

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

## Company

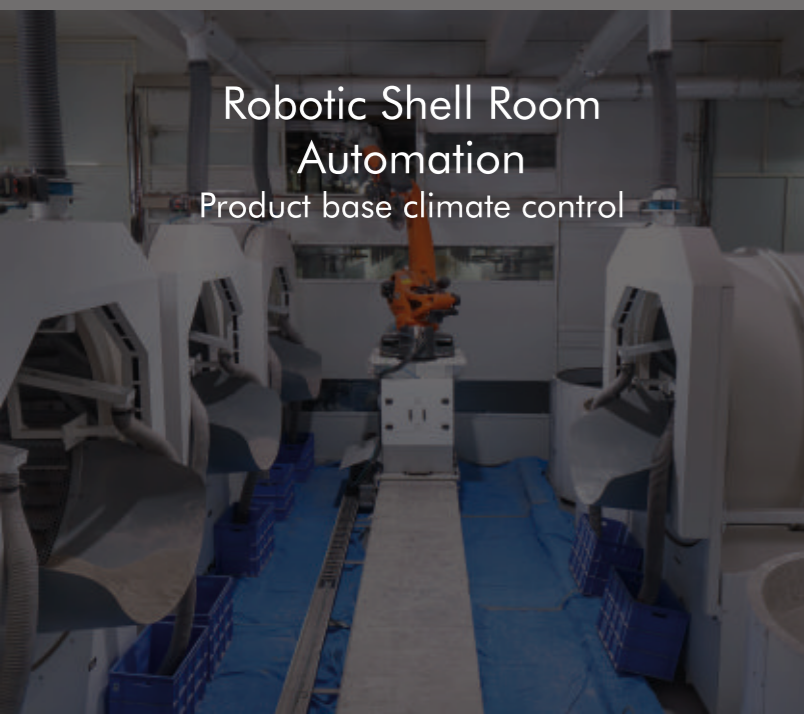


Biggest Manufacturing Facility in India  
200000 Sq. Ft. Working Area

Unit 1 | 600 Metric Ton / Annum  
Handling small volume



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



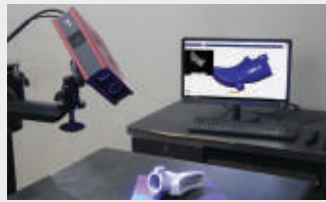
Robotic Shell Room Automation  
Product base climate control



Integration of Machine shop with Inspection system -  
Better Process Control

# Engineering & Process

## Reverse Engineering



## 3D Modeling



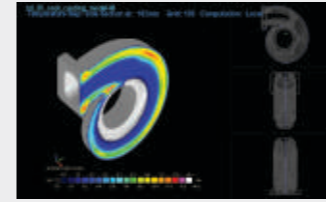
## Die Design



## Fixture Design



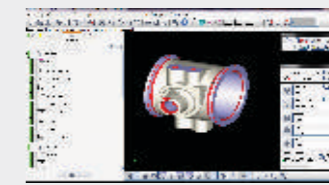
## Simulation



## SQC



## Inspection



## Management



### Tool Development

Tool established for making wax patterns.

### De-waxing

Removing wax from coated assembly

### Pouring

Filling the shells with molten metal

### Machining

CNC Turning, Milling, Grinding, Lapping, Broaching



### Wax Pattern Manufacturing

Output of wax injection from tool



### Shell Baking

Pre-Heating of shells



### Fettling

Detachment from feeders and surface finishing



### Assembly

Assembling different parts as per customer's requirement



### Pattern Assembly

Attachment of patterns with feeders



### Induction Melting

Preparation of molten metal



### Heat Treatment

Setting the homogenous structure of metal



### Pre Dispatch Inspection & Testing

Verification of product with customer's requirement



### Ceramic Coating

Application of coatings with binder & stucco



### Verification of Chemical Composition

Ensuring by Spectrometer



### Surface Treatment

For enhancement of casting surface



### Packaging & Dispatch

Packaging as per international standard



# Facilities & Process Control



# Product



## Capabilities

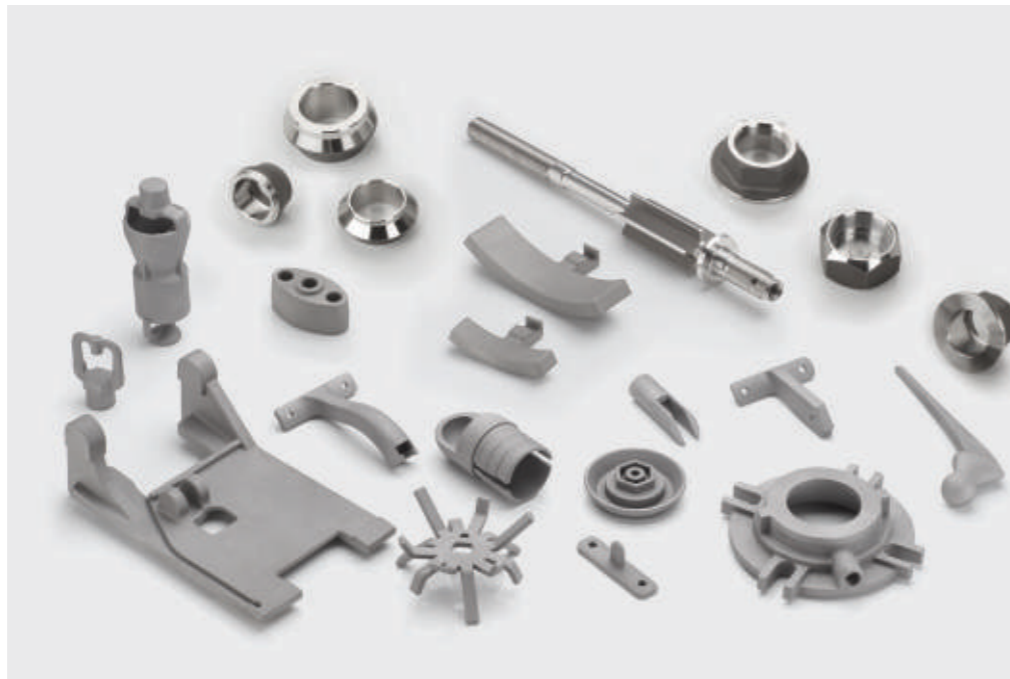
- **Weight Range**  
From 0.05kg to 90kg as a single piece
- **Size**  
450mm x 450mm x 350mm
- **Dimensional Accuracy**  
According to ISO 8062, ISO 2768, VDG P690, IS11166.

- **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

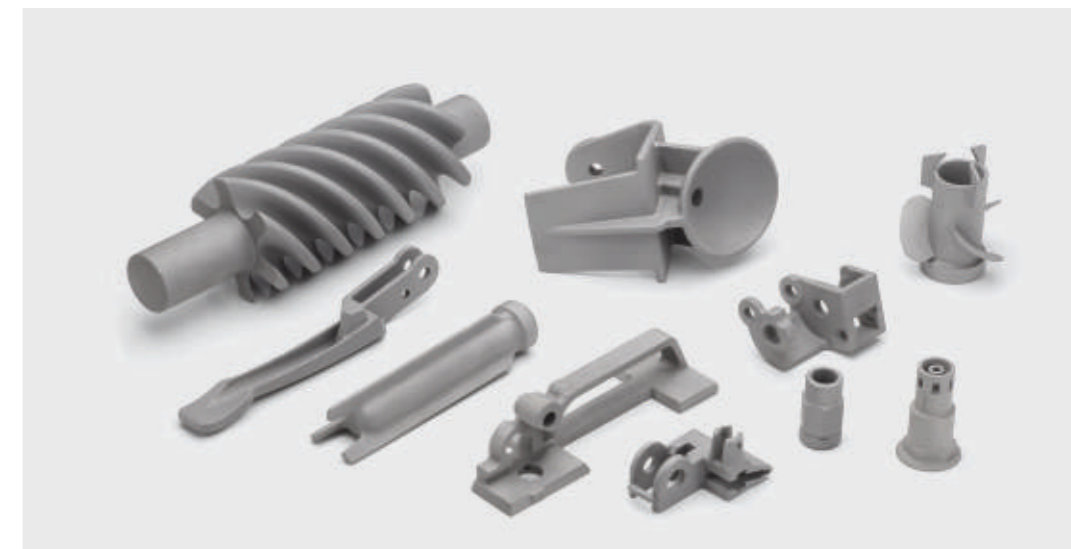
- Forging & Barstock:**
- Machining
  - Special Heat Treatment
  - Surface Treatment
  - Assembly



## 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

### Machining

- CMM
- Contourcord
- 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

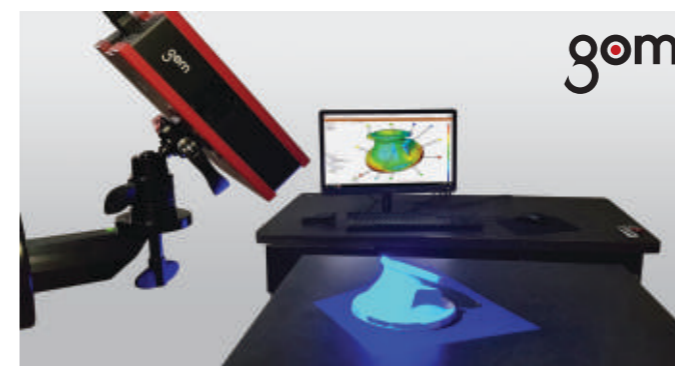
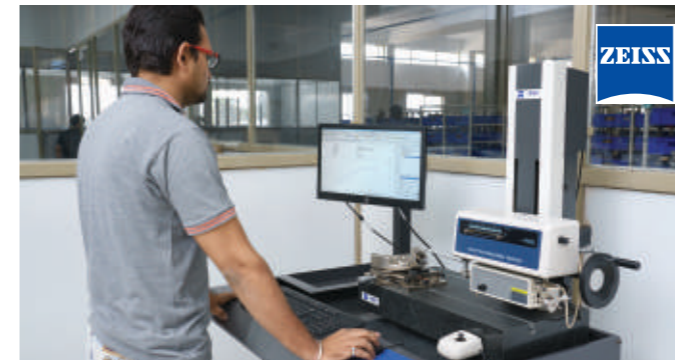
### In-Process Control At

- 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

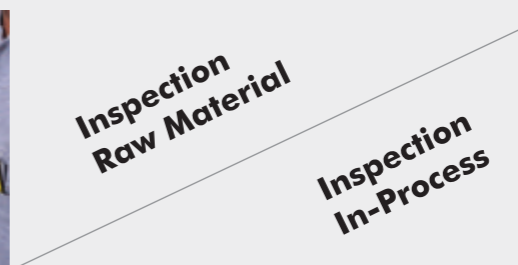
### Certification

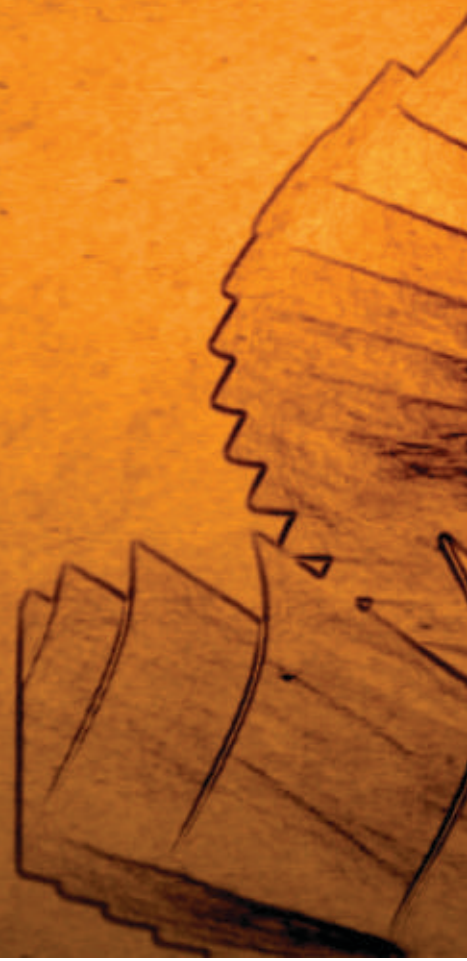
- IATF - 16949 : 2016
- EMS ISO - 14001 : 2015
- OH & SMS ISO - 45001 : 2018
- PED 2014/68/EU
- ISO 9001:2015

## Inspection



## Inspection





## 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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