

Quality

IPCL has following In-house facilities for checking Mechanical, Metallurgical and Dimensional features of castings :



NABL APPROVED FACILITIES

1. Metallurgical microscope with Image analyzer
2. Spectrometer for analysis of chemical composition
3. Hardness Testing (Rockwell, Brinell & Vickers)
4. Universal Testing Machine

NADCAP APPROVED FACILITIES

5. Magnetic Particle Testing
6. Fluorescent Penetrate Testing

OTHER IN-HOUSE FACILITIES

7. Comet L3D 5M, 3D Scanner
8. Co-ordinate Measuring Machine (CMM)
9. 450 KV X-Ray System with CR Work Station
10. Contour Measuring Machine
11. Profile Projector (Shadowgraph)
12. Pressure Testing Machine

All the above facilities are regularly calibrated as per the standards defined in the Quality Management System of the Company.



Rapid Prototyping By 3D Printer



Pattern Material :
PMMA (Polymethyl methacrylate), an acrylic plastic
Pattern Size (Max.) : 500×400×300 mm (L×W×H)
IPCL is equipped with 3D printing system for industrial applications and is specialized on Powder-Binder-Jetting of plastic creating the best foundation for a faster and more flexible production.

Special Process



Specially developed in-house process for producing large size and higher weight range items using Ceramic materials offering complex shaped castings with surface finish comparable to Investment Castings.



Coverd Area : 26372 sq. meters
Ground Area : 43331 sq. meters

About IPCL

IPCL is a pioneer in the investment casting business in India, set up in 1975 under technical collaboration with overseas companies. IPCL is today the technology leader producing very complex investment castings in a wide range of material specifications and very large piece weight.

IPCL specializes in the manufacture and supply of Ferrous & Non Ferrous Investment castings for Automotive, EGR Cooler/Emission System, Pump, Power Generation, Turbochargers, Aerospace, Defense, Medical Implants, Locomotives, Atomic Energy, General Engineering, Artisan Castings etc.

Quality Management Systems and Special Processes have been qualified according to :

- NADCAP Certification for NDT (MPI, FPI)
- EN 9100 : 2018
- ISO 9001 : 2015
- IATF 16949 : 2016
- BS OHSAS 18001:2007
- PED 2014/68/EU & AD 2000-Merkblatt W0 Certified
- NABL approved in accordance with ISO/IEC 17025:2017
- DUNS No.: 65-050-1435
- Type Approval From CEMILAC, DRDO for AEROSPACE Castings



INVESTMENT & PRECISION CASTINGS LTD

You Design, We Cast

Feinguss

Microfusion
Lostwax Castings

Investment
Castings



Production Facilities



1. Ceramic Core Manufacturing
2. Wax Injection Presses
3. Wax Pattern Assembly
4. Shelling Robots
5. Air-Melt & Roll-Over Induction Melting Furnaces
6. Heat Treatment
7. CNC Machine Shop

IPCL is capable of producing large volume, fully machined, ready-to-assemble parts by Air-Melt, Roll-Over & Vacuum Induction Melting Furnaces, in a variety of material specifications including Carbon Steel, Low Alloy Steel, High Alloy Steel, Duplex Steel, Cast Iron, Ductile Iron, Nickel Alloys, Cobalt Alloys, Aluminium Alloys etc.

Facilities include in-house CNC Machining and dedicated Machining Vendors, Induction Hardening, Surface Hardening (Sursulf), Electroplating, Electropolishing etc.

Customers benefit from our more than 45 years experience in the production of high integrity castings & continual improved resources.



INVESTMENT & PRECISION CASTINGS LTD

You Design, We Cast

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Automobile Components



Two Wheelers & Three Wheelers
 Engine : Pre-combustion chamber
 Transmission : Gear Shifter Fork, Gear Shift Guide
 Weight Range : 0.030 to 0.300 kg
 Material : Carbon Steel, Low Alloy Steel, Cast Iron



Four Wheelers
 Passenger car :
 Engine : Pre-combustion chamber, Nozzle holder clamp
 Transmission : Gear shifter finger, Gear Shifter fork,
 Gear Shifter dog, Gear Interlock Piece
 Weight Range : 0.060 to 2.000 kg
 Materials : Carbon Steel, Low Alloy Steel,
 High Alloy Steel



Buses & Trucks
 Engine : Nozzle holder clamp
 Transmission : Shifting finger,
 Shifter dog, Rocker arm
 Weight Range : 0.174 to 0.900 kg
 Materials : Carbon Steel, Low Alloy Steel



Tractors
 Engine : Nozzle holder clamp
 Transmission : Shifting finger, Shifter dog, Shifter fork
 Weight Range : 0.050 to 0.500 kg
 Materials : Carbon Steel, Low Alloy Steel



Exhaust Gas Recirculation (EGR) Coolers / Emission System
 EGR Assembly : Diffuser, Coolant connections, Gas box
 Weight Range : 0.150 to 2 kg
 Materials : Carbon Steel, High Alloy Steel



Pump Components



Parts : Impellers & Diffusers
 Weight : 0.200 to 200 kg
 Material : High Alloy Steel



Electrical & Power Plant Components

Parts : Copper Lugs, Steam Turbine Blades
 Weight Range : 1 to 10 kg
 Materials : ETP Copper, High Alloy Steel

Turbocharger Components For Diesel & Marine Engines

Parts : Radial Nozzle Rings, Axial Nozzle Rings
 Weight Range : 1.5 to 35 kg
 Materials : High Alloy Steel



General Engineering Components



Weight Range : 0.12 to 2.75 kg
 Materials : Carbon Steel, Low Alloy Steel, High Alloy Steel

Aerospace & Defence Components

■ **Vacuum Casting in Super Alloys and Heat Resistant Alloy Steels**
 For Aero Engines, Cryogenic Engines, Gas Turbines, Turbo Chargers, Military Tanks, Locomotives etc.



■ **Aluminium Castings**
 For Electronic Circuit Housings, Flight Control Apparatus, Night Vision Mountings, Air Turbine Stator etc.

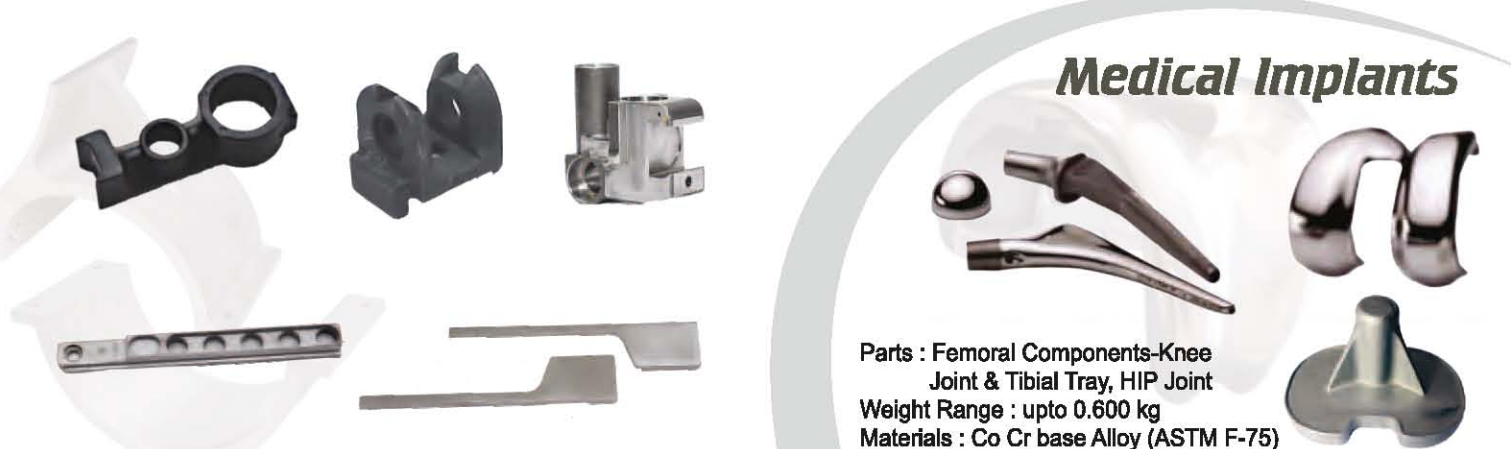


■ **Machined Steel Castings**
 For Light Machine Guns, Assault Rifles, Torpedo Launcher etc.



Medical Implants

Parts : Femoral Components-Knee
 Joint & Tibial Tray, HIP Joint
 Weight Range : upto 0.600 kg
 Materials : Co Cr base Alloy (ASTM F-75)



Production Facilities (Aerospace & Defence)

State of the Art Facilities for Aerospace & Defence with 60 Tons per Annum Capacity



■ **Vacuum Induction Melting Furnace :**
 Furnace With Twin Chamber of 50 Kg Capacity
 For Nickel Base Alloys, Cobalt Base Alloys,
 Stainless Steel (can be upgraded to 80 Kg)

Maximum Casting Size & Weight Can Be Handled :
 Height : 550 mm
 Diameter : 550 mm
 Weight : 16-18 kg
 Wall Thickness : 1-2 mm



■ **Aluminium Melting Furnace :**
 Capacity : 100 Kg.
 (part weight up to : 35-40Kg.)
 Material Specifications :
 Aluminum And Aluminum Alloys
 (LM 25, LM 16, A356, A357)



■ **Hot Isostatic Press (HIP) :**
 1450° C molybdenum furnace with
 blind plug in for ease of removal.
Working Pressure : 29000 psi (200 MPa)
Hot Zone : 300 mm x 400 mm long



■ **Drop Quench Furnace :**
 Drop Quench Furnace for
 Heat treatment of Aerospace grade
 Aluminium castings as per AMS 2750 E