

MALNAD GROUP COMPANIES

Malnad Alloy Castings Pvt Ltd - 1985

Manufacture & Supply of Raw, Machined and Hydro tested Castings in Ferrous, Nickel and Cobalt

Shimoga Precision Castings Pvt Ltd - 1996

Manufacture and Supply of Alloy Steel, Stainless Steel, Nickel Alloy Steel, Cast Iron and Cobalt Alloy Steel Castings By Investment and Sand Casting Process

Malnad Prime Machining Technologies - 2010

Manufacture of Precision Machined Components

<u>Malnad Alloy Castings Pvt Ltd (Laboratory Division) - 2018</u>

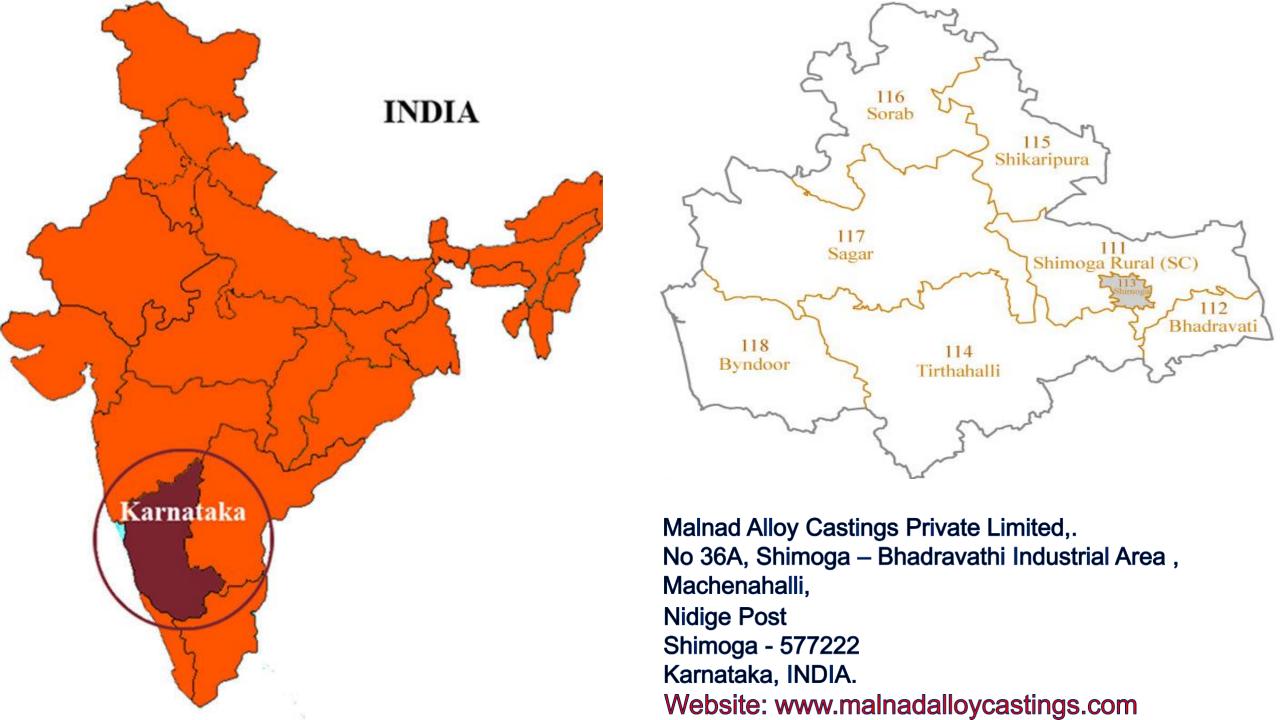
NABL Accredited Mechanical and Chemical Testing Lab

Malnad Prime Machining Technologies Unit - 2

Manufacturers of Alloy Steel, Stainless Steel, Nickel Alloy, Cobalt Alloy Castings for all International Standards.

Malnad Alloy Castings Pvt. Ltd Unit - 2

Manufacturers of Alloy Steel, Stainless Steel, Nickel Alloy, Cobalt Alloy Castings for all International Standards.



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VISION & MISSION

The Vision of our company is to

*"Become global leader for the supply of finished cast components in wide range of materials with highly committed and socially responsible employees"

Our Mission is to

- *To meet the casting requirements of the country using latest state of the art-technology in wide range of materials at competitive cost.
- *Provide stable employment and develop highly skilled technical manpower and develop wide vendor base.
- *Adopt environmentally sound and safe technology and awareness on energy conservation.
- *Serve the community around through welfare schemes.

OUR STRENGTH

- State of Art Omega Semi Automatic Mold Carousal for consistent mold quality for small & medium casting production with 120 molds/shift capacity.
- Mechanized Quenching system for Heat treatment Process.
- 10 WPS-PQR Certified Operators for various grades witnessed by TUV, Lloyds & DNV.
- Qualified weld inspector is available
- 10 Qualified Welders for handling the welding activities of various grades
- More than 15,000 Patterns with 6000 patterns live!. Traceability through ERP maintained location system and Product code.
- Exclusive storage arrangement for preservation of patterns in vertical storage using reach truck
- 50 to 60 New Products being developed every month.
- More than 2500 fully machined cast components exported / month.

OUR MAJOR CUSTOMERS

















































CUSTOMER BASE CANADA Netherlands 2 . Spain USA China **Fapan** South Australia

FOUNDRY CAPACITY

TOTAL CAPACITY - 625 MT/MONTH. UTILIZED CAPACITY - 450 MT/MONTH (IN VIEW OF RECESSION IN MARKET).

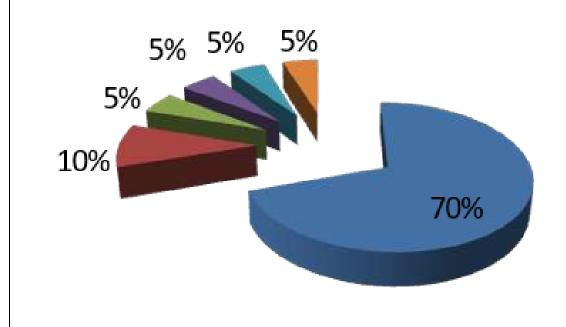
MAXIMUM SINGLE PIECE WEIGHT WE CAN PRODUCE IS 2400 KGS.



PRODUCT MIX



- Pump components
- Hydraulic Components
- General Engineering
- Turbine component
- Defence Components



Ball Valve	2" to 30"	Class 150 to 1500
Globe Valve	0.5" to 12"	Class 150 to 900
Gate Valve	0.5" to 12"	Class 150 to 900
Check Valve	0.5" to 12"	Class 150 to 900
Control Valve	0.5" to 16"	Class 150 to 2500
Butterfly Valve	2" to 40"	Class 150 to 1500
Diaphragm Valve	2" to 12"	Class 150 to 300
Piston Valve	2" to 8"	Class 150 to 300
Double disc	2" to 24"	class 150 to 300
Check Valve	2 " to 12 "	class 150 to 300





































CERTIFICATES & AWARDS

ISO 9001: 2015

ISO 14001:2015

ISO 45001:2018

Well Known Foundry Status IBR Since 1983

PED

AD2000 MERKBLATT WO

Lloyds Register, Bureau Veritas Marine.

DNV Foundry Approval

NORSOK M-650 E-4 Process Approval for 4A, 5A & 6A. WCC, LCC & CF-8M CF-3M

NABL ISO/IEC-17025-2017 LAB

Export Excellence Award By Govt. Karnataka



2700 Kg Casting Exported from Malnad



2400 Kg Butterfly Valve

MATERIAL OF CONSTRUCTION

Carbon Steel

ASTM Grades WCB,WCC,LCB,LCC LC-1 LC2-1 LC3

Alloy Steel

C5,C12,C-12A,WC6,WC9. CA-15

Stainless Steel

- CF8, CF-8C, CF8M,CA,CD4MCUN, Grade 4A.
- CN7M,CF-3,CF-3M,CG8M,CA6NM, SS420. CA40, SS410, SS430,
- CB7CuN (17-4PH)

Duplex Stainless Steel

Grade 4A.CD3MN Gr 5A.CE3MN Gr 6A CD3MWCuN

Nickel Base Alloys

- CW12MW, CW2M,CW6M,CW6MC,CU5MCuC,N7M,N-12MV, Monel
 - All the above grades corresponding to DIN; JIS; BS, GHOST, Indian Standards and Customer Specified grades. Hi Chrome Alloys

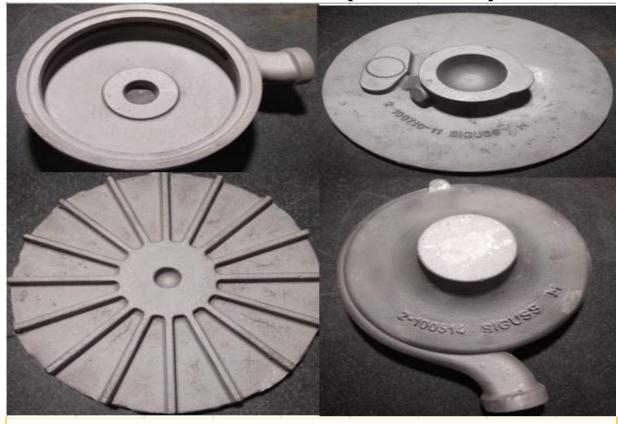
NEW GRADES DEVELOPMENT

White Iron(28% Cr)



HIGH CHROMIUM WHITE CAST IRONS Extremely hard Cr carbides in a Martensitic matrix at a bulk hardness of over 600 BHN offer superior abrasion and erosion resistance in crushing and milling applications.

Hi Silicon (15% Si)



This material is chemically resistant to H2S04 at all concentrations up to boiling point, therefore for all sulphuric acid applications including the evaporation of waste sulphuric acid, Siguss is virtually used

MOLDING TECHNOLOGY







NO BAKE SYSTEM			
Continuous Mixer	12MT/Hour	1no	
Continuous Mixer	6MT/Hour	2nos	
Continuous Mixer	1.5MT/Hour	2nos	
Batch Mixer	150Kgs	2nos	
Mechanical Sand Reclamation	4MT/Hour & 8MT/Hour	1no each	
Thermal Sand Reclamation	1 MT/Hour	1no	

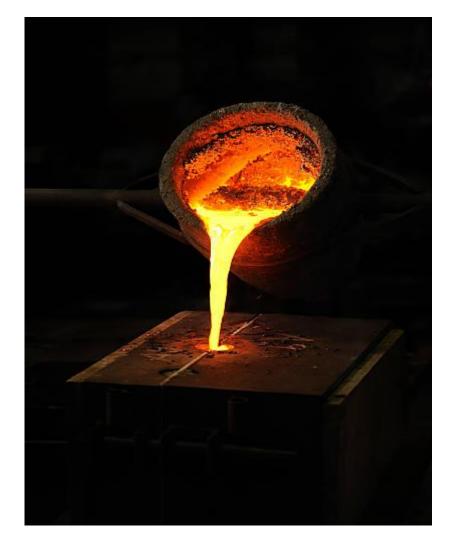
MANUFACTURING - MOLDING CORE MAKING MOLD COATING



MELTING CAPACITY AND TECHNOLOGY

Medium Frequency Induction Furnaces

750 KW	3000 Kg & 2000 Kg Crucible
450 KW	1500 Kg & 1000 Kg Crucible
175 KW	300 Kg & 150 Kg Crucible



POST POURING – CAPACITY AND TECHNOLOGY

Machinery	Unit
Shot Blasting Machine (1 MT) Hook Type	1
Shot Blasting Machine (5 MT) Hook Type	1
Shot Blasting Machine (1 MT) Table Type	2
Shot Blasting Machine (3 MT) Table Type	1
Pedestal Grinding Machine	1
Flexible Shaft (Variable Speed)	25

3 Groups within the campus with capacity 20 & 80 MT/Month. 6 Subcontractors outside with total capacity 350 MT/Month







HEAT TREATMENT - CAPACITY AND TECHNOLOGY

All 7 furnaces are Electric PLC Controlled 2 Water Quenching facilities with 60000; 90000 & 75000 liters with agitation and cooling system.

All furnaces are validated as per API; NORSOK in the presence of external agency

Furnace Name	Capacity (KW)	Tonnage capacity
HTA	100	2.5 tones
НТВ	60	2 tones
HTC	100	3 tones
HTD	100	4 tones
HTE	40	1 tone
HTF	150	7 .5 tones
HTG	15	250kg
HTH	120	2.5tones
HTI	230	10tones



NABL ACCREDITATION FOR CHEMICAL AND MECHANICAL LAB

Chemical Tests

- Optical Emission Spectrometer
- Intergranular Corrosion test
- Pitting Corrosion test

Mechanical Tests

- Tensile strength
- Yield Strength
- 0.2% Proof Strength
- % Elongation
- % Reduction in Area
- ☐ Brinell Hardness (HBW 10/3000)
- ☐ Bend Test (Root; face; side)
- ☐ Impact Test (Charpy "V")
- Inclusion Rating
- Micro Examination Graphite Flakes/ Nodules
 Type and Size, Distribution Characteristics and
 Matrix Analysis
- Determination of Volume Fraction of Phase

Spectro Analyzer with Three Base Metal -Iron, Nickel and Cobalt with 25 elements including Nitrogen And Oxygen.



Group of products, materials or items tested	Specification, standard (method) or technique used
NAB	L SCOPE
Ferrous / Low Alloy Steel	ASTM E415:2015 / IS 8811:1998 (Ra 2012)
Ferrous / Duplex , Super Duplex , Stainless Steel	ASTM E1086:2014 /IS 9879:1998 (Ra 2009) / MACLD/VAL/Fe/2017
Nickel & Nickel alloys	ASTM E 3047:2016 MACLD/VAL/Ni/2017





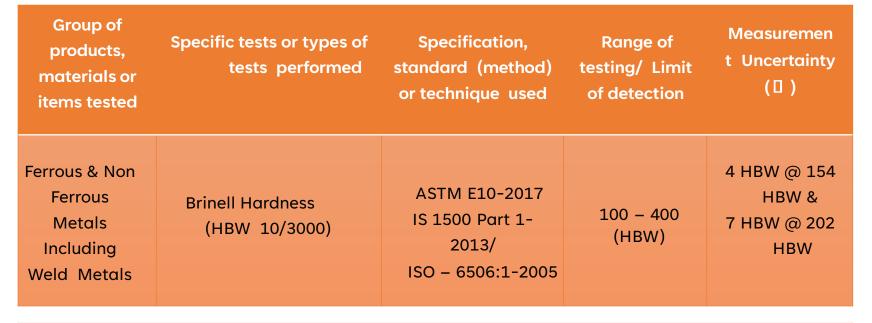
Group of products, materials or items tested	Specific tests or types of tests performed	Specification, standard (method) or technique used	Range of testing/ Limit of detection (%)	Measureme nt Uncertainty (±) (%)
Duplex Stainless Steel	Intergran ular- Corrosion Test – Method A	ASTM A923: 2014	Qualitative	NA
Stainless Steel	IGC Practice B		upto 100 mils/year	4 mils/year @ 27 mils/year
Wrought / Cast Products	IGC Practice E	ASTM A 262- 2015	Bend Test (Visual) Qualitative	NA
Wrought Nickel Rich Chromium Bearing Alloys	. IGC Method A	ASTM G 28 – 2002 (Ra 2015)	0.0001 – 10.0 mm/month	0.0006 mm/month @ 0.0021 mm/month
Stainless Steels	Pitting corrosion Test — Method A	ASTM G 48 – 2011	0.1 – 4.0 g/m ²	0.17 g/m² @ 0.60 g/m²



Group of products, materials or items tested	Specific tests or types of tests performed	Specification, standard (method) or technique used	Range of testing/ Limit of detection	Measurement Uncertainty ([])
	Tensile strength		100 – 1500 N/mm² (or) MPa	9 N/mm² @ 554 N/mm²
Ferrous & Non	Yield Strength	ASTM A370-2017 ASTM E8/8M- 2016 IS 1608-2005 (Ra	100 – 1500 N/mm² (or) MPa	9 N/mm² @ 324 N/mm²
Ferrous Metals Includin	0.2% Proof Strength	2011) ISO-6892 Part 1- 2016	100 – 1500 N/mm² (or) MPa	7 N/mm² @ 448 N/mm²
g Weld	% Elongation	ASME Sec IX – 2017	1 - 80 %	2.1 % @ 35 %
Metals	% Reduction in Area		1 – 80 % Mandrel	1.4 % @ 67 %
	Bend Test	ASTM A370-2017	diameter 12 mm – 50 mm Qualitative	NA

Pitch Deck 23







Group of products, materials or items tested Specific tests or types of tests performed

Specification, standard (method) or technique used

Range of testing/ Limit of detection

Measurement Uncertainty (±)

Ferrous & Non Ferrous Metals (Including Weld Metals & All Weld Metals Like Plates, Rods, Pipes Etc)

Impact Test (Charpy "V")

ASTM E23 – 2016 ASME Sec IX – 2017 4 – 300 Joules (Room temperature to minus 196°C)

6 Joules @ 84 Joules (-46°C)

NDT TESTING FACILITIES



- ➤ Magnetic Particle Inspection.
- **►**Ultrasonic Test
- ➤ Die Penetrate Test,
- >RT With Iridium 192 And Cobalt 60 Source (Upto200 mm Thickness) Available Within 300 Meters.
- ▶5 Qualified NDT Level II Personnel Including 1 NDT Level II As Per EN Standard

FLOW BORE - INSPECTION TECHNOLOGY







USB MAGNIFICATION ENDOSCOPE 12MM (DTI-UEM001)



- 12mm (Dia) Camera head
- Optical Magnification 1x ~ 500x
- Flexible Cable (77cm)
- Adjustable White LED Lights
- · Waterproof Level: IP67
- . Built-in Snapshot Button
- · Powered by USB (2 Meter Wire)

2.4' VIDEO BORESCOPE (DTI-VB001E/DTI-VB001RE)

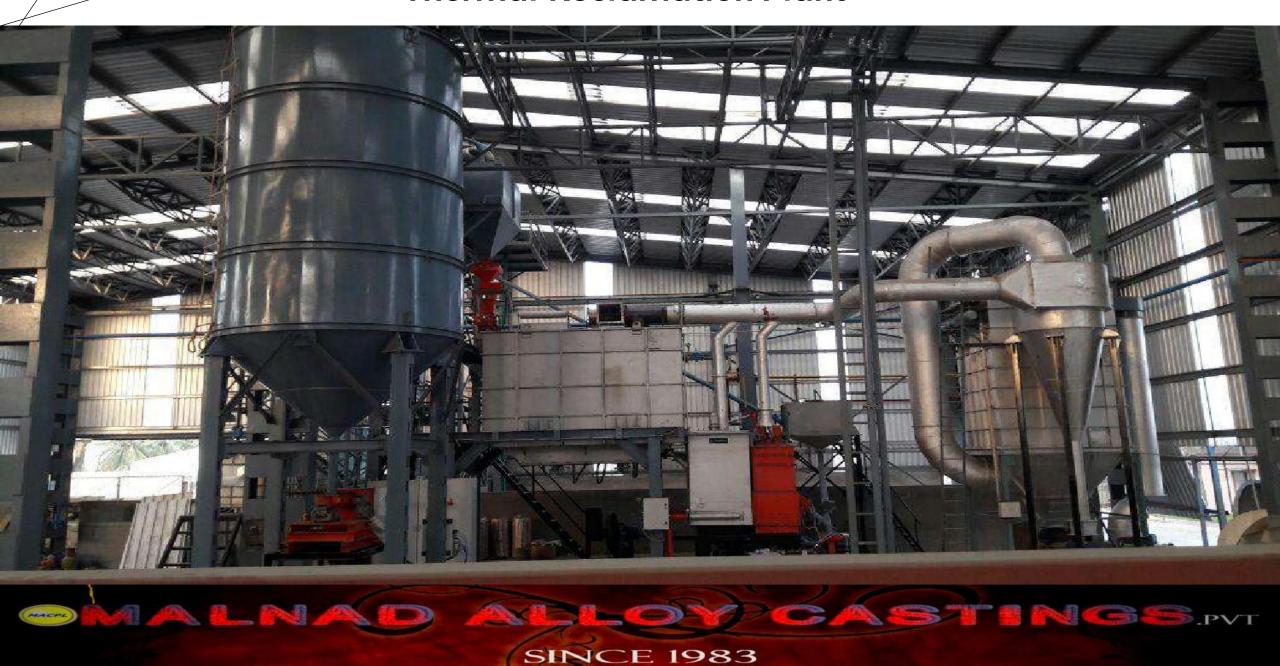


- 2.4 TFT/LCD Monitor
- 10mm (dia)Camera head
- Detachable Camera Cable (1 Meter)
- 4 Adjustable White LED lights
- Photo/Video Recording (VB001RE)
- Waterproof level: (IP67)
- Micro SD/TF card for storage
- Powered by 4xAA batteries
- Accessories included: Hook, Mirror, Magnet

OTHER TESTING INSTRUMENTS

- Ultrasonic Thickness Gauge
- PMI
- Digital Pol die Hardness Tester
- Ferrito Scope
- Radio Active Contamination Detector
- Digital pH Meter
- Digital Lux meter; Sound meter; Tachometer
- Casting Comparator From Steel International France
- Infrared Temperature measuring instruments 500 °C
 & 1600 °C

Thermal Reclamation Plant



ON GOING PROJECTS-2023-24

- API 20A Approval for Foundry
- Energy Monitoring Software procurement

PLANNED PROJECTS-2023-24

- Energy Management System
- Rain water harvesting

REDUCING CARBON FOOT PRINT

- Currently we have used 150 liters of bio diesel/month hence avoiding 396kgs of CO2 generation/month
- Roof top Solar cell of 100kW capacity in our premises on an average generated 96826kWh of electric energy in last one year. Hence avoided 79397.32 kgs of Co2 in last one year.
- Thermal Reclamation plant sand re-cycle up to 90% hence avoiding the landfills causing greenhouse gas
 effect and diesel consumption for the transportation of these waste sand there by avoiding 50.16 kgs of Co2
 emission each day due to transportation of sand
- Air Manager for management of Air compressor working we have 6 air compressors 20997.79kgs of Co2 emission by reducing electricity usage for compressor in last 6 months
- We have started vermicompost to degrade the canteen waste; paper waste; wooden saw dust which diverts organic materials from landfills where they would break down and be emitted into the atmosphere as methane an extremely potent greenhouse gas.
- We have planted 50 plus trees as already stated above which after 5 years each matured tree will have a capacity of absorbing 12 kgs of Co2 annually and 50trees on an average will absorb 600 kgs of Co2 every year.

EMS MEASURES

- Bio Diesel as a Replacement for Petroleum Diesel
- Transparent sheets in order to avoid electric lights in day time
- Roof Top Solar Cell with 100KW capacity
- AED for medical emergencies
- CETP of capacity 25000 liters installed
- RO plant having capacity of 1500lts/hour capacity has been installed
- Vermiculture compost with canteen and paper waste



100 KW Roof top static solar cell installed in hall number 7



RO plant 1500lts/hour capacity



50+ Plants planted Across The Company Compound

MALNAD ALLOY CASTINGS UNIT -2





Heat Treatment Furnace



Swing Frame – 2 Units Flexible shaft – 13 Units



Table Type Shot Blasting machine – 2T



SHIMOGA PRECISION CASTINGS PVT LTD

FACILITY DETAILS

- Total Installed Capacity 50 MT per Month. (Upgrading to 100MT per month by Oct-23)
- Utilized Capacity 25 MT per Month.
- Single piece we can pour up to :50 Kgs (Upgrading to 100kg single piece by Oct-23)
- Experts in-Steam Trap, Control Valve components
- Special grades: Stellite-6,Stellite-21,NNRD2,Monel- M35, Ultimate Alloy, Duplex steel apart from standard Austenitic, Martensitic Steels

MANUFACTURING EXPERIENCE

Ball Valve	15MM TO 25 MM	Class 150 to 300
Globe Valve	0.5" to 2 "	Class 150 to 900
Gate Valve	0.5" to 2"	Class 150 to 900
Check Valve	0.5" to 2"	Class 150 to 900
Control Valve	0.5" to 3"	Class 150 to 2500
Butterfly Valve	2" to 4"	Class 150 to 1500
Diaphragm Valve	Upto 2"	Class 150 to 300
Piston Valve	Upto 2"	Class 150 to 300
Double disc Check Valve	2" to 4"	Class 150 to 2500

PLANT EXPANSION PROJECT 2023

- Started plant expansion project in Feb 2023
- Power enhanced from 500 KVA to 1200 KVA
- Enhancing our production capacity from 50 tons to 100 tons per month castings
- Will be able to handle single piece weight form present 50 kg to 100 kg of investment casting with size 800 mm X 800mm max
- New building of 10200 Sq ft being constructed for Power house, parking, employee's rest room, occupational health center, canteen, dormitory and office.

Injection and Assembly

- Present wax injection and assembly area will be shifted to new facility @ 1st floor having area of 1800 Sq
 Ft.
- Reticulated Wax Injection Machine being installed of higher capacity where we can handle bigger components up to 800mm size
- Soluble core injection machine being installed
- Additional three no's Wax assembly table being installed.

Shelling

- Shelling area being enhanced from 2076 Sq Ft to 4826 Sq Ft
- In shelling area , manipulator being installed to handle bigger parts . This also improves shelling quality compare to manual coating
- Additional two no's Air blower being installed.
- Additional three no's each bigger size slurry tanks and rain fall sander being installed
- Additional one no De-wax auto clave having bigger capacity being installed.
- Additional storage area for De-waxed shell's
- Separate Room's for raw material and consumables.
- For post pouring operations, following additional equipment's being added :- Shot blasting, Arc cutting, heat treatment, grit blasting.

Melting

- 7128 Sq Ft new melting yard ready to be commissioned
- New melting yard will be operated with two melting power panel of 175 KW each
- Additional melting furnace of 300 Kg, 150 Kg and 100 Kg capacity being added to the existing furnaces of 300 Kg, 150 Kg and 25 Kg capacity
- Manipulator being installed at melting yard to handle bigger shells

VARIOUS STAGES OF INVESTMENT CASTING









GRADE: CO-CR-W (FORMALLY CALLED SAE STELLITE #06) PARTS PHOTOS





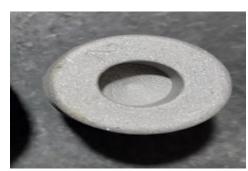




























MALNAD PRIME MACHINING TECHNOLOGIES PVT LTD.

MACHINING LINE UP- HMC





MACHINING LINE UP – VTL











MACHINING LINE UP – TURNING CENTRES









MACHINING LINE UP – VMC





MACHINING LINE UP – VTM-1700 & VTL-1500









Hydro Test Rig- 20MT, 40Mt and 100 MT

Shopfloor Divided as per Cell Wise





INSPECTION FACILITY





Height Master For Inspection

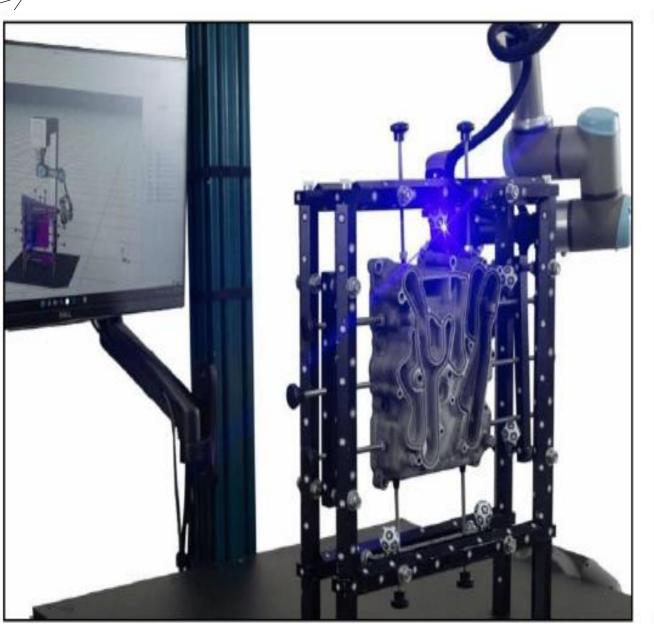
AUTOMATED 3D MEASUREMENT INTEGRATION

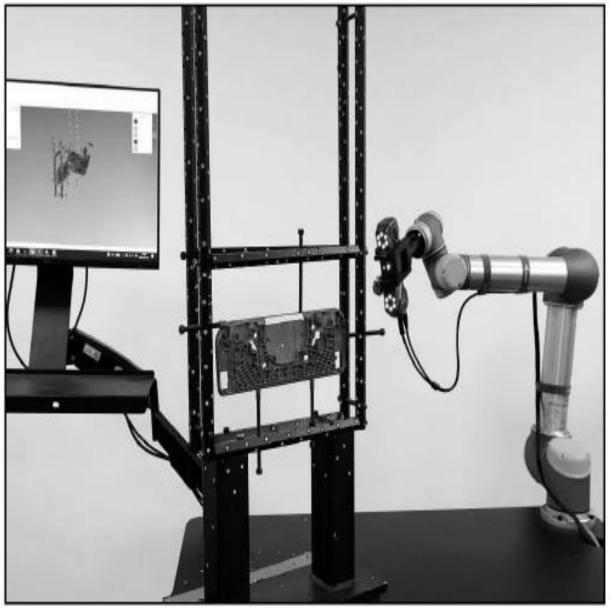
Specifications

	DAZZ P07	
Accuracy	Up to 0.020 mm	
Volumetric Accuracy	0.015 mm + 0.035 mm/m	
Measurement Resolution	0.020 mm	
Mesh Resolution	0.050 mm	
Measurement Rate	Up to 12,50,000 measurements/s	
Laser Source	7 Blue laser crosses (+ 1 extra line)	
Laser Class	2M (eye safe)	
Scanning Area	Up to 650 mm × 550 mm	
Stand-off Distance	300 mm	
Depth Of Field	550 mm	
Part Size Range	0.1-4 m (0.3-13 ft)	
Output Formats	obj, .ply, .stl, .txt, .wrl, pj3, .asc, .igs, .mk2, .umk.	
Compatible Software	3D Systems (Geomagic® Solutions), InnovMetric Software (PolyWorks), Metrologic Group (Metrolog X4), New River Kinematics (Spatial Analyzer), Verisurf, Dassault Systèmes (CATIA V5, SOLIDWORKS), PTC (Creo), Siemens (NX, Solid Edge), Autodesk (Inventor, PowerINSPECT)	
Weight	0.612 kg	
Dimension (LxWxH)	85 x 45 x 205 mm	
Connection Standard	1 X USB 3.0	
Operating Temperature Range	-5°C-40°C	
Operating Humidity Range	10-90%	



AUTOMATED 3D SCANNING MACHINE





MALNAD PRIME GALLERY

In House DP Testing Facility

Phosphate Components



Packing and Dispatch Yard



Powder Coated Components









PUMP COMPONENTS DEVELOPED AT PRIME



Impeller



Stuffing Box

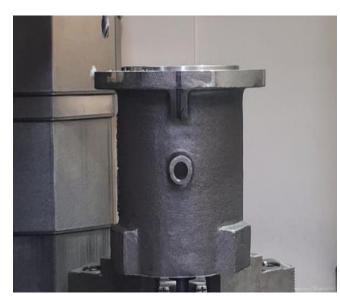




Adapters



Bearing Frame



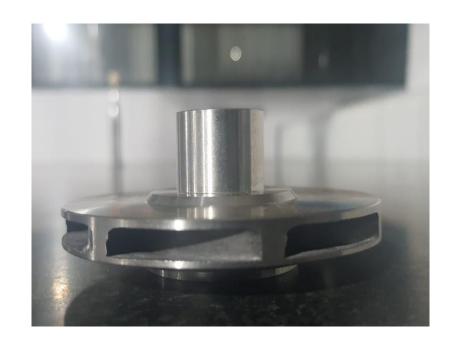
Bearing Housing

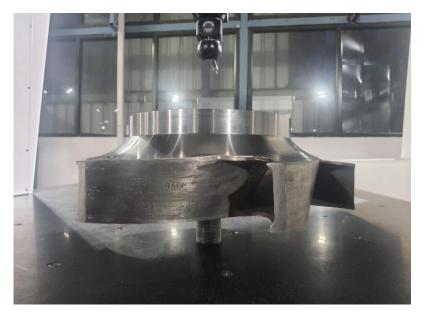
20XX

Pitch Deck













PUMP CASING ASSEMBLY





















MOUNTING PLATE CASTING METRO ANTI-CLIMBER

ALLOY: GE300











Quality Control new workstation





MALNAD PRIME UNIT-2 (FOUNDRY DIVISION DEDICATED FOR HI CHROME GRADES)



- Foundry capacity is 125 MT per month.
- 300kgs and 500kgs with 250kW capacity induction furnace available.
- Continuous Mixture No bake system molding planned for production activities.
- Molding Heating Ovens installed.

Malnad Group Companies Foundry Capacity

Unit	Total Monthly Capacity (MT)	Biggest casting weight single piece (kgs)
Malnad alloy Castings Pvt Ltd	625	2400
Shimoga Precision Castings Pvt Ltd	100	100
Malnad Prime Machining Technologies Pvt Ltd (unit II)	125	250

Overall Malnad Group Company Foundry Capacity is 850MT per month

Currently loaded with 450MT per month

Spare capacity available 400MT per month