

Metal Material Cross Reference Guide

Compiled by: Dongguan Innoway Precision Technology Co., Ltd. | Last Updated: June 2026

Material Category	Material Specific Name	China (GB)	Europe (EN)	Japan (JIS)	USA (ASTM/AISI)	Typical Stamping Applications & Process Characteristics	Engineer's Expert Comments
Aluminum & Alloys	Commercially Pure Aluminum	1050 / 1060	EN AW-1050A	A1050	AA1050	Pure aluminum stamping parts, deep drawing parts, heat sinks, nameplates. Excellent electrical and thermal conductivity.	Superb stamping performance and high plasticity, but low strength. Not suitable for structural parts. Pay attention to tool lubrication during deep drawing to prevent galling.
Aluminum & Alloys	Al-Mg Anti-Rust Aluminum	5052	EN AW-5052	A5052	AA5052	Chassis enclosures, automotive sheet metal, complex bending parts. High fatigue strength and excellent corrosion resistance.	The most common Al-Mg alloy in sheet metal stamping. Moderate strength, excellent bending (mind rolling direction), and good deep drawing performance.
Aluminum & Alloys	Duralumin / Hard Aluminum Alloy	6061	EN AW-6061	A6061	AA6061	Internal structural components, smartphone mid-frames, stamping parts requiring heavy post-machining.	High hardness in T6 temper makes it prone to cracking during stamping. Usually stamped in O or T4 temper, followed by heat treatment. High tool wear.
Copper & Alloys	High-Purity T2 Pure Copper / Pure Copper	T2	CW004A	C1100	C11000	EV battery busbars/flexible connectors, copper bars, high-grade transformer coils, heat sinks, precision electrical terminals. Features unparalleled conductivity.	Commonly known as Pure Red Copper. With copper content >99.90%, it has an extremely soft texture and phenomenal cold stamping plasticity, easily handling complex bends or extreme drawing. But Pure copper is gummy; blanking clearance must be tightly managed to prevent severe edge burrs and tool sticking. Antistick stamping oil is mandatory. Low structural strength makes finished parts highly fragile during transit; handle with extreme care.
Copper & Alloys	High-Precision Cartridge Brass	H68 / H70	CW509L	C2600	C26000	High-precision complex deep drawing components, radiator shells, bellows, cartridge cases.	Commonly known as 'Cartridge Brass'. Outstanding plasticity, highly ideal for extreme deep drawing without premature fracturing.
Copper & Alloys	Precision Phosphor Bronze	QSn6.5-0.1	CW452K	C5191	C51900	High-performance precision micro-motor springs, switch contacts, connector terminals, wear-resistant hardware.	The most widely used phosphor bronze in sheet metal industries (commonly C5191). Higher elasticity and wear resistance than brass. Mind minimum bend radius to avoid cracking; significant springback.
Copper & Alloys	High-Grade High-Elasticity Phosphor Bronze	QSn8-0.3	CW453K	C5210	C52100	High-strength high-elasticity precision electronic connectors, relay springs, ultra-long life switch elements.	High-grade phosphor bronze with higher tin content. Elastic limit and fatigue resistance surpass C5191. Tailored for extreme spring components. Requires high wear-resistant dies.
Copper & Alloys	Standard Nickel Silver	BZn15-20	CW403J	C7521	C75200	Smartphone and electronic device shielding cans, high-end eyewear parts, precision transistor cases, medical device springs.	The workhorse of Nickel Silver (Copper-Nickel-Zinc alloy), commonly known as C7521. Boasts a beautiful silver-white appearance and inherent oxidation resistance. Excellent formability and exceptional solderability; post-stamping plating is typically unneeded. Moderate springback; prevent tool scratches on its delicate aesthetic surface.
Copper & Alloys	High-Elasticity Precision Nickel Silver	BZn18-18	CW409J	C7701	C77000	High-elasticity LCD shielding enclosures, high-precision relay springs, micro-motor brush leaves, telecommunication terminals.	High-elasticity Nickel Silver, commonly known as C7701. Elevated nickel and zinc contents increase hardness and elastic limit substantially, yielding supreme fatigue resistance. High stamping force and intense springback; demands ultra-precise progressive layout. Mind inner corner fractures during bending.
Copper & Alloys	High-Hardness High-Elasticity Beryllium Copper	QBe2.0	CW101C	C17200	C1720	High-performance micro-motor springs, ultra-long life precision electronic connectors, switch contacts.	Beryllium copper is the king of hardness among copper alloys. Stamped in annealed or 1/4 hard states, then age-hardened. Note environmental hazards due to beryllium toxicity.
Steels	Commercial Grade Cold-Rolled Steel Sheet	SPCC	DC01	SPCC	ASTM A1008 CS	General computer chassis, appliance enclosures, covers. Good for simple bending and light forming.	The most universal cold-rolled carbon steel sheet. Cost-effective with good formability, but highly susceptible to rust. Immediate surface treatment (coating/plating) required.
Steels	Drawing Grade Cold-Rolled Steel Sheet	SPCD	DC03	SPCD	ASTM A1008 DS	Medium difficulty deep drawing parts, automotive inner brackets, drawn boxes.	Drawing-grade cold-rolled steel. Higher elongation than SPCC. Superior drawability, lower risk of wrinkling and tearing.
Steels	Deep Drawing Grade Cold-Rolled Steel Sheet	SPCE	DC04	SPCE	ASTM A1008 DDS	Deep drawn components, complex automotive body parts, critical high-depth cavities.	Deep-drawing grade steel with excellent resistance to strain aging. Wide stamping process window, forging on complex tooling designs.
Steels	Electro-Tinplated Thin Steel Sheet / Tinplate	SPTE	TH415 / TH520 / TH550 etc.	SPTE (e.g., T-2/T-3/DR-8)	SPTE (ASTM A623)	Electronic shielding cages, high-grade tin boxes, battery cases, various drawn cans, tea canisters.	Electro-tinplated thin steel sheet (Tinplate). Fuses the structural strength of steel with the rust resistance, solderability, and visual luster of tin. Superb ductility makes it excellent for deep drawing. Engineer's tip: Protect the soft tin surface from die scores to avert corrosion; edge exposure leaves steel vulnerable.
Steels	Electro-Galvanized Cold-Rolled Steel Sheet	SECC	DC01+ZE	SECC	ASTM A591	Computer cases, telecommunication enclosures, internal brackets where post-painting is skipped.	Electro-galvanized steel. Retains SPCC formability with added corrosion resistance. Cut edges lose zinc coating and are prone to rust; plan edge protection.
Steels	Hot-Dip Galvanized Cold-Rolled Steel Sheet	SGCC	DX51D+Z	SGCC	ASTM A653 CS	Outdoor AC unit cabinets, roofing sheet metal, electrical distribution boxes, building hardware.	Hot-dip galvanized steel. Superior anti-corrosion compared to SECC. Thick zinc layer might flake off during severe stamping, contaminating dies. Specialized stamping oil needed.
Spring Steels & High Carbon	Mn-Based Spring Steel	65Mn	65Mn	SUP6	A682 (1065)	Clutch plates, general-purpose stamping spring washers, snap rings, clips, fasteners.	The most common high-carbon spring steel in Chinese stamping shops. Manganese improves hardenability. Usually stamped annealed and then bulk quenched & tempered.
Spring Steels & High Carbon	High-Carbon Tool Steel / Spring Steel	T8 / T10	C80U / C105U	SK85 (SK7) / SK105 (SK5)	1084 / 1095	High-hardness blades, precision flat springs, wear-resistant washers, scrapers, electronic component clips.	Japanese SK7 (now SK85) and SK5 are legendary in stamping shops. Clean blanked edges under annealed state but high brittleness. High risk of cracking during bending; heat treatment required post-forming.
Stainless Steels	High-Elasticity Austenitic Stainless Steel	06Cr17Ni7	1.4310	SUS301	AISI 301	High-elasticity stainless spring clips, precision drawn parts, EMI shielding covers, high-strength fasteners.	A frequent choice for high-strength stampings. Severe work-hardening tendency; delivers ultra-high springiness via cold rolling (1/4H, 1/2H, H). High stamping force and severe springback require precise tool compensation.
Stainless Steels	General-Purpose Austenitic Stainless Steel	06Cr19Ni10	1.4301	SUS304	AISI 304	Kitchenware, sanitary fittings, automotive trim, appliance panels, deep-drawn intricate shells.	The most universally applied austenitic stainless steel. Extraordinary deep-drawing performance. Prone to die galling/scoring; heavy-duty extreme pressure (EP) stamping lubricant is critical.
Stainless Steels	Corrosion-Resistant Austenitic Stainless Steel	06Cr17Ni12Mo2	1.4401	SUS316	AISI 316	Chemical piping hardware, medical stamping devices, marine sheet metal components, high-grade food machinery.	Molybdenum (Mo) enrichment provides paramount corrosion and pitting resistance. Work hardens slightly faster than 304. Premium material cost; tooling wear and lubrication demands parallel SUS304.
Stainless Steels	Magnetic Ferritic Stainless Steel	10Cr17	1.4016	SUS430	AISI 430	Washing machine drums, range hood panels, automotive trims, tableware, lower-tier corrosion-resistant parts.	Ferritic stainless steel, magnetic. Cost-effective due to lack of Nickel. Lower ductility than 304; prone to earing during deep drawing and cracking during tight bends.

Notes:

1. Provided that your product's core mechanical strength, elasticity, and corrosion resistance requirements are met, we strongly recommend prioritizing cost-effective standard materials.

2. Although the global designations in this guide serve as standard equivalents, localized material availability and Minimum Order Quantities (MOQs) vary by market. We highly welcome your engineering team to consult with us during the initial NPI phase. We will proactively verify the local supply chain status to eliminate any long-lead-time material risks for you.