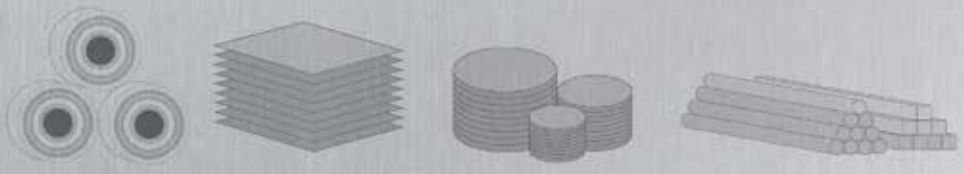
KINGYEAR®

ALUMINUM INDUSTRIAL

ALUMINUM PRODUCTS

CATALOGUE



Brief Introduction

- Leading manufacturer of aluminum and aluminum alloys of CHINA
- Since 2006, located in Gongyi industry area of Henan Province, the core area of Chinese aluminum industry.
- 3 main subsidiaries, all specialized in Aluminum products.
- Aluminum Rolling Capacity has reached 200,000T/year and keep increasing.
- 1,200,000+ square meters factory zone.
- 800+ employees, full production line imported from SMS German

Company Advantage

Competitive Price

Big factories with cost optimized

Advanced manufacturing equipments and facilities

Raw material price balance with futures operation

Quality Guarantee

Quality Control System Audited and Approved by International Authorities

Country Trusted Brand - Inspection-free Product of the State

Conquering and Dedicate R&D Center - State grade technology labs

Flexible Payment Terms

T/T,L/C,D/A,D/P or as Your call

A foundation and support of your success

A Win-win business partner with long-term interests guarantee

OEM, ODM, OBM Available

Manufacturing to meet your demand with your terms and conditions

Rich OEM and ODM experiences can help Expand your brand

Develop Aluminum Products with your national standards and support your business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Workshop & Facilities

1. Continuously Hot-rolled Aluminum Coils Line
2. Tandem Cold Mills
3. Digital Manufacturing Dispatch Center
4. Annealing Furnace
5. Coating Line
6. Cutting Line
7. Film Line
8. CNC Punch Machine
9. Finished Products Warehouse and Open Loading Area


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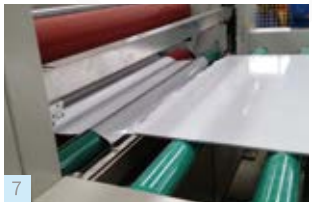
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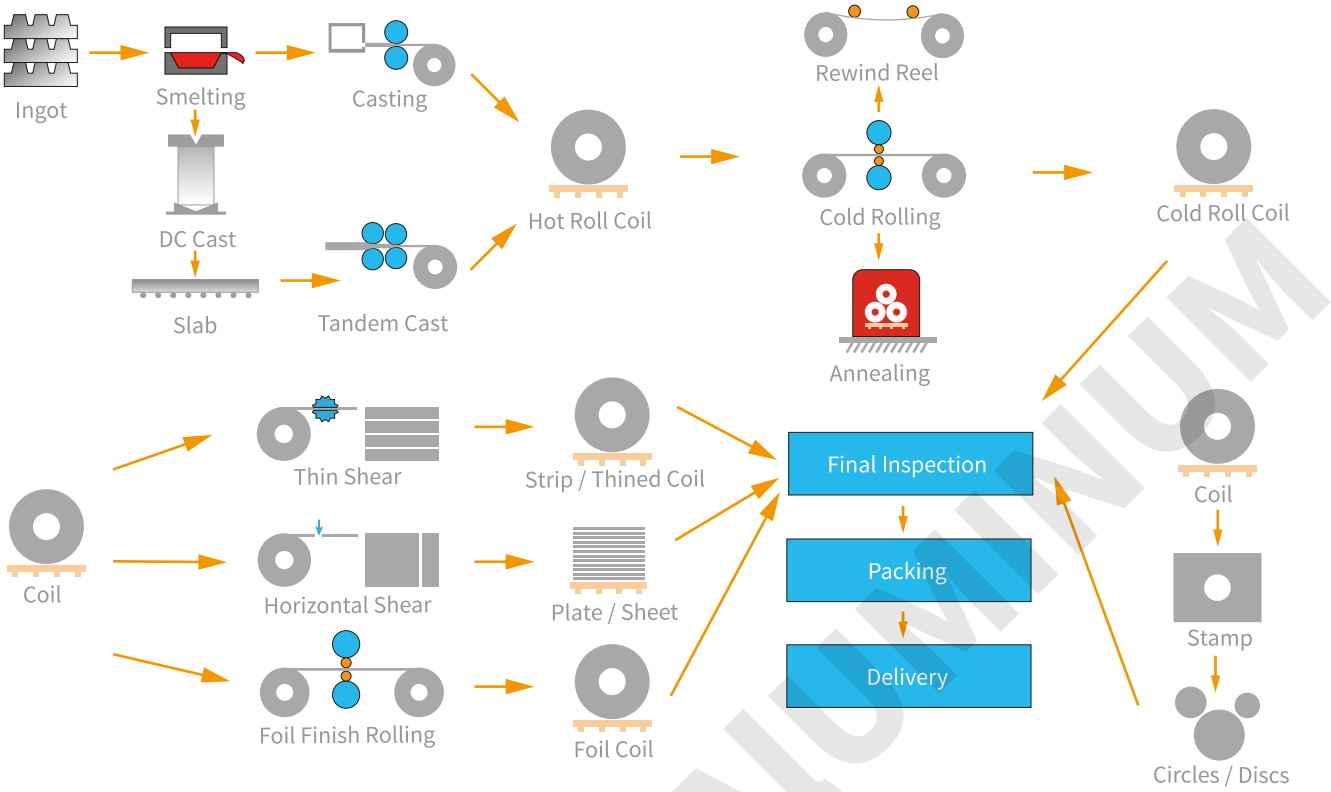
State-of-art Laboratory and Test Equipments

1. Main Material Test Lab
2. Quality Inspection Team
3. Aluminum New Material Develop Engineer
4. Tensile Tester
5. Surface Roughness Testers
6. Direct Reading Emission Spectrometer
7. Ultrasonic Flaw-detecting Machine
8. Hardness Testers
9. Metallurgical Microscope

Manufacturing Process and Quality Check Point



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Certificates & Creditials

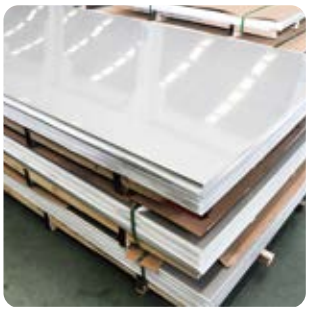
1. ISO 9001-2008 Certificate
2. CCS Certificate
3. DNV Certificate
4. SGS TEST Report
5. CE Certificate

Products Catagory

Aluminum Alloy Segments by Alloy Designation

- 1000 Series
- 2000 Series
- 3000 Series
- 5000 Series
- 6000 Series
- 7000 Series
- 8000 Series

Aluminum Alloy Segments by Formats



The capacity of our Aluminum Rolling products has reached 200,000 ton per year, formats available in coil, plates, sheets and foil, material of Aluminum alloy production line covers 1000-8000 series. After years of evolution in technology upgrading and management optimization, our 1000, 3000, 5000 and 8000 series aluminum alloys come with excellent quality and most competitive price, whereas no match can be found in the world yet, make our company to be considered as a leading manufacturer of these alloys.

Plates/Sheets

Our stable consistent supply chain, outstanding quality control system and first-rate services have been approved and highly praised by our clients, and built us a good reputation among this industry. Category of our customers is full of diversity and fall into the zone of transportation, architecture, engineering, aviation, space, electricity and package where our aluminum products have been widely used.

Rolls/Coils

At KINGYEAR aluminum industrial, we always put quality first. In order to achieve this objective, we have invested in the most technologically advanced machinery and equipment. Our melting facilities make use of state of the art technology to ensure high production efficiency while being environmentally friendly. We have a total of 5 melting furnaces, each of which holds 20 MT of molten aluminum. We also have a highly automatic batch annealing furnaces, blanking lines, cut to length lines and packing lines in our finishing section. With all these investments in the hands of our dedicated working staff, we are confident to provide product that meets our customers' quality requirements and exceeds their expectations.

Discs/Circles

Beyond the popular aluminum forms in coils, sheet, plates, foil and circles, we can also provide products present in complex forms like seamless pipe, billet, rod, bar as we import various aluminum extrude machines to suit our customers' various needs. At the same time, our precise processing workshop powered by a full set of CNC Machines including lather, miller, cutter, punch could offer aluminum profiles with out-standing appearance and excellent accuracy.

Other Formats

Aluminum Application

As a top rank aluminum products developer and manufacturer, our aluminum products have been used in many industries including transportation, construction, package, electronics, machines, durable goods etc; our customers are from the world, such as American, Europe, Asia, Africa, and the Middle East etc, and our foreign trade share grows rapidly each year.

Transportation

Aircraft & Aerospace Automobile, Bus, Truck, Tank Train, Metro Line, Ship, Boat, Yacht

Building & Construction

Curtain Wall, Roofing Decoration, Celling Door, Window, Floor Framework, Structure

Packaging & Container

Can, Box, Case, Container Seal, Lid, Cover Flexible Package, Tube Household Foil

Electronics & Appliances

Computer, Laptop, Communication Tools , Consumer Electric Heat Exchanger

Machine & Equipment

Catering Equipment, Textile Machinery, Precision Instrument, Medical Equipment

Durable Goods

Cookware, Kitchen Utensils Lamp Cover, Air Outlet, Light Reflecting Plate, Traffic Sign, Nameplate

Industry Standards Designation

GB/T 3190	Wrought Aluminum and Aluminum Alloy Chemical Composition
GB/T 3880	Wrought Aluminum and Aluminum Alloy Plates, Sheets and Strips for General Engineering
GB/T 3618	Wrought Aluminum and Aluminum Alloys Tread Sheets
GB/T 3198	Aluminum and Aluminum Alloy Foils

EN 573	Aluminum and Aluminum Alloys Chemical Composition and Form of Wrought Products
EN 485	Aluminum and Aluminum Alloys Sheet, Strip and Plate
EN 546	Aluminum and Aluminum Alloys Foil

ASTM B209	Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
ANSI 35.1	Alloy and Temper Designation Systems for Aluminum
ANSI 35.2	Dimensional Tolerances for Aluminum Mill Products

Note:

Chinese Standard is able to cover both ASTM and EN standard, unless otherwise specified, Chinese GB Standard will be applied.

Aluminum Grades Designation

- 1xxx series 99% pure aluminum
- 2xxx series copper
- 3xxx series silicon, copper and/or magnesium
- 4xxx series silicon
- 5xxx series magnesium
- 6xxx series magnesium and silicon
- 7xxx series zinc
- 8xxx series silicon, copper and others

Alloy Series	Chinese Standard	American Standard	European Standard
1xxx Series	1050		
	1050A		EN AW-1050A
	1060	1060	
	1100	1100	
	1200		EN AW-1200
	1145	1145	
	1235	1235	EN AW-1235
2xxx Series	2014	2014	EN AW-2014
	2017		
			EN AW-2017A
	2024	2024	EN AW-2024
3xxx Series	3003	3003	EN AW-3003
	3004	3004	EN AW-3004
	3005	3005	EN AW-3005
	3105	3105	EN AW-3105
5xxx Series	5005	5005	EN AW-5005
	5052	5052	EN AW-5052
		5754	EN AW-5754
	5083	5083	EN AW-5083
6xxx Series	6061	6061	EN AW-6061
	6082		EN AW-6082
7xxx Series	7075	7075	EN AW-7075
8xxx Series	8011		
	8011A		EN AW-8011A
	8079		EN AW-8079

Note:

For specific grades not listed above, please contact our sales department.

Aluminum Temper

The Temper System

In addition to that huge variety of alloys grades that are available, the temper (or hardness) of each alloy can create considerable differences in their characteristics and how they react to various fabrication processes such as punching, forming, thermal cutting, welding, etc. Within the basic series categories identified in aluminum grades, there are two distinctly different varieties – Heat Treatable and Non-Heat Treatable. The 1xxx, 3xxx, and 5xxx series are non-heat treatable (they are strain hardenable only). The 2xxx, 6xxx, and 7xxx are heat treatable. The 4xxx series alloys contain both heat treatable and non-heat treatable varieties.

The non-heat treatable alloys acquire their optimum mechanical properties through Strain Hardening. Strain hardening is the method of increasing strength through the application of cold working. The Temper Designation System addresses the material conditions called tempers. The Temper Designation System is an extension of the alloy numbering system and consists of a series of letters and numbers which follow the alloy designation number and are connected by a hyphen. Examples: 6061-T6, 6063-T4, 5052-H32, 5083-H112.

The heat treatable alloys acquire their optimum mechanical properties through a process of thermal treatment, the most common thermal treatments being Solution Heat Treatment and Artificial Aging. Solution Heat Treatment is the process of heating the alloy to an elevated temperature (around 990 Deg. F) in order to put the alloying elements or compounds into solution. This is followed by quenching, usually in water, to produce a supersaturated solution at room temperature. Solution heat treatment is usually followed by aging. Aging is the precipitation of a portion of the elements or compounds from a supersaturated solution in order to yield desirable properties. The aging process is divided into two types: aging at room temperature, which is termed natural aging, and aging at elevated temperatures termed artificial aging. Artificial aging temperatures are typically about 320 Deg. F. Many heat treatable aluminum alloys are used for welding fabrication in their solution heat treated and artificially aged condition.

Temper Designation

Aluminum products with specific properties and product forms are identified by specifying both an Alloy and a Temper.
There are 5 tempers totally defined by standards document, which are F, O, W, H, T.

F As fabricated

O Annealed

W Solution heat-treated

3003 H18

ALLOY TEMPER

3003 Alloy - Strain Hardened, Full Hard

H Strain Hardened

- *1 - Strain hardened only*
  - *2 - 1/4 hard*
  - *4 - 1/2 hard*
  - *6 - 3/4 hard*
  - *8 - full hard*
  - *9 - extra hard*
- *2 - Strain hardened and partially annealed*
- *3 - Strain hardened and stabilized*
- *4 - Strain hardened and lacquered or painted*

6061 T6

ALLOY TEMPER

6061 Alloy - Solution heat treated then artificially aged.

T Heat treated

- *1 - Cooled from an elevated temperature shaping process and naturally aged .*
- *2 - Cooled from an elevated temperature shaping process, cold worked, and naturally aged.*
- *3 - Solution heat treated, cold worked, and naturally aged.*
- *4 - Solution heat treated, and naturally aged.*
- *5 - Cooled from an elevated temperature shaping process then artificially aged.*
- *6 - Solution heat treated then artificially aged.*
- *7 - Solution heat treated then overaged/stabilized.*
- *8 - Solution heat treated, cold worked, then artificially aged.*
- *9 - Solution heat treated, artificially aged, then cold worked.*
- *10 - Cooled from an elevated temperature shaping process, cold worked, then artificially aged.*

Aluminum & Aluminum Alloy Strip and Coil

Alloy and Temper

Alloy Grade	Temper
1xxx: 1050, 1050A, 1060, 1100 3xxx: 3003, 3004, 3005, 3105	O, F, H12, H14, H16, H18, H22, H24, H26, H28
5xxx: 5005, 5052, 5754, 5083	O, F, H22, H24, H26, H28, H32, H34, H36, H38

Standard

- GB/T 3880
- ASTM B209
- EN 485

Surface Finish

- Mill Finish, unless otherwise specified

Surface Protection

- Without paper interleaved for all aluminum coils
- With PE/PVC filming on main side (if specified)

Available Size Range

- Thickness: 0.2 - 4mm
- Width: 200 ~ 2,200mm

Standard Width

- 1000mm
- 1219mm
- 1250mm
- 1500mm
- 1524mm

Coil Inner Diameter

- 405mm, 505mm

Aluminum & Aluminum Alloy Sheet and Plate

Standard

- GB/T 3880
- ASTM B209
- EN 485

Available Size Range

- Thickness: 0.5mm - 6mm for sheet
  6.0mm - 120mm for plate
- Width: 900mm - 2200mm
- Length: 2000mm - 10,000mm

Standard Width and Length

- 1000mmx2000mm
- 1219mmx2438mm
- 1250mmx2500mm
- 1500mmx3000mm
- 1524mmx3048mm

Alloy and Temper

Alloy Grade	Temper
1xxx: 1050, 1050A, 1060, 1100 3xxx: 3003, 3004, 3005, 3105	O, H112, H12, H14, H16, H18, H22, H24, H26
5xxx: 5005, 5052, 5754, 5083	O, H111, H22, H24, H26, H28, H32, H34, H36, H38
6xxx: 6061, 6082	T4, T451, T6, T651
2xxx: 2014, 2017, 2024	T351, T451
7xxx: 7075	T651

**H116 and H321 for alloy 5083 are provided as per Mill's Standard or by agreement.*

Surface Finish

- Mill Finish, unless otherwise specified

Surface Protection

- Paper interleaved, PE/PVC filmming (if specified)

Aluminum & Aluminum Alloy Foil

Alloy and Temper

Alloy Grade	Temper
1xxx: 1050, 1050A, 1060, 1100 1145, 1235, 1200	O, H14, H16, H18, H19, H22, H24, H26
3xxx: 3003	
8xxx: 8011, 8011A, 8079	O, H18, H19, H22, H24, H26

Standard

- GB/T 3198
- EN 546

Available Size Range

- Thickness: 0.006 - 0.2mm
- Width: 200 ~ 1,800mm

Core Type and Size

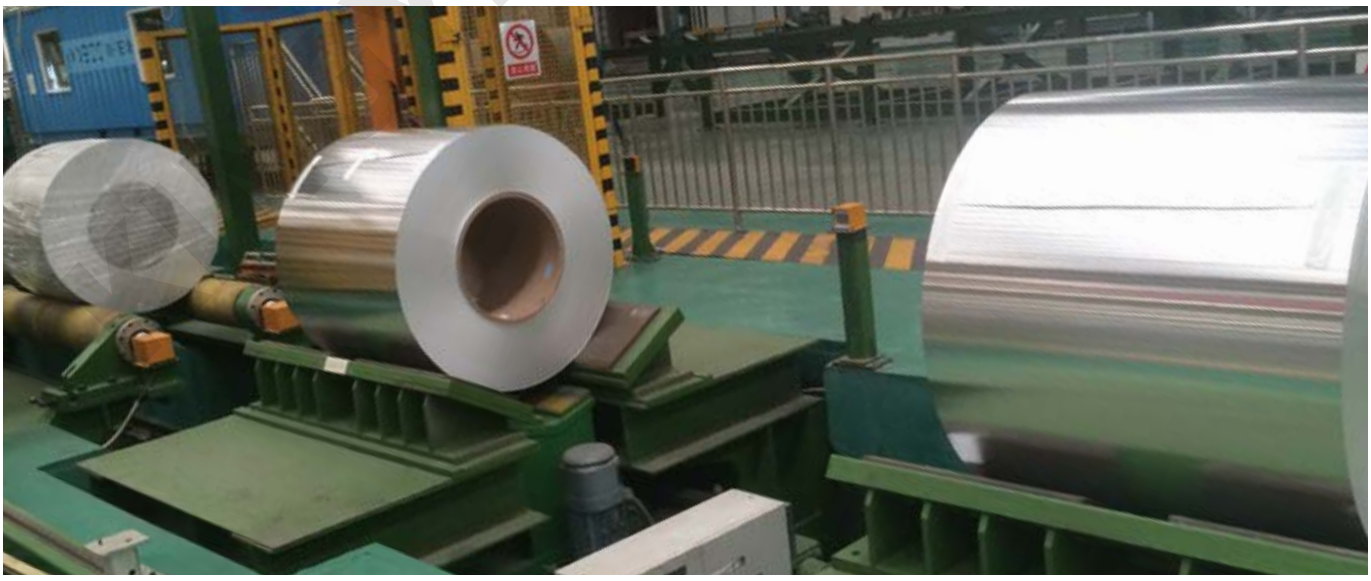
- Type: Aluminum, Steel, Fiber
- Core ID: 75mm, 76.2mm, 150mm, 152.4mm 300mm, 400mm

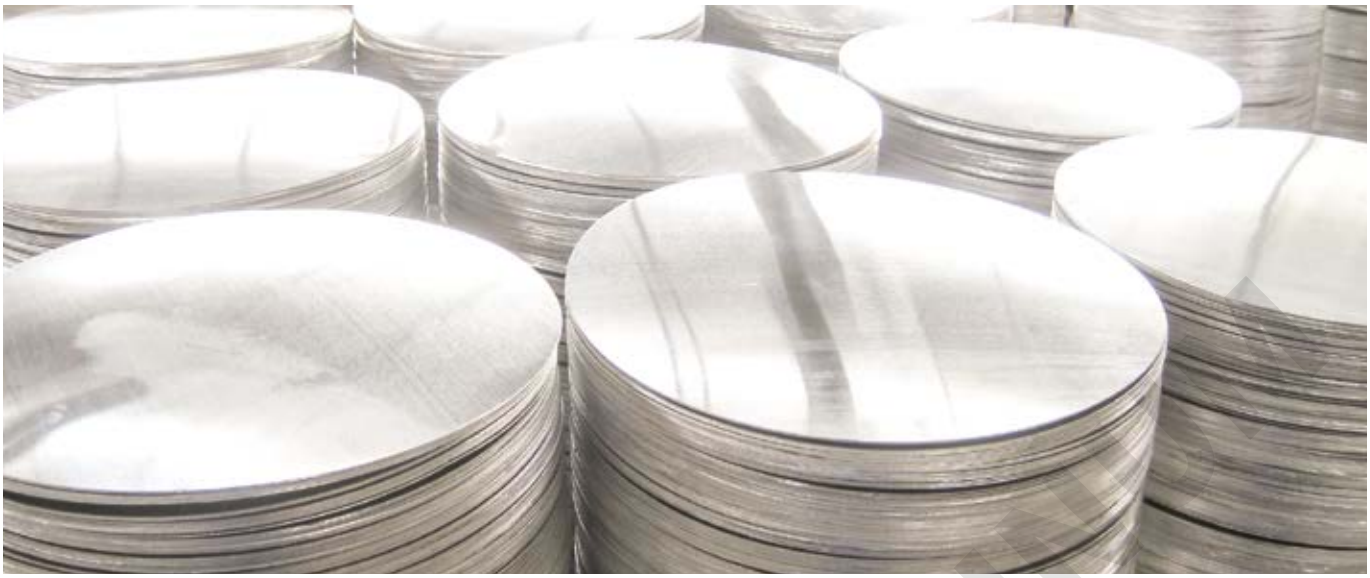
Surface Condition

- One side bright, the other side matte (for double rolled)
- Two sides bright (for single rolled)

Surface Protection

- Lubrication
- Lamination
- Coating





Aluminum & Aluminum Alloy Circles

Standard

- GB/T 3880

Available Size Range

- Thickness: 0.5mm - 4.0mm
- Diameter: 150mm - 1,000mm

**The diameter ought to be a multiple of 5mm due to the limit of die.*

Alloy and Temper

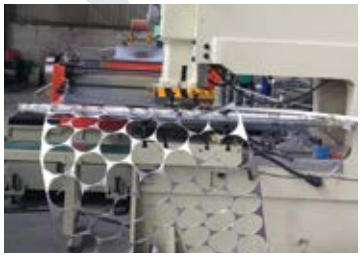
Alloy Grade	Temper
1xxx: 1050, 1060, 1070, 1100	O, H14, H24
3xxx: 3003, 3004, 3005, 3105	O, H12, H14, h22, H24
5xxx: 5052	O, H22, H24, H32, H34
6xxx: 6061, 6082	T4, T451, T6, T651

Diameter Tolerance

- Multiple of 5mm: +/- 0.5mm
- Non-multiple of 5mm: +/- 3.0mm

Surface Protection

- Paper interleaved, PE/PVC filmming (if specified)



Aluminum & Aluminum Alloy Tread Sheet

Standard

- GB/T 3618, Base material conforms to GB/T 3880

Alloy and Temper

Alloy Grade	Temper	Remark
1xxx: 1050, 1060, 1100 3xxx: 3003, 3105	O, H114, H194	H114 fabricated from Temper O H194 fabricated from Temper H18 *Temper H12, H14, H22, H24, H32 and H34, which are applied to base material, are provided as per client's request and mutually agreed.
5xxx: 5052, 5754	O, H114	

Available Size Range

- Thickness: 1.5mm ~ 4.5mm
- Width: 1000mm ~ 1,600mm
- Length: 2000mm ~ 4,000mm

Raised Pattern

Pattern Type	Pattern Height	Pattern Length
Small Fibe Bar	1.0mm, +/-0.4mm	35mm, +/-3.0mm
Big Five Bar	1.0mm, +/-0.4mm	45mm, +/-3.0mm
Diamond	1.0mm, +/-0.4mm	33mm, +/-2.0mm

Surface Finish

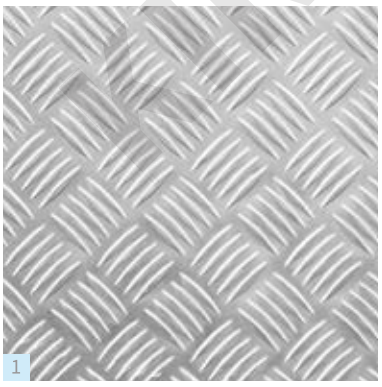
- Bright Finish
- Mill Finish

Surface Protection

- With paper interleaved

Pattern Options

1. Small Five Bar
2. Big Five Bar
3. Diamond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Aluminum & Aluminum Alloy Embossed Sheet

Standard

- GB/T 3880

Alloy and Temper

Alloy Grade	Temper
1xxx: 1050, 1060, 1100 3xxx: 3003	O, H12, H14, H22, H24

Available Size Range

- Thickness: 0.3mm ~ 1.5mm for coil
  0.5mm ~ 1.5mm for sheet
- Width: 1,000mm - 1,500mm
- Length: Coiled, or 2,000mm ~ 4,000mm

Pattern Options

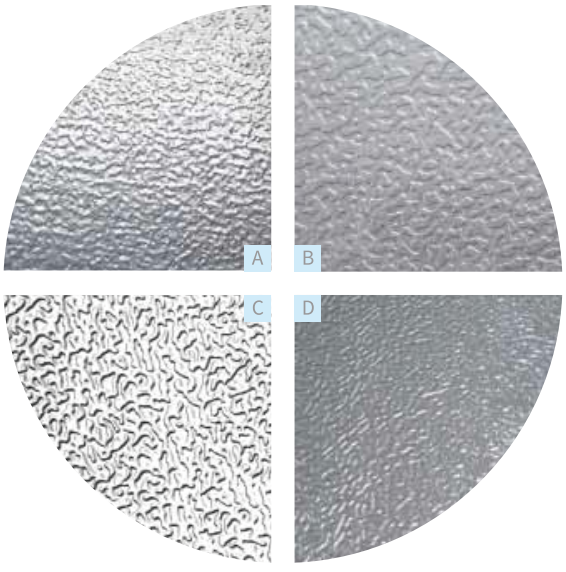
A. Classic

B. Varied #1

C. Varied #2

D. Varied #3

*Note: The embossed pattern shall be usually confirmed by customer when placing order



Coated Aluminum & Aluminum Alloy Coil and Sheet

Standard

- YS/T 431, GB/T17748, Mill's Standard, Mutually Agreed Standard
- Based material conforms to GB/T 3880

Alloy and Temper

Alloy Grade	Temper	Remark
1xxx: 1050, 1100 3xxx: 3003, 3105 5xxx: 5005, 5052	H42, H44, H46, H48	Temper H12, H14, H16, H18, H22, H24, H32 and H34, for base material, are provided as per client's request and mutually agreed

Available Size Range

- Thickness: 0.25mm ~ 1.8mm
- Diameter: 500mm ~ 1,550mm
- Length: Coiled , or 2,000mm ~ 4,000mm

Coating

- Paint: PE (Polyester), PVDF
- Thickness: Front > 18 microns (PE), >24 microns (PVDF)
- Back > 8~10 microns (PE or EP)
- Color: RAL colors or by confirmed sample

Gloss

- 20% to 80%, depends on client's requirement

Surface Protection

- With PE/PVC film on main side (if specified)

Order Information

Required Information in a firm inquiry

Item	Information	Example
1.Product Name	Aluminum Sheet, Aluminum Foil	Aluminum Sheet
2.Standard Specification	GB/T3880, ASTM B209, EN 485	GB/T 3880
3.Alloy	1050, 1050A,3003,5052, 6061	1050
4.Temper	H14, H24, H32, T6, T651	H14
5.Dimension	Thickness x Width x Length	0.5 x 1219 x 2438mm
6.Order Quantity	Specific Quantity per each size	20MT
7.Surface Finish (if any)	Bright Finish, Mill Finish, Coating (paint, color, thickness)	Mill Finish
8.Surface Protection (if any)	Paper interleaved, PE coating on main side	With Paper Interleaved
9.Coil ID (if specified)	405mm, 505mm	N/A
10.Coil / Pallet Weight (if specified)	3.0~5.0MT/coil, 1.5~2.5MT/pallet	2.0MT/pallet Max.
11.Application	Catering Equipment, Curtain Wall	Catering Equipment
12.Other Requirements (if any)	Chemical Composition, Mechanical Properties, Dimensional Tolerance	Thickness tolerance on light side

The items with yellow color are required to be clarified for any inquiry.

Other specifications unlisted in our catalogue are available up to request, or will be provided by agreement.

MOQ (Minimum Order Quantity)

- 5MT per size for popular items
- 7MT to 10MT per size for special dimensions
- 2MT per size for disc

Note:

The order with quantity less than MOQ may be acceptable on condition of that other clients order same specifications at the time of ordering.

Tolerance Control

Thickness Tolerances for Cold Rolled Sheet, Coil, Strip and Disc

Specified Thickness	Specified Width			
	=<1000mm	>1000~1250mm	>1250~1600mm	>1600~2000mm
0.2~0.4mm	+/- 0.02mm	+/- 0.03mm	+/- 0.03mm	-
>0.4~0.6mm	+/- 0.03mm	+/- 0.04mm	+/- 0.04mm	+/- 0.04mm
>0.6~0.8mm	+/- 0.03mm	+/- 0.05mm	+/- 0.05mm	+/- 0.07mm
>0.8~1.0mm	+/- 0.04mm	+/- 0.06mm	+/- 0.07mm	+/- 0.08mm
>1.0~1.2mm	+/- 0.04mm	+/- 0.07mm	+/- 0.07mm	+/- 0.09mm
>1.2~1.5mm	+/- 0.05mm	+/- 0.08mm	+/- 0.08mm	+/- 0.11mm
>1.5~2.0mm	+/- 0.06mm	+/- 0.09mm	+/- 0.09mm	+/- 0.12mm
>2.0~3.0mm	+/- 0.07mm	+/- 0.09mm	+/- 0.09mm	+/- 0.15mm
>3.0~4.0mm	+/- 0.10mm	+/- 0.15mm	+/- 0.16mm	+/- 0.18mm
>4.0~6.0mm	+/- 0.18mm	+/- 0.22mm	+/- 0.22mm	+/- 0.25mm
>6.0~8.0mm	+/- 0.24mm	+/- 0.28mm	+/- 0.28mm	+/- 0.30mm

Thickness Tolerances for Hot Rolled Plate

Specified Thickness	Specified Width		
	>1000~1250mm	>1250~1600mm	>1600~2000mm
6.0~8.0mm	+/- 0.35mm	+/- 0.40mm	+/- 0.40mm
>8.0~10.0mm	+/- 0.45mm	+/- 0.50mm	+/- 0.50mm
>10.0~15.0mm	+/- 0.50mm	+/- 0.60mm	+/- 0.65mm
>15.0~20.0mm	+/- 0.60mm	+/- 0.70mm	+/- 0.75mm
>20.0~30.0mm	+/- 0.65mm	+/- 0.75mm	+/- 0.85mm
>30.0~40.0mm	+/- 0.75mm	+/- 0.85mm	+/- 1.00mm
>40.0~50.0mm	+/- 0.90mm	+/- 1.00mm	+/- 1.10mm
>50.0~60.0mm	+/- 1.10mm	+/- 1.20mm	+/- 1.40mm
>60.0~80.0mm	+/- 1.40mm	+/- 1.50mm	+/- 1.70mm
>80.0~100.0mm	+/- 1.70mm	+/- 1.80mm	+/- 1.90mm
>100.0~150.0mm	+/- 2.10mm	+/- 2.20mm	+/- 2.50mm

Thickness Tolerances for Foil

Specified Thickness (T)	Tolerance (%)
0.006 ~ 0.009mm	+/- 6% T
>0.009 ~ 0.200mm	+/- 5% T

Width Tolerances for Foil, Strip and Coil

Specified Thickness	Specified Width				
	300mm	>300~500mm	>500~1250mm	>1250~1650mm	>1650~2000mm
0.006~0.200mm	+/- 1.0mm	+/- 1.0mm	+/- 1.0mm	+/- 2.0mm	+/- 2.0mm
>0.20~0.60mm	+ 0.4mm	+ 0.6mm	+ 1.5mm	+ 2.5mm	+ 3.0mm
>0.60~1.00mm	+ 0.5mm	+ 1.0mm	+ 1.5mm	+ 2.5mm	+ 3.0mm
>1.00~2.00mm	+ 0.7mm	+ 1.2mm	+ 2.0mm	+ 2.5mm	+ 3.0mm
>2.00~4.00mm	+ 1.0mm	+ 1.5mm	+ 2.0mm	+ 2.5mm	+ 4.0mm

Flatness Tolerances for Sheet and Plate

Specified Thickness	Total Deviation %		Partial Deviation % (for a chord of at least 300mm) dmax/l
	On Length dmax/L	On Width dmax/W	
>0.20~0.50mm	By agreement	By agreement	By agreement
>0.50~3.0mm	0.004	0.005	0.005
>3.0~6.0mm	0.003	0.004	0.004
>6.0~50mm	0.002	0.004	0.003

Note:
L=Length of the sheet or plate, W=width of the sheet or plate, d=deviation from flatness, l=length of chord

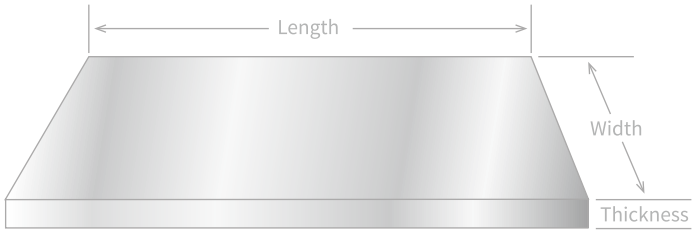
Squareness Tolerances for Sheet and Plate

Specified Length	Specified Thickness	Squareness tolerances for specified width		
		≤1000	>1000~1500mm	>1500~2000mm
≤1000mm	≤6.0mm	4mm	-	-
	>6.0mm	5mm	-	-
>1000~2000mm	≤6.0mm	4mm	5mm	6mm
	>6.0mm	5mm	7mm	8mm
>2000~3000mm	≤6.0mm	5mm	5mm	7mm
	>6.0mm	7mm	7mm	9mm
>3000~5000mm	≤6.0mm	6mm	8mm	8mm
	>6.0mm	8mm	10mm	10mm
>5000mm	≤6.0mm	10mm	10mm	12mm
	>6.0mm	12mm	12mm	15mm

Theoretical Weight

Sheet and Plate Weight Caculate

Weight of Pcs = Thickness x Width x Length x Density = Kgs/pcs



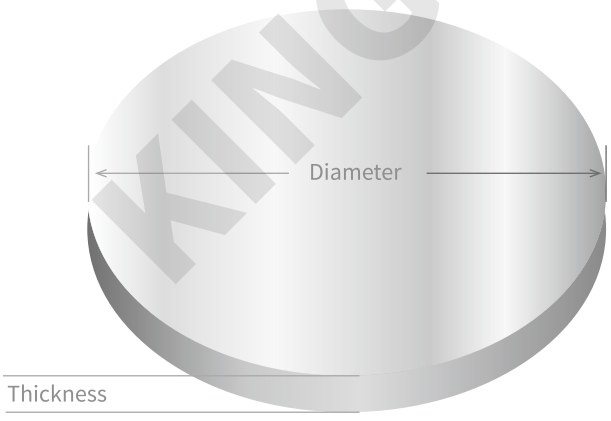
Theoretical Weight per pcs for standard size:

Standard Size	Weight
1.0 x 1000 x 2000mm	5.400 kgs
1.0 x 1250 x 2500mm	8.438 kgs
1.0 x 1500 x 3000mm	12.150 kgs
1.0 X 1219 x 2438mm	8.024 kgs
1.0 x 1524 x 3048mm	12.542 kgs

**Note: Based on density of 2700 kg/m 3*

Disc Weight Caculate

Weight of Pcs = Thickness x 3.14 x (Diameter/2)^2 x Density = Kgs/pcs



Density of Aluminum and Aluminum Alloy

Alloy	Density (kg/m^3)
1050,1050A	2,705
1060	2,705
1100	2,710
1145	2,700
1200	2,700
1235	2,705
2014	2,800
2017	2,790
2024	2,780
3003	2,730
3004	2,720
3005	2,730
3105	2,720
5005	2,700
5052	2,680
5083	2,660
5754	2,670
6061	2,700
6082	2,700
7075	2,810
8011	2,710
8011A	2,710
8079	2,720

Alloy 1050, Thickness 3.0mm x Diameter 500mm

Weight/pcs = 3.0 x 10-3 x 3.14 x (0.5/2)^2 x 2705 = 1.593 kgs/pcs

Package Dimension

For Sheet & Plate(Plain)

Standard Size mm	Pallet Weight Kg	Estimated PCS for Thickness 1.0mm only	Estimated Pallet Height for any thickness
1000 x 2000	1000	185 pcs	335mm
	1500	278 pcs	428mm
	2000	370 pcs	520mm
	2500	463 pcs	613mm
1250 x 2500	1000	119 pcs	269mm
	1500	178 pcs	328mm
	2000	237 pcs	387mm
	2500	296 pcs	446mm
1500 x 3000	1000	82 pcs	232mm
	1500	123 pcs	273mm
	2000	165 pcs	315mm
	2500	206 pcs	356mm
1219 x 2438	1000	125 pcs	275mm
	1500	187 pcs	337mm
	2000	249 pcs	399mm
	2500	312 pcs	462mm
1524 x 3048	1000	80 pcs	230mm
	1500	120 pcs	270mm
	2000	159 pcs	309mm
	2500	199 pcs	349mm

*Note: Based on density of 2700 kg/m 3

For Coil(Coil ID is 505mm)

Standard Size mm	Coil Weight Kg	Estimated Coil OD for any thickness
1000 x C	2500	1,240mm
	3000	1,340mm
	4000	1,520mm
	5000	1,680mm
1250 x C	2500	1,135mm
	3000	1,220mm
	4000	1,375mm
	5000	1,520mm
1500 x C	2500	1,055mm
	3000	1,135mm
	4000	1,275mm
	5000	1,400mm
1219 x C	2500	1,145mm
	3000	1,230mm
	4000	1,390mm
	5000	1,535mm
1524 x C	2500	1,050mm
	3000	1,125mm
	4000	1,265mm
	5000	1,390mm

Sheet & Plate Loading

Coil Loading

Export Package

Coil / Roll Package

- Eye to Side
- Coil Weight 2.0 ~ 6.0 MT
- To be recommended when the coil width is less than 1200mm to maximize container loading.

- Eye to Sky
- Coil Weight 2.0 ~ 3.0 MT
- To be recommended when the coil width is over 1200mm to maximize container loading and coil weight to be about 2.5MT.

Coil Loading

Plate / Sheet Package

- Wooden Pallet
- Pallet Weight 1.0 ~ 3.0 MT
- Pallet weight of 2.0 to 2.5MT is recommended to maximize container loading.

Sheet & Plate Loading

Product Technical Data

Chemical Composition

Chemical Composition conforms to the standard specification of GB/T 3190, EN 573 and ASTM B209.

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others		Al
									Each	Total	Min.
1050	0.25	0.4	0.05	0.05	0.05	-	0.05	0.03	0.03	-	99.5
1050A	0.25	0.4	0.05	0.05	0.05	-	0.07	0.05	0.03	-	99.5
1060	0.25	0.35	0.05	0.03	0.03	-	0.05	0.03	0.03	-	99.6
1100	0.95 Si + Fe		0.05~0.20	0.05	-	-	0.1	-	0.05	0.15	99
1200	1.00 Si + Fe		0.05	0.05	-	-	0.1	0.05	0.05	0.15	99
1145	0.55 Si + Fe		0.05	0.05	0.05	-	0.05	0.03	0.03	-	99.45
1235	0.65 Si + Fe		0.05	0.05	0.05	-	0.1	0.06	0.03	-	99.35
2014	0.5~1.2	0.7	3.9~5.0	0.4~1.2	0.2~0.8	0.1	0.25	0.15	0.05	0.15	remainder
2017	0.2~0.8	0.7	3.5~4.5	0.4~1.0	0.4~0.8	0.1	0.25	0.15	0.05	0.15	remainder
2024	0.5	0.5	3.8~4.9	0.3~0.9	1.2~1.8	0.1	0.25	0.15	0.05	0.15	remainder
3003	0.6	0.7	0.05~0.20	1.0~1.5	-	-	0.1	-	0.05	0.15	remainder
3004	0.3	0.7	0.25	1.0~1.5	0.8~1.3	-	0.25	-	0.05	0.15	remainder
3005	0.6	0.7	0.3	1.0~1.5	0.2~0.6	0.1	0.25	0.1	0.05	0.15	remainder
3105	0.6	0.7	0.3	0.3~0.8	0.2~0.8	0.2	0.4	0.1	0.05	0.15	remainder
5005	0.3	0.7	0.2	0.2	0.5~1.1	0.1	0.25	-	0.05	0.15	remainder
5052	0.25	0.4	0.1	0.1	2.2~2.8	0.15~0.35	0.1	-	0.05	0.15	remainder
5754	0.4	0.4	0.1	0.5	2.6~3.6	0.3	0.2	0.15	0.05	0.15	remainder
5083	0.4	0.4	0.1	0.4~1.0	4.0~4.9	0.05~0.25	0.25	0.15	0.05	0.15	remainder
6061	0.4~0.8	0.7	0.15~0.4	0.15	0.8~1.2	0.04~0.35	0.25	0.15	0.05	0.15	remainder
6082	0.7~1.3	0.5	0.1	0.4~1.0	0.6~1.2	0.25	0.2	0.1	0.05	0.15	remainder
7075	0.4	0.5	1.2~2.0	0.3	2.1~2.9	0.18~0.28	5.1~6.1	0.2	0.05	0.15	remainder
8011	0.5~0.9	0.6~1.0	0.1	0.2	0.05	0.05	0.1	0.08	0.05	0.15	remainder
8011A	0.4~0.8	0.5~1.0	0.1	0.1	0.1	0.1	0.1	0.05	0.05	0.15	remainder
8079	0.05~0.3	0.7~1.3	0.05	-	-	-	0.1	-	0.05	0.15	remainder

Note:

Limits are in mass percent maximum unless shown as a range or sated otherwise.
Information presented as a guide for reference purposes only and is not intended to be used for product design or application.

Mechnical Properties - For Sheet and Plate General Use

Alloy	Temper	Specified Thickness (mm)	Tensile Strength (MPa)						Yield Strength (MPa)			Elongation % (A50mm / A)		
			GB/T 3880		ASTM B209		EN 485		GB/T 3880	ASTM B209	EN 485	GB/T 3880	ASTM B209	EN 485
			Min	Max	Min	Max	Min	Max						
1050	O	0.2-0.8	60	100	-	-	-	-	-	-	-	>15-20%	-	-
		>0.8-12.5	60	100	-	-	-	-	>20	-	-	>25-30%	-	-
	H14, H24	0.2-0.8	95	130	-	-	-	-	-	-	-	>1-3%	-	-
		>0.8-6.0	95	130	-	-	-	-	>75		-	>4-6%	-	-
	H18	0.2-3.0	130		-	-	-	-		-	-	>1-4%	-	-
1050A	O	0.2-12.5	65	95	-	-	65	95	>20	-	>20	>20-35%	-	>20-35%
	H14	0.2-6.0	105	145	-	-	105	145	>85	-	>85	>2-5%	-	>2-5%
	H24	0.2-6.0	105	145	-	-	105	145	>75	-	>75	>3-8%	-	>3-8%
	H18	0.2-0.5	140		-	-	135		>120	-	>120	>1%	-	>1%
		>0.5-3.0	140		-	-	140		>120	-	>120	>2%	-	>2%
1060	O	0.2-80	60	100	55	95	-	-	>15	>15	-	>15-25%	>15-25%	-
	H14, H24	0.2-6.0	95	135	85	120	-	-	>70	>70	-	>1-10%	>1-10%	-
	H18	0.2-3.0	125		110		-	-	>85	>85	-	>1-4%	>1-4%	-
1100	O	0.2-80	75	105	75	105	-	-	>25	>25	-	>15-30%	>15-30%	-
	H14, H24	0.2-4.0	110	145	110	145	-	-	>95	>95	-	>1-5%	>1-5%	-
	H18	0.2-3.0	150		150		-	-	-	-	-	>1-4%	>1-4%	-
3003	O	0.2-12.5	95	140	95	130	95	135	>35	>35	>35	>15-24%	>14-25%	>15-24%
	H12	0.2-6.0	120	160	120	160	120	160	>90	>85	>90	>3-6%	>3-6%	>3-6%
	H22	0.2-6.0	120	160	120	160	120	160	>80	>85	>80	>6-9%	>3-6%	>6-9%
	H14	0.2-6.0	145	195	140	180	145	185	>125	>115	>125	>2-4%	>1-5%	2-4%
	H24	0.2-6.0	145	195	140	180	145	185	>115	>115	>115	>4-6%	>1-5%	>4-6%
3004	O, H111	0.2-12.5	155	200	150	200	155	200	>60	>60	>60	>13-16%	>9-18%	>13-16%
	H22, H32	0.2-6.0	190	240	190	240	190	240	>145	>145	>145	>4-7%	>1-5%	>4-7%
	H24, H34	0.2-3.0	220	265	220	265	220	265	>170	>170	>170	>3-4 %	>1-4%	>3-4%
3005	O, H111	0.2-6.0	115	165	115	165	115	165	>45	>45	>45	>12-19%	>10-20%	>12-19%
	H14	0.2-6.0	170	215	165	215	170	215	>150	>145	>150	>1-3%	>1-3%	>1-3%
	H24	0.2-3.0	170	215	-	-	170	215	>130	-	>130	>4%	-	>4%
3105	O, H111	0.32-2.0	100	155	95	145	100	155	>40	>35	>40	>14-17%	>16-20%	>14-17%
	H14	0.32-2.0	150	200	150	200	150	200	>130	>125	>130	>2%	>1-2%	>2%
	H24	0.32-2.0	150	200	150		150	200	>12C	>125	>120	>4-5%	>2-6%	>4-5%
5005	O, H111	0.2-12.5	100	145	105	145	100	145	>35	>35	>35	>15-24%	>12-22%	>15-24%
	H22, H32	0.5-6.0	125	165	120	160	125	165	>80	>85	>80	>5-8%	>3~7%	>5-8%
	H24, H34	0.5-6.0	145	185	140	180	145	185	>110	>105	>110	>4-6%	>3-5%	>4-6%
	H112	6.3-12.5	115		115		-	-	-	-	-	>8%	>8%	-
		>12.5-40	105		105		-	-	-	-	-	>10% (A)	>10% (A)	-
5052	O, H111	0.2-6.0	170	215	170	215	170	215	>65	>65	>65	>12-19%	>13-19%	>12-18%
	H22, H32	0.2-6.0	210	260	215	265	210	260	>130	>160	>130	>5-10%	>4-7%	>5-10%
	H24, H34	0.2-6.0	230	280	235	285	230	280	>150	>180	>150	>4-7%	>3-6%	>4-7%
	H112	6.3-12.5	190		190		-	-	>80	>110		>7%	>7%	-
		>12.5-40	170		170		-	-	>70	>65	-	>10% (A)	>10% (A)	-

Continued Table of Mechnical Properties - For Sheet and Plate General Use

Alloy	Temper	Specified Thickness (mm)	Tensile Strength (MPa)						Yield Strength (MPa)			Elongation % (A50mm / A)		
			GB/T 3880		ASTM B209		EN 485		GB/T 3880	ASTM B209	EN 485	GB/T 3880	ASTM B209	EN 485
			Min	Max	Min	Max	Min	Max						
5754	O	0.75-3.5	-	-	200	270	190	190	-	>80	>80	-	>17-19%	>12-18%
	O,H111	0.2-12.5	-		-	-	190	240	-	-	>80	-		>12-18%
	H22, H32	0.2-12.5	-	-	-	-	220	270	-	-	>130	-	-	>7-11%
	H24, H34	0.2-12.5	-	-	-	-	240	280	-	-	>160	-	-	>6-10%
	H112	6.0-12.5	-	-	-	-	190			-	>100	-	-	>12%
		>12.5-25	-	-	-	-	190		-	-	>90	-	-	>10%(A)
		>25.0-40	-	-	-	-	190		-	-	>80	-	-	>12% (A)
5083	O, H111	1.25-6.3	275	350	275	350	275	350	>125	125-200	>125	>12-15%	>16%	>12-15%
		>6.3-12.5	275	350	270	345	270	345	>125	115-200	> 115	>16%	>16%	>16%
		>12.5-40	275	350	270	345	270	345	>125	115-200	> 115	>15% (A)	>16%	>15%(A)
	H22, H32	0.2-3.2	305	380	-	-	305	380	>215	-	>215	>5-8%	-	>5-8%
		>3.2-6.0	305	380	305	385	305	380	>215	>215	>215	>8%	>10-12%	>8%
	H24, H34	0.2-6.0	340	400	-	-	340	400	>250	-	>250	>4-7%	-	>4-7%
	H112	6.3-12.5	275		275		275		>125	>125	>125	>12%	>12%	>12%
		>12.5-40	275		275		275		>125	>125	>125	>10%(A)	>10%(A)	>10%(A)
2014	T451	6.3-12.5	400		400		400		>250	>250	>250	>14%	>14%	>14%
		>12.5-25	400		400		400		>250	>250	>250	>12% (A)	> 12%(A)	> 12%(A)
		>25-50	400		400		400		>250	>250	>250	>10%(A)	>10%(A)	>7-10%(A)
		>50.0-80	395		395		395		>250	>250	>250	> 7%(A)	7%(A)	7%(A)
2017	T451	6.3-12.5	355					-	>195	-		>12%	-	-
		>12.5-50	355		-	-	-	-	>195	-	-	>12% (A)	-	-
2024	T351	6.3-12.5	440		440		440		>290	>290	>290	>12%	>12%	>13%
		> 12.5-25	435		435		430		> 290	> 290	> 290	> 7%(A)	7%(A)	> 11% (A)
		> 25-40	425		425		430		> 290	> 290	> 290	> 6%	> 6%(A)	> 11% (A)
6061	T4, T451	0.5-12.5	205		205		205		>110	>110	>110	>12-18%	>16-18%	>12-18%
		> 12.5-80	205		205		205		> 110	> 110	> 110	>14-16%(A)	>14-16%(A)	> 14-15%(A)
	T6, T651	0.5-12.5	290		290		290		>240	>240	>240	>6-10%	>10%	>6-10%
		>12.5-100	290		290		290		> 240	> 240	> 240	> 5-8%(A)	> 5-8%(A)	> 5-8% (A)
6082	T4, T451	0.4-12.5	205		-	-	205		> 110	-	> 110	> 12-15%	-	> 12-15%
		>12.5-80	205		-	-	205		>110	-	>110	>12-13%(A)	-	> 12-13%(A)
	T6	0.4-6.0	310		-	-	310		>260	-	>260	>6-10%	-	>6-10%
	T651	6.0-12.5	300		-	-	300		> 255	-	> 255	> 9%	-	> 9%
		>12.5-100	295		-	-	295		>240	-	>240	> 7-8%(A)	-	> 7-8%(A)
7075	T651	6.3-12.5	540		540		540		>460	>460	>460	>9%	>9%	>8%
		> 12.5-25	540		540		540		>470	> 470	> 470	> 6% (A)	> 6% (A)	6% (A)
		> 25.0-50	530		530		530		>460	> 460	> 460	> 5% (A)	> 5% (A)	> 5% (A)
		> 50.0-60	525		525		525		>440	> 440	> 440	> 4% (A)	> 4% (A)	> 4% (A)
		> 60.0-80	495		495		495		>420	> 420	> 420	> 4% (A)	> 4% (A)	> 4% (A)

Note:

The A value for elongation is the elongation measured over a gauge length of 5.65 $\sqrt{S0}$ (where S0 is the initial cross-sectional area of the test piece), and expressed in percent.

Mechnical Properties - For Foil General Use

Based on GB/T 3198

Alloy	Temper	Specified Thickness	Tensile Strength Mpa	Elongation	
				A50mm	A100mm
1050 1060 1100 1145 1200 1235	O	0.006~0.009mm	40~100		
		> 0.009~0.025mm	40~105	-	>1.5%
		> 0.025~0.040mm	50~105	-	> 2%
		> 0.040~0.090mm	55~105		> 2%
		> 0.090~0.140mm	60~115	> 12%	-
		> 0.140~0.200mm	60~115	> 15%	-
	H22	0.006~0.025mm	-		-
		> 0.025~0.090mm	90~135	-	> 2%~3%
		> 0.090~0.200mm	90~135	> 4%~6%	-
	H14, H24	0.006~0.025mm	-	-	-
		> 0.025~0.090mm	110~160		> 2%~3%
		> 0.090~0.200mm	110~160	> 4%~6%	-
	H16, H26	0.006~0.025mm	-	-	-
		> 0.025~0.090mm	125~180	-	> 1%
		> 0.090~0.200mm	125~180	> 2%	-
	H18	0.006~0.200mm	⩾140		-
	H19	0.006~0.200mm	⩾150	-	-
3003	O	0.009~0.012mm	80~135		-
		>0.012~0.200mm	80~140		-
	H22	0.020~0.050mm	>90~130	-	>3%
		>0.05~0.200mm	>90~130	>10%	
	H14	0.030~0.200mm	140~170		-
	H24	0.030~0.200mm	140~170	>1%	
	H16	0.100~0.200mm	⩾180		-
	H26	0.100~0.200mm	⩾180	>1%	-
	H18	0.010~0.200mm	⩾190	>1%	
	H19	0.018~0.100mm	⩾200	-	-
8011 8011A 8079	O	0.006~0.009mm	50~100		>0.5%
		>0.009~0.025mm	55~100		>1%
		>0.025~0.040mm	55~110	-	>4%
		>0.040~0.090mm	60~120	-	>4%
		>0.090~0.140mm	60~120	>13%	-
		>0.140~0.200mm	60~120	>15%	-
	H22	0.035~0.090mm	90~150		>1~2%
		>0.090~0.200mm	90~150	>5%-6%	
	H24	0.035~0.090mm	120~170	>2%-3%	
		>0.090~0.200mm	120~170	>4%-5%	
	H26	0.035~0.200mm	140~190	>1%-2%	
	H18	0.035~0.200mm	⩾160	-	
	H19	0.035~0.200mm	⩾170	-	-

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