THE INSTITUTE OF INDIAN FOUNDRYMEN
WESTERN REGION

FOUNDRY TALKS

For The Foundrymen | By The Foundrymen

IIF WR E-Magazine

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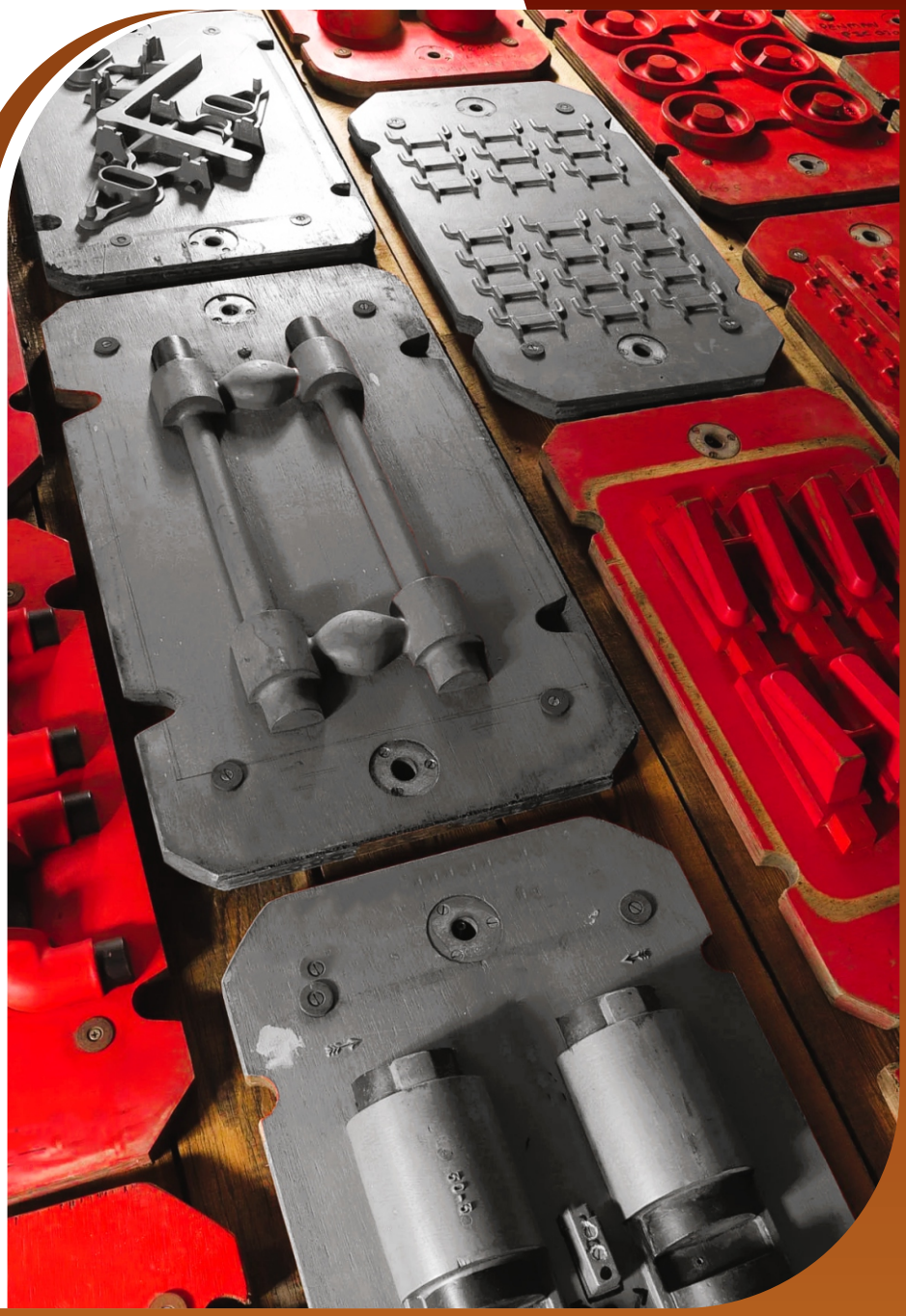

REFORM PERFORM

Get Future Ready

Featured Article By

Laxmi Pattern's The Wood Technologist

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WEAR FIGHTER Force Back The Limits Of Anti-wear Protection A Unit of Mangalam Steelcast Pvt. Ltd.

E - MAGAZINE TEAM

Message from IIF Western Region Chairman

Prayut Bhamawat
Director
Mangalam Steelcast Pvt Ltd
Siena Engineering Pvt Ltd

Greetings to all readers!

As you are aware IIF Western Region has started to release monthly issues of the E-Magazine since last year covering different topics at a time. 1st year the focus was on promoting innovation and providing foundry tips while as we take charge for the 2nd year the focus is to promote & make aware of the best practices in the foundry processes.

This is the first of twelve issues and is compiled with focus on the **best practices** in Pattern Making. All foundrymen are completely aware of the importance of having a good pattern in the foundry, it is actually a replica of the casting reflecting on the accuracy in dimensions, surface finish & first item to look after to control the casting defects. Considering its role and position in the foundry process, we have decided to start with this topic.

This year we have also started with some new sections: **"Foundry Quiz"** to interact & have participations from members, **"Business Talk"** to understand the scope of business beyond the technical matters and **"Success Story"** to inspire us to go one step further. We hope you will all enjoy reading and we welcome your feedback on the same. Lastly, I would like to thank you all for trusting me with the role of Western Region Chairman and with the theme taken up this year **"Reform – Perform – Get Future Ready"** will try my best to fulfill the responsibilities assigned to me. I request your continuous support in this journey and would love to have your valuable suggestions/feedback.

Design By: Mr. Nikhil Sharma
Production Director | Shamlax Meta-Chem Pvt. Ltd.

Mr. Nikhil Sharma completed his B. Tech Chemical Engineering with specialization in polymer technology from Laxminarayan Institute of Technology, Nagpur. Started with Shamlax in the year 2019 as the Production Head, he has been contributing towards the welfare of the organization with new innovations and process automation techniques. Presently he is the Joint-Secretary of Indian Institute of Foundrymen Nagpur Chapter.

Business Talk By: Mr. Mukund Pant
Managing Director | Metal Power Analytical Pvt Ltd

Mr. Mukund Pant holds an MBA from IIM Lucknow and a BE from BIT Mesra. He spent close to a decade in management consulting, assisting companies on diverse strategic, sales and operations projects. In Metal Power, leveraging his engineering background and management experiences he is ensuring rapid yet sustained growth in national as well international market.

Foundry Quiz By: Mr. Sivakumar Subbarayan
Plant Head | Pitti Castings Pvt. Ltd.

Mr. Sivakumar Subbarayan did his Diploma in Mechanical Engineering in 1986 at Bhaktavatsalam Polytechnic – Kanchipuram. Completed his BE Degree in Coimbatore Institute of Technology. Continuously upgraded qualification in the field of MBA and Non-Destructive Testing And is now Pursuing Doctorate in Management. He has worked with many Manufacturing organizations from Hard Core Manufacturing, like Lakshmi Pattern Works, Sivananda Steels Ltd, Lakshmi Machine Works Ltd, Bradken India Pvt Ltd, and many more. With about 36+ years of experience in the industry, he has been recently awarded as the "Indian Foundry Man of the Year 2015" at national level by Institute of Indian Foundrymen.

Material Price Index By: Mr. Mahesh Date
Managing Director | Ved Industries

Mr. Mahesh Date is a dynamic and accomplished entrepreneur with a passion for innovation and growth. As the founder and MD of Ved Industries, they have led the company to new heights, achieving remarkable success in the industry. Their visionary leadership and dedication to excellence have earned them recognition as a leading figure in the business world. With a proven track record of delivering results, Mahesh Date continues to inspire and impact the business landscape.

GUESTS

Best Practices By: Mr. J V Patankar
Advisor | Technical Services – MPM Pvt Ltd

Mr. Patankar, a foundry veteran having experience of over 54 years in the foundry industry and served in India's biggest and reputed foundries. He is recipient of Best Foundryman Award by IIF, Liftetime Achievement Award by MPM Group & Outstanding Engineer by Inst. Of Engineers, Nashik Chapter.

Success Story By: Mr. Ramesh & Mr. Virag Shah
Director | Kumud Metal Foundry

Kumud Metal Foundry, started with rental space of 500 Sq Feet area and capacity of single piece casting of less than 50 Kg are now operating on more than 10,000 Sq Feet area with single piece casting capacity of 700 Kgs has supplied casting to ISRO which was the integral part of the "Chandrayan – 3".

SPECIAL THANKS

Mr. C Sathyamurthy | Vice-President | Aquasub Engineering for sharing his knowledge and contributing in the magazine to ignite the grey cells of the foundrymen. He has warmly accepted to extended his support in putting up questionnaire for the Foundry Quiz.

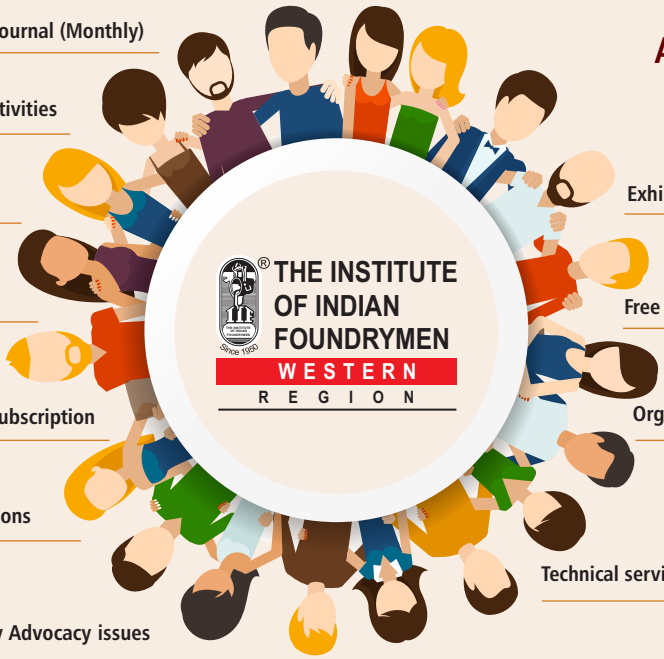
Mr. Subodh Panchal | Managing Partner | Kastwel Foundries for sharing artwork created by him over the years, showing "ironies" of the foundry industry in a witty way- through his comic strip.

Mrs. Anuja Sharma | Director - Marketing | Shamlax Metachem Pvt Ltd & Imm. Past Chairperson Western Region to share her views and give message to the foundrymen.

IIF MEMBERSHIP BENEFITS CHART

Member's Benefit

- Indian Foundry Journal (Monthly)
- Attend Chapter/Region Activities
- Conference fee rebate
- Representation in Councils
- Enjoy discount on membership subscription
- Receipt of Loyalty Coupons
- Highlighting Policy Advocacy issues



Additional Benefit for Industry Member

- Exhibition Space Rebate
- Free Entry in Indian Foundry Directory
- Organizing Yogyata Vikas Programs
- Technical services from Centers of Excellence

"We will love to hear from you on activities of IIF & also about E-Magazine. Please share your view by scanning this QR Code Below"

BEST PRACTICES

By: Mr. J V Patankar
Advisor | Technical Services – MPM Pvt Ltd

Best Practice For Pattern Making and Design

Introduction

A pattern is an exact replica of component to be cast except for various required allowances on dimensions & external surface. Pattern is required even if one casting is required or large no of castings.

Casting quality is 100 % dependent on the quality of Pattern and It is crucial for ensuring the production of high-quality castings

Collaboration between Foundry and Pattern Maker: Effective communication and collaboration between the foundry team and pattern maker are essential & crucial. The pattern maker needs to understand the foundry's capabilities and requirements & the intricacies of the casting process. The foundry team should provide clear guidance/ input on the feasibility of the design and potential challenges on the casting process and material considerations. Remember that pattern design is a collaborative effort involving foundry engineers, pattern makers, and designers. Effective communication between all parties is crucial to achieve the desired casting quality and efficiency.

Design for Castability: Patterns should be designed with castability in mind. Avoid complex shapes or features that may result in casting defects, such as shrinkage, porosity, or improper filling. Smooth and gradual transitions in the design can help ensure a better flow of molten metal.

Material Selection: Choose suitable/ appropriate materials for the pattern based on factors like the type of metal being cast, the complexity of the pattern, and the expected production volume & the expected number of castings and the type of metal being cast. Common pattern materials include wood, plastic, aluminum, and epoxy. Ensure the material has sufficient strength and dimensional stability.

Pattern Material	Life	Application	Advantages	Specialty / Problem
Thermacol	One time use	Prototype, Large single casting	Light weight Low cost	LFC process with Thermacol patterns for high volume application
Wood	Medium	Large size patterns	Ease of Manufacture	Fast working. Good finish. Various grades of wood is available
Metal - Cast Iron, S G Iron, Aluminum, Brass/Bronze	Very Long life, low maintenance	large volume production	Very good pattern finish,	High Dimensional stability & accuracy possible. (Cu based Nonferrous metals are Costly)
EN series Steel	Good up-to 30,000 impressions	large volume production	Very good pattern finish,	Difficult for manufacturing.
Plastic / Resin based material (Araldite / Fiber glass)	Low to Medium	multiple cavity high volume production.	Pattern duplication at reasonable cost.	High rate of wear & tear, requires very frequent dimension check & validation
Plaster of Paris	One time use	large size one time use pattern	good finish & dimensional accuracy.	Causes environmental issue. Non-biodegradable.
Wax	One time use, re-cycling done.	very tiny intricate parts.	high dimensional accuracy.	Special casting facility required.

The selection of pattern material is governed by:

1. Number of castings to be produced.
2. Life of pattern without losing dimensional acceptance limits.
3. Dimensional accuracy that can be achieved & maintained.
4. Casting finish requirement of Customer specifications.
5. Shape, size & complexity of casting.
6. Moulding material being used.
7. Pattern hardness & strength to withstand abrasion & mechanical forces.
8. Moulding Machines & Moulding Process employed.

Process Parameter	Wood – Hand Work	Aluminum Machining	Cast Iron CNC Machining	Thermacol Lost Foam Technology	Wax Investment Casting Process
Cost of Making	Low	Medium	High	High	Medium
Availability	Good	Good	Good	Good	Good
Weight of Pattern	Low	Medium	High	Very Low	Very Low
Ease of Fabrication	Easy	Medium	Difficult	Medium	Medium
Repair & Maintenance	Very Easy	Easy	Difficult	Poor	Not Applicable
Ease of Finishing	Good	Good	Medium	As per Tooling	As per Tooling
Scrap Value	Low	High	Medium	Not Applicable	Not Applicable

Pattern Allowances: Consider the appropriate pattern allowances to compensate for changes in dimensions during solidification. Additional dimensions are required to be added to the pattern for shrinkage during solidification and cooling of the metal. Accurate pattern allowances ensures to achieve the desired final dimensions and specifications in the casting. Pattern Allowances: Account for the pattern allowances, which are additional dimensions added to the pattern to compensate for metal shrinkage during solidification.

Contraction Allowance for Different Metals

Sr. No.	Metal Alloys	Contraction allowance mm / meter
1	Grey Cast Iron	7 to 10.5
2	While Cast Iron	21
3	Malleable Iron	15
4	Steel	20
5	Copper	16
6	Brass	16
7	Bronze	10.5 to 21
8	Zinc	24
9	Lead	24
10	Aluminium	16
11	Magnesium	18

Pattern Draft Angles: Incorporate draft angles in the pattern design to facilitate the easy removal of the pattern from the mold. This prevents damage to the mold and ensures a smoother casting process without causing damage or defects.

Pattern Material	Height of the given surface, mm	Draft angle of surfaces, degrees	
		External surfaces	Internal surfaces
Wood	upto 20	3.00	3.00
	21 to 50	1.50	2.50
	51 to 100	1.00	1.50
	101 to 200	0.75	1.00
	201 to 300	0.50	1.00
	301 to 800	0.50	0.75
	801 to 2000	0.35	0.50
	Over 2000	-	0.25
Metal and Plastic	20	1.50	3.00
	21 to 50	1.00	2.00
	51 to 100	0.75	1.00
	101 to 200	0.50	0.75
	201 to 300	0.50	0.75
	301 to 800	0.35	0.50

Dimensional Accuracy: Ensure the pattern is made with high precision and accuracy. Small errors in the pattern can lead to significant defects in the final casting.

Core Design: If the casting requires cores (internal features), ensure that the core design is well-integrated into the pattern design. The core should be adequately supported and have proper venting to allow for the escape of gases during casting.

Pattern Core Prints: For complex castings with internal cavities, include core prints in the pattern design to create spaces for the sand cores. Core prints ensure proper alignment and assembly of cores within the mold.

Pattern Venting: Incorporate adequate venting in the pattern design to allow gases to escape during the casting process. Proper venting helps reduce the risk of defects like porosity and gas inclusions.

Pattern Rigidity: The pattern should be sturdy enough to withstand handling during mold making and casting. Weak or fragile patterns can lead to breakage and delays in production.

Pattern Inspection and Quality Control: Regularly inspect patterns to identify wear, damage, or dimensional changes. Maintain strict quality control procedures to ensure that patterns are consistent and accurate.

Pattern Surface Finish: Pay attention to the surface finish of the pattern. A smooth and defect-free surface will result in a better mold cavity and, subsequently, a higher-quality casting.

Pattern Storage: Store patterns properly to prevent damage, wear, and distortion. Avoid exposure to extreme temperature and humidity fluctuations. Keep patterns in a controlled environment to maintain their dimensional stability over time.

Pattern Maintenance and Repairs: Conduct regular maintenance of patterns to extend their lifespan. Promptly address any pattern damages or wear to avoid negative impacts on casting quality.

Pattern Storage and Documentation: Keep detailed records of pattern designs and modifications, making it easier to reproduce patterns if needed in the future.

Use of CAD/CAM: Utilize computer-aided design (CAD) and computer-aided manufacturing (CAM) technologies to optimize pattern designs and streamline the production process.

Consideration for Sand Casting:

Designing and making patterns in a foundry is a critical aspect of the casting process. Effective pattern design and production can significantly impact the quality, cost, and efficiency of the casting process. Here are some best practices for pattern design and making in a foundry: If use is for sand casting, ensure that the pattern design allows for proper molding and easy sand removal from the casting.

Understand the casting process: Before designing a pattern, it's essential to have a thorough understanding of the casting process, including the type of casting (e.g., sand casting, investment casting, die casting) and the materials being used. Different casting processes have specific requirements that should be considered during pattern design.

Use experienced pattern makers: Skilled and experienced pattern makers are crucial for creating high-quality patterns. They understand the nuances of pattern design, material selection, and the casting process, which can lead to better outcomes.

Select appropriate pattern materials: The choice of material for the pattern can impact its durability and dimensional stability. Common materials used for patterns include wood, metal, and plastic. Consider factors such as the number of castings required, complexity of the part, and the casting material when selecting the pattern material.

Allow for shrinkage and draft: During the solidification of molten metal, it undergoes shrinkage. Design patterns with the necessary allowances for this shrinkage to ensure the final casting has the desired dimensions. Additionally, incorporate draft angles to facilitate easy removal of the pattern from the mold.

Eliminate undercuts: Undercuts are features that prevent the easy removal of the pattern from the mold. Minimize undercuts to simplify the mold-making process and avoid complex and costly solutions.

Consider parting lines and cores: If the casting requires complex shapes or internal cavities, the pattern may need to incorporate parting lines and cores. These are used to create separate mold sections or form internal cavities in the casting.

Optimize gating and riser design: The pattern design should consider the placement of gates (for molten metal entry) and risers (for feeding molten metal to compensate for shrinkage). Proper gating and riser design help prevent defects and ensure uniform cooling of the casting.

Use CAD and simulation tools: Computer-Aided Design (CAD) software can be immensely helpful in pattern design. Additionally, using simulation tools for casting processes can help identify potential issues and optimize the design before creating the physical pattern.

Test and iterate: It's rare to get the perfect pattern design on the first attempt. Before mass production Test the pattern by creating a few prototypes and casting them. Analyze the results and iteratively improve the design based on the feedback. Identify any issues or areas of improvement. Iterate the pattern design if necessary to optimize its performance.

Maintain pattern quality: Regularly inspect and maintain patterns to ensure they remain in good condition. Proper storage and handling are essential to prolong the life of patterns and maintain casting consistency.

Pattern Maintenance: Regularly inspect and maintain patterns to ensure they are in good condition and free from defects or wear.

Documentation: Maintain comprehensive documentation of the pattern design, including drawings, measurements, and any modifications made during the production process and reduced production costs.

Best foundry practices for pattern design and making involve careful planning, attention to detail, and a focus on producing high-quality patterns that can withstand the rigors of the casting process. Here are some key practices to follow: By adhering to these practices, foundries can improve the quality and efficiency of their pattern design and manufacturing processes, leading to better castings and reduced production costs. By following these best practices, foundries can improve the efficiency and effectiveness of their pattern design and making processes, leading to higher quality castings.

Raw Material Price Index

By: Mr. Mahesh Date
Managing Director | Ved Industries

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Movement In Foundry Raw Material Prices

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The Raw Materials Price Index measures price changes for raw materials purchased for further processing by foundries. It is helpful to judge the market scenario and understand the trend. Prices provided below for the past 6 months are the prices collected from Kolhapur market just for the information only. These are approximate, ruling during the month and week as indicated in the table.

In the prices indicated below, transportation cost in included in most items. Only applicable GST is to be added. Prices of many materials are on the basis of "Immediate Payment"

(A) Major Ferrous Metallic Raw Materials, Low Ash Metallurgical Coke, and Electro-Graphite Fines {Rs / Tonne}

	Feb-23	Feb-23	Mar-23	Mar-23	Apr-23	Apr-23	May-23	May-23	Jun-23	Jun-23	Jul-23	Jul-23	Jul-23	Jul-23
	2nd Week	4th Week	2nd Week	4th Week	2nd Week	4th Week	2nd Week	4th Week	2nd Week	4th Week	1st Week	2nd Week	3rd Week	4th Week
Foundry Grade Piglron	52616	52616	52616	52616	52116	50800	49866	49866	49366	49366	48866	48866	48116	48116
MS Scrap (good quality)	44500	44500	44500	45500	45000	45000	44500	44200	44000	44000	43500	43500	43500	43000
Low Mn Steel Scrap	47000	47000	46500	47500	47000	47500	46500	46500	46000	46000	45500	45500	45000	44500
Si Steel Stamping Scrap	46000	45750	45500	46000	45500	46000	46000	45500	45200	45000	44500	44500	44500	44000
Low Ash Met. Coke	50500	48500	49000	49500	48000	47500	47500	47500	47500	47500	47000	47000	46500	46500
Electro-Graphite Fines	95000	100000	105000	108000	102000	100000	95000	92000	85000	80000	80000	80000	80000	80000

(B) Major Ferro-Alloys {Rs./Kg}

Fe-Si (70-75% Si)	137	135	135	137	135	131	130	130	131	126	126	122	120	120
Fe-Si-Mg (5-7% < Mg)	190	190	210	225	210	200	205	200	210	215	215	215	215	215
Fe-Si-Mg (5-7% < Mg) (TOL)	±5	±5	±5	±5	±5	±5	±5	±5	±5	±5	±5	±5	±5	±5
Fe-Si-Mg (8-10% Mg)	195±5	190±5	220±5	235±5	225±5	220±5	220±5	218±5	225±5	218±5	218±5	218±5	218±5	218±5
High C Fe-Cr (60% Cr)	115	117	118	122	125	121	127	127	123	125	125	122	122	122
High C Fe-Mn (60% Mn)	88	90	95	105	100	99	105	105	95	87	85	85	79	79
Ferro-Moly (60% Mo)	4300	4300	3800	3750	2300	2600	2650	2700	2725	2750	2750	2750	2800	2800

Fettling Corner

Perspective of Foundryman

By: Mr. Subodh Panchal
Managing Partner | Kastwel Foundries

FEATURED ARTICLE

By: M/s. Laxmi Patterns | The Wood Technologist

Mr. Dinesh O Khanna | Mr. Harshad O Khanna

Unlocking Perfection in Metal Casting

About Us

Laxmi Pattern's was started in the year 1987 by Om Prakash Khanna. We hold years of experience in this domain. We have established ourselves as a leading manufacturer of Metal Pattern, Teak Wood Pattern, Casting Pattern, Gunmetal Pattern and many more. We have got more than 25 years of experience in the field of manufacturer of patterns. We have now got two units namely: **Laxmi Pattern's** & **Vishnu Pattern's.**

Being the leading names in the industry we are involved in offering a wide range of Patterns. These are made using fine quality material as per the client's requirement, under the supervision of our highly skilled professionals to render maximum client satisfaction. Offered Patterns are widely used in various industrial applications and are well known due to their superior finishing, durability and competitive prices and last but not the least timely delivery.

Our Three Fundamentals:

Precision: Our team stands as a paragon of precision and innovation, revolutionizing the art of pattern-making for casting. With a fusion of traditional craftsmanship and state-of-the-art technology, we have harnessed the power to transform your design dreams into tangible masterpieces. We at Laxmi Patten's emphasis on precision, that's the reason we use digital Modelling technology and CNCs.

Quality: Creating patterns demands a delicate balance between creative ingenuity and functional accuracy. Our team seamlessly bridges this gap, enabling you to channel your artistic brilliance while ensuring that every dimension and contour is faithfully captured. Whether you're crafting a complex industrial component or a delicate work of art, our tool empowers you to create with confidence. We control the quality of the pattern with quality of our raw material.

Timely Delivery: We respect the time of our customer, so we give uttermost emphasis on delivery time commitment.

Best Practices Used by us:

Requirement Analysis: We carefully study your order specification and analyse it.

Use of CNCs:

- o We use CNC machines for precision and matriculate work.
- o We have procured and installed following two state of the art CNN machines
  - CNC ROUTER: L 3000 B 2000 H 600
  - CNC ROUTER : L 4000 B 3000 H 750

Precision Modelling: We digitally design and present a model before go ahead. Make instant adjustments, preview changes, and fine-tune your design before the casting process even begins.

Customer Satisfaction: We have all good measures in place for quality control and timely delivery. We understand that the journey from concept to creation is as important as the final piece itself.

Experience the art of pattern-making like never before – experience Laxmi Patterns for making pattern for your Casting.

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SUCCESS STORY

By: Mr. Ramesh Shah & Mr. Virag Shah
Director | Kumud Metal Foundry

Journey to the MOON - Kumud Metal Foundry Pvt Ltd

July 14, 2023, was a great day for the country as well for us. On this day **ISRO launched the "Chandrayan-3"**, Which will be going to land on the Lunar surface after 43-45 days. It will be a proud moment for INDIA, as we will be the 4th country to land on the moon. Similarly, this moment is also a great pride to **KUMUD METAL FOUNDRY PVT. LTD.,** as some of the cast components were supplied by us for this project.

The story starts in December 1959, when my grandfather and his partner started this foundry business in a rented small shed of 500 sq. feet with an initial capital of Rs.7,000/- at Jogeshwari West in Mumbai. They were operating the foundry on a tiny scale, where they were producing a single piece of less than 50 kg. (Mainly Copper & Aluminium base alloys). Their hard work and dedication to business helped them establish the Foundry business slowly and steadily. They worked with a policy to **"Produce Good Quality Castings"** which can satisfy the **Customer's Expectations OR Beyond the Customer's Expectations.** This policy was poured into their successors. This policy helped us to accept the challenges to produce the best possible castings to satisfy the Customer's needs.

After globalization, we focused on Exports of castings and Engineering goods. We started participating in International exhibitions promoted by EEPC (Engineering Export Promotion Council). **This participation has opened up the International Market for Exports of our castings.** Now we participate in at least one international trade fair/year. Secondly, we always work on a **"Win-Win"** situation with our customers. We always try to reduce the material cost to our customers, which helps them to "Be Competitive" in their market. Hence they get more business and in turn, we also get more business from our customers. This also helps us to reach the Customer's satisfaction. e.g.

1) Where it is possible to reduce the machining allowance, we try to keep bear minimum. This way, we reduce nearly 25-30% of material costs.
2) In the case of Gear/Worm wheels, the central portion is substituted with MS/CI inserts, which can save nearly 50-70% of material cost.
3) We had developed Aluminium Tin alloy, Which was an Import substitute for the Central Air conditioning plant.)

We also developed some components for **ATS RIFLES, Which were designed in India and manufactured in India** by one of the Startup company India. All these developments are really proud moments for us.

Our journey started with hardly 500 sq. feet of rented premises, Now we are operating on more than 10,000/- sq. feet area, with single piece pouring capacity of 650-700 kg in copper base alloys. We have exported, more than 35% of our sales turnover. For the last two years, we had zero rejection from our export customers. We are manufacturing Copper Aluminium base alloys conforming to all international specifications and tailor-made specifications.

We are specialized in Valves & Pumps castings in Aluminum Bronze, Manganese Bronze, Silicon Bronze, and Gun Metals. We also manufacture Ultra Bronze castings for Bushes and Bearings.

BUSINESS TALK

By: Mr. Mukund Pant
Managing Director | Metal Power Analytical Pvt Ltd

Vision and its criticality

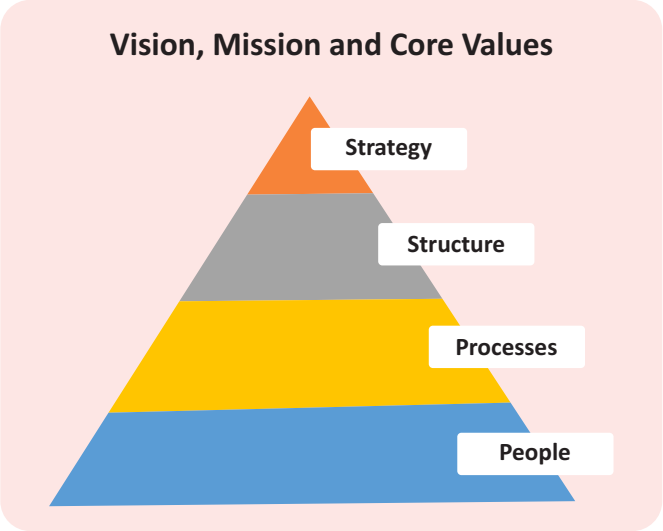
Vision – A guardrail that steers the organization

Every entrepreneur, businessperson, shareholder or promoter wants to see the business experience sustained growth, and profitability. Yet across years of research, data shows that 45% of all businesses fail within the first 5 years, while a whopping 75% of all businesses fail within the first 12-15 years. The picture is even more grim when you consider small businesses, where the failure rate rises to >80% in 18 months itself!

So, for anyone tasked with setting up or running a successful business it is imperative to ensure that the focus of those at executive level remains on constantly ensuring that the business is primed to remain successful. The critical and differentiating factors here almost always boil down to how well the executives define the Vision of the company – and how successfully they align strategic and operational plans to this Vision.

Vision – Beyond Strategy

Every management graduate is aware that in a running organization, the key levers are Strategy, Structure, Processes and Performance. Collectively, and iteratively, these assist in keeping the organization focused, flexible and on the course for success. A key area for focus therefore is the strategy – since this forms the fulcrum for everything around it. Having the right business strategy at all times is therefore imperative to ensure sustained success, irrespective of what has come before.



Now, strategies can – and should – change over time, reflecting various variables, like the business environment, technology trends, competitive pressures etc. Depending on these, a business may tweak its strategies and plans, and this is where the need arises for an anchor above the strategy. While businesses may pivot operating strategies and plans, they can't merely work in an ad hoc manner without an anchor to define them. This is exactly the role that is played by the "Vision" of the business and why it is increasingly critical – specially as our markets continue to evolve ever more rapidly.

A Vision defines what the business – and its founders, promoters and stakeholders – stands for and what it wishes to be. It serves as the focal point around which long-term and then short-term and operational strategies and plans are developed and also forms a key guiding principle to assess options when larger decisions need to be made about the direction a business has to take.

Ensuring Viability

A Vision must always be viable and enable a flexible business. Make it too broad and pretty much anything could be justified with foundries entering hospitality or real estate, while make it too narrow and you may end up as a Company continuing to optimize your SLRs while digital cameras take over the world. The Vision statement therefore must be broad enough to allow strategic flexibility – while also not being as broad as to facilitate structured thinking about strategic direction. The Vision should also provide all the employees of the business to see value in what they do – and understand the direction the business takes at various points of its evolution.

As an example, at Metal Power, our Vision sees us as global leaders in analytical instruments. This ensures that from a development perspective, we don't take up projects that may seemingly be "opportunities" but which would divert resources from what our core competence is. A simple example is that this ensured we did not consider taking up the manufacturing of oximeters or sphygmomanometers during COVID but are always focused on assessing the analytical instruments market for opportunities in terms of platforms and products that we should develop.

Criticality and pivot points

An organization's Vision is important as a binding factor, but there are specific phases in a Company's lifecycle when the Vision becomes not merely important, but critical.

Initial and formative period

In the initial period of a Company's growth, there are multiple hardships and challenges. Indeed, this is where most companies fail – in the first few months or years! At this stage, having a common vision that binds everyone together and also builds a passion and zeal – almost missionary-like in nature – helps founders and entrepreneurs in getting their employees to go above and beyond "normal". It keeps the whole firm focused and working in a lean and synergistic and manner while operating in a resource-constrained environment.

Growth and expansion phase

During periods of rapid growth, Companies can often be faced with different and often conflicting or contradictory choices in terms of avenues and opportunities to pursue. At these points, it is the Vision that helps in guiding choices. Furthermore, these are the periods when the "doers" in the firm may be distanced from the "thinkers" at the top. The Vision – along with other elements like Core Values and Mission statements – help in ensuring that all employees understand what their employer aims to be – and how they are expected to structure their decisions and actions.

Transition phases

A founder typically has a very strong sense of what he or she would want the business and company to be for each stakeholder – right from employees and customers to the wider community, and given that such founders typically play a strong if not sole role in strategy formulation and plan development, the Vision is always "there" even if not openly stated. It is also easy for founders of small firms to ensure that all their workforce buys into the Vision, even if not it's not a formal process. During the inevitable transition though, this can get diluted and be a key reason for such a business to "lose its way".

Periods of crisis

The best-laid plans too often go awry. There is always the potential for a crisis – and when there is one, depending on the extent and nature of the crisis, the leadership must turn to the Vision. While smaller crises may see the Vision provide the fulcrum on which to pivot strategy, a larger crisis may require the organization to reshape the Vision itself and use that to drive a wider agenda that can shape a turnaround.

Alignment in practice

Merely having a good and well-articulated Vision is not enough of course. What matters most is the ability to translate that into practices; to be able to drive the organization's strategic objectives and operational processes. This outcome is best achieved through the executives ensuring that strategy formulation is a collective exercise across the leadership, and that there is a strong focus on ensuring that the organization remains flexible, but always aligned with the Vision of the Company.

Long- and short-term strategies, operational plans, organization structure, branding, market communication, and most crucially, recruitment and training, must each then be aligned to ensure that every facet and department of the company is oriented in the same direction. There is little point, for example, in a company striving to be a "technology leader" but employing designers that want to simply copy a competing offering and offer it at a lower price.

What leadership should focus on

The most crucial aspects for the leadership to focus on are ensuring the development of the optimal organizational strategy, the deployment of the optimal organization structure, recruitment and retention of the right talent in key positions and managing the financial health of the company. Operational delivery in each of these areas should ideally be led by professionals, while the leadership focuses on the strategic decisions, mentorship, conflict management, and overall coherence in execution.

FOUNDRY QUIZATHON

By: Mr. Sivakumar Subbarayan
Plant Head | Pitti Castings Pvt. Ltd.

Test your Basics on Pattern Making

Supported By | Shamlax Meta-Chem Pvt. Ltd.

Quiz Prizes Supported By

SHAMLAX

Last Date of Submission: 23rd August 2023

1) **Weight of the square riser against weight of sphere-shaped riser with same modulus is ?**

a. More
b. Less
c. Same
d. None of the above

2) **Contraction allowance for White Cast iron is ?**

a. 1.0
b. 1.1
c. 2.1
d. 0.8

3) **In investment casting process the material of pattern is ?**

a. Cast iron
b. Copper
c. Aluminium
d. None of the above

4) **Modulus of an end plate is ?**

a. 1/2 of thickness
b. 1/3 of thickness
c. 7/8 of thickness
d. None of the above

5) **The master pattern is made of steel, the shop floor pattern is made of Aluminium and the casting is made of Brass. The allowance to be given for master pattern is shrinkage allowance of ?**

a. Steel and Aluminium
b. Aluminium and Brass
c. Brass and Steel
d. None of the above

How to Participate in the Foundry Quiz:

Option 1) Scan the QR Code to Start the Quiz and fill out the basic details, click next, answer the questions and then click on submit

Option 2) Send answers to the following questions on western.region@indianfoundry.org with basic details (Name & IIF Membership No.)

Winner will be based on first one to answer the maximum correct answers

Click Here

Winner will be awarded with NCTS voucher of Rs. 750/- which can be availed against services of NCTS. Also, picture and details of the winner will be posted in the next issue of the magazine with the correct answers.

Please note, winner will be based on first one to answer the maximum correct answers

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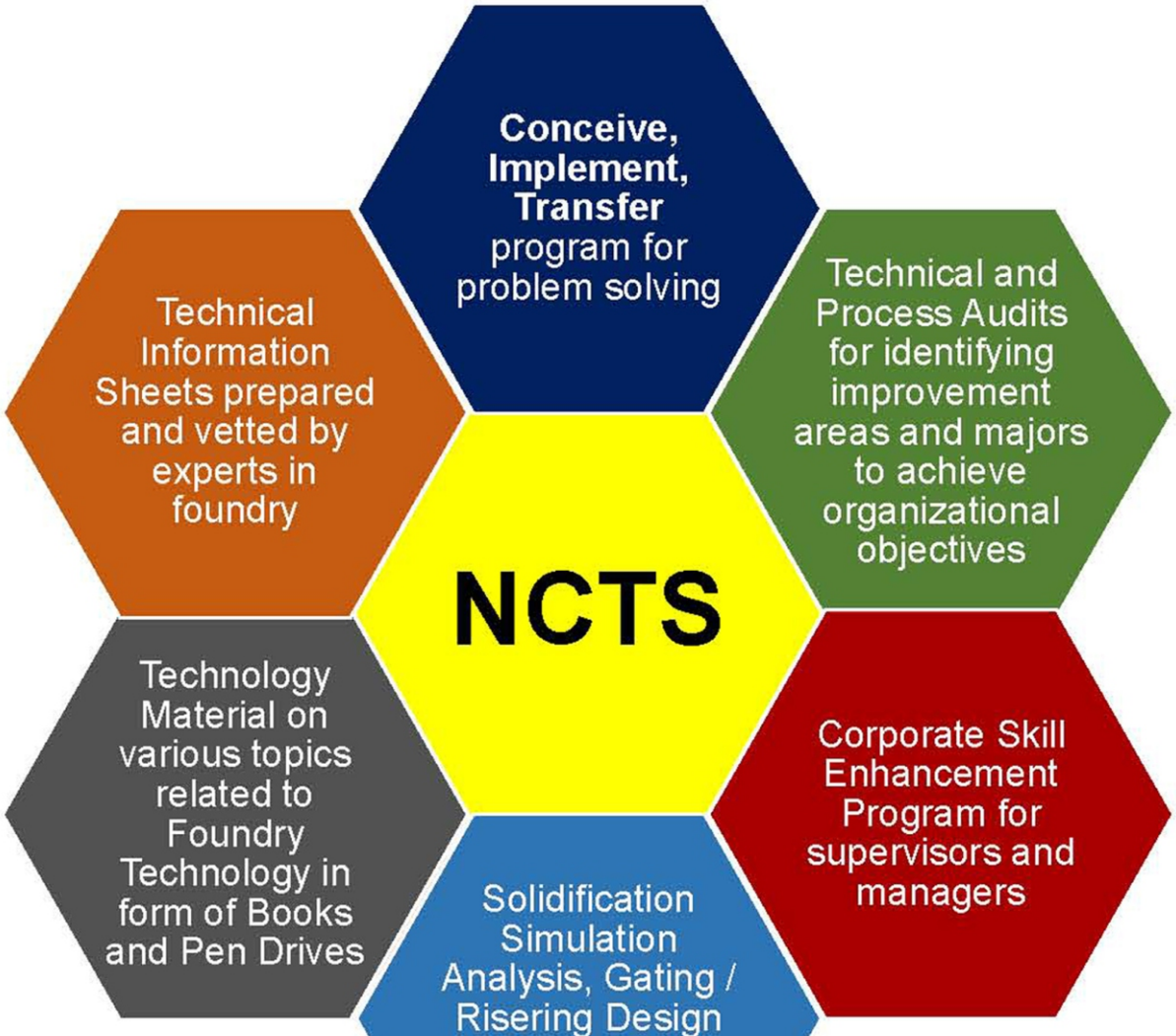
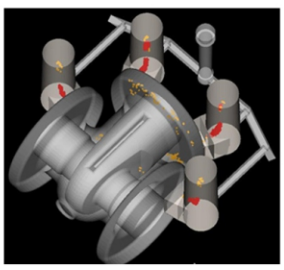




Mob. 9403871063, T. +9120 - 2542 2902.E. ncts@indianfoundry.org, www.iifncts.org

Mrs. Anuja Sharma
Imm Past Chairperson

Message from Imm Past Chairperson

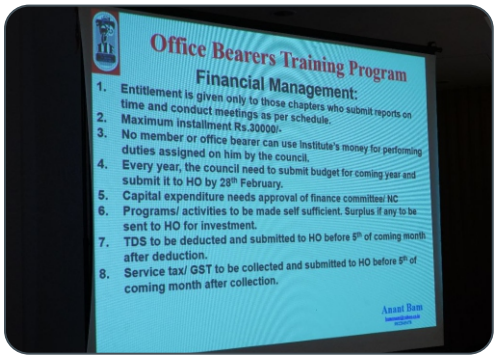
I am really glad to share my views in this year's first edition of Foundry Talks.

The purpose of this E- magazine, which started during my tenure, was to provide the practical knowledge of foundries to the foundrymen.

I am really happy to see that the magazine is in its second year and has taken off under the able leadership of the new Chairman and his Team. With new additions coming to the magazine, I hope it will bring more knowledge to the foundry community. I hope the magazine will serve the purpose well. I wish you all the best.

WESTERN REGION ACTIVITIES

Innovation Tech Series 8 at Nagpur



Orientation Meeting and Annual Regional Meeting at Vadodara

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info@cfmengineers.com | +91 9558689560 | www.cfmengineers.com | Location: Rajkot

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Started in the year 1987, Laxmi Pattern have got more than 25 years of experience in the field of manufacturing of patterns. We have established ourselves as a leading manufacturer of Metal Pattern, Teak Wood Pattern, Casting Pattern, Gunmetal Pattern and many more. We are equipped with 3-D modelling and CNC machines for precision and matriculate work
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