



Copper Core

CIRCUITS

Centralized Sourcing Solutions for High-Quality Engineered Parts

Certified Partners: ISO 9001, AS9100, RoHS, REACH, NADCAP, IATF 16949

1. CNC Machined Parts

Capabilities:

- 3-axis, 4-axis, 5-axis CNC Milling & Turning
- Multi-axis Swiss-type Turning
- Precision Hole Drilling, Reaming, Honing, Burnishing
- Centerless, ID & OD Grinding
- Laser Cutting, Welding, Drilling
- EDM (Wire & Sinker)

Materials:

- Metals and their alloys:** Aluminium, Stainless Steel (SS), Mild Steel, Carbon Steel, Tool Steel, Steel Alloys, Titanium, Copper, Brass, Inconel, Monel, Nickel, Hastelloy, Phosphor Bronze, Duplex Alloys, PH-grade steels
- Plastics:** Nylon, Delrin (POM), Polycarbonate, Acrylic, Teflon (PTFE), HDPE, LDPE, ABS, PVC, UHMWPE

Surface Finishes & Treatments:

- Anodizing, Powder Coating, Electroless Nickel, Zinc Plating
- Laser Engraving, Black Oxide, Passivation
- Polishing (Hand/Machine), Bead Blasting, Painting

2. Die Cast Parts

Methods:

- High Pressure Die Casting (HPDC)
- Low Pressure Die Casting (LPDC)
- Gravity Die Casting (GDC)
- Investment Casting
- Sand Casting
- Centrifugal Casting
- Shell Moulding
- Vacuum Die Casting
- Squeeze Casting
- Metal Injection

Tooling & Mold Design:

- In-house mold & die manufacturing
- CAD/CAM & Mold Flow Analysis
- Precision Tooling with High-Speed Machining

Materials:

- Aluminium and its Alloys
- Magnesium and its Alloys
- Zinc and its Alloys
- Copper Alloys (Brass, Bronze)
- Steel Alloys, Stainless Steel
- Titanium, Inconel, Nickel-based alloys

Heat Treatments:

- Vacuum heat-treating and annealing
- Sealed quench heat-treating and atmosphere tempering
- Case hardening
- Ion and gas nitriding
- Various organic coatings
- Hot Isostatic Pressing (HIP)

Surface Treatments:

- Trivalent Chromium, Electroless Nickel (+PTFE), Bright Nickel
- Hot blackening, Manganese phosphate
- Passivation, Electro-polishing
- Full range of PVD coatings
- Vibratory & High-energy finishing
- Glass bead blasting, Micro-blasting, Grit blasting
- Polishing (Hand/Machine)
- Laser Engraving

Precision Machining Post-Casting:

- CNC Turning and Milling
- Fine hole drilling, Reaming, Burnishing
- Thread Rolling and Cutting
- Laser welding, Cutting and Drilling

3. Injection Molded Parts

Capabilities:

- High Volume Plastic Injection Molding
- Overmolding, Insert Molding, Two-Shot Molding
- Tooling and Mold Design
- Hot Runner and Cold Runner Systems
- Micro-Molding
- Laser Marking and Surface Treatment
- 3D Printing

Tooling:

- In-house & outsourced Class 101–105 tooling
- Rapid prototype molds
- Hardened tool steels (H13, P20, etc.)

Materials:

- ABS, ABS-PC-Alloy, Delrin (POM), HDPE, LDPE, HIPS, PE, PA4, PA6, PA66, PBT, PC, PS, PEEK, PP, Polyurethane, Acrylic, PET, PMMA
- Polypropylene (PP), Polymethyl Methacrylate (PMMA), Polyamide (PA) or Nylon, Acrylonitrile Butadiene Styrene (ABS), Low-Density Polyethylene (LDPE), Polycarbonate (PC)

Secondary Operations:

- Powder Coating, Anodizing, Silk-Screening, Pad-Printing, Painting
- Shot Blasting, Texturing

4. Printed Circuit Board (PCB)

Types:

- Single Layer, Double Layer, Multi-layer (up to 24+)
- Rigid, Flexible, Rigid-Flex
- High-Frequency RF Boards
- HDI, Blind/Buried Vias

Services:

- PCB Design and Layout
- PCB Assembly (SMT & Through-hole)
- Stencil Fabrication, Functional Testing
- BOM Sourcing

Materials:

- FR4, High-Tg FR4, Halogen-Free FR4
- Polyimide
- CEM-1, CEM-3
- PTFE (Teflon)
- Rogers, Isola, Taconic
- Ceramic Substrates (AlN, Al₂O₃)
- Aluminium Core, Copper Core
- Flexible Substrates (PET, PEN)

5. Sheet Metal Fabrication

Capabilities:

- Laser Cutting, Punching, Bending
- MIG/TIG Welding
- Riveting, Tapping, Clinching
- Powder Coating, Plating, Painting
- Shot Blasting, Deburring

Products:

- Electrical & Electronics Enclosures
- Chassis, Brackets, Panels

Materials:

- Stainless Steel (SS 304, 316)
- Mild Steel (CRCA, HRCA)
- Aluminium (1050, 5052, 6061, 7075)
- Copper, Brass
- Galvanized Iron (GI)
- Titanium
- High Strength Low Alloy Steels (HSLA)
- Spring Steels
- Zinc Coated Sheets

6. Jigs, Fixtures & Gauges

Capabilities:

- Assembly Fixtures, Inspection Fixtures
- Welding & Machining Fixtures
- Go/No-Go Gauges, Attribute Gauges
- EDM, Thread Rolling, Gear Hobbing, Shaping, Broaching, Spline Cutting, Gun Drilling

Materials:

- Tool Steel (D2, D3, H13, P20), Stainless Steel (304, 316), Mild Steel, Aluminium, Brass, Bronze, Delrin, Nylon, Bakelite, Carbide, Hardened Steels, High-Speed Steel (HSS), and Composite Materials

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