



SHELL MOULDING TOOLS

Strength You Can Rely On **Strength in Every Cast.**

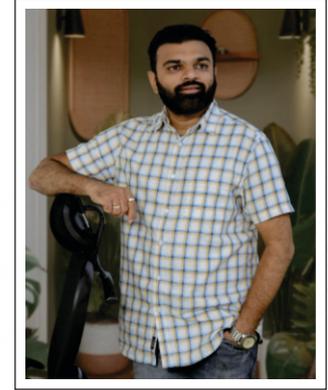
High-quality metal castings engineered for lasting strength and reliability.

Solutions For All Foundry Tooling





Director
Vitthal Ranpariya



Director
Deval Khunt



Perfection starts with our dies

ABOUT US

CFM Automation is a leading company in designing & manufacturing of Die, Mould, Foundry Patterns Equipment, Core Boxes Foundry Equipment & dream to lead the industrial sector the company.

Started in year 2011 sister concern company CFM Engineers as small unit, today the company has prospered and grown phenomenally Passion for work, love for challenges and a constant desire to offer new technologies to clients made CFM Automation Establish in 2015.

We have an experience on working with vast variety of materials like S.S., M.S., CI, Brass, Aluminum & Other related Copper Alloys etc.

We specialize in providing high-quality die and mould services for a range of industries like Wind Mill, Oil Industries, Railways, Automotive, Machine Tools, Steel Plant, Earth moving Defense and other engineering industries.

To design & manufacturer of product with global standard & achieve the status of prime source to the industry by providing good quality, services & quick response to the customer.

CFM Automation is customer-oriented company from first planning step right up to the finished products, we work constantly to meet customer's needs & improve the customer satisfaction.

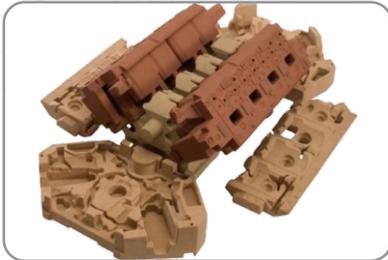
Main Strength of our Company is an enthusiastic team of technically experienced person and skilled workers, which Supports the Company to face frequently changing market situation.

We provide good equipment and meticulous and thoughtful service, and won the trust of domestic and oversea well-known enterprises, established a long-term and friendly relations of cooperation.

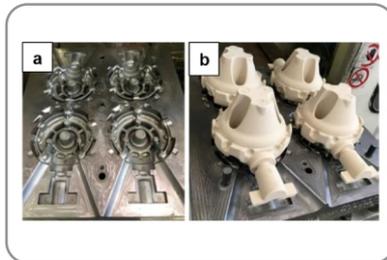
Foundry Tooling



Shell Moulding Tooling



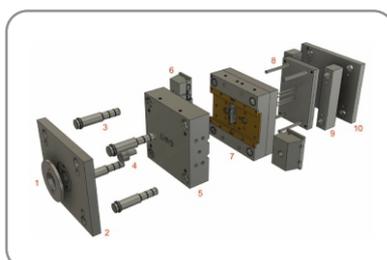
Cold Core Box Tooling



Pattern Making



Gravity Die Casting (GDC)



Product Comparison



	Shell Moulding	Investment Casting
Mould Material	Fine-grained sand coated with a phenolic resin binder	A ceramic Mould is created by surrounding a pattern with refractory material
Complexity & Detail	Good Accuracy, suitable for a wide range of applications	Excellent for very complex parts, intricate details, and thin walls with almost no drats
Surface Finish	Good surface finish	Smoother, finer surface finish
Tolerances	Good to excellent, but not as tight as investment casting	Very tight tolerances
Cost	More cost-effective for medium to high volumes	Higher labour costs and lead times
Production Volume	Ideal for medium to high volumes	Best for low volumes due to higher costs
Automation	Shell moulding can be fully automated for mass production.	In investment casting manually for mass production
Process	Uses a heated metal pattern coated with a sand-resin mixture to form a thin shell mould	Involves a wax pattern that is coated in a ceramic slurry, and the wax is melted out to create a mold cavity
Materials	Both processes can accommodate wide range of alloy, including ferrous and non-ferrous metals.	

Product Comparison



Shell Moulding

Sand Casting



Mould Material

Thin, hardened shell of sand mixed with a thermosetting resin

In Sand Casting, the mould is made of sand.

Process

A metal Pattern is used to create the shell mould, which is then filled with molten metal.

The mould is made of sand and the liquid metal is poured into it,

Complexity and Details

Suitable for complex parts and thin walls

More design flexibility, but less suitable for fine details

Surface Finish

Very smooth with less sand inclusion

Rougher, often requiring post-machining

Dimensional Accuracy

High precision and tighter tolerances

Lower precision with looser tolerances

Production Rate

Higher, as patterns are reused to make multiple shell mould

Lower, as a new mould is made for each casting

Labor Costs

Lower, due to automation and less manual handling

Higher, Particularly with manual moulding

Tooling Costs

Higher, requiring metal patterns due to high temperatures

Lower, using cheaper materials like aluminium or plastic for patterns

Materials

Both processes accommodate wide range of alloy, including ferrous and non-ferrous metals.



Metal Casting Comparison Chart

	Shell Moulding	Investment Casting	Sand Casting
Tolerances	+/- .03 - .06 in.	+/- .005 - .01 in.	+/- .06 in
Surface Finish	Good	Very Good	Fair
Tooling Costs	High	Medium	Low
Labor Costs	Medium	High	Medium
Typical Production Volume	High	Low	Medium

Manufacturing Facility (In House)



Plant Area



BFW BMV 65/60



HAAS VF2



Tool Fitting



Casting Simulation Service



CAD-CAM

Advantages of shell molding

- Smoother cavity surface permits easier flow of molten metal and better surface finish
- Good dimensional accuracy - machining often not required
- Mold collapsibility minimizes cracks in casting Can be mechanized for mass production

Industries we served



FOUNDRY TOOLING



Wind Mill



Oil Industries



Railways



Automotive



Machine Tools



Steel Plant



Earth Moving



Industrial



Defense

GLOBAL SOURCING & SUPPLY CHAIN



Cast



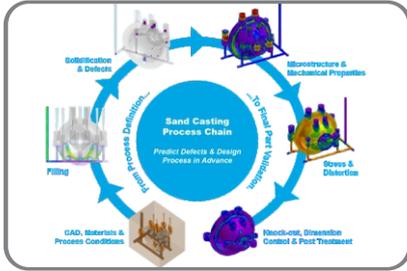
Forged



Steel Metal



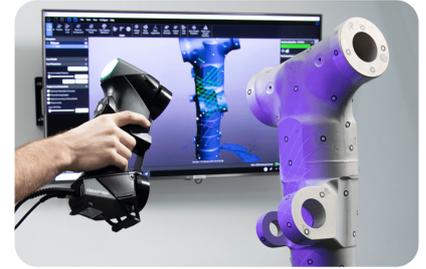
FOUNDRY SERVICES



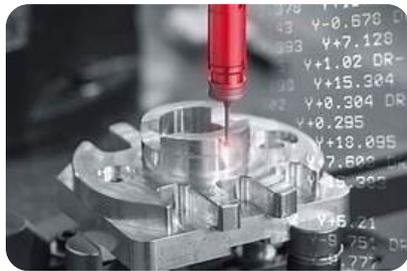
Casting Process Simulation



Reverse Engineering



3D Scanning



CMM Inspection

MFG All Foundry Tooling



At CFM, we offer complete support across every stage of die development and manufacturing.

Explore our workflow to understand our process, and feel free to contact us for assistance in any of the areas we specialize in. We are committed to providing you with comprehensive, reliable, and efficient solutions to meet your most demanding challenges.

- 1  Understanding Requirements
- 2  Project management
- 3  Development & Designing
- 4  Planning & manufacturing
- 5  Sampling & Testing
- 6  Process Development



CFM AUTOMATION

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