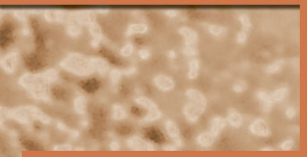




**MARSHALL**  
TECHNOCAST PVT. LTD.



**"MANUFACTURER OF PRECISION INVESTMENT  
CASTING BY LOST WAX PROCESS"**



# About Us

## Know Us

Marshall Technocast is a state of the art investment casting production house from India. Located at Rajkot, Gujarat, the soon emerging as a vital centre for Investment casting, it has core advantages of expertise, experience and enthusiasm to deliver high quality cast components to the thriving world of manufacturers.

It is led by the dynamic and experienced Mr. Rajni Patel, a veteran in casting business. He has been related to industries and largely casting since last 10 years. The experience alone is the biggest strategic strength of the company that spells great benefits for the clients and customers.

He is ably backed by Mr. Danish Variaya, the Marketing Director, a Mechanical Engineer with a decade of techno-commercial experience in Investment casting alone. His expertise will be at your disposal to get the best products at the most acceptable rates.

## Vision

Provide Investment casting solutions by lost wax process that make Marshall the most admired brand across the world.

## Mission

- Focus on delivering solutions that work rather than just products.
- Develop manpower that grows in attitude and work performance consistently.
- Make use of the latest technology in production and quality control.
- Be market sensitive and adopt to the emerging changes in the markets.

## From The Chairman

We gather daily at Marshall Technocast to make a positive contribution to our customers by producing and delivering quality products. We understand that our products function as semi critical and critical components in process across the world. We strive to deliver quality better than specified to ensure the performance will beat the standards.

I am proud of our team that in very closely knit and well aligned to our philosophy of delivering better and safer life to many through our products. I would always suggest my colleague to be alert of their responsibility and always deliver the best that we can. Together we want to grow.

To the customers all over the world, I am sure you too are working to make living better. We are with you in your mission. We will make all efforts to deliver the best and continuously improve to perform better with each passing day.

I have a dream to make Marshall brand a name to reckon with in the world of investment casting. I am sure with our sustained efforts in the right direction and the support of our respected customers, we will achieve that dream.

Investing for casting a better life for the world.

Mr. Rajni Patel  
Chairman

***" Talent wins games, but teamwork and intelligence wins championships "***



# Production Process

## World Class Capabilities



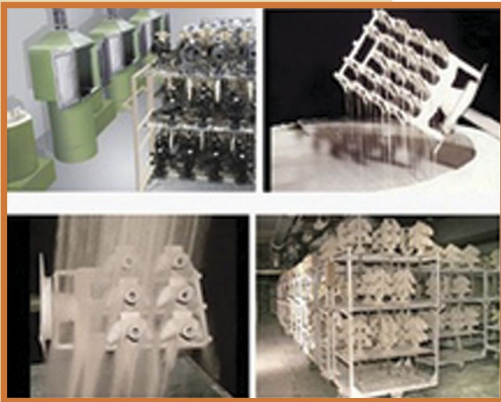
### Wax Pattern Injection And Assembly

"Final casting quality is a mirror of the wax pattern Quality"

We use Imported Pattern wax, and soluble wax for Accurate Pattern Making.

Assembly Design is done to produce best yield with best quality.

We have 05 Nos. of semi Automatic Wax Injection Press with Vertical injection, and Runner bar extrusion press.



### Shelling & Dewaxing

The wax assembly is coated with a ceramic shell by repeated dipping in ceramic slurries and alternately in dry beds of sand and clays, heavy or thick sections are features of any part, additional coating is to give added strength to the shell. Thus eliminating bulging or distortion of the casting to complete this stage, the ceramic shell is heated under gas operated tank and the wax is removed by melting, leaving a hollow shell. The most crucial stage of the shelling process is the primary coating, where a very fine grade of sand is used. This in turn results in a casting with excellent reproduction detail and the designated surface finish.



### Melting

Our melting shop is equipped with Inductotherm make induction furnace with 300 and 150 Kg. Crucibles and temperature controlled Shell Baking furnace.

We use standard and best quality scrape to ensure best metallurgical quality of Investment Casting products.



### Fettling

Our fettling shop is equipped with Shot and Sand Blasting Machines, Abrasive Cutting Machine, Belt grinder, Welding and other machineries necessary for the fettling.

We are also doing Electroplating and other plating and coating as per requirement.

We supply the casting without any gate and riser pads.

*" Simplicity boils down to two steps: Identify the essential. Eliminate the rest. "*



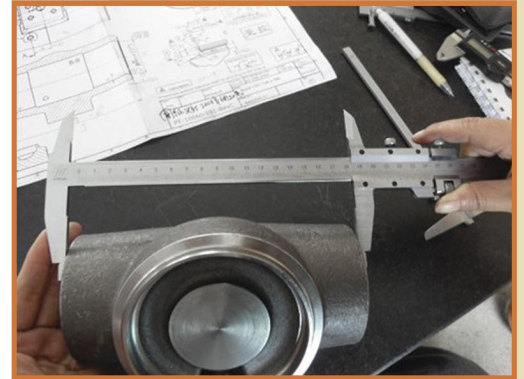
# Production Process

## World Class Capabilities

### Final Inspection

All castings are subject to 100% visual inspection.

All critical dimensions are 100% inspected before packing and final shipment.



### Packing

We are always taking care of finish products Delivery.

We use standard Sea worthy wooden pallets and Corrugated boxes for Domestic and export packing.



# Out source Process

### Die Making & Inspection

We have all the facility and experience for the die making on VMC M/C for any kind of critical Components and We are doing 100% Die Dimension Inspection as per drawing before Sampling.



### Heat Treatment

"To ensure desired material properties."

We are doing heat treatment like Solution annealing, Normalizing, Tempering, with temperature controlled Electric Heat Treatment Furnace along with special requirement of customers.

Best Heat treatment practice is ensured by the microstructure study after heat treatment.



*" Nothing is less productive than to make more efficient what should not be done at all. "*

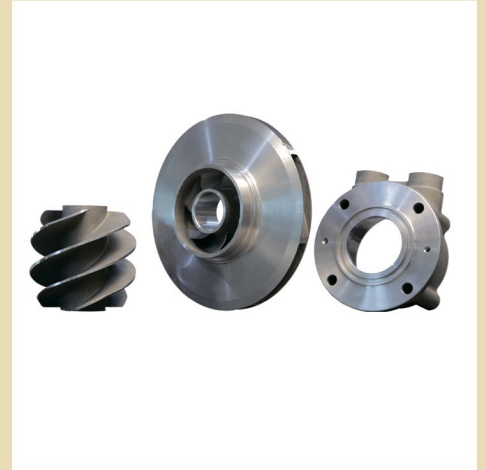
# Products

What we will deliver

## Engineering



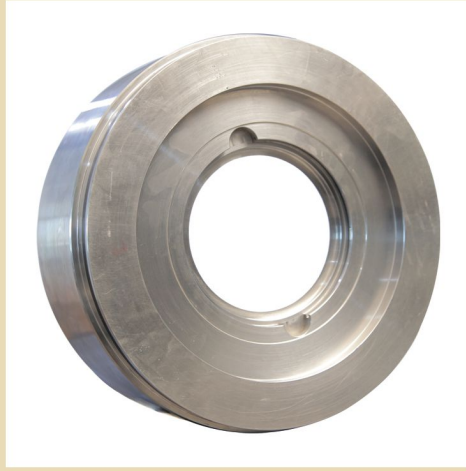
## Pumps & Valves





# Products

What we will deliver



*" If you focus on making really great products, then the profits will follow "*

# Products

What we will deliver



# Markets

Presence, Every where

The company is confident of serving Indian as well as international customers. Our production capacities empower us to cater to any requirement in Investment casting.

The company is in the process of building a good customer base all over India. The Marketing department is also in touch with a number of prospective buyers in Europe, America, Italy, Russia and other countries. The company is sure to have a very strong marketing base within a short period of time.

*" Continuous Improvement through learning gives us great products and greater customers "*

# Quality

## Delivering the Best

"Quality of our products and processes will be the key focus of every element of the company. We will carry out any and all actions with Total Quality Concepts in mind. We commit to be quality sensitive, and we promise to be committed to our commitment." - The Management

The above statement is the guiding principle to the people for the company. Quality to them does not limit to products, but goes beyond that. Quality starts with the smallest of designs and grows into every process and activity. Even the smallest accounting slip should be complete with all required data and information. The company believes in Total Quality Concepts. It largely Focuses on two aspects.

**1. People:** People of the company in all departments and at all levels are trained in their jobs as well as in attitude to do their duty with utmost care. Their activities will have predefined parameters of performance. However, they will think ahead of the same and always improve.

The people will carry attitude of not just doing their own work effectively but help the other around them to improve their quality. From the top management to the smallest operative, each individual is responsible for quality. This is the culture set in the company.

**2. Processes:** Whenever a fault is identified with the product or any other issue where checking or back tracking is required, the people will trace the reason for that fault. The system and procedures will be improved to make sure such an error or fault never arises.

Consistently trace out such system deficiencies and improve procedures that lead to zero rejection. The idea is to develop self sustaining quality systems through better practices.

The company has fully functional laboratory with qualified manpower and modern testing equipment. It is used from the stage of Raw Material purchase through in process material to Finished Goods.

The company is awarded by below mention certification for their efforts to maintain Total Quality Systems.

- ISO 9001 : 2015 TUV NORD
- AD 2000-MARKBLATT WO BY TUV NORD
- P.E.D 97/23/EC BY TUV NORD
- D-U-N-S @ NUMBER - 8736988 GERMANY

The logo for TUV NORD, featuring the text "TUV NORD" in a bold, blue, sans-serif font. A blue arc is positioned above the letters "V" and "N". The background of the page features a faint technical drawing of a mechanical part with various dimensions and labels like 413, 489, and 479.

*" Quality means doing it right when no one is looking "*

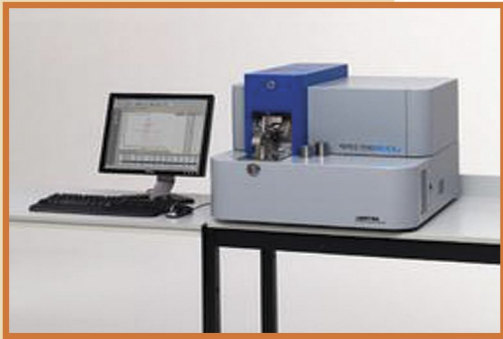


# In-House Facility

Delivering the Best

## Quality/Material Handled

Committed to quality, we adopt rigorous quality checking systems to come up with the best products. Conforming to the international standards and parameters, our products are high on all the three aspects that are: performance, durability and utility.



## Chemical Testing

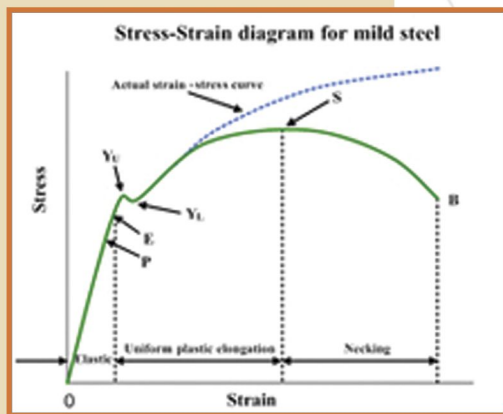
Chemical testing using Spectrometer Spectromax-X (made in Germany), which is well calibrated using setting up samples and certified reference materials.

We have ability to check seventeen elements in our spectrometer, like as C, Si, S, P, Mn, Ni, Cr, Mo, Cu, V, Ti, W, Co, Nb, N, Al and Fe.



## Tensile Testing

Tensile testing with 0.2% and 1 % Proof Stress by using Computerised Universal Testing Machine with Extensometer by 20 ton capacity of MAKE "TESTWEL" and Calibrated by NABL Approved lab.



## Tensile Test

A tensile test, also known as tension test, is probably the most fundamental type of mechanical test, we perform on material.

If we continue to pull on the material until it breaks, we will obtain a good, complete tensile profile. A curve will result showing how it reacted to the forces being applied. The point of failure is of much interest and is typically called its "Ultimate Strength" or "S" on the chart.

*" People forget how fast you did a job – but they remember how well you did it "*

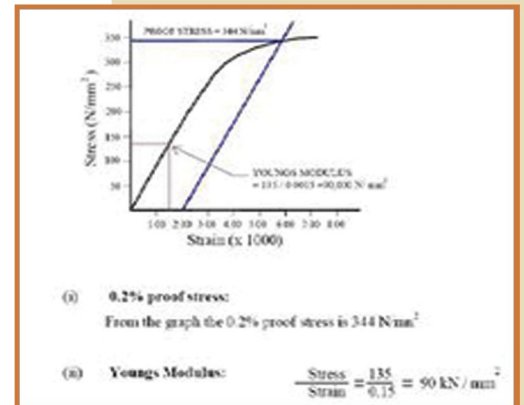
# In-House Facility

Delivering the Best

## Proof Stress

**Offset Method:**

For metals the departure from the linear elastic region cannot be easily identified. Therefore, an offset method to determine the yield strength of the material tested is allowed. These methods are discussed in ASTM E8 (metals). An offset is specified as a % of strain (for metals, usually 0.2% from E8). The Proof stress that is determined from the intersection point, when the line of the linear elastic region (with slope equal to Modulus of Elasticity) is drawn from the offset becomes the Yield Strength by the offset method.



## Impact Testing (Charpy Test)

Impact testing Facility is available at Room Temp. -46 Degree Centigrade and also at -196 Degree Centigrade, which is well calibrated by NABL approved Agency. And also complies with requirements of ASTM E23. Impact Value is measured in Joule.

Impact testing is testing an object's ability to resist high-rate loading. An impact test is a test for determining the energy absorbed in fracturing a test piece at high velocity.



# Out Source Process

## Design And Simulation

"Design to make right the first time with collaborative engineering."

MTPL with help of customers in premature designing stages for building their product-design in the concept of "Design for Manufacturing" to make it "Right the first time".

MTPL offer in-house facility for 3D modeling and 2D CAD drawings using latest CAD software. We can also work from customer supplied 3D models in various forms like Parasolid, IGES, STEP, UG Files.

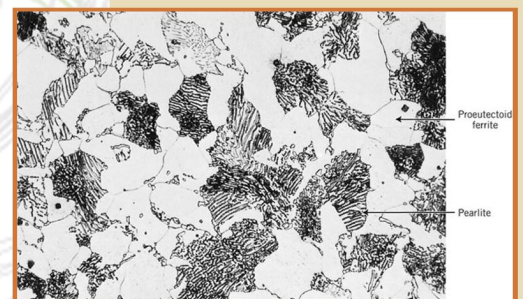


## Micro-Structure Analysis

Micro structure and other related testing is done as per Customer requirement.

**NDT Testing:**

We can carry in house various Non Destructive Testing Like as Radiography Testing, Liquid Penetration Test, Magnetic Particle Inspection.



Also serve additional Testing Facility like as Pressure testing, IGC Testing like as A,B,C.

*" Quality begins on the inside... then works its way out "*



# In-House Facility

## Delivering the Best



### Brinell Hardness Test

The oldest of the hardness test methods in common use today, the Brinell test is frequently used to determine the hardness of forgings and castings that have a grain structure too coarse for Rockwell or Vickers testing. Therefore, Brinell tests are frequently done on large parts. By varying the test force and ball size, nearly all metals can be tested using a Brinell test.

Brinell testing is typically done on iron and steel castings using a 3000Kg test force and a 10mm diameter carbide ball. Therefore the typical range of Brinell testing is 500 to 3000Kg with 5 or 10mm carbide balls.

Brinell Test methods are defined in the following standards:

- ASTM E10
- ISO 6506



### Rockwell Hardness Test

Rockwell test method is simple sequence of test force application proved to be a major advance in the world of hardness testing. It enabled the user to perform an accurate hardness test on a variety of sized parts in just a few seconds.

Rockwell test methods are defined in the following standards:

- ASTM E18 METALS
- ASTM 6508 METALS

### Material Handled

We produce Any Special metals as per Customer's specification or International Standard Specifications like IS, ASTM, AISI, SAE, DIN, EN, JIS.

In general we handle regularly are listed below in table below:

- Carbon Steel : SAE - 1020, 1030, 1040, 4140, WCA, WCB, WCC, LCA, LCB, EN-9, EN-36
- Austenitic Stainless Steel : CF8, CF8M, CF3, CF3M, CF8C, CK-20, CN-7M (Alloy 20)
- Martensitic Stainless Steel : 410 (CA-15), 420 (CA-40), 431, 440C
- Duplex Stainless Steel : CD-4MCu, CD-4MCuN, CD3MCuN, CE3MN, CD3MN
- PH Stainless Steel : CB7Cu-1(17-4PH), CB7Cu-2(15-5PH)
- Super Alloys : HAST- B, HAST- C, HAST-B3, STELLITE-6, STELLITE-3, CZ-100, Monel

*" The quality of beauty lies on how beholder values an object "*



**MARSHALL**  
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## Contact Us

Marshall Technocast Pvt. Ltd.

Landline:

+ (91) - 2827 - 252231  
+ (91) - 2827 - 252331 - Fax

Mobile:

+ (91) - 98791 04291 - Director  
+ (91) - 90999 31091 - Marketing

E-mail:

marketing@marshalltechnocast.com



## Works and Administrative Office :

Survey No. 171/1, Plot No. 22/23/24, SIDC Road,  
Veraval (Shapar), PIN - 360024, Ta. Kotda Sangani  
Dist. Rajkot (Gujarat) INDIA