# PRECISION METAL COMPONENTS

## MIM & Powder Metallurgy Solutions

ISO 9001 / IATF 16949 / QC 080000 Certified

Serving Premium OEMs Across 30+ Countries

Established 1995 | 45,000 m² Manufacturing Facilities

2026

www.sintscn.com

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# About SINTS

Three Decades of Precision Metal Excellence

# Company Overview

Founded in 1995, Shenzhen Xintaixin Precision Technology Co., Ltd. (SINTS) has established itself as a leader in precision metal parts manufacturing. We specialize in Metal Injection Molding (MIM) and high-density Powder Metallurgy (PM/sintered) technologies, providing custom fabrication services to customers in more than thirty countries across the Americas, Europe, and Asia.

**29+**
Years Experience

**10,000+**
Zhongshan (m²)

**35,000+**
Jiangxi (m²)

**30+**
Global Partners

# Our Facilities

| | Zhongshan (1995) | Jiangxi (2017) |
|---|---|---|
| Area | 10,000 m² | 35,000 m² |
| Focus | Auto, Lock, Home Appliances | Auto PM & timing parts |
| Certs | ISO 9001, IATF 16949 | ISO 9001, IATF 16949 |

# Milestones

**2022** Aluminum MIM process; Group exceeded 500M RMB sales

**2021** Titanium MIM mass production started

**2017** Jiangxi factory operational (35,000 m²)

**2014** National High-Tech Enterprise; CSU partnership

**2013** Second supplier of HUAWEI; auto lab established

**2009** Zhongshan SINTS founded; GE qualified supplier

**1995** Company founded

**Core Strengths at a Glance:** Two factories (45,000 m² total) | 500+ employees | 20+ R&D engineers | 17 injection machines | 13+ furnaces | 1000+ product varieties | 30+ export countries

# Our Technologies

MIM & Powder Metallurgy Expertise

# Metal Injection Molding (MIM)

MIM combines the design flexibility of plastic injection molding with the strength of wrought metals. Metal powder mixed with binder is injection molded into complex shapes, then debound and sintered to 98%+ density. Ideal for small, intricate components requiring excellent mechanical properties.

## MIM vs. Conventional Methods

| Parameter | MIM | Conventional PM | CNC Machining | Investment Casting |
|---|---|---|---|---|
| Density | 98% | 88% | 100% | 98% |
| Complexity | High | Low | High | Medium |
| Min. Wall | 0.5 mm | 1 mm | 0.5 mm | 2 mm |
| Tensile Strength | High | Low | High | High |
| Surface Finish | High | Medium | High | Medium |
| Production Vol. | High | High | Low | Medium |
| Cost | Medium | Low | High | Medium |

# MIM Material Properties

SINTS offers a comprehensive range of MIM materials. The table below shows mechanical properties for our standard material grades, covering hardened steels, stainless steels, and magnetic materials.

| Material | Condition | YS (MPa) | UTS (MPa) | Elong. % | Hardness | Density |
|---|---|---|---|---|---|---|
| | | | | | | |
| HARDENED & TEMPERED STEEL | | | | | | |
| MIM 4605 (Fe2Ni) | Sintered | >=400 | >=600 | >=5 | >=150HV10 | >=7.6 |
| | Heat Treated | 1425 | 1610 | 3 | 50-60HRC | |
| MIM 4140 | Sintered | 625 | 825 | 9 | 70-110HRB | 7.6-7.8 |
| | Heat Treated | 820 | 1405 | 5 | 50-60HRC | |
| | | | | | | |
| STAINLESS STEEL | | | | | | |
| MIM SS 316L | Sintered | >=180 | >=510 | >=50 | 120HV10 | >=7.6 |
| MIM SS 316 | Sintered | 447 | 732 | 24 | 70-100HRB | 7.6-7.8 |
| MIM SS 304 | Sintered | 270 | 480 | 35 | 110-160HV1 | 7.6-7.8 |
| MIM SS 440C | Sintered | | | | 30-40HRB | 7.6-7.8 |
| | Heat Treated | 1150 | 1310 | 6 | 50-60HRC | |
| MIM SS 420/410 | Sintered | | | | 30-40HRB | 7.6-7.8 |
| | Heat Treated | 1150 | 1310 | 6 | 40-50HRC | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MIM 17-4PH | Sintered | 720 | 950 | 0.06 | 20-30HRC | >=7.6 |
| | Heat Treated | 1070 | 1160 | >=5 | 35-45HRC | |
| MIM HK 30 | Sintered | 463 | 782 | 18 | 160-250HV1 | 7.6-7.8 |
| | | | | | | |
| | | | | | | |
| MIM FeSi 3.0 | Sintered | 372 | 525 | 23 | 80HRB | 7.6-7.8 |

# Powder Metallurgy (Sintering)

Powder metallurgy uses compacting and sintering to transform metal powders into solid, high-strength components. Ideal for medium-to-high volume production of gears, structural parts, and lock components. Our lines include automatic compacting presses (6T to 800T), continuous sintering furnaces, and CNC equipment.

# Equipment Specifications

## Compacting & Molding Presses

| Type | Capacity | Quantity |
|---|---|---|
| MIM Injection | 80T (ABURG) | 12 |
| PM Compacting | 800T | 1 |
| PM Compacting | 500T | 2 |
| PM Compacting | 300T | 2 |
| PM Compacting | 100T | 6 |
| PM Compacting | 50-60T | 5 |
| PM Compacting | 25T | 2 |
| PM Compacting | 6T | 5 |

## Sintering & Post-Processing

| Equipment | Qty | Equipment | Qty |
|---|---|---|---|
| Sintering Furnace | 4 | Vacuum Sintering (MEGE) | 13 |
| Vacuum Heat Treat. | 1 | HF Heat Treatment | 4 |
| Sizing Equipment | 18 | Polishing Machine | 3 |

| Equipment | Qty | Equipment | Qty |
|---|---|---|---|
| Grinding Equipment | 6 | CNC Centers | 20 |
| Double Side Grinder | 1 | Temp/Pressure Device | 4 |

## Testing & Inspection

- CMM
- Metallographic Analyzer
- Carbon-Sulfur Analyzer
- Profile Projector
- Roughness Tester
- Universal Testing Machine
- Rockwell Hardness Tester
- Density Tester
- Salt Spray Test
- Chemical Analysis Equipment
- MT Equipment

**Key Brands:** HUIZHONG (presses), JIUTAI (furnaces), ZEISS (inspection), ABURG (injection), MEGE (vacuum sintering), PETER WOLTERS (grinding).

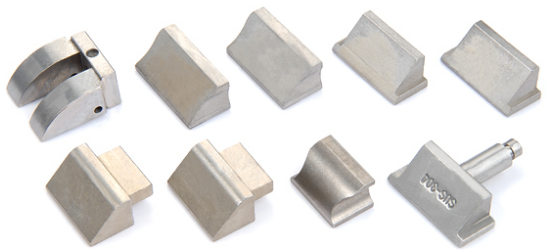
**Manufacturing Capabilities:** Annual capacity 6,000+ tons | 15+ material grades | MIM + PM processes | In-house mold design | CNC finishing | Full CMM inspection | ISO 9001 / IATF 16949 / QC 080000 certified

# Product Categories

Comprehensive MIM & Sintered Solutions

# Lock & Security Solutions

Complete lock components for smart locks, mechanical locks, and security systems. MIM and sintered processes in SS304, SS316L, SS440, 17-4PH. Precision to ±0.03mm.



Deadbolt & Latch Parts

Lock Cylinder & Mechanism


Precision Gears

Lock Hardware

- **Fingerprint Lock Fittings** — MIM, SS440/17-4PH, ±0.03mm
- **Smart Lock Mechanisms** — Complex internal assemblies
- **Door Deadbolts & Latches** — High-strength sintered or MIM
- **Lock Cylinders** — Traditional and high-security designs
- **Cam Locks & Spring Bolts** — SS316L, corrosion-resistant

**Available Materials:** SS304, SS316L, SS440, SS420, 17-4PH, Brass
**Process:** MIM (Metal Injection Molding) / Powder Metallurgy (Sintering)
**Tolerance:** ±0.03mm standard | **Surface Finish:** Ra 0.8μm

# Power Tools & Industrial Components

High-wear components for power tools, industrial machinery, and pneumatic systems.

Sintered Tool Parts

Eccentric Wheels & Gears

Industrial Parts

Precision Components

- **Power Tool Gears** — Spur, helical, bevel for drills, saws, grinders
- **PM Structural Parts** — Load-bearing, tight tolerances
- **Pneumatic Cylinder Parts** — Guide rods, cylinders for automation
- **Metal Bushings** — Self-lubricating, rotating/sliding shafts
- **Metal Block Sintered** — Near-net-shape, minimal finishing

**Available Materials:** Iron-based alloys, SS304, SS316L, Custom blends, Bronze
**Process:** MIM (Metal Injection Molding) / Powder Metallurgy (Sintering)
**Tolerance:** ±0.03mm standard | **Surface Finish:** Ra 0.8µm

# Medical & Precision Electronics

Surgical-grade components and miniature precision parts for medical devices, smartphones, headphones, and cameras.

Precision Components


Consumer Electronics Parts

Electronic Assemblies

Precision Mechanisms

- **Surgical Instruments** — Knife handles, forceps, tweezers
- **Medical Device Parts** — Syringe components, surgical assemblies
- **Phone & Camera Parts** — Frames, bezels, lens caps
- **Headphone & Wearable** — Hinges, cases, connectors
- **Gaming Accessories** — Buttons, pins, precise MIM parts

**Available Materials:** SS316L, 17-4PH, Titanium alloy, SS304, Custom alloys
**Process:** MIM (Metal Injection Molding) / Powder Metallurgy (Sintering)
**Tolerance:** ±0.03mm standard | **Surface Finish:** Ra 0.8μm

# Gears & Transmission Parts

High-volume cost-effective gears via powder metallurgy. Bevel, spider, helical, and spur gears for automotive, agricultural, and industrial applications.

Precision Sintered Gears


Stainless Steel Gears


Transmission Gears Set

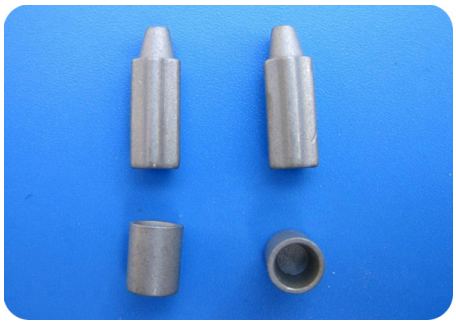

Precision Gear Parts

- **Bevel Gears** — 90° intersecting shafts, custom profiles
- **Spider Gears** — Differential systems, automotive grade
- **Helical Gears** — Quiet transmission, angled tooth
- **Spur Gears & Pinions** — Straight tooth, high torque
- **Agricultural Gears** — Heavy-duty farming equipment

**Available Materials:** Iron-based alloys, SS304, SS316L, 17-4PH, Custom PM blends
**Process:** MIM (Metal Injection Molding) / Powder Metallurgy (Sintering)
**Tolerance:** ±0.03mm standard | **Surface Finish:** Ra 0.8µm

# Household & Lifestyle Products

Durable components for kitchen appliances, coffee machines, beauty instruments, sewing machines, and bathroom fittings.



Appliance Parts


Lifestyle & Beauty Parts

Thermostat Parts


Shaver Components

- **Coffee Machine Parts** — Portafilter handles, flat burrs, SS
- **Sewing Machine Parts** — Industrial precision mechanical parts
- **Beauty Instruments** — Clipper blades, trimmer, MIM precision
- **Kitchen & Bathroom** — Food-grade SS, corrosion-resistant
- **Shaver Blades** — MIM cutting blades, precision ground

**Available Materials:** SS304, SS316L, 17-4PH, Food-grade SS, Custom alloys
**Process:** MIM (Metal Injection Molding) / Powder Metallurgy (Sintering)
**Tolerance:** ±0.03mm standard | **Surface Finish:** Ra 0.8μm

# Custom MIM & Specialty Parts

Specialized MIM products including titanium and tungsten components, fishing tackle, pet products, security parts, and custom OEM components.


Fishing & Outdoor

Thermostat & OEM Parts


Luggage & Hardware


Custom MIM Components

- **Titanium Parts** — Lightweight, biocompatible, aerospace
- **Tungsten Parts** — High-density, shielding, weights
- **Fishing Tackle** — Corrosion-resistant reel components
- **Pet Products** — SS leashes, chains, accessories
- **OEM Custom Parts** — Any material, any geometry

**Available Materials:** Titanium, Tungsten, SS316L, SS304, 17-4PH, Custom MIM blends
**Process:** MIM (Metal Injection Molding) / Powder Metallurgy (Sintering)
**Tolerance:** ±0.03mm standard | **Surface Finish:** Ra 0.8μm

# Why Choose SINTS

Your Partner in Precision Metal Manufacturing

## Factory-Direct Pricing

As a manufacturer, we eliminate middleman markups. Integrated production from mold design to mass production ensures competitive pricing without compromising quality.

## High Precision & Strength

MIM achieves 98%+ density with tolerances from ±0.03mm. Mechanical properties comparable to wrought materials. Ideal for complex geometries and high-stress applications.

## Scalable Capacity

45,000 m² across two factories with 17 injection machines, 16+ furnaces. Monthly capacity of millions of units to support global supply chains.

## Engineering & R&D;

20+ engineers, in-house design lab, partnership with Central South University Powder Metallurgy Institute. Support from concept through mass production.

## Certified Quality

ISO 9001, IATF 16949, QC 080000. Full inspection suite: CMM, metallographic, carbon-sulfur, salt spray, universal testing.

## Global Logistics

Export to 30+ countries. Air, sea, DHL, FedEx. Buffer stock capabilities for European and American assembly lines.

# Our Customers

Trusted by Global Industry Leaders

# Industries We Serve

- **Automotive:** Gears, engine components, VVT, chain system, exhaust parts
- **Lock & Security:** Smart locks, deadbolts, cylinders, cam locks
- **Medical Devices:** Surgical instruments, forceps, scalpel handles
- **Consumer Electronics:** Phones, headsets, cameras, gaming
- **Home Appliances:** Coffee machines, sewing, kitchenware, bathroom
- **Power Tools:** Gears, eccentric wheels, structural parts
- **Agriculture:** Heavy-duty gears and mechanical components

# Notable Partnerships

SINTS is proud to be a qualified supplier to global industry leaders including GE (since 2009) and HUAWEI (since 2013). We have formed long-term cooperative relationships with customers across 30+ countries, continuously earning their trust through consistent quality and reliable delivery.

# Looking Forward

Continuous Innovation, Reliable Partnership

*"Looking back on the memorable years, we grow together with you. Looking forward to the path of development, we are full of confidence."*

# Our Commitment

**To Quality:** Every component is inspected to meet or exceed specifications. Consistency from prototype to production.

**To Innovation:** Continuously researching new materials and processes - aluminum MIM, titanium MIM, advanced sintered alloys.

**To Partnership:** Our engineering team works alongside yours from concept to production, ensuring your success is our success.

## Development Philosophy

"In the competition for development and survival in the development." We continue to invest in research, expand capabilities, and deepen global partnerships.

# Get In Touch

Let's Start Your Next Project

# Free Samples Available

If you are interested in exploring what SINTS can do for you, we have free samples ready to be shipped to your office for physical evaluation. Experience our precision and quality firsthand — no obligation, just confidence in what we build.

# Technical Evaluation

If you have any 2D/3D engineering drawings available for a current project, our engineering department can provide a full technical evaluation and a tentative quote within 48 hours. We work directly from your CAD files (STEP/IGS) and will review your design for MIM/PM manufacturability, material selection, and cost optimization.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*Shenzhen Xintaixin Precision Technology Co., Ltd.*

*Endeavour Hard, Never Stop. — SINTS*