Our processing capabilities

Tolerances per **ISO 2768**,Surface finish indication per **ISO 1302**

1、Production Equipment

Device name	Quantity (units)	Production place	Brand	Mach. Tool (mm)
5-axis machining center	2	Japan	Mazak	0.01
Turn-milling compound	4	Japan	Mazak	0.005
CNC lathe	4	Japan	Mazak	0.002
Wire-cut EDM	4	Japan	Sodick	0.005
3-axis machining center	50	Taiwan	Baofeng	0.005
High speed machining center	2	Taiwan	JIATIE	0.002
Large Surface Grinder	3	Taiwan	KENT	0.005
Small grinding machine	6	Taiwan	YUTON	0.002
Swiss-type lathes	5	Japan	Citizen	0.003
EDM	2	Japan	Sodick	0.02
Gear hobbing machine	2	Taiwan	Dahlih	0.01
Sand blasting machine	4	Shenzhen		
3D printer	9	China	UnionTech	0.05

2、Detecting instrument

Device name	Quantity (units)	Production place	Brand	Mach. Tool (mm)
CMM	5	China	HEXAGON、Serein	0.003
VMM	1	China	WanHao	0.003
Altimeter	2	Switzerland	TESA	0.002
3D Video Microscope	1	China	WanHao	0.001
Height Gauge	2	Japan	Nikon	0.001
FTM	1	China	-	
Salt Spray Testing Machine	1	China	-	
Sclerometer	1	China	-	
Micrometer	1	China	-	

3、Surface finishing

Process name	Applicable materials	Color/Specification	Can Be Applied with
As machined	Aluminum, Steel, Stainless Steel	Ra 0.8μm - Ra 3.2μm	All post processes
Anodizing	Aluminum	Clear, black, grey, red, blue, gold	Bead blasted, Tumbling, Chem film*
Bead blasted	Aluminum, Copper, Mild steel, Titanium, Brass, Alloy steel, Stainless steel, Tool steel	#16 #20 #30 #40 #60 #80 #120 #150	All post processes, except Electropolish and Powder Coat
Black Oxide	Aluminum		Bead blasted, Tumbling, Chem film*
Electroless Nickel Plating	Aluminum, Steel, Stainless Steel		Bead blasted, Tumbling
Electropolishing	Steel, Stainless Steel		—
Passivation	Steel, Stainless Steel		Black Oxide, Electroless Nickel Plating, Zinc Plating, Tumbling, Bead blasted
Tumbling	Aluminum, Steel, Stainless Steel, Brass, Bronze, Copper		All post processes, except Electropolish and Powder Coat Enhanced Cosmetic Appearance, Near Optically Clear Applications
Zinc Plating	Steel, Stainless Steel	Blue-white zinc, color zinc, yellow zinc Black zinc, white zinc	Bead blasted, Tumbling, Passivation
Chrome Plating	Stainless Steel, Nickel Alloy, Aluminum Alloy, Copper Alloy	Chromium, black chromium, pearl chromium	—
Brushed	Stainless Steel, Aluminum Alloy, Copper Alloy, Nickel Alloy	Draw 6.5-8mm wire to 2.0-4.0mm. Draw 16-18mm wire to 8.0-12.0mm. Draw 100-120mm wire to 20-30mm.	
Nano coating	For applicable material processing, please refer to the catalog.	Full Coating or RAL color catalog	

4-1、Metal materials

Copper Series	Common grades
Red copper	T1、T2、T3、T4、TU0、TU1、TU2、TP1、TP2
Tungsten copper	CuW50、CuW55、CuW60、CuW65、CuW70、CuW75、CuW80
Brass	H60、H62、H63、H65、H68、H68A、H70、H80、H85、H90、H96、HPb59-1、HPb63-3、HPb66-0.5
Lead brass	B5、B10、B15、B19、B25、B30、BFe5-1、BFe10-1-1、BFe30-1-1、BZn15-20、BZn18-18、BZn18-26
Bronze	C5191、C52100、C63000、B19、B25、BF0-1-1、BZn15-20、BA13-3
Chrome copper	QCr0.5、QCr1.0、QCr0.6-0.4、QCr1.5、QCr0.8-0.2、QCr0.4-0.2
Beryllium copper	QBe2.0、QBe1.9、QBe1.7、QBe0.6、QBe0.4、QBe0.3
Aluminum Alloy Series	**Common grades**
1 series	1050、1060、1070、1080、1100

2 series	2011、2014、2017、2024
3 series	3003、3004、3104
4 series	4032、4043、4047
5 series	5005、5052、5056、5082、5083、5086、5154、5182、5254、5454、5652
6 series	6060、6061、6063、6082
7 series	7050、7075
8 series	8011、8079、8176
Tool Steel Category	**Common grades**
Carbon tool steel	T8, T10, T12
Alloy tool steel	Cr12, Cr12MoV, D2, SKD11, DC53
High speed tool steel	W18Cr4V, W6Mo5Cr4V2, M2, M42
Powder high-speed steel	ASP series, PM series
Mild steel	S235JR、S275JR、S355JR
Stainless Steel Series	**Common grades**
Austenitic stainless steel	301、302、303、304、304L、309、309S、310S、316、316L、321、347
Ferritic stainless steel	405、409、430、434、436、442、446
Martensitic stainless steel	408、410、414、416、420、431、440
Duplex Stainless Steel	2205、2304、2507
Precipitation hardening stainless steel	630、631
Titanium alloy series	**Common grades**
TA series	TA1、TA2、TA3、TA4、TA5、TA7、TA9、TA10
TC series	TC1、TC2、TC3、TC4 (Ti-6Al-4V)、TC6、TC9、TC10、TC11
TB series	TB5
Other series	Ti-5Al-2.5Sn (TA7)、Ti-6Al-2Sn-4Zr-2Mo
Other alloys series	**Common grades**
Magnesium alloy	AZ31B, AZ91D, ZK61M, AZ31S, AZ31T, AZ40M, AZ41M, AZ61A, AZ61M, AZ61S, AZ62M, AZ63B, AZ80A, AZ80M, AZ80S, AM60B, AM50A, M1C, M2M, M2S, ZK60, ZK61S, ME20M, WE43, WE54, WE94
Nickel alloy	Inconel 600, Inconel 690, Inconel 718, Inconel 601, Inconel 625, Hastelloy B, Hastelloy C-276, Hastelloy G30, Incoloy 800, Incoloy 825, Monel 400, Monel K-500,Invar 36
Zinc alloy	ZA8、ZA12、ZA27、AG40A、AG40B
Mold steel category	**Common grades**
Cold working die steel	Cr12, Cr12MoV, DC53, SKD11, SKH-9, ASP-23
Hot working die steel	H13, 8407, FDAC, 2343, 2344
Plastic mold steel	P20 (2311), 718 (2738), NAK80, S136, 2316
Other mold steel	M390, SKD61, 45#

4-2、Plastic material type: thermoplastic

Material name	Color	Main features and applications
PEEK /Polyetheretherketone	Black, Natural/Beige	Excellent high temperature resistance, chemical corrosion resistance and mechanical properties, used for high-end mechanical parts, nuclear engineering components, aviation components, etc.
PTFE (Tefion)	White	Excellent chemical resistance and low friction coefficient, used for non-stick pan coatings, seals, water pipe linings, etc.
POM/Delrin/Acetal	White, Black	High hardness and wear resistance, similar mechanical properties to metal, used for gears, bearings, pipeline components, etc.
PEI /Polyetherimide	Amber/Natural	It possesses characteristics such as high strength, heat resistance, chemical corrosion resistance, and excellent electrical insulation, and is widely used in aerospace, automotive, electronic and electrical, and medical fields as a manufacturing material for structural components, connectors, and other high-performance parts.
PPS		High temperature resistance, corrosion resistance, and superior mechanical properties, used for manufacturing heat-resistant parts, insulation parts, and chemical instruments.
ABS /Acrylonitrile Butadiene Styrene	Off-White/Natural, Black	Good toughness, chemical corrosion resistance, and electrical performance, easy to process and paint， Widely used in fields such as machinery, automobiles, electronics, and electrical appliances.
Nylon/PA/Polyamide	White, Natural/Beige	High mechanical strength, good toughness, wear resistance, fatigue resistance, and good self-lubricating performance, commonly used in mechanical components, automotive parts, electronic and electrical casings, etc.
PAI	Amber/Natural	It possesses excellent heat resistance and high strength, and is commonly used in electronic and semiconductor structural components.
PI/Polyimide	Amber/Brown	The materials have excellent high temperature stability and are commonly used in aerospace, electronics and electrical, automobile manufacturing, and medical devices.
PP/Polypropylene	Natural/Translucent	Excellent chemical corrosion resistance and electrical performance, lightweight and high strength, commonly used in containers, pipelines, toy components, etc.
PMMA/Acrylic	Clear, White, Black (and many others)	High transparency, weather resistance, and ease of processing, used for advertising light boxes, display stands, eyeglass lenses, etc.
PC /Polycarbonate	Clear, White, Black	High transparency, impact resistance, and heat resistance, used for CD/DVD discs, eyeglass lenses, car headlight covers, bulletproof glass, etc.
PVC /Polyvinyl Chloride	White, Grey	Good insulation, chemical resistance and low cost, used in building materials、Wire and cable, packaging film, etc.
PE /Polyethylene	Natural/White	Good flexibility and chemical corrosion resistance, used for plastic bags, pipes, containers, etc.
PU /Polyurethane	Natural/Yellowish, Black	It has excellent wear resistance, high tensile strength, tear resistance and load bearing capacity, and has good biocompatibility. It is used in many fields such as industry, construction, automobile, medical, footwear, furniture, etc.
PSU /Polysulfone	Amber/Natural	It possesses extremely high heat resistance and chemical corrosion resistance, and is used in the medical industry, aviation, automotive industry, and other sectors.
PPSU	Amber/Natural	Due to its excellent heat resistance, chemical resistance and mechanical properties, PPSU is widely used in medical equipment (such as surgical instruments, infusion sets, blood filters, etc.), baby products (such as bottles, pacifiers, etc.), aerospace (such as aircraft seats, interior parts, etc.) and household appliances (such as high-temperature steam sterilizers, microwave oven accessories, etc.)
PET /Polyethylene Terephthalate	Clear, White	The material is used in aerospace, electronics, and other industries due to its light weight, high strength, and corrosion resistance. Electrical appliances, automobile manufacturing, medical equipment, etc.
igus iglidur	Green (most common series), Blue, Grey, etc.	The materials from igus primarily refer to the high-performance engineering plastics they produce, which are widely utilized in various machinery and equipment, especially in situations requiring wear resistance, self-lubrication, maintenance-free operation, and long service life characteristics.

Special Material Type: Non-Metallic Mineral

Material name	Common grades
Graphite	**Natural Graphite:** Including pure graphite (such as T100, T150, T200), diffused graphite (such as T100F, T150F), shaped graphite (such as T100S, T150S), rhombic graphite (such as L150, L200), flake graphite (such as FC200, FC250), and microcrystalline graphite (such as G300, G400). **Artificial Graphite:** Including carbonized graphite (such as Y1, Y2), graphene (such as G0601, G0602), graphite fibers (such as J1, J2), and graphite powder (such as N1, N2).
Ceramic	**Alumina (Al_2O_3):** 96/97 Alumina, 99.5 Alumina **Zirconia (ZrO_2):** Y-TZP (e.g., TZ-3Y), Mg-PSZ **Silicon Nitride (Si_3N_4):** Reaction Bonded, Sintered (HIP/Gas Pressure) **Silicon Carbide (SiC):** Reaction Bonded (SiSiC), Sintered **Aluminum Nitride (AlN):** High Thermal Grade **Others:** Glass Ceramic (e.g., MACOR), ZTA Composites

International Phone

Tel: +86 153 6186 5405

Email: sales@sunnyhowe.com

Address: Building 1, Nanjiang Industrial Park, No.1 Huafan Road, Dalang Street, Longhua District, Shenzhen, China. 518100