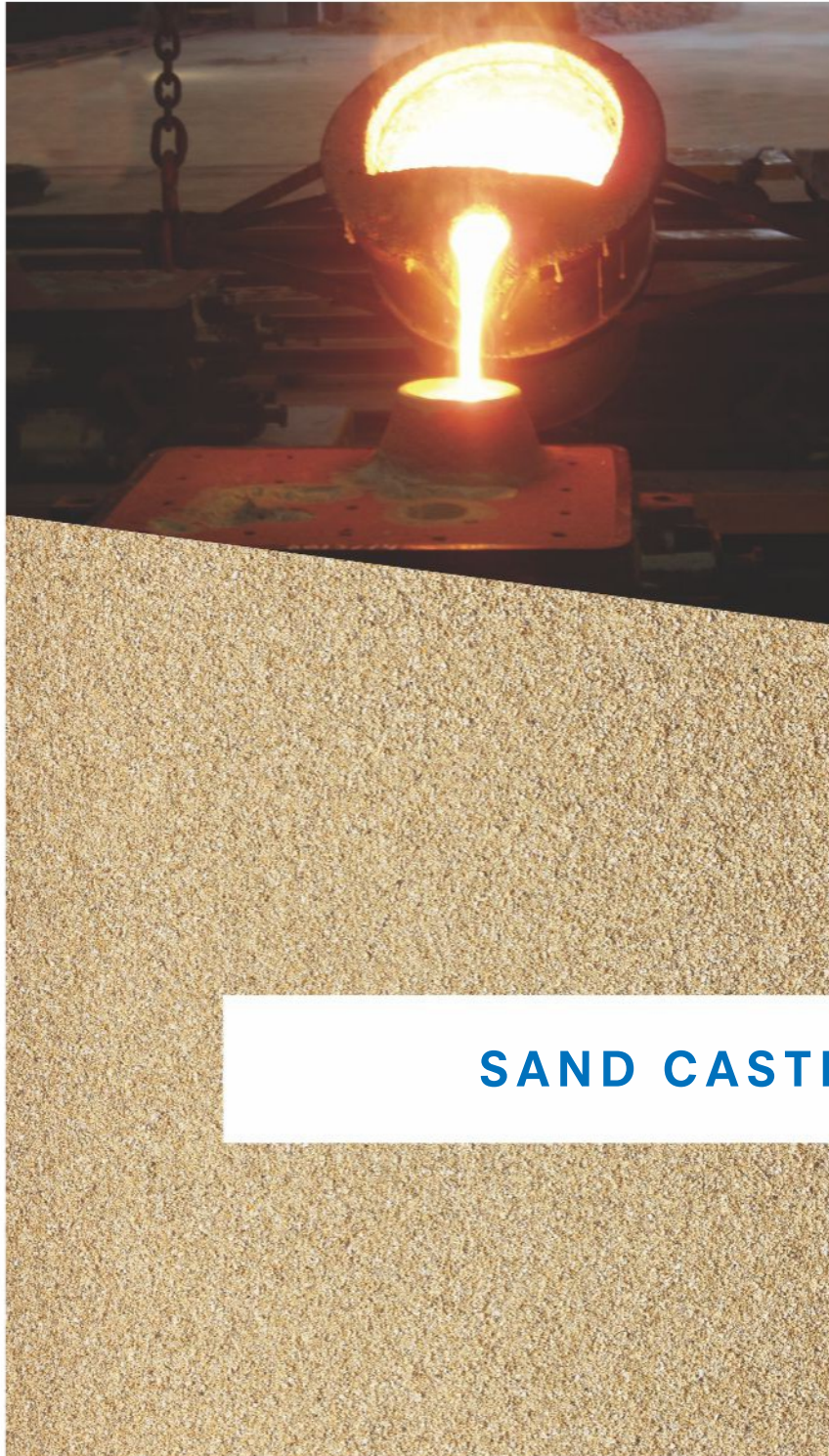




METFLOW CAST PVT. LTD.

ALLOY STEEL & STAINLESS STEEL QUALITY CASTINGS



SAND CASTINGS

About Company

METFLOW is a modern foundry specifically designed for manufacturing of Sand Castings located at Rajkot (Shapar) in western India. The company was established in 2006.

The company is engaged in manufacturing and supply of Carbon Steel, Alloy Steel, Stainless Steel, Duplex Steel and Nickel Base Castings in various sizes and weight up to 750 Kg per piece to meet international standards like ASTM, DIN, EN, BS and customer requirements. The products serves to Valve & Pump, Chemical processing, Refinery, Mining, Oil Exploration, Marine, Power Generation, Earthmoving Equipment, Automobile and General Engineering Industries.

Certification

- ISO 9001:2015
- PED 2014/68/EU
- AD 2000 Merkblatt W0
- Norsok M-630 Ed. 6

for more detail please visit to our website
www.metflowcast.com

or email to
info@metflowcast.com

Group Company



Austin Alloy Cast Pvt. Ltd.

Investment Casting Foundry

www.austinalloycast.com



Infrastructure

- Total Land Area : 15000 square meter
- Constructed Area : 70000 square feet
- Administrative Office : 4500 square feet

Power

- Company has 750 KVA power connection.

Manufacturing Capabilities

- Single piece weight range: 20 Kg to 750 Kg.
- Single piece size: 150 X 150 X 150 mm to 1200 X 1200 X 1200 mm
- Minimum Core Dia: 25 mm
- Minimum Wall Thickness: 10 mm

Metflow has designed typical ERP which suites of integrated foundry application. Company can use to collect, store, manage and interpret data from many business activities, including:

- Marketing / Order Booking
- Planning
- Manufacturing / Production
- Testing / Maintenance / Calibration
- Inventory Management
- Analysis from any angle
- Invoicing and Shipping

Testing Facilities



1. SAND TESTING ANALYSIS:

- AFS Analysis
- Permeability Testing
- Compressive Strength Testing
- Clay Content Test



2. SPECTROMETER:

- Fe and Ni base Spectrometer having 27 elements with facility of N analysis.
- CRM Samples of
 1. Low Alloy Steel
 2. Martensitic Steel
 3. Austenitic Stainless Steel
 4. Duplex Steel
 5. Nickel Base Alloy



3. CHEMICAL ANALYSIS:

- All type of Raw Material Analysis by Wet Method



4. PMI Testing

- Material Testing



5. MECHANICAL TESTING:

- UTM capacity of 200 KN
- Electronic Extensometer for 0.2 % proof stress.
- Hot Tensile Test
- YS at 0.2% and 1.0%



6. IMPACT TESTING:

- Capacity: 300 J max
- Testing Temp: From 20°C to -196°C



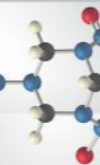
7. HARDNESS TESTING:

- Digital Rockwell Hardness Tester
- Poldy Hardness Tester
- Brinell Hardness Tester



8. MICRO STRUCTURE EXAMINATION :

- Ferrite Testing as per ASTM E 562 etc.
- Micro Structure Examination as per ASTM A 923 etc.



9. CORROSION TEST:

- Corrosion test according to ASTM A262 Practice A, B, C, E & F etc.
- Pitting Corrosion Test as per ASTM G 48 Method A, E
- Crevice Corrosion as per ASTM G48 Method B



10. Radiation Check Meter

- Radioactive contamination in material



IN-HOUSE NON DESTRUCTIVE TESTING:

- Liquid Penetrate Testing : Solvent and Water Washable method
- Magnetic Particle Testing (Fluorescent Method): Prod Type & Cetral Conductor Type
- Radiography Testing: Ir 192 & Co 60
- Ultrasonic Testing

NDT MAN POWER : Level II in all NDT

NDT PROCEDURE : All NDE Procedure approved By EN & ASNT level III

WELDING APPROVALS:

Welders are qualified as per requirement of ASME section IX & BS EN ISO 15614-1

Materials

ACI Designation	ASTM Designation	UNS	DIN/EN Equivalent	Wrought Approx. Equivalent
CARBON STEEL				
WCB	A216 WCB	J03002	1.0619	
WCC	A216 WCC	J02503	1.0625	
MARTENSITIC STAINLESS AND ALLOY STEEL				
WC1	A217 WC1	J12524	1.5419/G20Mo5	
WC6	A217 WC6	J12072	1.7357/G17CrMo5-5	
WC9	A217 WC9	J21890	1.7379/G17CrMo9-10	
C5	A217 C5	J42045	1.7365/GX15CrMo5	
C12	A217 C12	J82090	1.7386/X12CrMo9-1	
C12A	A217 C12A	J84090	1.4903/X10CrMoVNB9-1	
FERRITIC AND MARTENSITIC ALLOY STEEL				
LCB	A352 LCB	J03003	1.1131/G17Mn5	
LCC	A352 LCC	J02505	1.6220/G20Mn5	
LC1	A352 LC1	J12522	1.5422/G18Mo5	
LC2	A352 LC2	J22500	1.5636/G9Ni10	
LC2-1	A352 LC2-1	J42215	1.6781/G17NiCrMo13-6	
LC3	A352 LC3	J31550	1.5638/G9Ni14	
LC4	A352 LC4	J41500		
CA6NM	A352 CA6NM	J91540	1.4313/GX4CrNi13-4	
MARTENSITIC STAINLESS STEEL				
CA15	A743 CA15	J91150	1.4011/GX12Cr12	AISI 410
CA15M	A743 CA15M	J91151		
CA40	A743 CA40	J91153	1.4027/GX20Cr14	AISI 420
CA6NM	A743 CA6NM	J91540	1.4313/X4CrNi13-4	
CB7Cu-1	A747 CB7Cu-1	J92180	1.4540/GX4CrNiCuNb16-4	17-4-PH
CB7Cu-2	A747 CB7Cu-2	J92110		15-5 PH
AUSTENITIC STAINLESS STEEL				
CF3	A351 CF3,CF3A	J92700	1.4309/GX2CrNi19-11	AISI 304L
CF8	A351 CF8,CF8A	J92600	1.4308/GX5CrNi19-10	AISI 304
CF3M	A351 CF3M,CF3MA	J92800	1.4409/GX2CrNiMo19-11-2	AISI 316L
CF8M	A351 CF8M	J92900	1.4408/GX5CrNiMo19-11-2	AISI 316
CF8C	A351 CF8C	J92710	1.4552/GX5CrNiNb19-11	AISI 347
CF3MN	A351 CF3MN	J92804	1.4404/GX2CrNiMo17-12-2	AISI 316LN
CG8M	A351 CG8M	J93000	1.4412/GX5CrNiMo19-11-3	AISI 317
CK20	A351 CK20	J94202	1.4843/X16CrNi25-20	AISI 310H;310S
CF20	A743 CF20	J92602	1.4312/GX10CrNi18-8	
CT15C	A351 CT15C	N08151	1.4859/GX10NiCrNb32-20	INCOLOY 800H
			1.4581/GX5CrNiMoNb19-11-2	
SUPER AUSTENITIC STAINLESS STEEL				
CK3MCuN	A351 CK3MCuN	J93254	1.4547/X1CrNiMoCuN20-18-7	254SMO
CN7M	A351 CN7M	N08007		
CN7MS	A351 CN7MS	J94650		
CN3MN	A351 CN3MN	J94651	1.4529/X1NiCrMoCuN25-20-6	AL-6XN
DUPLEX AND SUPERDUPLEX (AUSTENITIC-FERRITIC) STAINLESS STEEL				
CD4MCu	A890 1A	J93370	1.4593/GX3CrNiMoCuN24-6-2-3	
CD4MCuN	A890-A995 1B	J93372	1.4517/GX2CrNiMoCuN25-6-3-3	
CD3MCuN	A890 1C	J93373		
CE8MN	A890-A995 2A	J93345		
CD6MN	A890-A995 3A	J93371		
CD3MN	A890-A995 4A	J92205	1.4470/GX2CrNiMoN22-5-3	DUPLEX 2205
CE3MN	A890-A995 5A	J93304	1.4469/GX2CrNiMoN26-7-4	SUPERDUPLEX 2507
CD3MWCuN	A890-A995 6A	J93380		ZERON 100
NICKEL BASE ALLOYS				
CU5MCuC	A494 CU5MCuC	N08826	2.4858/NiCr21Mo	INCOLOY 825
CZ100	A494 CZ100	N02100	2.4066/G-Ni95	NICKEL 200
M35-1	A494 M35-1	N24135	2.4365/G-NiCu30Nb	MONEL 400
M35-2	A494 M35-2	N04020		
M35-H	A494 M30-H	N24030	2.4367/G-NiCu30Si3	
M25S	A494 M25-S	N24025	2.4368/G-NiCu30Si4	MONEL S
CY-40	A494 CY-40	N06040	2.4816/NiCr15Fe	INCONEL 600
CW-6MC	A494 CW-6MC	N26625	2.4856/NiCr22Mo9Nb	INCONEL 625
CW-2M	A494 CW-2M	N26455	2.4686/G-NiMo17Cr	HASTELLOY C-4
CW-12MW	A494 CW-12MW	N30002	2.4883/G-NiMo16CrW	HASTELLOY C-276
CX-2MW	A494 CX-2MW	N26022	2.4602/NiCr21Mo14W	HASTELLOY C-22
N-7M	A494 N-7M	N30007	2.4685/G-NiMo28	HASTELLOY B-2
N-12MV	A494 N-12MV	N30012	2.4882/G-NiMo30	HASTELLOY B
CX2M	A494 CX2M	N26059	2.4605/G-NiCr23Mo16	ALLOY 59

Process



PATTERN SHOP

- Teak wood and Aluminum Pattern
- All patterns are mounted on match plate with method identification
- Storage in Racks.



MOULDING

- Moulding process: CO₂
- Semi Machine Loop Line: Match Plate Size 660 X 760mm to Accommodate Single Piece up to 100Kg & Multiple Cavity for Lower Weight
- Hand Moulding: Match Plate Size Up to 1500mm to Accommodate Casting Up to 1200mm Dia & Weight Up to 750 Kg.
- Mould and Core Dryer
- Mould Hardness Testing



MELTING

- Induction furnace
- Crucible Capacity: 1) 400 Kg, 2) 900 Kg & 3) 1200 Kg
- Type of ladles: Bottom pouring, Sank pouring, T spout pouring
- Temp Controlling by Immersion Type Pyrometer.
- Bath analysis of each heat



FETTLING

- Knock out Machine
- Arc Air Gouging Machine
- Swing Frame Grinding, Fiber Cutting & Pneumatic Grinding
- Shot Blasting
- Pickling and Passivation for Stainless Steel
- Individual Grinding Machines for Carbon and Stainless Steel



WELDING

- Electronic Welding Machine
- WPS and PQR done in different alloys
- Qualified Welders



HEAT TREATMENT

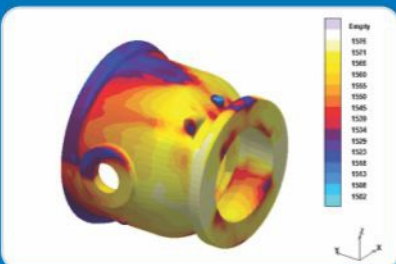
FURNANCE DETAIL	HT - 01	HT - 02
Fuel Type	Gas	Gas
Operating Temp.	1120°C	1250°C
Calibration	API specification 6D Annex M.	API specification 6D Annex M.
Max Batch Capacity	3.5 MT	2 MT
Thermocouples	4	2
Agitation	Mechanical	Mechanical
Quenching Tank	50000 LTRS	50000 LTRS
Max Quenching Time	50 Sec.	40 Sec.

Additional Approvals

- Impact at - 196 C
- Heat Treatment qualification

WELDING PROCEDURE SPECIFICATION (WPS)

- WCB
- LCC
- LCB
- CF8M
- 4A
- 5A
- CU5MCuC
- CW6MC



Research And Development

- Simulation software

Machining Facilities



VERTICAL MACHINING CENTERS

Make	: LMW
Controller	: SIEMENS 828D
Size	: X AXIS 1050 mm Y AXIS 540 mm Z AXIS 600 mm Forth axis rotatory table (Dia. 300 mm) (UCAM make)



CNC LATHES

Make	: LMW
Controller	: SIEMENS 828D
Size	: Swing Over Dia. : 510 mm Max. Turning Dia. : 320 mm Max. Turning Length : 670 mm



HYDRAULIC TAPPING MACHINES

Make	: K. ENGINEERING PRODUCT.
Tapping Size	: M8 - M45.



CONVENTIONAL LATHES

- 1) Turning Dia : 300 mm X Length 800 mm
- 2) Turning Dia : 500 mm X Length 800 mm
- 3) Turning Dia : 300 mm X Length 600 mm



VERTICAL TURNING LATHES

Make	: BFW
Controller	: SIEMENS 828D
Size	: Max. Swing Dia. 1100mm Standard Turning Dia. 800mm Max Turning Length 1000mm

Measuring Facilities



2D HEIGHT GAUGE

Make : ELECTRONICA

SPECIFICATIONS

Measuring Range : 600 mm

Expandable Range : 915 mm

Squareness : 10 Micron

HEIGHT GAUGE

Make : MITUTOYO

SPECIFICATIONS

Measuring Range : 600 mm

Digital Height Gauge with Double Column

Machined Castings



Sand Castings

BALL VALVE, GATE-GLOBE-CHECK VALVE, BUTTERFLY, KNIFE GATE VALVE, SAFETY VALVE ETC. CASTINGS





ENGINEERING CASTINGS



PUMP CASTINGS



Wind Farm (1.40 MW)

Metflow is having two wind farms and producing electricity more than 3.0 million units per year.

Metflow believes to use of maximum natural energy and wants to help nature by reducing air pollution.

www.metflowcast.com



METFLOW CAST PVT. LTD.

SR. No. 79, NH-27, Nr. Goldcoin Foam,
Vill. Shapar. Dist. Rajkot 360 024. INDIA.

E-mail : info@metflowcast.com

Web : www.metflowcast.com

Tel. : +91 - 2827 - 253384

Fax : +91 - 2827 - 253385