

1070 Aluminum Plate Sheet

Whether you need a fully annealed soft temper (1070 O) for complex deep drawing or a fully hard temper (1070 H18) for rigid electrical components and flat nameplates, GNEE supplies custom sizes tailored exactly to your production line. Because we operate our own rolling mills, we can offer a highly competitive 1070 aluminum price per kg directly from the factory.

1 . Core Features of High Purity 1070 Aluminum Sheet

- **Maximum Electrical Conductivity:** Because it is 99.7% pure, 1070 aluminum achieves an electrical conductivity of approximately 61% IACS. It is one of the best materials for 1070 aluminum for electrical conductivity applications.
- **Outstanding Corrosion Resistance:** The natural oxide layer formed on pure aluminum provides excellent protection against weathering, moisture, and chemical exposure.
- **Excellent Formability & Workability:** In its annealed (O) state, 1070 aluminum is extremely soft and ductile. It allows for severe deep drawing, spinning, and stamping without cracking or tearing.
- **High Reflectivity:** When polished, 1070 aluminum reflects up to 85% of visible light and heat. This makes it the industry standard for reflectors and lighting fixtures.
- **High Thermal Conductivity:** It dissipates heat rapidly, making it highly effective for heat exchangers and industrial heat sinks.

2 . 1070 Aluminum Sheet Types by Shape

To match different manufacturing setups, GNEE categorizes 1070 high purity aluminum into three main supply forms. We can supply exactly what your equipment requires.

Shape Category	Thickness Range	Description	Typical Industry Uses
1070 Aluminum Sheet	0.2mm - 6.0mm	Thin, lightweight, and easy to bend or form. Supplied in cut-to-length flat sheets.	Lighting reflectors, nameplates, capacitor shells, daily hardware.
1070 Aluminum	6.0mm - 200mm	Thick, rigid plates. Focuses on conductivity and chemical	Heavy electrical busbars, chemical storage tanks,

Plate		resistance rather than forming.	transformer parts.
1070 Aluminum Coil	0.2mm - 3.0mm	Rolled sheets continuously wound into coils. Perfect for automated stamping lines.	Capacitor foil base material, mass-produced electronic stampings.

3 . GNEE 1070 Aluminum Temper Guide

Selecting the right temper is the most critical step when you **buy 1070 aluminum plate**. 1070 is not a structural alloy; it cannot bear heavy mechanical loads. Its tempers only dictate how hard or soft the material is for processing.

Temper	Hardness Level	Processing Characteristics	Real-World Application
1070 0 (Annealed)	Softest	Maximum ductility. Can undergo severe deformation, deep drawing, and bending without cracking.	Deep drawn pans, cosmetic bottle caps, chemical pipe linings.
1070 H14 / 1070 H24	Half Hard	Balanced condition. Offers moderate rigidity while still allowing for 90-degree bending.	General decorative panels, equipment covers, everyday metal parts.
1070 H18	Full Hard	Maximum hardness achievable through cold rolling. Very low ductility. Will crack if bent sharply.	Flat rigid panels, nameplates, rigid electrical busbars, flat conductors.

4 . Equivalents of Aluminum 1070 in Different Regions

Region	Standard No.	Designation	Remarks
China (GB)	GB/T 3190	1070 / 1070A	1070A has extremely strict compositional control
United States (ASTM / UNS)	ASTM B209 / UNS	1070 / A91070	UNS A91070 is the unified numbering designation
International (ISO)	ISO 209	Al99.7	Chemical composition naming based on aluminum content
Europe (EN)	EN 573 / EN 485	EN AW-1070 / EN AW-1070A	"EN AW" indicates wrought aluminum alloys
Japan (JIS)	JIS H4000	A1070 / A1070P	"P" denotes plate/sheet material
Germany (DIN)	DIN 1712	Al99.7 / 3.0275	Numerical designation 3.0275

			commonly used in older DIN standards
United Kingdom (BS)	BS 1470 (obsolete)	1070 / ER1	Now harmonized and replaced by EN standards

5 . Mechanical Properties of 1070 Aluminum

Temper	Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (%)	Hardness (HB)	Notes
O (Annealed)	55–70	20–35	≥35	20–25	Highest ductility, but lowest strength
H12 (Light Cold Work)	80–95	35–45	20–25	25–30	Strength increases, ductility decreases
H14 (Medium Cold Work)	95–105	40–50	15–20	30–35	Higher strength, further reduced ductility
H18 (Full Hard Cold Work)	105–110	45–50	10–15	35–40	Highest strength, lowest ductility

6 . Thermal Properties of 1070 Aluminum

Property	Value	Description
Thermal Conductivity	220–230 W/m·K	High thermal conductivity, suitable for radiators, heat exchangers, and electronic heat sinks
Coefficient of Thermal Expansion	$23.8 \times 10^{-6} / \text{K}$	Minimal dimensional change with temperature, beneficial for precision equipment and curtain wall systems
Heat-Treatable	No	1xxx series aluminum alloys cannot significantly increase strength through heat treatment; hardness can only be improved by cold working

7 . Chemical Composition of 1070 Aluminum

Element	Content Range (%)
Aluminum (Al)	≥ 99.7
Iron (Fe)	≤ 0.25
Silicon (Si)	≤ 0.20
Copper (Cu)	≤ 0.05
Manganese (Mn)	≤ 0.03
Magnesium (Mg)	≤ 0.03
Zinc (Zn)	≤ 0.04
Titanium (Ti)	≤ 0.03
Vanadium (V)	≤ 0.05
Other elements (each)	≤ 0.03

8 . Surface Treatments for 1070 Aluminum Sheet

Because 1070 has such a high aluminum content, it accepts surface treatments better than almost any other alloy series. Our factory provides various finishes to match your end-product requirements.

Mill Finish 1070 Aluminum Sheet

Details: The raw, natural surface directly from the rolling mill. No extra polishing or coating.

Applications: Hidden electrical conductors, internal chemical equipment, and parts that will be painted later.

1070 Anodized Aluminum Sheet

Details: Treated electrochemically to build a thick, durable, and porous anodic oxide layer. Provides extreme corrosion resistance.

Applications: Premium consumer electronics, outdoor enclosures, and dyed architectural panels.

1070 Mirror Aluminum Sheet

Details: Mechanically or chemically polished to create a highly reflective, mirror-like surface.

Applications: Indoor commercial lighting fixtures, LED reflectors, and solar thermal collectors.

Brushed 1070 Aluminum Sheet

Details: Processed with abrasive belts to create fine, uniform, parallel directional lines.

Applications: Home appliance panels (like refrigerators and ovens), interior decorative panels, and premium signage.

Coated 1070 Aluminum Coil / Sheet

Details: Coated with PE (Polyester) for indoor use or PVDF (Polyvinylidene Fluoride) for outdoor durability.

Applications: Architectural facades, roofing, and corporate identity signage.

9 . Common Applications for 1070 Aluminum Alloy Plate

- **Electrical & Power Distribution:** Thick 1070 aluminum plates are machined into heavy-duty electrical busbars, transformer windings, and switchgear conductors. The 99.7% purity ensures minimal power loss during transmission.

- **Lighting & Reflector Industry:** Using our **1070 mirror aluminum sheet**, lighting manufacturers produce high-efficiency LED reflectors and fluorescent lamp housings, ensuring maximum light distribution.

- **Chemical Processing Equipment:** Because it resists nitric acid and hydrogen peroxide exceptionally well, 1070 aluminum in O or H14 temper is used to fabricate chemical storage tanks, industrial pipe linings, and reaction vessels.

- **Electronic Components:** 1070 aluminum is the primary base material for manufacturing electrolytic capacitor foils. It is also used to stamp heat sinks for PCB boards due to its rapid thermal conductivity.

- **Daily Hardware & Packaging:** Soft temper (O) sheets are deeply drawn to create cosmetic cases, toothpaste tube materials, and food-grade packaging containers.

10 . 1070 Aluminum Plate Technical Specifications

All our pure aluminum materials comply strictly with international manufacturing standards. Please review our standard production capabilities below.

Specification Item	Details
Alloy Grade	1070 (UNS A91070)
Aluminum Purity	Al $\geq$ 99.7%
Thickness Range	0.2 mm - 200 mm
Width Range	100 mm - 2650 mm
Length Range	500 mm - 10000 mm (Custom cutting standard)
Available Tempers	O, H12, H14, H16, H18, H22, H24
Manufacturing Standards	ASTM B209, EN 573, EN 485, GB/T 3880
Surface Protection	Interleaved paper, clear PVC film, or blue PE film

11 . Why Source Your 1070 Aluminum Plate from GNEE?

As a direct manufacturer and experienced global exporter, GNEE provides more than just metal. We provide reliability.

- **Precision Cutting & Processing:** Our facility is equipped with advanced CNC plate saws that deliver clean, burr-free cuts with tight dimensional tolerances (+/- 1mm or better).
- **Guaranteed Quality & Testing:** Every batch of 1070 aluminum plate comes with a full Mill Test Certificate (MTC) detailing its chemical analysis and mechanical properties. We also welcome third-party inspections from SGS, BV, or your chosen agency before shipment. For thick plates, we conduct ultrasonic testing (UT) to ensure there are no internal defects.
- **Robust Export Packaging:** We understand the risks of ocean freight. To prevent moisture damage (white rust) and scratches, we use a proven packaging method: plates are interleaved with paper, wrapped in waterproof plastic film, securely strapped to strong, fumigated wooden pallets, and protected with edge guards.

12 . Frequently Asked Questions (FAQ)

1. Are you a direct manufacturer or a trading company?

GNEE is a direct aluminum manufacturer and supplier located in China. By managing our own hot and cold rolling lines, we control the quality from ingot to final sheet, offering you true factory-direct prices without middleman markups.

2. How do I calculate the weight of a 1070 aluminum sheet?

The density of 1070 pure aluminum is 2.71 g/cm³. The calculation formula is:

Weight (kg) = Thickness (mm) × Width (m) × Length (m) × 2.71

(For example: A piece of 3mm thick, 1.2m wide, and 2.4m long sheet weighs: $3 \times 1.2 \times 2.4 \times 2.71 = 23.41$ kg)

3. Can you apply PVC film to protect the surface?

Yes. For surface-sensitive applications like reflectors or decorative panels, we can apply a transparent or blue PE/PVC protective film to one or both sides of the sheet.

4. What is your standard production lead time?

For standard sizes in stock, we can cut and pack within 5 to 7 days. For custom mass production orders, the standard lead time is 15 to 25 days depending on the volume.