rime.

ENGINEERED TO ENDURE
MANUFACTURED FOR SUCCESS

# Copper Product Catalog

PANCAKE COILS | STRAIGHT LENGTHS | FITTINGS |
LEVEL WOUND COIL | INNER GROOVED TUBE
INSULATED COPPER TUBE

c UL us
700 PSI R410A

# OVERVIEW

## About rime Group

rime is a dynamic and innovative refrigeration company that manufactures state-of-the-art refrigeration products and provides turnkey solutions for commercial and industrial applications. We have over 20 years of expertise, and with a relentless commitment to excellence and a passion for innovation, we have emerged as a leading player in the Middle Eastern and African HVAC and refrigeration Industry.

## Our Mission

We strive to deliver high-quality, cost-effective refrigeration solutions with a focus on advanced manufacturing and assembly. Our goal is to provide superior products and exceptional service, that ensures a seamless customer experience and ongoing support.

## Our Vision

To lead the HVAC and Refrigeration industry from the GCC to the global stage, setting the benchmark for cost-effective and innovative solutions. Through advanced manufacturing and assembly practices, we strive to pioneer cutting-edge technologies that optimize energy efficiency, minimize environmental impact, and make a significant, positive difference worldwide.

## Core Values

**R**esponsiveness: We value responsiveness in our interactions with clients, partners, and team members. We prioritize open communication and timely actions to address their needs efficiently.

**I**ntegrity: It is at the core of our business. We uphold ethical practices, transparency, and honesty in all our endeavors, building trust and long-lasting relationships with our stakeholders.

**M**indfulness: Extends to our workplace culture. We are committed to fostering a supportive and inclusive environment where employees' well-being and personal growth are prioritized, ensuring a positive and collaborative work atmosphere.

**E**mpowerment: We believe in empowering our team members to foster creativity, growth, and professional development. We encourage collaboration and foster an environment where everyone's ideas and contributions are valued.

# Diverse Copper Solutions



## Our Copper Product Range

As an established copper tube manufacturer, Rime supplies copper tubes with excellent thermal and electrical conductivity, corrosion resistance, strength, ductility, and broad temperature resistance. In addition to their superior formability and lightweight, these properties make copper tubes the most popular choice for plumbing,  heating, and cooling systems in residential, commercial, and industrial buildings.

Rime manufactures Copper Coils,Straight Lengths & Copper Fittings with the following international standards for air conditioning and refrigeration applications, including connecting heat exchangers and piping systems. They are also widely used in cold and hot water supply and drainage of buildings, direct drinking water, gas, medical, food, chemical, and various industries.

**ASTM B 280, JIS H 3300, ASTM B 68, ASTM B 88, ASTM B 743, AS/NZS 1571, AS 1432, EN 12735, ASTM B75 & ASME B16.22**


**Get in touch** | sales@rimegroup.com

# Straight Length

## Copper Tube for Construction applications Air-conditioning & Refrigeration Field Service

### ASTM B280/B68/B88/JIS-H3300/AS-1432-Straight Lengths – Specifications

| Types of Copper Straight Lengths and Uses: | Physical Properties |
|---|---|
| **Type K** underground residential, commercial, and industrial uses. (Sizes range from 1/4"~8" diameter) | **Composition** Alloy C12200 Copper = 99.90% min Phosphorus = 0.015 ~ 0.040% **Melting Point** 0981 °F(1083°C) **Density** 558lb/ft3(8.94 x 103kg/m3) **Thermal Expansion** 0.00118 in/10°F.ft (0.177mm/10°C.m) **Modulus of Elasticity** 2.46 106psi(17,000MPg) |
| **Type L** residential and commercial uses. (Sizes range from 1/4"~8" diameter) | |
| **Type M** above-ground residential and light commercial uses. (Sizes range from 3/8"-8" diameter) | |

c US
700 PSI R410A

| Product | Temper | Lengths | Uses | Specifications |
|---|---|---|---|---|
| Type K Copper Water Tube, (heavy wall) | Hard<br><br>Soft | 12ft straight<br>20ft straight<br><br>12ft straight<br>50ft coils<br>100ft coils | Domestic water service and distribution, fire protection, solar, fuel/fuel oil HVAC, snow melting, compressed air, natural gas, liquified petroleum (LP) gas, vacuum | ASTM-B88<br>JIS-H3300<br>AS-1432 |
| Type L Copper Water Tube, (heavy wall) | Hard<br><br>Soft | 20ft straight<br><br>20ft coils<br>50ft coils | Domestic water service and distribution, fire protection, solar, fuel/fuel oil, HVAC, snow melting, compressed air, natural gas, liquified petroleum(LP) gas, vacuum | STM-B88<br>JIS-H3300<br>AS-1432 |
| Type M Copper Water Tube, (heavy wall) | Hard | 20ft straight | General plumbing and heating purposes; drainage waste, vent and other light pressure uses. | ASTM-B88<br>JIS-H3300<br>AS-1432 |

*All tubes are manufactured from phosphorus-deoxidized copper (DHP), complying with UNS C12200.

**Straight Lenght Copper Tube ASTM B280 / ASTM B280 Type L ACR**

| Actual Size in Inches | Outside diameter | | | Wall Thickness | | | Theoretical Weight | |
|---|---|---|---|---|---|---|---|---|
| | inch | mm | Tolerance (inch) | inch | mm | Tolerance (inch) | lb/ft | kg/m |
| 3/8 | 0.375 | 9.52 | 0.001 | 0.03 | 0.762 | 0.003 | 0.126 | 0.187 |
| 1/2 | 0.5 | 12.7 | 0.001 | 0.035 | 0.889 | 0.004 | 0.198 | 0.295 |
| 5/8 | 0.625 | 15.9 | 0.001 | 0.04 | 1.02 | 0.004 | 0.285 | 0.424 |
| 3/4 | 0.75 | 19.1 | 0.001 | 0.042 | 1.07 | 0.004 | 0.362 | 0.539 |
| 7/8 | 0.875 | 22.2 | 0.001 | 0.045 | 1.14 | 0.004 | 0.455 | 0.677 |
| 1 1/8 | 1.125 | 28.6 | 0.0015 | 0.05 | 1.27 | 0.005 | 0.655 | 0.975 |
| 1 3/8 | 1.375 | 34.9 | 0.0015 | 0.055 | 1.4 | 0.006 | 0.884 | 1.32 |
| 1 5/8 | 1.625 | 41.3 | 0.002 | 0.06 | 1.52 | 0.006 | 1.14 | 1.7 |
| 2 1/8 | 2.125 | 54 | 0.002 | 0.07 | 1.78 | 0.007 | 1.75 | 2.6 |
| 2 5/8 | 2.625 | 66.7 | 0.002 | 0.08 | 2.03 | 0.008 | 2.48 | 3.36 |
| 3 1/8 | 3.125 | 79.4 | 0.002 | 0.09 | 2.29 | 0.009 | 3.33 | 4.96 |
| 3 5/8 | 3.625 | 92.1 | 0.002 | 0.1 | 2.54 | 0.01 | 4.29 | 6.38 |
| 4 1/8 | 4.125 | 105 | 0.002 | 0.11 | 2.79 | 0.011 | 5.38 | 8.01 |

| ASTM B 280 -ECO |
|---|
| 1/4" x 0.76mm x 5.8 Mtr |
| 3/8" x 0.61mm x 5.8 mtr |
| 1/2" x 0.61mm x 5.8 mtr |
| 5/8" x 0.71 mm x 5.8 mtr |
| 3/4" x 0.89 mm x 5.8 mtr |
| 7/8" x 0.81mm x 5.8 mtr |
| 1 1/8"x 0.91mm x 5.8 mtr |
| 1 3/8" x 1.02mm x 5.8 mtr |
| 2 1/8" x 1.50mm x 5.8 mtr |

**Type K (STRAIGHT, DRAWN) ASTM B88**

| Nominal Size in Inches | Actual Size in Inches | Outside diameter | | | Wall Thickness | | | Theoretical Weight | |
|---|---|---|---|---|---|---|---|---|---|
| | | inch | mm | Tolerance (inch) | inch | mm | Tolerance (inch) | lb/ft | kg/m |
| 1/4 | 3/8 | 0.375 | 9.52 | 0.001 | 0.035 | 0.89 | 0.0035 | 0.145 | 0.216 |
| 3/8 | 1/2 | 0.500 | 12.7 | 0.001 | 0.049 | 1.24 | 0.005 | 0.269 | 0.4 |
| 1/2 | 5/8 | 0.625 | 15.9 | 0.001 | 0.049 | 1.24 | 0.005 | 0.344 | 0.512 |
| 5/8 | 3/4 | 0.750 | 19.1 | 0.001 | 0.049 | 1.24 | 0.005 | 0.419 | 0.624 |
| 3/4 | 7/8 | 0.875 | 22.2 | 0.001 | 0.065 | 1.65 | 0.006 | 0.639 | 0.953 |
| 1 | 1 1/8 | 1.125 | 28.6 | 0.0015 | 0.065 | 1.65 | 0.006 | 0.838 | 1.25 |
| 1 1/4 | 1 3/8 | 1.375 | 34.9 | 0.0015 | 0.065 | 1.65 | 0.006 | 1.034 | 1.54 |
| 1 1/2 | 1 5/8 | 1.625 | 41.3 | 0.002 | 0.072 | 1.83 | 0.007 | 1.359 | 2.03 |
| 2 | 2 1/8 | 2.125 | 54.0 | 0.002 | 0.083 | 2.11 | 0.008 | 2.060 | 3.07 |
| 2 1/2 | 2 5/8 | 2.625 | 66.7 | 0.002 | 0.095 | 2.41 | 0.01 | 2.922 | 4.36 |
| 3 | 3 1/8 | 3.125 | 79.4 | 0.002 | 0.109 | 2.77 | 0.011 | 3.996 | 5.96 |
| 3 1/2 | 3 5/8 | 3.625 | 92.1 | 0.002 | 0.120 | 3.05 | 0.012 | 5.112 | 7.62 |
| 4 | 4 1/8 | 4.125 | 104.8 | 0.002 | 0.134 | 3.40 | 0.013 | 6.500 | 9.69 |
| 5 | 5 1/8 | 5.125 | 130.2 | 0.002 | 0.160 | 4.06 | 0.016 | 9.654 | 14.4 |
| 6 | 6 1/8 | 6.125 | 155.6 | 0.002 | 0.192 | 4.88 | 0.019 | 13.843 | 20.64 |

**Type L (STRAIGHT, DRAWN)**

| Nominal Size in Inches | Actual Size in Inches | Outside diameter | | | Wall Thickness | | | Theoretical Weight | |
|---|---|---|---|---|---|---|---|---|---|
| | | inch | mm | Tolerance (inch) | inch | mm | Tolerance (inch) | lb/ft | kg/m |
| 1/4 | 3/8 | 0.375 | 9.52 | 0.001 | 0.030 | 0.76 | 0.003 | 0.126 | 0.187 |
| 3/8 | 1/2 | 0.500 | 12.7 | 0.001 | 0.035 | 0.89 | 0.004 | 0.198 | 0.295 |
| 1/2 | 5/8 | 0.625 | 15.9 | 0.001 | 0.040 | 1.02 | 0.004 | 0.285 | 0.425 |
| 5/8 | 3/4 | 0.750 | 19.1 | 0.001 | 0.042 | 1.07 | 0.004 | 0.362 | 0.54 |
| 3/4 | 7/8 | 0.875 | 22.2 | 0.001 | 0.045 | 1.14 | 0.004 | 0.453 | 0.676 |
| 1 | 1 1/8 | 1.125 | 28.6 | 0.0015 | 0.050 | 1.27 | 0.006 | 0.654 | 0.975 |
| 1 1/4 | 1 3/8 | 1.375 | 34.9 | 0.0015 | 0.055 | 1.40 | 0.006 | 0.881 | 1.31 |
| 1 1/2 | 1 5/8 | 1.625 | 41.3 | 0.002 | 0.060 | 1.52 | 0.006 | 1.142 | 1.7 |
| 2 | 2 1/8 | 2.125 | 54.0 | 0.002 | 0.070 | 1.78 | 0.007 | 1.749 | 2.61 |
| 2 1/2 | 2 5/8 | 2.625 | 66.7 | 0.002 | 0.080 | 2.03 | 0.008 | 2.475 | 3.69 |
| 3 | 3 1/8 | 3.125 | 79.4 | 0.002 | 0.190 | 2.29 | 0.009 | 3.32 | 4.95 |
| 3 1/2 | 3 5/8 | 3.625 | 92.1 | 0.002 | 0.100 | 2.54 | 0.01 | 4.284 | 6.39 |
| 4 | 4 1/8 | 4.125 | 104.8 | 0.002 | 0.114 | 2.79 | 0.011 | 5.368 | 8.01 |
| 5 | 5 1/8 | 5.125 | 130.2 | 0.002 | 0.125 | 3.18 | 0.012 | 7.596 | 11.33 |
| 6 | 6 1/8 | 6.125 | 155.6 | 0.002 | 0.140 | 3.56 | 0.014 | 10.183 | 15.19 |

**Type M (STRAIGHT, DRAWN)**

| Nominal Size in Inches | Actual Size in Inches | Outside diameter | | | Wall Thickness | | | Theoretical Weight | |
|---|---|---|---|---|---|---|---|---|---|
| | | inch | mm | Tolerance (inch) | inch | mm | Tolerance (inch) | lb/ft | kg/m |
| 3/8 | 1/2 | 0.500 | 12.7 | 0.001 | 0.025 | 0.64 | 0.002 | 0.144 | 0.215 |
| 1/2 | 5/8 | 0.625 | 15.9 | 0.001 | 0.028 | 0.71 | 0.003 | 0.203 | 0.303 |
| 3/4 | 7/8 | 0.875 | 22.2 | 0.001 | 0.032 | 0.81 | 0.003 | 0.327 | 0.488 |
| 1 | 1 1/8 | 1.125 | 28.6 | 0.0015 | 0.035 | 0.89 | 0.004 | 0.464 | 0.692 |
| 1 1/4 | 1 3/8 | 1.375 | 34.9 | 0.0015 | 0.042 | 1.07 | 0.004 | 0.68 | 1.01 |
| 1 1/2 | 1 5/8 | 1.625 | 41.3 | 0.002 | 0.049 | 1.24 | 0.006 | 0.939 | 1.4 |
| 2 | 2 1/8 | 2.125 | 54.0 | 0.002 | 0.058 | 1.47 | 0.006 | 1.457 | 2.17 |
| 2 1/2 | 2 5/8 | 2.625 | 66.7 | 0.002 | 0.065 | 1.65 | 0.006 | 2.023 | 3.02 |
| 3 | 3 1/8 | 3.125 | 79.4 | 0.002 | 0.072 | 1.83 | 0.007 | 2.672 | 3.98 |
| 3 1/2 | 3 5/8 | 3.625 | 92.1 | 0.002 | 0.083 | 2.11 | 0.008 | 3.573 | 5.33 |
| 4 | 4 1/8 | 4.125 | 104.8 | 0.002 | 0.095 | 2.41 | 0.01 | 4.653 | 6.94 |
| 5 | 5 1/8 | 5.125 | 130.2 | 0.002 | 0.109 | 2.77 | 0.011 | 6.644 | 9.91 |
| 6 | 6 1/8 | 6.125 | 155.6 | 0.002 | 0.122 | 3.01 | 0.012 | 8.9 | 13.27 |

## Seamless Copper Tube for Air-conditioning & Refrigeration Service Field

**ASTM B 280/JIS - H3300/ AS-1571 / ASTM B88 Straight Lengths – Specifications**

A. To calculate the average outside diameter of a tube, simply find the average of the maximum and minimum outer diameters measured at any one cross-section of the tube.

B. Please note that the listed tolerances indicate the maximum deviation at any point for tubes that are made to order and require a minimum order quantity.

The physical properties of this copper tube are identical as determined by ASTM B88.

### Capping & Ink Marking

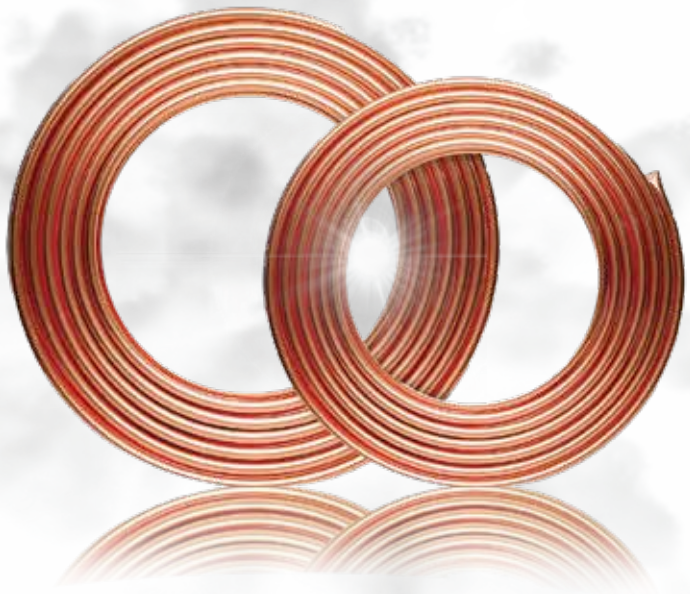
You can recognize the standard copper tube used for air-conditioning and refrigeration by its blue-colored cap. Additionally, it has blue ink markings along its length that indicate details such as the manufacturer's name, country of origin, size, and lot number. These markings help to trace the tubing back to its origin of manufacture.

### Length Of Straight Type Drawn Copper Tube

The standard length for drawn temper ASTM B88 tube is 6.006 meters (20ft). However, it is available in 6.000 meter and 5.800 meter lengths. Also, custom made length is available as by order quantities.

c US
700 PSI R410A

# Pancake Coil (CPC)



Pancake coils, an essential component in refrigeration and air conditioning systems, represent a compact and efficient solution for heat exchange and cooling applications. Their design optimizes surface area for heat transfer while maintaining a compact form factor.

c UL us
700 PSI R410A

| Product | Temper | Lengths | Uses | Specifications |
|---|---|---|---|---|
| Copper Refrigeration Tube | Soft | 50 ft. coils<br>100 ft. coils | Manufacture, installation and maintenance of refrigeration equipment. | ASTM-B280<br>ASTM-B743<br>JIS-H3300<br>AS-1571<br>EN-12735-1 |

c UL us
700 PSI R410A

Coil type - Standard

| Actual Size in Inches | Outside diameter | | | Wall Thickness | | | Theoretical Weight | |
|---|---|---|---|---|---|---|---|---|
| | inch | mm | Tolerance (inch) | inch | mm | Tolerance (inch) | lb/ft | kg/m |
| 1/4 | 0.25 | 6.35 | 0.002 | 0.03 | 0.762 | 0.003 | 0.0804 | 0.12 |
| 5/16 | 0.312 | 7.92 | 0.002 | 0.032 | 0.813 | 0.003 | 0.109 | 0.162 |
| 3/8 | 0.375 | 9.52 | 0.002 | 0.032 | 0.813 | 0.003 | 0.134 | 0.199 |
| 1/2 | 0.5 | 12.7 | 0.002 | 0.032 | 0.813 | 0.003 | 0.182 | 0271 |
| 5/8 | 0.625 | 15.9 | 0.002 | 0.035 | 0.889 | 0.004 | 0.251 | 0.373 |
| 3/4 | 0.75 | 19.1 | 0.0025 | 0.035 | 0.889 | 0.004 | 0.305 | 0.454 |
| 3/4 | 0.75 | 19.1 | 0.0025 | 0.042 | 1.07 | 0.004 | 0.362 | 0.539 |
| 7/8 | 0.875 | 22.2 | 0.003 | 0.045 | 1.14 | 0.004 | 0.455 | 0.677 |

Specification - ASTM B280 Standard

A. To calculate the average outside diameter of a tube, simply find the average of the maximum and minimum outer diameters measured at any one cross-section of the tube.

B. Please note that the listed tolerances indicate the maximum deviation at any point for tubes that are made to order and require a minimum order quantity.

The physical properties of this copper tube are identical as determined by ASTM B88.

**Capping & Ink Marking**
You can recognize the standard copper tube used for air-conditioning and refrigeration by its blue-colored cap. Additionally, it has blue ink markings along its length that indicate details such as the manufacturer's name, country of origin, size, and lot number. These markings help to trace the tubing back to its origin of manufacture.

c UL us
700 PSI R410A

Coil type - Economy

| Outer Diameter inch | Outer Diameter mm | Wall Thickness inch | Wall Thickness mm |
|---|---|---|---|
| 3/16 | 4.76 | 0.024 | 0.61 |
| 1/4 | 6.35 | 0.024 | 0.61 |
| 5/16 | 7.94 | 0.024 | 0.61 |
| 3/8 | 9.53 | 0.024 | 0.61 |
| 1/2 | 12.7 | 0.028 | 0.71 |
| 5/8 | 15.88 | 0.028 | 0.71 |
| 3/4 | 19.05 | 0.032 | 0.81 |
| 7/8 | 22.23 | 0.040 | 1.02 |

Specification - ASTM B743 Standard

Coil type - Low Economy

| Outer Diameter inch | Outer Diameter mm | Wall Thickness inch | Wall Thickness mm |
|---|---|---|---|
| 1/4 | 6.35 | 0.020 | 0.51 |
| 3/8 | 9.53 | 0.022 | 0.56 |
| 1/2 | 12.7 | 0.024 | 0.61 |
| 5/8 | 15.88 | 0.026 | 0.65 |
| 3/4 | 19.05 | 0.028 | 0.71 |
| 7/8 | 22.23 | 0.030 | 0.76 |

Specification - ASTM B280- Low Eco Standard

END-CAP BLUE

INK MARKING (1) PANCAKE COIL-NO MARK (2) STRAIGHT-BLUE

INCISION Trademark of the manufacturer + ACR

# Insulated Copper Tube

## Why insulated copper tubes are such a popular choice across a range of industries

### What Is Insulated copper tube

Insulated copper tubes are widely used in the air conditioning and refrigeration industry due to their excellent thermal conductivity and durability. These insulation copper tubes are critical components of air conditioning and refrigeration systems, as they help to transport refrigerant fluids between the different components of the system.

### Performance Advantages

**Customization**

Insulation copper tube can provide you with customized standards (up to 50 meters in length).

**Nominal Wall Thickness**

Insulated copper tube also meets special outer diameter and wall thickness, optimizing performance and minimizing the risk of leakage or other issues.

**Black Rubber Insulation**

Copper pipe with insulation can meet your needs for black rubber insulation. This type provides excellent thermal conductivity and is often used in applications where high temperatures are present.

**Secure Connection Point**

Copper tube insulation provides you with products covered with copper tubes at both ends. They are easy to install, as the copper provides a secure connection point that minimizes the risk of leaks or other problems.

### INSULATED COPPER TUBE **SPECIFICATIONS**

| ITEM | UNIT | | INSULATED MATERIALS | |
|---|---|---|---|---|
| | | B | C | D |
| Average density | G/cm2 | 0.028~0.038 | 0.025~0.044 | 10.023~0.038 |
| Extensibility | vkg/cm | Above 2.5 | Above 2.5 | Above 2.0 |
| Max.temperature | C | 80 | 100 | 120 |
| Water absorbability | mg/cm? | | Below 0.1 | |
| Heat transfer variable | kcl/mxhxc | | Below 0.037 | |
| Contract of thickness | % | | Below 7 | |
| Fire Resistance Test | UL-04 | | Pass | |

| Specifications | Insulated Tube Outer diameterxthickness(mm) | Insulated Tube Inner diameterxthickness(mm) | Suitable for | Length(m) |
|---|---|---|---|---|
| 1/4 | 6.35×0.75 | Ø8(±0.5)X8(EMPAISTIC) | Centralized air condi-tioner | 1~30 |
| 3/8 | 9.52X0.8 | Ø12(±0.5)X8(EMPAISTIC) | | 1~30 |
| 1/2 | 12.70×0.8 | Ø14(±0.5)x8(EMPAISTIC) | | 1~30 |
| 5/8 | 15.88×1.0 | Ø18(±0.5)x9(EMPAISTIC) | | 1~30 |
| 3/4 | 19.05×1.0 | Ø22(±1)X9(EMPAISTIC) | | 1~30 |
| 7/8 | 22.22×1.2 | Ø25(±1)×10(EMPAISTIC) | | 1~30 |
| 1 | 25.40×1.2 | Ø28(±1)X10(EMPAISTIC) | | 1~30 |
| 1-1/8 | 28.58×1.2 | Ø32(±1)×10(EM PAISTIC) | | 1~30 |
| 1-1/4 | 31.75×1.5 | Ø35(±1)X10(EMPAISTIC) | | 1~30 |
| 1-1/2 | 38.10×1.5 | Ø42(±1)x10(EMPAISTIC) | | 1 ~30 |

| Specifications | Insulated Tube Outer diameterxthickness(mm) | Insulated Tube Inner diameterxthickness(mm) | Suitable for | Length(m) |
|---|---|---|---|---|
| 1/4×3/8 | 6.35X0.75/9.52X0.8 | Ø8($0.5)/012(±0.5) | 1HP | 11~30 |
| 1/4×1/2 | 6.35x0.8/12.70×0.8 | Ø8(+0.5)/014(±0.5) | 1.5HP | 1~30 |
| 1/4×5/8 | 6.35x0.8/15.88X1.0 | Ø8($0.5)/018(±0.5) | 2HP | 1~20 |
| 3/8x5/8 | 9.52x0.8/15.88x1.0 | Ø12(05)/018(±0.5) | 3HP | 1~20 |
| 3/8×3/4 | 9.52X0.8/19.05×1.0 | Ø12(÷0.5/022(±1) | 4HP | 1~15 |
| 1/2×3/4 | 12.7×0.8/19.05×1.0 | Ø14(0.5/022(±1) | 5HP | 1~15 |
| | | | | |

# Copper Fittings

Rime copper fittings are utilized to connect pipes or tubes, adapt to different sizes or shapes, and regulate fluid flow. They are used in plumbing to control the passage of water, gas, or liquid waste in pipes or tubes. We have a complete range of copper fittings; some models are represented below.

**Coupling Rolled Stop CxC**
Size: 1/4-4

**Coupling Reducing CxC**
Size: 1/4x43/8-4x3

**Cap**
Size: 1/4-4

**90° Elbow Short Radius CxC**
Size: 1/4-4

**90° Elbow Short Radius Street FTGxC Elbow**
Size: 1/4-4

**45° Elbow CxC**
Size: 1/4-4

**45° Elbow Street CxC**
Size: 1/4-4

**Tee CxCxC**
Size: 1/4-4

**Fitting Reducer FTGxC**
Size: 1/4x3/8-4x3

**Adapter - Male CxMPT**
Size: 1/4-4

**Adapter - Female FTGxFPT**
Size: 1/4-4

**90° Elbow Long Radius CxC**
Size: 1/4-4

**Coupling Dimple Tube Stop**
Size: 1/4-4

**Coupling No Stop**
Size: 1/4-4

**Copper Tube Strap Two-hole**
Size: 3/8-2

**Copper Crimp Ring**
Size: 3/8-1 1/2

**90° Elbow Long Radius Street CxC**
Size: 1/4-4

**P-Trap CxC**
Size: 1/4-4

**U Bend CxC**
Size: 1/4-2

**Adapter - Female CxFPT**
Size: 3/8-2 1/2

**Adapter - Male FTGxMPT**
Size: 3/8x2 1/2

**Union CxC**
Size: 3/8-3

**Tee Reducing CxCxC**
Size: 1/4x1/4x1/8-4x3x3

**Elbow 90°CxC**
Size: 6mm-108mm

**Obtuse Elbow 45° CxC**
Size: 6mm-108mm

**Reducer Coupler CxC**
Size: 10x6mm - 108x89mm

**Coupler**
Size: 16mm - 108mm

**Equal Tee**
Size: 16mm-108mm

**RedusingTee**
Size: 8x8x6mm - 108x67x198mm

**90° Bend FTGxC**
Size: 6mm-108mm

**U-bend CxC**
Size: 10mm-54mm

**Stop End**
Size: 6mm-108mm

**Full Crozzover**
Size: 12mm-22mm

**Male Coupler**
Size: 12mmx3/8" - 76mmx3"

**Female Coupler**
Size: 12mmx3/8" - 54mmx2"

**Bent Tap Connector**
Size: 3/8" x 12mm - 1" x 28mm

**Straight Tap Connector**
Size: 3/8" x 10mm - 2" x 54mm

**SR Equal Tee**
Size: 38mm - 66.7mm

**SR Reducing Coupling**
Size: 8x6mm - 67x54mm

**SR Stop End**
Size: 8mm - 54mm



**SR Bent Tap Connector**
Size: 15mmx1/2" 22mmx34"

# Level Wound Coil

## Efficient Connections: Linking Heat Exchangers and Pipelines in Cooling Systems.

The Level Wound Coil is commonly used to connect heat exchangers and pipeline systems in the air conditioning and refrigeration industries.

### Packing

A level wound coil (LWC) is a continuous length of tube tightly wound in layers and is available in below forms

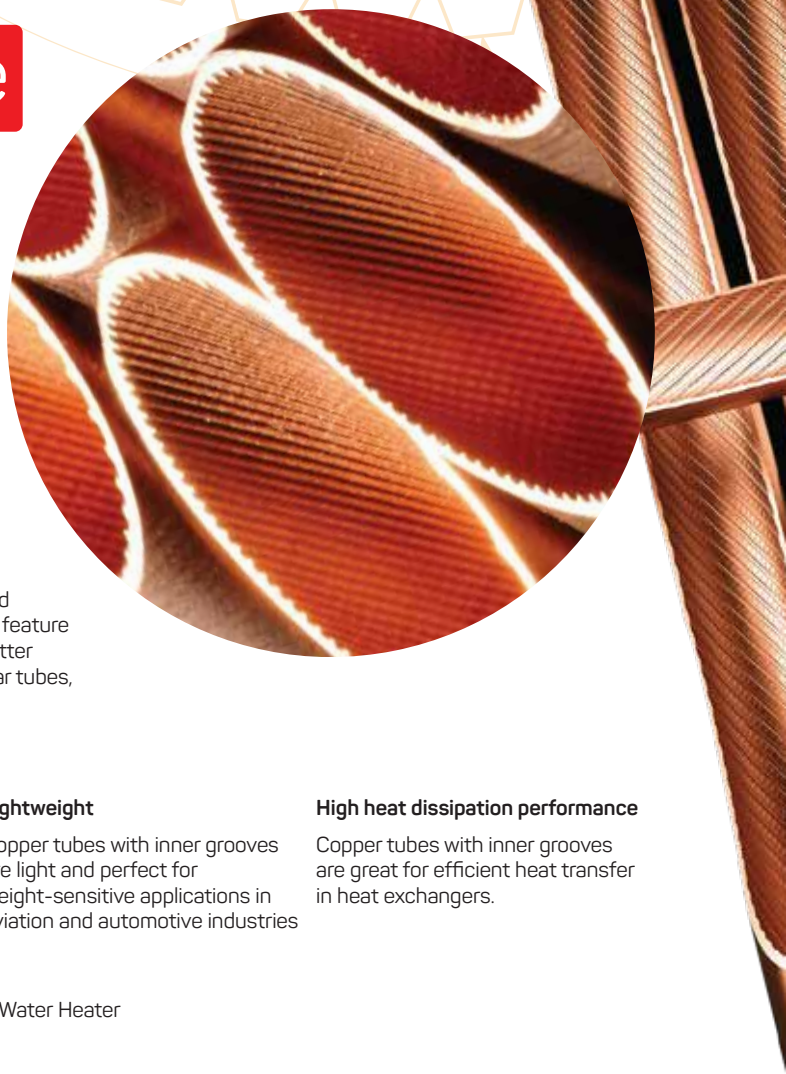
**Level Wound Coil** - Roll Weight – 60 to 220 Kgs
**Jumbo Coil** – Roll Weight – 400 to 1000 Kgs
**Packing** – Eye to Wall/ Eye to Sky
**Standard** – Jintian Catalogue

**Application:** Refrigerator refrigeration parts | Air conditioner condenser | Air conditioner evaporator | Water heater

**Standard of the Product: ASTM B 75 ,GB/T 17791, ASTM B280, JIS H3300, AS/NZS 1571, AS1432, EN12735**

| Thickness / O.D | 0.25 mm | 0.28 mm | 0.29 mm | 0.35 mm | 0.40 mm | 0.45 mm | 0.56 mm | 0.60 mm | 0.64 mm | 0.71 mm | 0.78 mm | 0.81 mm | 0.89 mm | 1.00 mm | 1.07 mm | 1.14 mm | 1.22 mm | 1.27 mm | 1.59 mm | 2.00 mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.30 | | O | O | O | O | O | O | O | | | | | | | | | | | | |
| 4.30 | | O | O | O | O | O | O | O | O | O | | | | | | | | | | |
| 4.76/9/4.76In] | | O | O | O | O | O | O | O | O | O | O | O | | | | | | | | |
| | O | O | O | O | O | O | O | O | O | O | O | O | O | | | | | | | |
| 6.00 | O | O | O | O | O | O | O | O | O | O | O | O | O | O | | | | | | |
| 4.76{1/4In] | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | | | | | |
| 7.00 | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | | | |
| 7.54{5/16In] | | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | |
| 8.00 | | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | |
| 9.00 | | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | |
| 7.52{9/8In] | | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | |
| 10.00 | | | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| 12.00 | | | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| 12.78{1/2In] | | | | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| 14.00 | | | | | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| 15.00 | | | | | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| 15.55{5/2In] | | | | | | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| 16.00 | | | | | | O | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| 18.00 | | | | | | | | O | O | O | O | O | O | O | O | O | O | O | O | O |
| 19.05{5/2In] | | | | | | | | | | O | O | O | O | O | O | O | O | O | O | O |
| 20.00 | | | | | | | | | | O | O | O | O | O | O | O | O | O | O | O |
| 22.00 | | | | | | | | | | | | O | O | O | O | O | O | O | O | O |
| 22.23{7/8In] | | | | | | | | | | | | | O | O | O | O | O | O | O | O |

# Inner Grooved Tube



## The newest and most advanced copper tubes in refrigeration & conditioning systems.

### What Is Inner Grooved Tube

Inner grooved copper tubes are commonly utilized in air conditioning and refrigeration systems to enhance heat transfer efficiency. These tubes feature internal ridges that increase surface area and turbulence, facilitating better heat exchange and offering superior heat transfer coefficients to regular tubes, leading to energy savings and improved system performance.

### Performance Advantages

**High dimensional accuracy**

Precision-manufactured copper tubes with inner grooves are ideal for applications that demand accuracy.

**High cleanliness**

Clean inner-grooved copper tubes made with high-quality materials and advanced production techniques are great for food and beverage industries.

**Lightweight**

Copper tubes with inner grooves are light and perfect for weight-sensitive applications in aviation and automotive industries

**High heat dissipation performance**

Copper tubes with inner grooves are great for efficient heat transfer in heat exchangers.

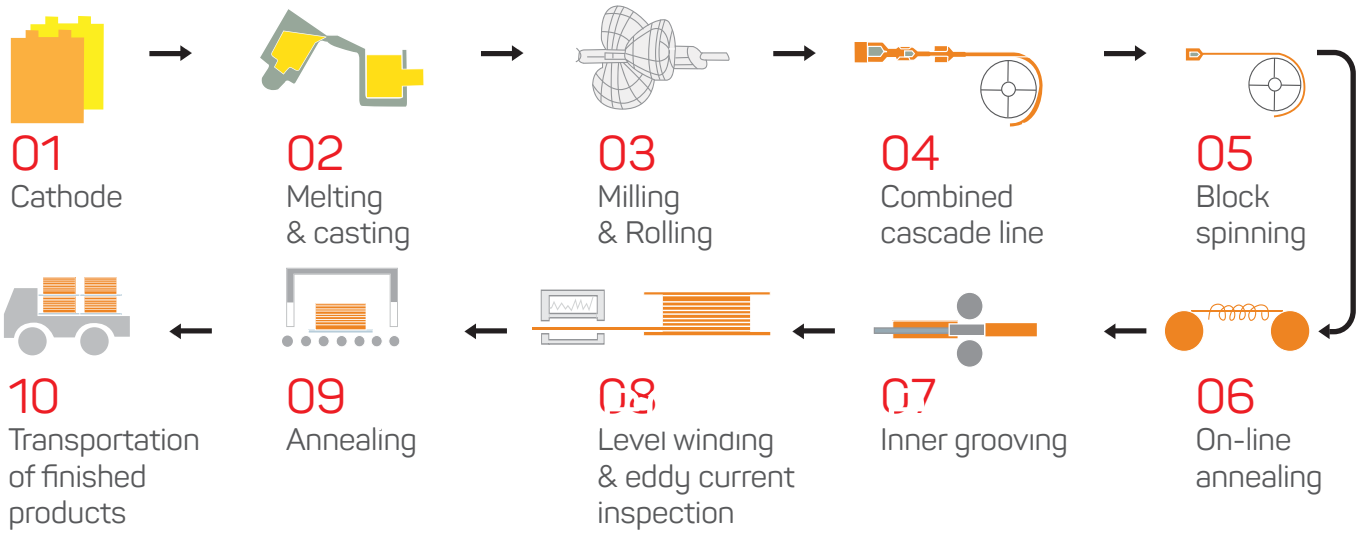
**Application:** Air Conditioner Condenser | Air Conditioner Evaporator | Water Heater

### Inner Grooved Copper Tube Specifications

| Specifications | Unit Weight (g/m) | O.D | I.D | Bottom Wall Thickness TW | Fin Groove Depth HF | Total Wall Thickness | Apex Angle | Helix Angle | Numble of Tooth |
|---|---|---|---|---|---|---|---|---|---|
| ⌀5.00*0.20+0.15-18° | 33 | 5 | 4.3 | 0.2 | 0,15 | 35 | 40 | 13 | 40 |
| ⌀7.0*0.22+0.10-16* | 47 | 7 | 6.36 | 22 | 0.1 | 0.32 | 35 | 16 | 65 |
| ⌀7.0*0.23+0.12-17° | 47.5 | 7 | 630 | 23 | 0.12 | 0.35 | 40 | 17 | 65 |
| ⌀7.00*0.25+0.10-15° | 52 | 7 | 630 | 0.25 | 0.1 | 35 | 40 | 15 | 65 |
| ⌀7.00*0.25+0.18-18° | 57 | 7 | 6.M | 0.25 | 0.18 | 43 | 40 | 13 | 50 |
| ⌀7.00*0.25+0.22-16° | 58 | 7 | 6.06 | 0.25 | 0.22 | 0.47 | 22 | 16 | 54 |
| ⌀7.00*0.27+0.15-18° | 60 | 7 | 6.16 | 0.27 | 0.15 | 0.42 | 53 | 13 | 60 |
| ⌀7.94*0.24+0.13-18° | 60.5 | 7.94 | 7.2 | 24 | 0.13 | 37 | 33 | 13 | 70 |
| ⌀7.94*0.25+0.18-18° | 65 | 7.94 | 7.03 | 0.25 | 0.13 | 0.43 | 40 | 13 | 50 |
| ⌀7.94*0.25+0.20-18° | 66 | 7.94 | 7.04 | 0.25 | 0.2 | 0.45 | 40 | 13 | 50 |
| ⌀7.94*0.26+0.17-18° | 65 | 7.94 | 708 | 0.26 | 0.17 | 43 | 40 | 13 | 50 |
| ⌀7.94*0.28+0.20-18° | 72 | 7.94 | 6.98 | 0.23 | 0,20 | 0.43 | 40 | 13 | 50 |
| ⌀7.94*0.30+0.20-18° | 76 | 7.94 | 6.94 | 0.3 | 0.2 | 50 | 40 | 13 | SO |
| ⌀9.52*0.27+0.16-18° | 32 | 9.52 | 8.66 | 0.27 | 0.16 | 0.43 | 30 | 13 | 70 |
| ⌀9.52*0.28+0.12-15° | 30 | 9.52 | 372 | 0.28 | 0.12 | 0.4 | 53 | 15 | 65 |
| ⌀9.52*0.28+0.15-18° | 33 | 9.52 | 8.66 | 0.28 | 0.15 | 0.43 | 53 | 13 | 60 |
| ⌀9.52*0.28+0.15-25° | 38 | 9.52 | 8.66 | 0.28 | 0.15 | 0.43 | 90 | 25 | 65 |
| ⌀9.52*0.28+0.20-18° | 35 | 9.52 | 8.56 | 0.23 | 0.2 | 0.43 | 25 | 13 | 55 |
| ⌀9.52*0.28+0.20-18° | 33 | 9.52 | 856 | 0.23 | 0.2 | 0.43 | 40 | 13 | 60 |
| ⌀9.52*0.30+0.20-18° | 90 | 9.52 | 8.52 | 0.3 | 0.2 | 50 | 30 | 13 | 60 |
| ⌀9.52*0.30+0.20-18° | 94 | 9.52 | 8.52 | 0.3 | 0.2 | 0.5 | 53 | 13 | 60 |
| ⌀9.52*0.34+0.15-25° | 104 | 9.52 | 8.54 | 0.34 | 0.15 | 0.49 | 90 | 25 | 65 |
| ⌀9.52*0.40+0.25-18° | 123 | 9.52 | 322 | 0.4 | 0.25 | 0.65 | 40 | 13 | 60 |
| ⌀12.00*0.36+0.25-18° | M0 | 12 | 10.78 | 0.36 | 0.25 | 0.61 | 40 | 18 | 70 |
| ⌀12.70*0.35+0.25-18° | 155 | 1Z/0 | 11.5 | 0.35 | 25 | 0.6 | 53 | 13 | 70 |
| ⌀12.70*0.40+0.25-18° | 170 | 12.7 | 11.4 | 0.4 | 0.25 | 0.65 | 53 | 13 | 70 |
| ⌀12.70*0.50+0.25-18° | 201 | 12.7 | 11.2 | 0.5 | 0.25 | 0.75 | 53 | 13 | 75 |
| ⌀12.75*0.36+0.21/0.25-20° | 150 | 12.75 | 11.53 | 0.36 | 0.25 | 0.61 | 48 | 20 | 70 |

Product performance standards: GB/T 17791-2007, ASTM B280, JIS H3300, AS/NZS 1571:1995, AS 1432, EN12735-2

# Inner Grooved Copper Tube Production Process




## Standard Reference

| Material | GB | ASTM | BSEN | JIS | Main Chemical Composition (%) |
|---|---|---|---|---|---|
| Pure Copper | $T_2$ | C11000 | C101, C102 | C1100 | Cu+Ag≥99.90 |
| Phosphorus | $TP_1$ | C12000 | -- | C1201 | Cu+Ag≥99.90 P: 0.004~0.012 |
| Deoxidized Copper | $TP_2$ | C12200 | C106 | C1220 | Cu+Ag≥99.90 P: 0.015~0.040 |

## Mechanical Properties

| Standard | Product | Alloy | Temper | Tensil Strength (Mpa) | Yield Strength (Mpa) | Elongation (%) | Hardness (HV/HR) | Grain Size (MM) |
|---|---|---|---|---|---|---|---|---|
| JIS H3300 | Coil, straight tube | C1020 | O | ≥205 | -- | ≥40 | HR15T:≤60 | 0.025~0.06 |
| | | | OL | ≥205 | -- | ≥40 | HR15T:≤ 65 | ≤0.040 |
| | | | 1/2H | 245~325 | -- | -- | HT30T:30~60 | -- |
| | | | H | ≥315 | -- | -- | HT30T:30≥55 | -- |
| | | C1100 | O | ≥205 | -- | ≥40 | -- | -- |
| | | | 1/2H | 245~325 | -- | -- | HT30T:30~60 | -- |
| | | | H | ≥275 | -- | -- | HRF≥80 | -- |
| | | C1201 | O | ≥205 | -- | ≥40 | HR15T:≤60 | 0.025~0.06 |
| | | | OL | ≥205 | -- | ≥40 | HR15T:≤65 | ≤0.040 |
| | | C1220 | 1/2H | 245~325 | -- | -- | HT30T:30~60 | -- |
| | | | H | ≥315 | -- | -- | HR30T≥55 | -- |
| ASTM B360 | Capillary | C12000 | H80 | ≥310 | -- | -- | | -- |
| | | C12200 | | | | -- | | -- |
| GB/T1531 | Capillary | T2 | (Y) | ≥345 | -- | -- | -- | -- |
| | | TP1 | ($Y_2$) | 245~370 | -- | -- | -- | -- |
| | | TP2 | (M) | ≥205 | -- | ≥35 | -- | -- |
| GB/T20928 | Inner-grooved tube | TP2 | ($M_2$) | 215~270 | -- | ≥43 | -- | 0.015~0.035 |
| ASTM B280 | Coil, straight tube | C12200 | 60 | ≥205 | -- | ≥40 | -- | 0.035 |
| | | | H58 | ≥250 | -- | -- | -- | -- |
| ASTM B68 | Coil, straight tube | C10200 C12000 C12200 | 50 | ≥210 | -- | ≥40 | -- | 0.015~0.040 |
| | | | 60 | | | | -- | ≥0.040 |
| ASTM B75 | Coil, straight tube | C10100 | H58 | ≥205 | ≥205 | -- | HT30T:≥30 | -- |
| | | C10200 | H80 | ≥310 | ≥275 | -- | HR15T:≥55 | -- |
| | | C12000 | 60 | ≥205 | ≥62 | -- | HR15T:≤60; HRF≤50 | ≥0.040 |
| | | C12200 | 50 | ≥205 | ≥62 | -- | HR15T:≤65; HRF≤55 | ≤0.040 |
| ASTM B743 | Coil | C10200 | H58 | ≥250 | ≥205 | -- | HR30T:≥30 | -- |
| | | C12000 | 60 | ≥205 | ≥62 | ≥40 | HR15T:≤60; HRF≤50 | ≥0.040 |
| | | C12200 | 50 | ≥205 | ≥62 | ≥40 | HR15T:≤65; HRF≤55 | ≤0.040 |
| GB/T17791 | Coil, straight tube, pancake coil | $T_2$ | (Y) | ≥275 | -- | -- | -- | -- |
| | | | ($Y_2$) | 245~325 | -- | -- | -- | -- |
| | | | ($M_2$) | ≥205 | -- | ≥40 | -- | ≤0.040 |
| | | | (M) | ≥205 | -- | ≥40 | -- | 0.025~0.06 |
| | | $TU_1$ | (Y) | ≥315 | -- | -- | -- | -- |
| | | $TU_2$ | ($Y_2$) | 245~325 | -- | -- | -- | -- |
| | | $TP_1$ | (M) | ≥205 | -- | ≥40 | -- | 0.025~0.06 |
| | | $TP_2$ | ($M_2$) | ≥205 | -- | ≥40 | -- | ≤0.040 |
| BS EN 12735 -1 | Coil, straight tube | C106 | R220 | ≥220 | -- | ≥40 | HV5:40~70 | -- |
| | | | R250 | ≥250 | -- | ≥30 | HV5:75~100 | -- |
| | | | R290 | ≥250 | -- | ≥30 | HV5:≥100 | -- |

# Certificates

JINTIAN
金田铜业

## Certificate

BRAND MANUFACTURING & DISTRIBUTION

**JINTIAN Copper Industrial (Vietnam) Company Limited,**
*152 Dinh Bo Linh Street, Ward 2, My Tho City, Tien Giang Province, Vietnam,*

*hereby confirms to manufacture*

**PANCAKE COILS & STRAIGHT TUBES**

*for*

**RIME GROUP FZE**
*PLOT NO MO0535, JEBEL ALI FREE ZONE, DUBAI, UAE*
*complying to*

*UL207 Standard for Refrigerant containing components & Accessories, Non electrical*
*under the brand name and logo*

rime.

*& authorize rime group UAE to sell and distribute the following international standard products on our behalf in the regions of Middle East, Asia & African subcontinents.*

c UL us
700 PSI R410A

ASTM B 280 & ASTM B 743

Authorized Signatory

SA46226-20240612

## Certificate of Compliance

**Certificate Number:** UL-US-2423553-0

**Report Reference:** SA46226-20240612

**Issue Date:** 2024-08-17

Issued to:
**JINTIAN COPPER INDUSTRIAL (VIETNAM) COMPANY LIMITED**
**Lot 110a1, 110b, 110c, 110d Long Giang Industrial Zone, Tan Lap 1 Commune, Tan Phuoc District Tien Giang Province Vietnam**

This certificate confirms that representative samples of:
**SFCS2 - Tubing, Refrigerant - Component**

See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.

**UL 207, Edition 9, Issue Date 2022-08-26**

Additional Information:
See UL Product iQ® at https://iq.ulprospector.com for additional information.

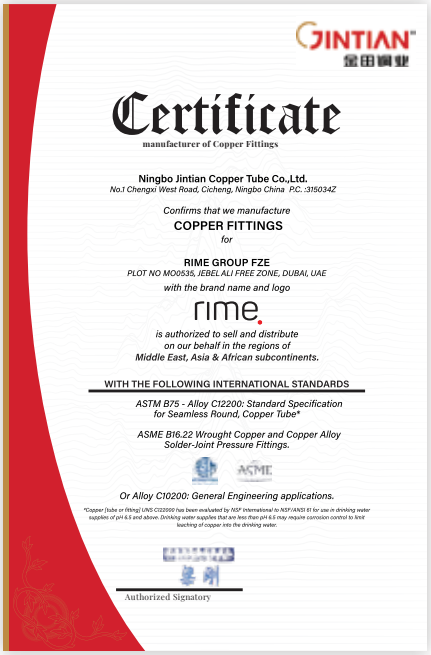
This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Recognized Component Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

Vinod Pecott
UL Mark Certification Program Manager

UL Solutions



JINTIAN
金田铜业

## Certificate

manufacturer of Copper Fittings

**Ningbo Jintian Copper Tube Co.,Ltd.**
*No.1 Chengxi West Road, Cicheng, Ningbo China P.C. :315034Z*

*Confirms that we manufacture*

**COPPER FITTINGS**

*for*

**RIME GROUP FZE**
*PLOT NO MO0535, JEBEL ALI FREE ZONE, DUBAI, UAE*
*with the brand name and logo*

rime.

*is authorized to sell and distribute on our behalf in the regions of Middle East, Asia & African subcontinents.*

**WITH THE FOLLOWING INTERNATIONAL STANDARDS**

*ASTM B75 - Alloy C12200: Standard Specification for Seamless Round, Copper Tube**

*ASME B16.22 Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings.*

*Or Alloy C10200: General Engineering applications.*

**Copper [tube or fitting] UNS-C12200 has been evaluated by NSF International to NSF/ANSI 61 for use in drinking water supplies of pH 6.5 and above. Drinking water supplies that are less than pH 6.5 may require corrosion control to limit leaching of copper into the drinking water.*

Authorized Signatory

SA46226-20240612

## Certificate of Compliance

**Certificate Number:** UL-CA-2416591-0

**Report Reference:** SA46226-20240612

**Issue Date:** 2024-08-17

Issued to:
**JINTIAN COPPER INDUSTRIAL (VIETNAM) COMPANY LIMITED**
**Lot 110a1, 110b, 110c, 110d Long Giang Industrial Zone, Tan Lap 1 Commune, Tan Phuoc District Tien Giang Province Vietnam**

This certificate confirms that representative samples of:
**SFCS8 - Tubing, Refrigerant Certified for Canada - Component**

See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.

**CSA C22.2 NO. 140.3-15, 3rd Ed., Issue Date: 2015-03-01**

Additional Information:
See UL Product iQ® at https://iq.ulprospector.com for additional information.

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Recognized Component Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

Vinod Pecott
UL Mark Certification Program Manager

UL Solutions

JINTIAN
金田铜业

## Certificate

manufacturer of Copper Tube

**JINTIAN Copper Industrial (Vietnam) Company Limited,**
*152 Dinh Bo Linh Street, Ward 2, My Tho City, Tien Giang Province, Vietnam,*

*Confirms that we manufacture*

**COPPER TUBE**

*for*

**RIME GROUP FZE**
*PLOT NO MO0535, JEBEL ALI FREE ZONE, DUBAI, UAE*
*with the brand name and logo*

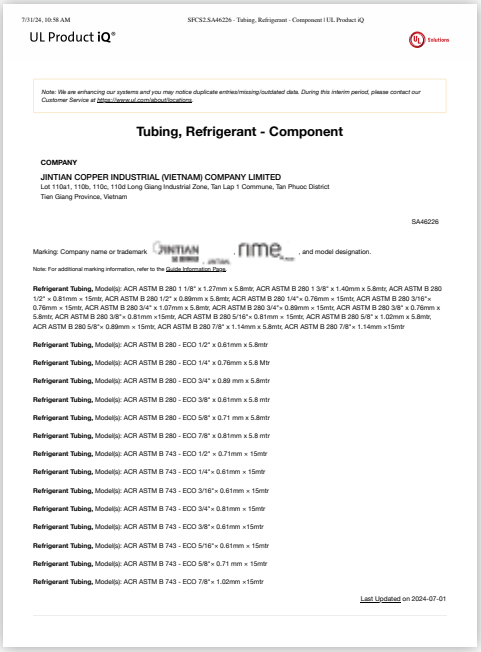
rime.

*is authorized to sell and distribute on our behalf in the regions of Middle East, Asia & African subcontinents.*

**WITH THE FOLLOWING INTERNATIONAL STANDARDS**

ASTM B280,ASTM B743, JIS H 3300, ASTM B88, ASTM B75, ASTM B68, AS/NZS 1571, AS 1432 & EN 1273

Authorized Signatory



7/31/24, 10:58 AM SFCS2.SA46226 - Tubing, Refrigerant - Component | UL Product iQ

UL Product iQ®

UL Solutions

*Note: We are enhancing our systems and you may notice duplicate entries/missing/outdated data. During this interim period, please contact our Customer Service at https://www.ul.com/about/locations.*

## Tubing, Refrigerant - Component

**COMPANY**

**JINTIAN COPPER INDUSTRIAL (VIETNAM) COMPANY LIMITED**
Lot 110a1, 110b, 110c, 110d Long Giang Industrial Zone, Tan Lap 1 Commune, Tan Phuoc District
Tien Giang Province, Vietnam

SA46226

Marking: Company name or trademark JINTIAN, rime., and model designation.

Note: For additional marking information, refer to the Guide Information Page.

**Refrigerant Tubing,** Model(s): ACR ASTM B 280 1 1/8" x 1.27mm x 5.8mtr, ACR ASTM B 280 1 3/8" x 1.40mm x 5.8mtr, ACR ASTM B 280 1/2" × 0.81mm × 15mtr, ACR ASTM B 280 1/2" x 0.89mm x 5.8mtr, ACR ASTM B 280 1/4" x 0.76mm × 15mtr, ACR ASTM B 280 3/16" × 0.76mm × 15mtr, ACR ASTM B 280 3/4" x 1.07mm x 5.8mtr, ACR ASTM B 280 3/4" x 0.89mm × 15mtr, ACR ASTM B 280 3/8" x 0.76mm x 5.8mtr, ACR ASTM B 280 3/8" x 0.81mm ×15mtr, ACR ASTM B 280 5/16" x 0.81mm × 15mtr, ACR ASTM B 280 5/8" x 1.02mm x 5.8mtr, ACR ASTM B 280 5/8"× 0.89mm × 15mtr, ACR ASTM B 280 7/8" x 1.14mm x 5.8mtr, ACR ASTM B 280 7/8"× 1.14mm ×15mtr

**Refrigerant Tubing,** Model(s): ACR ASTM B 280 - ECO 1/2" × 0.61mm x 5.8mtr

**Refrigerant Tubing,** Model(s): ACR ASTM B 280 - ECO 1/4" x 0.76mm x 5.8 Mtr

**Refrigerant Tubing,** Model(s): ACR ASTM B 280 - ECO 3/4" x 0.89 mm x 5.8mtr

**Refrigerant Tubing,** Model(s): ACR ASTM B 280 - ECO 3/8" x 0.61mm x 5.8 mtr

**Refrigerant Tubing,** Model(s): ACR ASTM B 280 - ECO 5/8" x 0.71 mm x 5.8mtr

**Refrigerant Tubing,** Model(s): ACR ASTM B 280 - ECO 7/8" x 0.81mm x 5.8 mtr

**Refrigerant Tubing,** Model(s): ACR ASTM B 743 - ECO 1/2" × 0.71mm × 15mtr

**Refrigerant Tubing,** Model(s): ACR ASTM B 743 - ECO 1/4"× 0.61mm × 15mtr

**Refrigerant Tubing,** Model(s): ACR ASTM B 743 - ECO 3/16"× 0.61mm × 15mtr

**Refrigerant Tubing,** Model(s): ACR ASTM B 743 - ECO 3/4"× 0.81mm × 15mtr

**Refrigerant Tubing,** Model(s): ACR ASTM B 743 - ECO 3/8"× 0.61mm ×15mtr

**Refrigerant Tubing,** Model(s): ACR ASTM B 743 - ECO 5/16"× 0.61mm × 15mtr

**Refrigerant Tubing,** Model(s): ACR ASTM B 743 - ECO 5/8"× 0.71 mm × 15mtr

**Refrigerant Tubing,** Model(s): ACR ASTM B 743 - ECO 7/8"× 1.02mm ×15mtr

Last Updated on 2024-07-01

# Certificates

Certificate VN19/00120

The management system of

**JINTIAN COPPER INDUSTRIAL (VIETNAM) COMPANY LIMITED**

Lot 110A1, 110B, 110C, 110D Long Giang Industrial Park, Tan Lap 1 Commune, Tan Phuoc District, Tien Giang Province, Viet Nam

has been assessed and certified as meeting the requirements of

**ISO 9001:2015**

For the following activities
Manufacturing of copper and copper alloy pipe

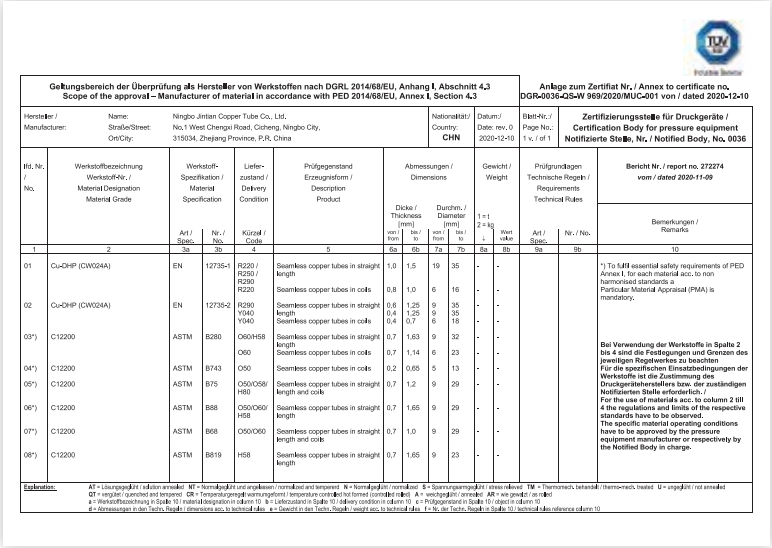
This certificate is valid from 10 April 2022 until 10 April 2025 and remains valid subject to satisfactory surveillance audits.
Issue 2. Certified since 10 April 2019.

Authorised by

SGS United Kingdom Ltd
Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN, UK
t +44 (0)151 350-6666 - www.sgs.com

This document is issued by the Company subject to its General Conditions of Certification Services accessible at www.sgs.com/terms_and_conditions.html. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. The authenticity of this document may be verified at http://www.sgs.com/en/certified-clients-and-products/certified-client-directory. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Page 1 / 1



**Geltungsbereich der Überprüfung als Hersteller von Werkstoffen nach DGRL 2014/68/EU, Anhang I, Abschnitt 4,3**
**Scope of the approval – Manufacturer of material in accordance with PED 2014/68/EU, Annex I, Section 4,3**

**Anlage zum Zertifiat Nr. / Annex to certificate no. DGR-0036-QS-W 969/2020/MUC-001 von / dated 2020-12-10**

| Hersteller / Manufacturer: | Name: | Ningbo Jintian Copper Tube Co., Ltd. |
|---|---|---|
| | Straße/Street: | No.1 West Chengxi Road, Cicheng, Ningbo City, |
| | Ort/City: | 315034, Zhejiang Province, P.R. China |

Nationalität / Country: CHN | Datum / Date: rev. 0 2020-12-10 | Blatt-Nr. / Page No.: 1 v. / of 1

**Zertifizierungsstelle für Druckgeräte / Certification Body for pressure equipment**
**Notifizierte Stelle, Nr. / Notified Body, No. 0036**

| lfd. Nr. / No. | Werkstoffbezeichnung Werkstoff-Nr. / Material Designation Material Grade | Werkstoff-Spezifikation / Material Specification Art / Spec. | Nr. / No. | Lieferzustand / Delivery Condition Kürzel / Code | Prüfgegenstand Erzeugnisform / Description Product | Abmessungen / Dimensions Dicke / Thickness (mm) von / from | bis / to | Durchm. / Diameter (mm) von / from | bis / to | Gewicht / Weight 1 = t 2 = kg | Wert / value | Prüfgrundlagen Technische Regeln / Requirements Technical Rules Art / Spec. | Nr. / No. | Bericht Nr. / report no. 272274 vom / dated 2020-11-09 Bemerkungen / Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3a | 3b | 4 | 5 | 6a | 6b | 7a | 7b | 8a | 8b | 9a | 9b | 10 |
| 01 | Cu-DHP (CW024A) | EN | 12735-1 | R220 / R250 / R290 R220 | Seamless copper tubes in straight length | 1,0 | 1,5 | 19 | 35 | - | - | | | *) To fulfil essential safety requirements of PED Annex I, for each material acc. to non harmonised standards a Particular Material Appraisal (PMA) is mandatory. |
| | | | | | Seamless copper tubes in coils | 0,8 | 1,0 | 6 | 16 | - | - | | | |
| 02 | Cu-DHP (CW024A) | EN | 12735-2 | R290 Y040 Y040 | Seamless copper tubes in straight length | 0,6 0,4 | 1,25 1,25 | 9 9 | 35 35 | - | - | | | |
| | | | | | Seamless copper tubes in coils | 0,4 | 0,7 | 6 | 18 | - | - | | | |
| 03*) | C12200 | ASTM | B280 | O60/H58 | Seamless copper tubes in straight length | 0,7 | 1,63 | 9 | 32 | - | - | | | Bei Verwendung der Werkstoffe in Spalte 2 bis 4 sind die Festlegungen und Grenzen des jeweiligen Regelwerkes zu beachten Für die spezifischen Einsatzbedingungen der Werkstoffe ist die Zustimmung des Druckgeräteherstellers bzw. der zuständigen Notifizierten Stelle erforderlich. / For the use of materials acc. to column 2 till 4 the regulations and limits of the respective standards have to be observed. The specific material operating conditions have to be approved by the pressure equipment manufacturer or respectively by the Notified Body in charge. |
| | | | | O60 | Seamless copper tubes in coils | 0,7 | 1,14 | 6 | 23 | - | - | | | |
| 04*) | C12200 | ASTM | B743 | O50 | Seamless copper tubes in coils | 0,2 | 0,65 | 5 | 13 | - | - | | | |
| 05*) | C12200 | ASTM | B75 | O50/O58/ H80 | Seamless copper tubes in straight length and coils | 0,7 | 1,2 | 9 | 29 | - | - | | | |
| 06*) | C12200 | ASTM | B88 | O50/O60/ H58 | Seamless copper tubes in straight length | 0,7 | 1,65 | 9 | 29 | - | - | | | |
| 07*) | C12200 | ASTM | B68 | O50/O60 | Seamless copper tubes in straight length and coils | 0,7 | 1,0 | 9 | 29 | - | - | | | |
| 08*) | C12200 | ASTM | B819 | H58 | Seamless copper tubes in straight length | 0,7 | 1,65 | 9 | 23 | - | - | | | |

**Explanation:** AT = Lösungsglüht / solution annealed NT = Normalisierend und angelassen / normalized and tempered N = Normalisiert / normalized S = Spannungsarmglüht / stress relieved TM = Thermomech. behandelt / thermo-mech. treated U = ungeglüht / not annealed QT = vergütet / quenched and tempered GR = Temperaturgeregelt warmumgeformt / temperature controlled hot formed (controlled rolled) A = weichgeglüht / annealed AR = wie gewalzt / as rolled
a = Werkstoffbezeichnung in Spalte 10 / material designation in column 10 b = Lieferzustand in Spalte 10 / delivery condition in column 10 c = Prüfgegenstand in Spalte 10 / object in column 10
d = Abmessungen in den Techn. Regeln / dimensions acc. to technical rules e = Gewicht in den Techn. Regeln / weight acc. to technical rules f = Nr. der Techn. Regeln in Spalte 10 / technical rules reference column 10

CERTIFICATE FOR PRODUCT CONFORMITY

*Award to:*

**JINTIAN COPPER INDUSTRIAL(VIETNAM) COMPANY LIMITED**
Lot 110A1,110B,110C,110D Long Giang Industrial Park,
Tan Lap 1 Commune, Tan Phuoc District,
Tien Giang Province, 860000 – Vietnam

Manufacturer: JINTIAN COPPER INDUSTRIAL(VIETNAM) COMPANY LIMITED
Address: Lot 110A1,110B,110C,110D Long Giang Industrial Park,
Tan Lap 1 Commune, Tan Phuoc District,
Tien Giang Province, 860000 – Vietnam

TUV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch certifies that the above company has been assessed for Approval of its Production Facility for Seamless Copper Tube for Air conditioning and Refrigeration Field Service and found that the products comply with the Standard: ASTM B280-23.

Subject to the continued satisfactory operation of the company, and to annually audits as per annexed ATTESTATION

This Certificate is valid from : March 25th, 2024

For a period of three years, ending : March 24th, 2027

Certificate No. : IS-SHA-304706

At: Shanghai, P. R. C
On: March 22nd, 2024

Signature

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

# CERTIFICATE

**The Notified Body - 0036 -**
**of TÜV SÜD Industrie Service GmbH**

certifies that

**Jintian Copper Industrial (Vietnam) Company Limited**
**Lot 110A1,110B,110C,110D Long Giang Industrial Park,**
**Tan Lap 1 Commune, Tan Phuoc District,**
**Tien Giang Province, 860000 - Vietnam**

has implemented, operates and maintains a

**Quality Assurance System in accordance with the Pressure Equipment Directive 2014/68/EU, Annex I, Section 4.3 as well as EN 764-5, Para. 4.2**

as a material manufacturer for the scope of

seamless round copper tubes.

The scope of the approval is described in the annex to this certificate.
Further details are mentioned in report no. 265298.

The manufacturer is therefore authorized to issue certificates of specific product control within the scope of the assessed quality system and in accordance with the Pressure Equipment Directive 2014/68/EU. Possible additional requirements - specific to applied technical specifications to meet PED Annex I - are not affected.

This certificate is valid through January 2023.

**In order to adhere the validity an annual surveillance audit is required.**

Certificate No.: DGR-0036-QS-W 910/2020/MUC-001
Munich, January 22nd, 2020

**Notified Body, No. 0036**

(M. Strobel)

**Certification Body**
Material and Welding Technology

EQ3001359

TÜV SÜD Industrie Service GmbH, Westendstr. 199, 80686 Munich, Germany

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

# Quality Control & Guarantee For ACR Copper Tube

- ☑ Composition analysis for cathode copper
- ☑ High-speed analysis for copper liquid
- ☑ Smooth shell dimension measurement
- ☑ Smooth tube defects test in line
- ☑ Defects test for heat transfer of high-efficiency tube
- ☑ Mechanics properties test for finished products
- ☑ Cleanness determination for the finished tube
- ☑ Grain size test for the finished tube

# Primary Testing Items & Equipment Chart

| Serial number | Testing Items | Name of the main testing equipment | Type/producing region |
|---|---|---|---|
| 01 | Electrolytic Copper Chemical Composition | DC arc spectrometer | Ha-12/U.S.BAIRD |
| 02 | Copper tube chemical composition | Electrospark Spectrometer | Dv-5/U.S.BAIRD |
| 03 | Copper tube defects | Eddy Current Inspection | GERMANY db GERMANY foerster |
| 04 | Oxygen content | Infrared Oxygen Sensor | Ro-416/U .S. LECD |
| 05 | Copper tube inner face | Chloride Ion Chromato-graph | DX-120/U.S.DIONEX |
| 06 | Grain size | Metallographic Microscope | 06CK-40M/Japan Aolinbasai |
| 07 | The Internal profile | Image Mapping Table | SOV-2010/CHINA |
| 08 | Computer electronic mechanical properties | Ultrasonic Cleaning Machine | CMT4504/CHINA TP2000/CHINA |
| 09 | Cleanness | Electronic Scales | BP211 D/GERMANY |
| 10 | | Oil content analyzer | |
| 11 | | Refrigerator system water testing machine | |
| 12 | | Vickers Sclerometer | |

# Team of Experts

Highly skilled HVAC & refrigeration engineers, technicians, and industry professionals drive our success. We believe in delivering top-notch products and offering exceptional service to valued customers. Our expertise includes:

**Tailored Solutions:** We understand diverse challenges in sectors like food and beverage, logistics, pharmaceuticals, and more. Our team can optimize efficiency, product integrity, and cost-effectiveness.

**Sustainable Practices:** Or team focuses on energy efficiency solutions, following environmental standards, and ensuring a more sustainable future.

**Client Training**: The Team's capabilities extend to training clients on optimal product usage, empowering businesses to excel

# Our Partner

rime x JINTIAN™

Our strategic alliance with Jintian, a globally recognized brand, exemplifies our unwavering commitment to offering top-tier copper products while maintaining cost-effectiveness. Through this collaboration, we position ourselves at the forefront of the industry, harnessing Jintian's expertise to elevate our projects with cutting-edge innovations.

rime.

**ENGINEERED TO ENDURE**
**MANUFACTURED FOR SUCCESS**

www.rimegroup.com

**Contact Us**
For inquiries, consultations, or to learn more about our innovative refrigeration solutions, please get in touch with us:
sales@rimegroup.com

For customer support email us:
support@rimegroup.com