner depending on the shape and weight of the part.



DEWAXING

Once the ceramic is dry, the wax is then melted out, creating a negative impression of the assembly within the ceramic and sand shell. This process uses autoclaves to maintain shell integrity.

MELTING

In the conventional lost wax casting process, the preheated shell is filled with molten metal by gravity pouring the metal into the ceramic shell. As the metal cools, the parts, gates, sprue and pouring cup become one solid casting. Shell temperature and melt temperature will vary depending on the alloy.

KNOCKOUT

Once the metal is cooled and becomes solid, the ceramic shell is broken off by vibration or water blasting.

CUT OFF OF PARTS

The parts are then cut away from the central sprue using a high speed saw.

FINISHED METAL INVESTMENT CASTINGS

After minor finishing operations, or possible required machining operations, the metal investment castings are ready for final inspection. The approved components are then shipped to the customer from our foundry.



Our Casting Capabilities

We cast materials following the ASTM/ASME, DIN, BS, ISO standards.

We cast the following materials –

- CF8 / Stainless Steel SS 304
- CF8M / Stainless Steel SS 316
- CF3 / Stainless Steel SS 304L
- CF3M / Stainless Steel SS 316L
- Duplex Stainless Steel
- Hastelloy C-276
- Hastelloy C-22
- Phosphorous Bronze

Our Monthly Plant Capacity: 40 tonnes

Single component Casting Weight: Upto 35 kgs

Single Component Casting Dimensions:

Max diameter upto 350mm and max height upto 450mm



Quality at AEP

At AEP Industries, we follow processes to assure quality rather than to control it.

Usage of a special type of wax and a process for usage and reclamation of this wax ensures dimensional accuracy of the patterns. Furthermore, dimensional inspection is done for 10% of the wax patterns and visual inspection is carried out for all the patterns to ensure accuracy.

Temperature and humidity are strictly controlled in the wax and centralized air-conditioned shell room to prevent wax shrinkage and allow for proper drying of the shells.

An autoclave is used for dewaxing. This dewaxing process is an internationally accepted practice of dewaxing.

During the melting process, heat analysis is conducted using the spectrometer on a sample taken from the melting crucible to ensure that the correct material is casted.

Final inspection is done on the finished components to ensure visual and dimensional accuracy of the finished products.

Requisite testings are carried out using the in-house facilities as well as third party testing houses.





We cater to the following industries :

- Automobile
 - Pumps
 - Valves
 - Textile Machinery
 - Mechanical Seals
 - General Engineering
 - Human Implants
- and many more...



AEP INDUSTRIES PRIVATE LIMITED

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