ADZONE
Cast Pvt. Ltd.

FERROUS | NON-FERROUS | INVESTMENT CASTING | ALL TYPE OF CASTING

ADZONE Cast Pvt. Ltd.

The Company

ADZONE Cast Pvt. Ltd. - was established in 2019 to manufacture investment Casting using the lost wax process and started production in 2019. Within the short span of time ADZONE Cast Pvt. Ltd. has earned good reputation in Investment Casting for prompt delivery, casting Tolerances, Surface finish, Chemical & physical properties.

Initially ADZONE Cast Pvt. Ltd. was casting only Ferrous metal, now we are also doing Non-Ferrous metal. In year 2020 ADZONE Cast Pvt. Ltd. Certified for ISO: 9001 - 2015 from TUV Nord.

We strive to set the industry standard for on time delivery, quality and customer service. To achieve all these need, we have state of art facilities and expertise to back our commitment.

ADZONE Cast Pvt. Ltd. Plant spans with total area of land 2600 Sq. Yards with a Production Ares of 1500 Sq. Yards and is equipped all modern machinery.

No project is overly ambitious or complicated. Our experienced personnel are committed to teamwork, and insuring that the customer is involved in every step of a projects development.

In House Testing Facilities

- Spectrometer
- Universal Testing Machine
- Impact Testing Machine
- Hardness Tester

Quality Control

- Online Sampling
- A Sampling of in-house capabilities include
- Chemical and Mechanical Laboratories
- Heat Treatment
- Design Assitance
- Non-Destructive testing
  (ASNT Level II approved inspector in
  RT, UT, MPT and LPT)
- Technical Assitance

Capacity

- Single Piece Size : 600x600x800mm
- Single Piece Weight : 50 Gms. to 180 Kgs.
- Production : 35 MT/Month
- Spare : 25 MT/Month
- Land Area : 3000 Sq. Meters (Built up),
  3000 Sq. Meters (Expandable)

Important Production Machines :

- 20 Ton Automatic Injection Machines
- 150 KG Capacity Induction Furnace (125 KW)
- 350 KG Capacity Induction Furnace (350 KW)
- Rotary Hearth Shell Sintering Furnace
- Leak Testing Machine
- Glass bead blasting Machine
- Measuring Instruments from Mittutoyo and Mahr Make..
- Steam Autoclave Dewaxing




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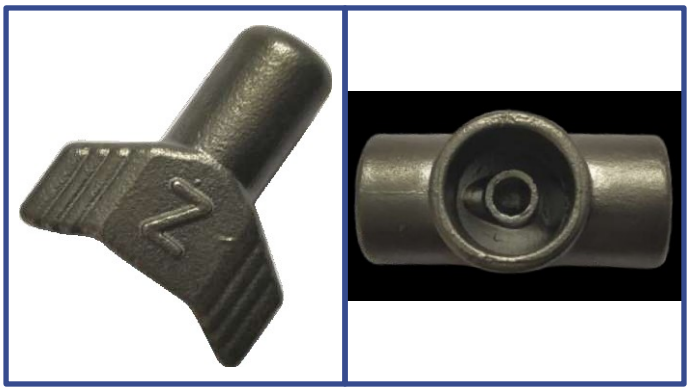
General Casting Tolerance

DIMENSIONS (mm)		PRECISION GRADE			
		NORMAL		PREMIUM	
From	To	Deviation +or-	Tolerance Range	Deviation +or-	Tolerance Range
	6	± 0.10	0.20	± 0.08	0.16
6	10	± 0.12	0.24	± 0.10	0.20
10	14	± 0.15	0.30	± 0.12	0.24
14	18	± 0.20	0.40	± 0.14	0.28
18	24	± 0.25	0.50	± 0.17	0.34
24	30	± 0.30	0.60	± 0.20	0.40
30	40	± 0.36	0.72	± 0.25	0.50
40	50	± 0.42	0.84	± 0.30	0.60
50	65	± 0.49	0.98	± 0.35	0.70
65	80	± 0.58	1.16	± 0.42	0.84
80	100	± 0.68	1.36	± 0.48	0.96



Sr. No.	Material	Astm Specs.	Graders	DIN	AISI
1	Carbon Steel	A27/A 27 M A216/A 216M A356/A 356M A732/A 732M A147/A 148M A757/A 757M A217/A 217M A352/A 352M A389/A 389M A356/A 356M	All Grades WCA, WCB, WCC 1, 2, 5, 6, 8 1A, 2A, 2Q, 3Q, 4A, 4Q, 5N, 7Q, 8Q, 9Q, 10Q, 12Q, 13Q, 14Q 80-40, 80-50, 90-60, 105-85, 105-85, 115-95, 135-125, 150-135, 160-145, 165-150, 165-150L, 210-180, 210-180L,260-210, 260-210L A1Q, A2Q, B2N, B2Q, B3N, B3Q, N4N, B4Q, C1Q, E1Q, E2N, E2Q, E3N WC1, WC4, WC5, C5, C12, C11, WC6, WC9, CA-15 LCA, LCB, LCC, LC1, LC2, LC3, LC4, LC9 C23, C24 1, 2, 5, 6, 8, 9, 10, 12A	1.0619 1.0619+N 1.0619+QT 1.0038/1.5419 1.7356/1.7379 1.7363	1030/1020 1020
2	Ferritic Stainless Steel	A743/A 743M	CB-30, CC-50		
3	Martensitic Stainless Steel	A352/A 352M A356/A 356M A487/A 487M A743/A 743M A217/A 217M	CA6NM CA6NM CA 15-A, CA 15-B, CA 15-C, CA 15-D, CA 15M-A, CA6NM-A, CA6NM-B, CA-15, CA-15M, CA6NM, CA-40, CA6N	1.4008 1.4028/1.4313	SS 410 SS 420
4	Austenitic Stainless Steel	A351/A 351M A743/A 743M A744/A 744M A447/A 447M A297/A 297M	CF-3, CF-3A, CF-8M, CF-3MA, CF-8C, CF-10MC, CK-20, HK-30, HK-40, HT-30, CN-7M, CT-15C, CF-8C, CF-8A, CF-8M, CF-10, CF-10M, CG-8M, CH-8, CH-10, CH-20 CF-3, CF-3M, CF-3MN, CN-3M, CF-8, CG-12, CF-20, CN-8M, CF-16F, CH-20, CG-8M, CE-30, CF-8C, CN-7M, CN-7MS, CK-20, CA-6NM CF-3, CF-3M, CF-8C, CN-7M, CN-7MS, CF-8C, CN-7M, CN-7MS, Type-I, Type-II HH, HK, HE, HT, HU	1.4308/1.4408 1.4306/1.4404 1.4409/1.4827 1.4431/1.4435 1.3964 1.4588/1.4527 1.4943/1.4317	SS304/SS316 SS 304 L SS 316 L SS 2205 Alloy 20
5	Duplex Stainless Steel	A351/A 351M A743/A 743M A890/890M	CD-4MCU CD-4MCUN GR-1A, GR-1B, GR-1C, GR-2A, GR-3A, GR-4A, GR-5A, GR-6A	1.4460/1.4470 1.4462/1.4469 1.4468/1.4517	
6	Precipitation Hardened Stainless Steel	A747/A 747M	CB-7CU-1, CB7CU-2	1.4525	SS 2507 SS 17-4 PH
7	Nickel-base Super Alloys	A494/A 494M A 560	CW-12MW, CY-40, CZ-100, M-35-1, M-35-2, M-30C, CX-2M, N-12MV, N-7M, CW-6M, M-25S, N3M, CY-4-0, CW-12MW, CW-6MCCW-2M, CX-MW, CU5MCUC	2.4365 2.4816/2.4686 2.461/2.4856 2.4602/2.4858 2.4813	Monel Hast alloy B,C Inconel 625 Inconel 825 Inconel 718
8	Cobalt Base Alloy		STELLITE		

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Products















PROCESS

Wax Injection Process

There are many ways for starting of the casting process may be expressed, but the most common way of starting this procedure to supply us your drawings and detailed specification of your product. Once we get these drawings we get in touch with customers design engineer and build an aluminium die with internal cavities that will produce a wax sample by injecting wax into the die. We send these wax patterns to customer and after approval of wax patterns we make sample casting. The wax patterns are attached to an assembly made from wax (called cluster/tree) that allows molten metal to enter, that produces a sound metal component.

Shell Coating Process

The cluster is rinsed in a pattern wash/etching solution. The cluster is then dipped into controlled ceramic slurry. The cluster is drained and coated with a ceramic media that begins with a fine powder like Substance on the first coat. Subsequent coats are put on the cluster called secondary or backup coats. The secondary/back up coating process is repeated as necessary until the shell is strong enough to hold molten metal. After the ceramic dries, the wax is removed (called De-Waxing process). The wax will be recycled for use in future wax pattern assembly production. These ceramic shells provide an accurate copy of the wax patterns that will be used for producing metal components.

Melting Process

The ceramic shell moulds are fired in ovens to burn out last traces of pattern material and in order to achieve maximum strength, then removed and placed on sand beds. by that time based on the specifications provided by the customer, metal is melted in the furnaces using certified material and then verified using spectrometer to insure that the metal chemistry meets the specifications. This ceramic shell is filled with the molten metal.

Finishing

After the molten has cooled, the shell material is removed from the casting cluster using vibratory or shot blast methods. The castings are removed from the cluster by cutting gates. Remaining parts of gates are then removed by grinding and then using shot or sand blasting, finished components are achieved.

Post Processing

- Heat Treatment
- Blasting (Sand and Shot)
- Knock Out
- Straightening
- Fettling

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Machinig

- Drilling
- Tapping
- Milling
- Boring
- Turning

Final Finishes

- Polishing
- Hand Buffing
- Degreasing
- Corrosion-resistant Coatings
- Anodizing
- Electro Plating
- Black Oxide
- Pickling
- Assembly

Advantages of Investment casting

- Allows very rapid prototype development
- Allows greater design freedom for very simple to highly complex parts
- Can utilize a wide variety of alloys
- Yields lighter, stronger metal parts with superior finishes
- Provides superior repeatability
- Reduces labor, tooling and machining costs
- Close Dimensional Tolerances
- Sales appeal is enhanced by improved perfomance
- 85% or more of the final shape is available in the investment casting.
- Physical properties remains same in each dimensions.
- Design changes at costs far less than those of other techniques
- Requires little or no draft in tooling

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Products












The application range of Investment Casting is tremendously vast and divers.
We regularly undertake the investment casting for following type of item & fields :

- Automotive Parts
- Building Hardware & Glass Fittings
- Dairy Industry
- Dental Instruments
- Door Hardware & Hinges
- Earthmoving Equipments
- Electrical Engineering
- Food Processing Equipments Parts
- General Engineering Components
- Industrial Valves
- Mining Machinery & Equipments
- Oil Field Equipments
- Orthopedic Implants
- Packing Equipments
- Pharmaceutical Machinery
- Pumps & Impellers
- Sports Equipments
- Textile Machinery & Parts
- Wood Cutting Tools
- Other typical & Mechanical Parts.




ADZONE
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