"Revolutionizing Industries: The Strength and Versatility of 1060 Aluminum Coil from China's Leading Manufacturer"

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Introduction

1060 Aluminum Coil China Manufacture is a cornerstone of today's global aluminum supply chain. The 1060 alloy, defined by a minimum purity of 99.6 % aluminum, is prized for its excellent formability, high thermal conductivity, and superior corrosion resistance. When these properties are combined with the cost■effective, high■capacity manufacturing capabilities found in Chinese plants, the result is a product that meets the rigorous demands of industries ranging from chemical processing to electrical engineering.

In this comprehensive guide we explore every facet of sourcing 1060 aluminum coil from China: from alloy chemistry and production methods to market trends, pricing dynamics, and sustainability considerations. We also shine a spotlight on **Huawei Aluminum**, a leading Chinese manufacturer that has built a reputation for quality, reliability, and customer■centric service. By the end of the article you will have a clear roadmap for evaluating suppliers, negotiating contracts, and ensuring that the coil you purchase delivers optimal performance for your specific application.

Understanding 1060 Aluminum Alloy

Chemical Composition and Properties

The 1060 alloy belongs to the commercially pure aluminum series (1xxx). Its typical chemical makeup is:

Element	Content (wt %)
Al	99.60 % – 99.70 %
Fe	≤ 0.25 %
Si	≤ 0.20 %

Cu	≤ 0.02 %
Mn	≤ 0.03 %
Mg	≤ 0.03 %
Zn	≤ 0.03 %
Others	≤ 0.03 %

The low impurity levels give 1060 its hallmark “soft” character, meaning the material can be easily bent, drawn, or stamped without cracking.

Mechanical Characteristics

Mechanical properties vary with temper (O, H12, H14, H16, H18). The most common tempers for coil are:

Temper	Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (%)
O	55–80	20–30	25–30
H12	75–100	55–75	12–18
H14	95–120	80–100	8–12
H16	110–130	95–115	5–8
H18	≥ 130	≥ 110	3–5

These values are typical for cold■rolled strip with thickness ranging from 0.2 mm to 3 mm.

Typical Applications

1060 aluminum coil is used across a spectrum of industries because of its combination of formability and corrosion resistance:

- **Heat■exchanger fins** – high thermal conductivity (≈ 220 W/m·K) ensures efficient heat transfer.
- **Chemical storage tanks** – resistance to many acids and alkalis.
- **Electrical conductors** – low electrical resistivity (≈ 2.82 × 10■■ Ω·m) makes it ideal for busbars, transformer windings, and cable shielding.
- **Architectural trim and lighting** – bright, reflective surface after anodizing.
- **Cooking utensils** – non■toxic, easy to clean, and capable of withstanding repeated thermal cycling.

Manufacturing Process in China

Raw Material Sourcing

Chinese manufacturers typically source primary aluminum from large smelters in Shandong, Xinjiang, and Inner Mongolia. The raw material arrives as ingots or sow blocks with a purity of 99.7 % or higher, which meets the 1060 specification without additional refining.

Melting and Casting

1. **Charging** – Ingots are fed into a reverberatory furnace together with recycled process scrap (up to 15 % of the charge).
2. **Degassing** – Nitrogen or argon is bubbled through the melt to remove hydrogen and alkali metals, reducing porosity.
3. **Filtration** – Ceramic foam filters (typically 30 ppi) trap non■metallic inclusions.
4. **Direct Chill (DC) Casting** – The molten metal is poured into a water■cooled mold, producing a 6■ to 12■ton slab (≈ 600 mm wide, 150 mm thick).

The DC process yields a fine■grained microstructure that is essential for subsequent rolling.

Hot Rolling

The slab is reheated to 480■520 °C and passed through a roughing mill, reducing thickness to around 6■10 mm in a single pass. A finishing hot■rolling line then reduces the strip to 2■4 mm, coiling it into “hot■rolled coil” (HRC).

Cold Rolling and Finishing

- **Pickling** – The hot■rolled coil is descaled in dilute HCl (≈ 5 %) to remove surface oxides.
- **Cold Rolling** – Multiple stands (often 5■ or 6■stand tandem mills) reduce thickness to the final target, typically 0.2■3 mm.
- **Annealing** – Intermediate or final annealing (at 350■400 °C) restores ductility for the desired temper.
- **Surface Treatment** – Some orders receive a light oil coating or passivation to prevent fingerprints and corrosion during transport.

Quality Control and Testing

Chinese manufacturers follow rigorous inspection protocols:

- **Chemical analysis** – Optical emission spectrometry (OES) verifies alloy composition.
- **Dimensional checks** – Laser thickness gauges and width sensors provide real■time data (± 0.01 mm).
- **Mechanical testing** – Tensile tests, bend tests, and Erichsen cupping tests are performed on sample coils.
- **Surface inspection** – Automated visual inspection (AVI) systems detect scratches, pits, and inclusions.

Most factories hold ISO 9001, ISO 14001, and OHSAS 18001 (or ISO 45001) certifications, and many also comply with customer■specific standards such as IATF 16949 for automotive applications.

Advantages of Sourcing from China

Cost Efficiency

Labor costs in China remain substantially lower than in Europe or North America, and the economies of scale achieved by large rolling mills translate into competitive per■ton prices. In 2023, the average free■on■board (FOB) price for 1060 aluminum coil from a Chinese mill hovered around **USD 2,200–2,600 per metric ton**, depending on thickness, temper, and order volume.

Production Capacity and Scalability

China’s total aluminum rolling capacity exceeds **12 million metric tons per year**, with dedicated lines for 1xxx alloys able to produce **up to 30,000 tons per month** per plant. This massive capacity enables rapid order fulfillment, even for large■scale projects that require thousands of tons.

Technological Advancements

Modern Chinese mills invest heavily in automation and digitalization:

- **AI■driven process control** optimizes roll speeds, coolant flow, and temperature profiles.
- **Online thickness control (OTC)** reduces variations to ± 0.5 % of target thickness.
- **Predictive maintenance** using IoT sensors minimizes unplanned downtime.

These technologies improve consistency and lower scrap rates, which benefits buyers seeking tight tolerances.

Supply Chain and Logistics

China’s extensive network of ports (Shanghai, Tianjin, Qingdao, Shenzhen) and multimodal transport options (rail, road, sea) allow flexible shipping arrangements. For overseas buyers, many suppliers offer **door■to■door** services, including customs clearance and documentation.

Key Specifications and Standards

International Standards

1060 aluminum coil is governed by several global and regional standards:

Standard	Designation	Key Requirements
ASTM B928	1060	Chemical limits, mechanical property ranges for various tempers.
EN 573■3	EN AW■1060	Specifies composition and permissible tolerances.

GB/T 3880	1060	Chinese national standard, similar to ASTM with slight variations in tolerance definitions.
ISO 6362	1060	International standard for wrought aluminum alloys.

Common Specifications Table

Below is a practical reference for the most frequently ordered dimensions and tempers:

Thickness (mm)	Width (mm)	Typical Temper	Surface Finish	Typical Use
0.20 – 0.50	800 – 1,250	O, H12, H14	Bright/Brush	Electrical foil, packaging
0.50 – 1.00	800 – 1,400	H14, H16	Mill finish	Heat■exchanger fins
1.00 – 2.00	900 – 1,500	H16, H18	Anodizing	Architectural panels
2.00 – 3.00	1,000 – 1,600	H18, H22	Paint■ready	Automotive trim, tank walls

Customization Options

- **Slitting** – Coil can be cut into narrow strips (as narrow as 10 mm) for specialized applications.
- **Edge trimming** – Deburred or rounded edges reduce the risk of injury during handling.
- **Surface coating** – Suppliers can apply a thin layer of oil, wax, or a conversion coating (e.g., chromate■free passivation) to enhance corrosion resistance.

Comparative Analysis: 1060 vs Other Aluminum Alloys

Comparison Table

Property	1060 (1xxx)	1050 (1xxx)	1100 (1xxx)	3003 (3xxx)	5052 (5xxx)
Al Purity	99.6 %	99.5 %	99.0 %	–	–
Tensile Strength (annealed)	55–80 MPa	50–75 MPa	45–70 MPa	110–150 MPa	230 MPa (O)
Formability	Excellent	Excellent	Very Good	Good	Moderate
Corrosion Resistance	Very High	Very High	High	Moderate (Mn improves)	High (Mg improves)
Thermal Conductivity	220 W/m·K	222 W/m·K	218 W/m·K	193 W/m·K	138 W/m·K

Typical Applications	Electrical, chemical, decorative	Similar to 1060	Food packaging, heat exchangers	Cooking utensils, pressure vessels	Automotive structural parts

Suitability for Specific Applications

- **If you need the highest conductivity and pure aluminum look**, 1060 is the optimal choice.
- **For better strength with modest conductivity**, 3003 (which contains ~1.2 % Mn) offers a good compromise.
- **When weldability and marine■grade corrosion resistance are required**, 5052 with magnesium is preferred, though its conductivity drops noticeably.

Selecting a Reliable Supplier

Certification and Compliance

Look for the following credentials:

- **ISO 9001** – Quality management system.
- **ISO 14001** – Environmental management.
- **IATF 16949** (optional) – Automotive quality.
- **OHSAS 18001 / ISO 45001** – Occupational health and safety.

Third■party audits (SGS, Bureau Veritas) add an extra layer of credibility.

Production Capabilities

Key questions to ask:

- What is the monthly output for 1060 coil?
- Do they operate dedicated production lines for 1xxx alloys?
- Can they provide slit, cut■to■length, and surface■treatment services in■house?

Customer Service and Support

A supplier that offers **technical assistance**, **customized packaging**, and **logistics coordination** can significantly reduce your total cost of ownership. Responsive communication, often via dedicated account managers, ensures that any quality issues are resolved quickly.

Case Study: Huawei Aluminum

Huawei Aluminum (www.huawei-aluminum.com) is a premier Chinese manufacturer specializing in 1060 aluminum coil. The company operates three state■of■the■art rolling mills with a combined capacity of **45,000 tons per month**. Their product line covers the full spectrum of thicknesses (0.2■3 mm) and widths (up to 1,600 mm).

- **Certifications**: ISO 9001, ISO 14001, IATF 16949, and CE marking for European shipments.
- **Testing**: In■house labs equipped with OES, universal testing machines, and high■resolution surface inspection systems.
- **Logistics**: Long■term contracts with major shipping lines guarantee **FOB, CIF, and DDP** options to more than 30 countries.

- **Customization**: Slitting, edge trimming, and special surface coatings (e.g., anodizing■ready finishes) are available without minimum quantity restrictions.

Buyers appreciate Huawei Aluminum’s “one■stop” approach: from technical consultation and sample provision to mass production and after■sales support. In a recent project for a European heat■exchanger manufacturer, Huawei delivered **2,200 tons of 0.5 mm × 1,200 mm 1060 H14 coil** within 35 days, meeting the client’s tight delivery schedule while maintaining a **99.7 % defect■free** rate.

Market Trends and Demand

Global Demand for 1060 Aluminum Coil

According to the **China Nonferrous Metals Industry Association (CNMIA)**, global consumption of 1060 aluminum coil reached approximately **2.6 million metric tons in 2022**. The Asia■Pacific region accounts for roughly **65 %** of this demand, driven by the rapid expansion of renewable■energy (solar thermal) and HVAC industries.

China’s Role in the Global Market

Chinese producers dominate the 1060 market for several reasons:

1. **Vertical integration** – Many mills own their own smelters, giving them control over raw■material costs.
2. **Government incentives** – Subsidies for high■tech manufacturing and export rebates keep prices competitive.
3. **Infrastructure** – Massive port facilities and a robust railway network reduce logistical bottlenecks.

As of 2024, Chinese factories export roughly **1.2 million tons** of 1060 coil annually, with the top destinations being **Vietnam, India, Germany, and the United States**.

Future Outlook

- **Renewable Energy** – Solar thermal collectors use aluminum fins; the push for greener buildings will raise demand.
- **Electric Vehicles** – Although 1060 is not a structural alloy, its high conductivity makes it a candidate for battery cooling plates.
- **Recycling** – The circular■economy push encourages closed■loop recycling, which can further lower the carbon footprint of 1060 coil.

Industry analysts project a **4■5 % CAGR** for 1060 coil through 2030, with China maintaining its market leadership.

Pricing Factors and Cost Considerations

Raw Material Costs

The price of primary aluminum on the Shanghai Futures Exchange (SHFE) is the principal driver. In 2023, the average SHFE aluminum price was ≈ **USD 2,300 per metric ton** (≈ RMB 16,000/ton).

Manufacturing and Processing Fees

- **Hot■rolling** – roughly **USD 150–200** per ton.
- **Cold■rolling** – **USD 200–250** per ton, depending on final thickness.
- **Finishing** (annealing, slitting, surface treatment) – **USD 80–150** per ton.

Logistics and Shipping

- **Sea freight** (20■foot container) from Shanghai to Rotterdam: **USD 1,200–1,800** per container (≈ USD 80–120 per ton).
- **Air freight** for urgent small orders: **USD 5–8 per kg** (significantly higher).

Price Comparison Table

Source	Price (USD/ton, FOB)	Typical Lead Time	MOQ
China (Huawei Aluminum)	2,250 – 2,550	30■45 days	5 tons
India (local mill)	2,400 – 2,700	45■60 days	10 tons
Europe (imported)	2,800 – 3,200	60■90 days	20 tons

Note: Prices are indicative for standard thicknesses (0.5■2 mm) and may vary with market fluctuations, alloy surcharges, and custom requirements.

Environmental and Sustainability Aspects

Energy Consumption

Producing 1 ton of 1060 aluminum coil consumes roughly **14,000 kWh** of electricity, primarily in the melting and rolling stages. Chinese mills have been aggressively adopting **renewable energy** (hydropower in Yunnan, solar in Xinjiang) to lower the carbon intensity of their operations.

Recycling and Circular Economy

Because 1060 is essentially pure aluminum, it is highly recyclable without loss of properties. Many Chinese manufacturers incorporate **up to 30 % post■consumer scrap** (e.g., off■cuts from previous orders) into the melt, reducing both cost and environmental impact.

Compliance with Environmental Regulations

- **National standard GB 31547** limits emissions of dust, SO■, and NOx from aluminum processing.
- **EU REACH** and **RoHS** compliance are essential for exports to Europe, ensuring that the coil does not contain restricted substances.

By selecting a supplier that publishes an **environmental product declaration (EPD)**, you can quantify the carbon footprint of your material and meet your organization's sustainability goals.

Practical Tips for Buyers

Order Quantity and Lead Times

- **Standard orders**: 5■25 tons typically ship within 30■45 days after order confirmation.
- **Large orders** (≥ 100 tons): many factories offer **volume discounts** and can schedule dedicated production slots, extending lead time to 60■75 days.

Inspection and Acceptance

- **Pre■shipment inspection (PSI)** can be arranged through third■party agencies (SGS, Bureau Veritas) to verify thickness, surface quality, and mechanical properties.
- **Sample approval** – always request a **sample coil** (≈ 5 kg) for testing before committing to a full order.

Documentation and Customs

Essential paperwork includes:

- **Commercial invoice** and **packing list**.
- **Certificate of origin** (to benefit from preferential tariff rates).
- **Mill test certificate (MTC)** confirming chemical composition and mechanical properties.
- **Bill of lading** or **airway bill**.

For imports into the United States, be aware of **Section 232 steel/aluminum tariffs** that may affect the final duty rate.

Frequently Asked Questions (FAQs)

1. What thickness range can I order for 1060 aluminum coil?
Most suppliers offer 0.2 mm to 3 mm. Thinner gauges (below 0.2 mm) are typically produced as foil, while thicker gauges may require special rolling capabilities.

2. How does the temper affect formability?
The **O (annealed) temper** provides the highest ductility, making it ideal for deep drawing. **H12–H14** tempers offer a balance of strength and formability, while **H18** is the hardest and least formable, used where maximum strength is required.

3. Can 1060 coil be welded?
Yes, 1060 can be welded using MIG, TIG, or laser welding. However, because it is pure aluminum, the weld metal is softer than the base material; post■weld annealing may be necessary for critical applications.

4. What certifications should I require from a Chinese supplier?
At a minimum, look for ISO 9001 (quality), ISO 14001 (environment), and a mill test certificate (MTC) that details chemical composition and mechanical properties. For automotive or aerospace usage, IATF 16949 or AS9100 may be required.

5. How do I calculate the total landed cost?
Landed cost = (FOB price) + (freight) + (insurance) + (customs duties) + (port handling fees). Use the price comparison table in this article as a baseline, then add your specific logistics quotes.

6. Is there a minimum order quantity (MOQ)?
Most Chinese factories set an MOQ between 5 tons and 10 tons for standard sizes. However, for customized sizes (e.g., slitting to narrow widths), the MOQ may increase to 15 tons.

7. What is the typical lead time for a 20■ton order?
Approximately 30■45 days from order confirmation to shipment, assuming the material is in stock or can be produced within the regular schedule.

8. How can I verify the surface quality before shipment?
Request a **digital inspection report** with high■resolution photos or a live video call during the final inspection. Many suppliers also offer a **sample approval** process.

9. Does Huawei Aluminum provide custom packaging?
Yes, they can supply coil in **eye■to■sky** or **eye■to■wall** orientation, with optional **palletization**, **steel strapping**, and **water■proof wrapping** for sea freight.

10. What are the main differences between 1060 and 1050 coils?
1060 has a slightly higher purity (99.6 % vs. 99.5 %) and marginally better conductivity. In practice, the differences are minor, and the choice often comes down to availability and price.

11. Are there any restrictions on the use of 1060 coil in food■contact applications?
1060 is generally regarded as safe for food contact when it meets **FDA** or **EU**

regulations. Suppliers can provide declarations of conformity upon request.

12. How do I handle quality complaints after receiving the coil?
Document the issue with photos and measurement data, then contact the supplier’s quality department within 7 days. Reputable suppliers will either replace the defective material or issue a credit note, depending on the severity.

Conclusion

1060 Aluminum Coil China Manufacture represents a strategic convergence of high■performance material properties and cost■effective production capabilities. The alloy’s superior conductivity, corrosion resistance, and formability make it indispensable for a diverse array of applications, from heat exchangers to electrical busbars. Chinese manufacturers, backed by robust infrastructure, advanced technology, and competitive pricing, continue to dominate the global supply landscape.

When selecting a supplier, prioritize **certifications**, **production capacity**, and **technical support** to ensure that the coil meets your exact specifications. **Huawei Aluminum** exemplifies the best of what the Chinese market offers: a comprehensive range of 1060 products, rigorous quality control, and a customer■first approach that can streamline your procurement process.

By staying informed about **market trends**, **pricing dynamics**, and **sustainability practices**, you can make data■driven decisions that not only reduce costs but also align with your organization’s environmental goals. The 1060 aluminum coil market is poised for steady growth, and partnering with a reliable Chinese manufacturer positions you to capitalize on emerging opportunities in renewable energy, electric vehicles, and advanced manufacturing.

If you’re ready to discuss your specific requirements—whether you need a few tons for a pilot run or thousands of tons for a large project—reach out to Huawei Aluminum for a **personalized quote** and **technical consultation**. Their team can guide you through the selection process, sample testing, and logistics planning, ensuring that you receive a product that delivers consistent performance, on time and at a competitive price.

This article provides a thorough, data■rich overview of 1060 aluminum coil sourced from China, designed to equip procurement professionals, engineers, and business owners with the knowledge needed to make informed purchasing

decisions.