

Efforts Till  
Excellence



**Shilpan** Steelcast Pvt. Ltd.  
an Investment Casting Unit





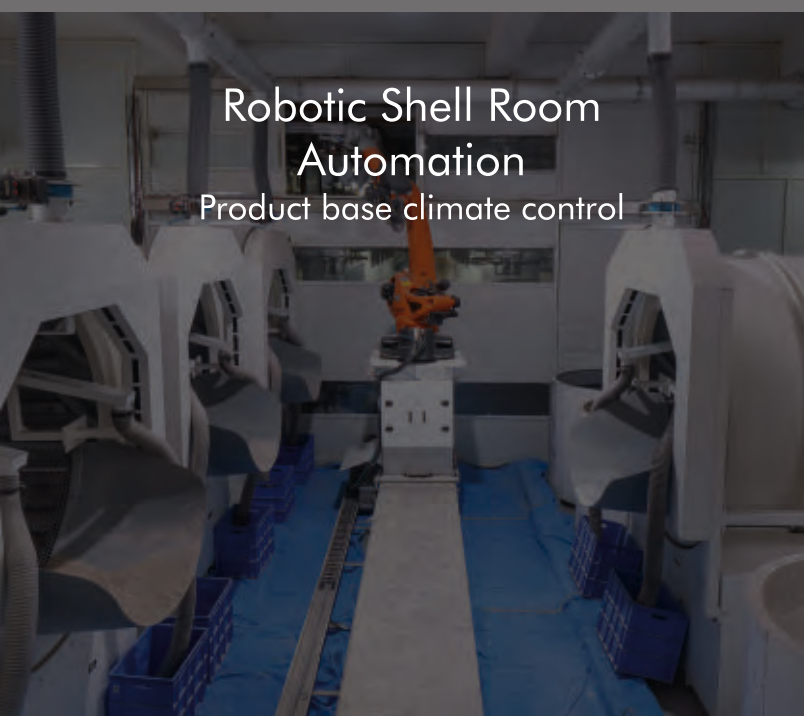
Robotic Metal  
Pouring Automation  
First time in India



International  
Casting award winner  
Best conversion 2015



Biggest Manufacturing  
Facility in India  
200000 Sq. Ft. Working Area



Robotic Shell Room  
Automation  
Product base climate control



Integration of Machine shop with  
Inspection system -  
Better Process Control

## Company



Unit 1 600 Metric Ton / Annum  
Handling small volume



Unit 2 2400 Metric Ton / Annum  
Handling Medium to Large volume Inhouse Machining & Assembly



# Engineering & Process

## Reverse Engineering



## 3D Modeling



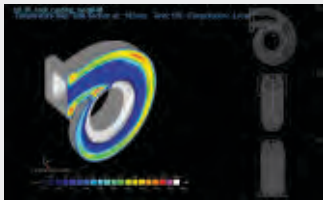
## Die Design



## Fixture Design



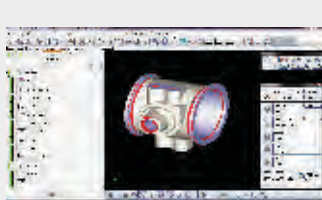
## Simulation



## SQC



## Inspection



## Management



### Tool Development

Tool established for making wax patterns.



### Wax Pattern Manufacturing

Output of wax injection from tool



### Pattern Assembly

Attachment of patterns with feeders



### Ceramic Coating

Application of coatings with binder & stucco

### De-waxing

Removing wax from coated assembly



### Shell Baking

Pre-Heating of shells



### Induction Melting

Preparation of molten metal



### Verification of Chemical Composition

Ensuring by Spectrometer

### Pouring

Filling the shells with molten metal



### Fettling

Detachment from feeders and surface finishing



### Heat Treatment

Setting the homogenous structure of metal



### Surface Treatment

For enhancement of casting surface

### Machining

CNC Turning, Milling, Grinding, Lapping, Broaching



### Assembly

Assembling different parts as per customer's requirement



### Pre Dispatch Inspection & Testing

Verification of product with customer's requirement



### Packaging & Dispatch

Packaging as per international standard





## Facilities & Process Control





# Product



## Capabilities

- **Weight Range**  
From 0.05kg to 90kg as a single piece
- **Size**  
450mm x 450mm x 350mm
- **Dimensional Accuracy**  
According to ISO 8062, ISO 2768, VDG P690, IS11166.
- **Surface Finish**  
3 to 6 micron Ra
- **Materials Handled**  
Austenitic Stainless Steel, Carbon Steel, Low Alloy Steel, Super Alloy Steel, Martensitic Stainless Steel, Duplex steel, Precipitation Hardened Steel, Aluminium Alloy, Copper Alloy.



## Value Addition

- Special Heat Treatment
- Surface Treatment
- Assembly



## Outsourcing

### Forging & Barstock:

- Machining
- Special Heat Treatment
- Surface Treatment
- Assembly



## Application

Automobile  
Earth Moving  
Valves  
Switch Gears  
Pumps  
Machine Tools

Food Processing  
Textile  
Power Plant  
Hardware Fittings  
Defense  
Surgical Implants





# Quality Control

## Measurement & Testing

### Casting

- Chemical Composition
- Mechanical Testing
- NDT
- Corrosion Test
- Microscopic Examination
- Borescope Inspection
- Surface Roughness
- Leak Test

### Certification

- IATF - 16949 : 2016
- EMS ISO - 14001 : 2015
- OH & SMS ISO - 45001 : 2018

### Machining

- CMM
- Contourecord
- Equator
- Surface Roughness

### Raw Material

- Sieve Analysis
- Radiation Measurement
- Loss on Ignition
- Wax Hardness
- Ash Content of Wax
- Drop Point
- Binder Gel Test
- % SiO<sub>2</sub> in Binder
- Chemical Analysis

### In-Process Control At

#### Wax:

- Drop melting point
- Hardness
- Ash Content

#### Shelling:

- Viscosity
- Slurry Gel Test
- Sieve Analysis
- Loss on Ignition
- MOR

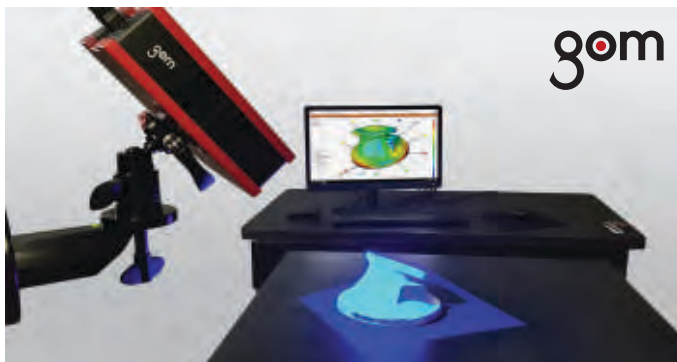
#### Melting:

- Chemical Analysis
- Gas Content (Density Index) for Al
- Temperature of Melt
- Temperature of Shell

#### Machining:

- Dimensional Inspection
- Custom Gauging & Inspection
- Surface Roughness

## Inspection



## Inspection



Inspection  
Raw Material

Inspection  
In-Process





## Shilpan Steelcast Pvt. Ltd.

an Investment Casting Unit

**UNIT - 1 :** Plot No. G-923, GIDC Lodhika, Kishan Gate, At. Metoda  
Kalawad Road, RAJKOT - 360 021. GUJARAT, INDIA

**UNIT - 2 :** Plot No. G-2143, 2144, 2145/A, GIDC Lodhika, Kishan Gate,  
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