

FLOTECS
Fluid/Flue solutions®

**FLOTECS -
COPPER
TUBES & PIPES**



Flotecs is a leader in the copper manufacturing industry, committed to driving innovation and excellence. In response to the rapid advancements in copper tube production seen globally, we focus on delivering high-quality solutions that meet the evolving needs of the market. With a team of experienced professionals and a state-of-the-art, fully automated manufacturing facility, we achieve an impressive annual production capacity of 4,000 MT. At Flotecs, we are shaping the future of copper manufacturing with precision and reliability.

CAST & ROLL – ADVANCED TECHNOLOGY, ENHANCED DEVELOPMENT

The Cast & Roll (C&R) process integrates two key stages: melting and casting, followed by precision tube rolling. After casting, the shell's exterior surface is meticulously machined to eliminate scales and oxidation effects, ensuring superior quality. The rolling process is conducted without lubricants, maintaining the purity of the material.

During the cold working phase, the use of a nitrogen gas environment protects the copper tubes even at elevated temperatures, resulting in a bright, flawless finish both inside and out. This enhances drawability and optimizes the overall efficiency of the C&R process.

Our advanced manufacturing is powered by state-of-the-art equipment, including fully automated planetary rolling machines, cascade drawers, and spin block drawers, ensuring precision and eliminating the risk of human error.

Features

ETP Grade Copper Cathode used as a raw material.

Soft annealed, clean inside and out (Carbon free).

On-Line Eddy Current tested.

Conforms to ASTM B68, B75, B280, B287 1-2, E243.

CFC Free R134A, R600 & R410A and RoHS complaint. Controlled contamination levels.



Air Conditioning, Refrigeration & Medical Gas Tubing: Copper tubes are manufactured to the highest standards and rigorously tested to meet the critical requirements of air conditioning units and medical gas pipelines. Specialist original equipment manufacturers depend on strict quality control to ensure compliance with standards for chemical composition, outside diameter and thickness tolerances, temper, internal cleanliness, and finish.

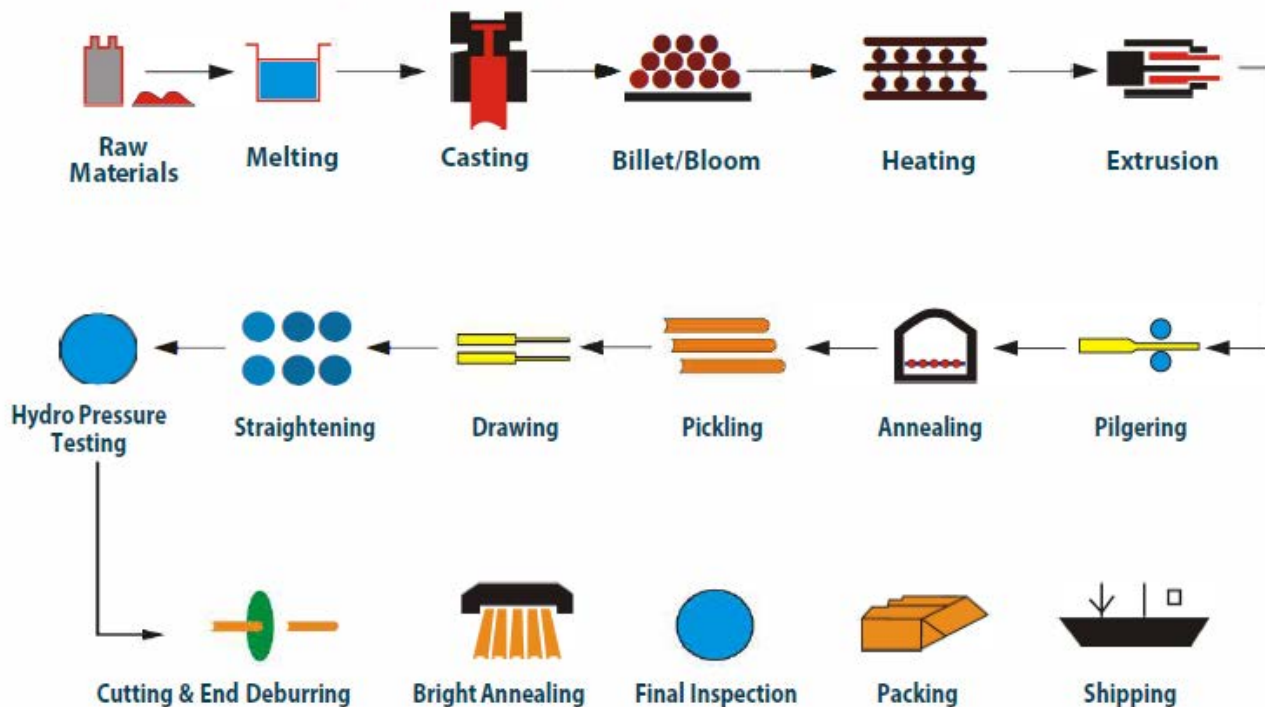
Water Services: Copper tubes offer superior corrosion resistance and ease of joining, making them the world's preferred choice for hot and cold water service and supply lines. These tubes are part of a comprehensive plumbing system designed to handle the heat and pressure demands of modern high-temperature hot water systems.

Gas Lines: Copper is an ideal material for all types of gas lines. Copper tubes are widely used for the reticulation of natural gas, liquefied petroleum gas, town gas, and other combustible gas mixtures.

Plumbing & Sanitation: Copper and brass tubes are durable, easy to pre-fabricate, and lightweight, making them ideal for sanitary plumbing services, as well as drainage, waste, and vent applications. With a complete range of types and sizes, these products meet or exceed industry standards, delivering high-quality flow solutions.

Heating Systems & Heat Exchangers: Copper tubes, coils, bus bars, and round bars are the preferred choice for heat exchanger systems due to their high thermal and heat conductivity. All necessary grades for these applications are manufactured to meet industry requirements.

Process Flowchart - Copper & Copper Alloy Products

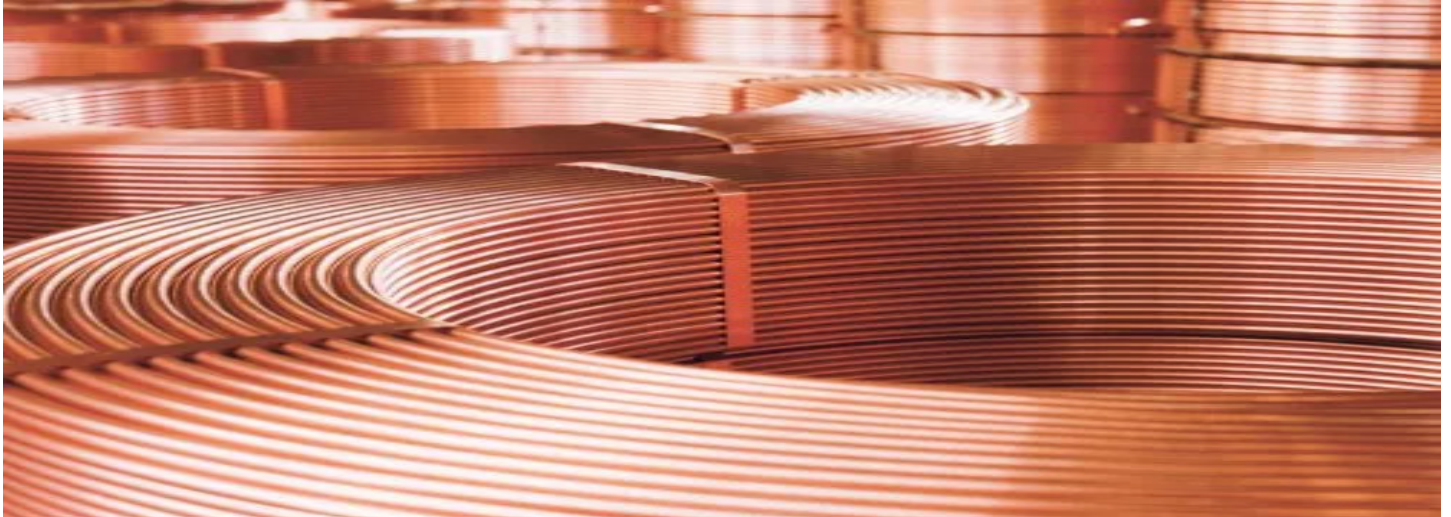


Standard	Standard Specification	Alloy No.	Chemical Composition		Mechanical Properties				
			Copper (Cu)%	(P)%	Temper	Tensile Strength	% Elongation	Hardness	Average Grain Size
ASTM	UNS	C12200	99.9	0.015 to 0.04	H58 O60	MIN 250	-	-	MIN 0.04
	B68	C12200	99.9	0.015 to 0.04	O50 O60	MIN 205	MIN 40	-	MIN 0.04
	B88	C12200	99.9	0.015 to 0.04	O50 H58 O60	MIN 210	MIN 40	50 HRF MAX	0.015–0.04
	B280	C12200	99.9	0.015 to 0.04	O60 H58	MIN 205	MIN 40	-	MIN 0.04
JIS	H3300	C12200	99.9	0.015 to 0.04	H OL O	MIN 205	MIN 40	MAX 55 HRF / MAX 50 HRF	MAX 0.04 / 0.025–0.06
BS EN	EN 1057	CW024A Cu-DHP	99.9	0.015 to 0.04	R220 (O) / R290 (H)	MIN 220 / MIN 290	MIN 40 / MIN 3	40–70 HV5 / MIN 100 HV5	-

DETAIL	METRIC UNITS	ENGLISH UNITS
MATERIAL	Cu-DHP	Cu-DHP
DENSITY (AT 20°C)	8.9 g/cm ³	0.321 lb/in ³
MELTING POINT	1083°C	1981°F

LEVEL WOUND COIL

A Level Wound Coil is a coil of copper tubes arranged in layers on a spool, with the turns in each layer positioned parallel to the spool's axis and placed side by side.



TEMPER

SOFT ANNEALED
(ASTM B68 - O60)
LIGHT ANNEALED
(ASTM B68 - O50)

SIZES AVAILABLE

Range: OD: 4.76 mm to 15.88 mm
Thickness: 0.31 mm to 1.5 mm

INTERNATIONAL STANDARD:

ASTM 868
(Product Availability Specified As Per ASTM 8743)
ASTM B75, ASTM B837, JIS H3300,
BS EN 12735-1, BS EN 12735-2, EN 1057, IS 2501

SPECIFICATION CHART

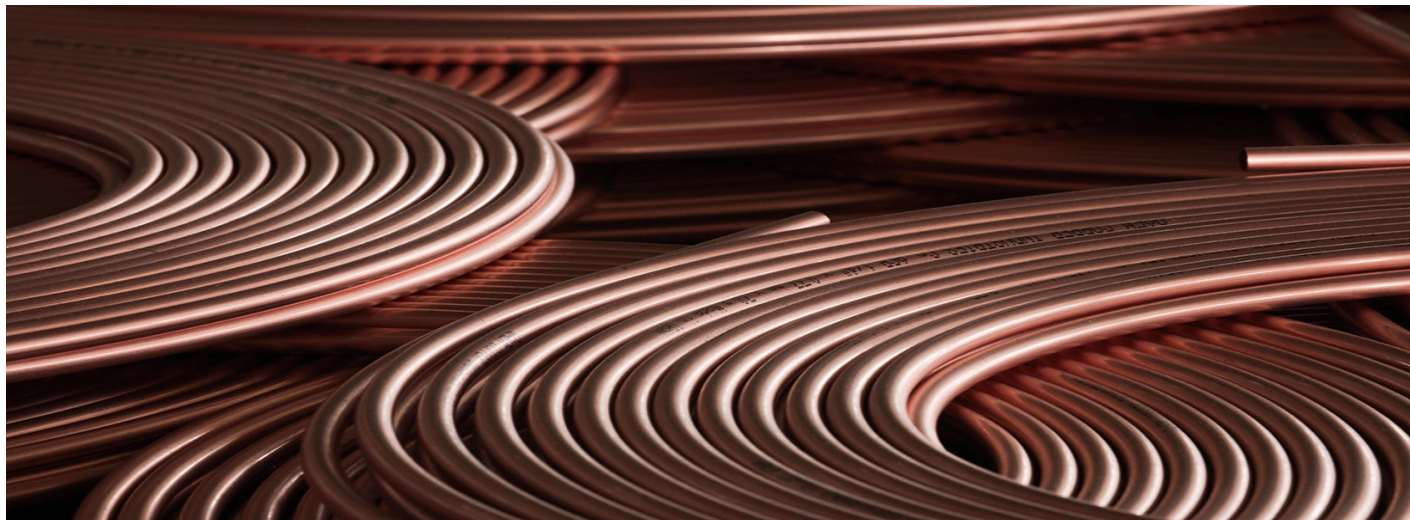
OUTER DIAMETER		LWC											
		WALL THICKNESS (MM)											
MM	INCH	0.31	0.35	0.41	0.51	0.56	0.61	0.71	0.81	0.91	1	1.2	1.50
4.76	3/16"	✓	✓	✓	✓	✓	✓	✓	✓				
6.35	1/4"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
7.94	5/16"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
9.52	3/8"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12.7	1/2"		✓		✓	✓	✓	✓	✓	✓	✓		
15.88	5/8"				✓	✓	✓	✓	✓	✓			

APPLICATIONS :

- VRV & VRF - Air Conditioning And Refrigeration Systems
- AHU's
- HVAC Industry
- Heat Exchangers
- Evaporator Coils
- Capillary Tube Drawing

PANCAKE COIL

A Pancake Coil, also known as a Helical Coil, consists of turns wound into layers parallel to the coil's axis, with successive turns in each layer placed side by side. These coils can be up to 100 feet long.



TEMPER

SOFT ANNEALED
(ASTM B280 - O60)

SIZES AVAILABLE

Range: OD : 4.76 mm to 22.22 mm

Thickness: 0.30 mm to 1.50 mm Length: 50ft / 100ft

INTERNATIONAL STANDARD:

ASTM B280
(Product Availability Specified As Per ASTM B743)
ASTM B68, ASTM B75, EN1057, JIS H3300

SPECIFICATION CHART

OUTER DIAMETER		PCC - 50FT - 100FT PANCAKE COILS															
		WALL THICKNESS (MM)															
MM	INCH	0.30	0.35	0.41	0.45	0.46	0.51	0.56	0.61	0.66	0.71	0.76	0.81	0.91	1.00	1.20	1.50
4.76	3/16			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
6.35	1/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
7.94	5/16	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
9.52	3/8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
12.7	1/2		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
15.88	5/8				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
19.05	3/4										✓	✓	✓	✓	✓	✓	✓
22.22	7/8										✓	✓	✓	✓	✓	✓	✓

APPLICATIONS :

- VRV & VRF - Air Conditioning And Refrigeration System Field Service
- HVAC - Servicing Industry
- Connecting Kits For Indoor And Outdoor Units
- Gas Piping

STRAIGHT COPPER PIPE

Seamless copper tubes are available in straight-cut lengths with soft or hard temper, making them suitable for various applications, including plumbing, heat exchangers, solar systems, and medical gas piping.



TEMPER

SOFT ANNEALED
(ASTM B68,B75,B88,B280) - O60
HARD ANNEALED
(ASTM B68,B75,B88,B280) - H58

SIZES AVAILABLE

Range: OD: 4.76 mm to 54 mm
Thickness: 0.41 mm to 2.00 mm
Length: : 10 ft / 3.048 M
(Variable As Per Customers Requirement)

INTERNATIONAL STANDARD:

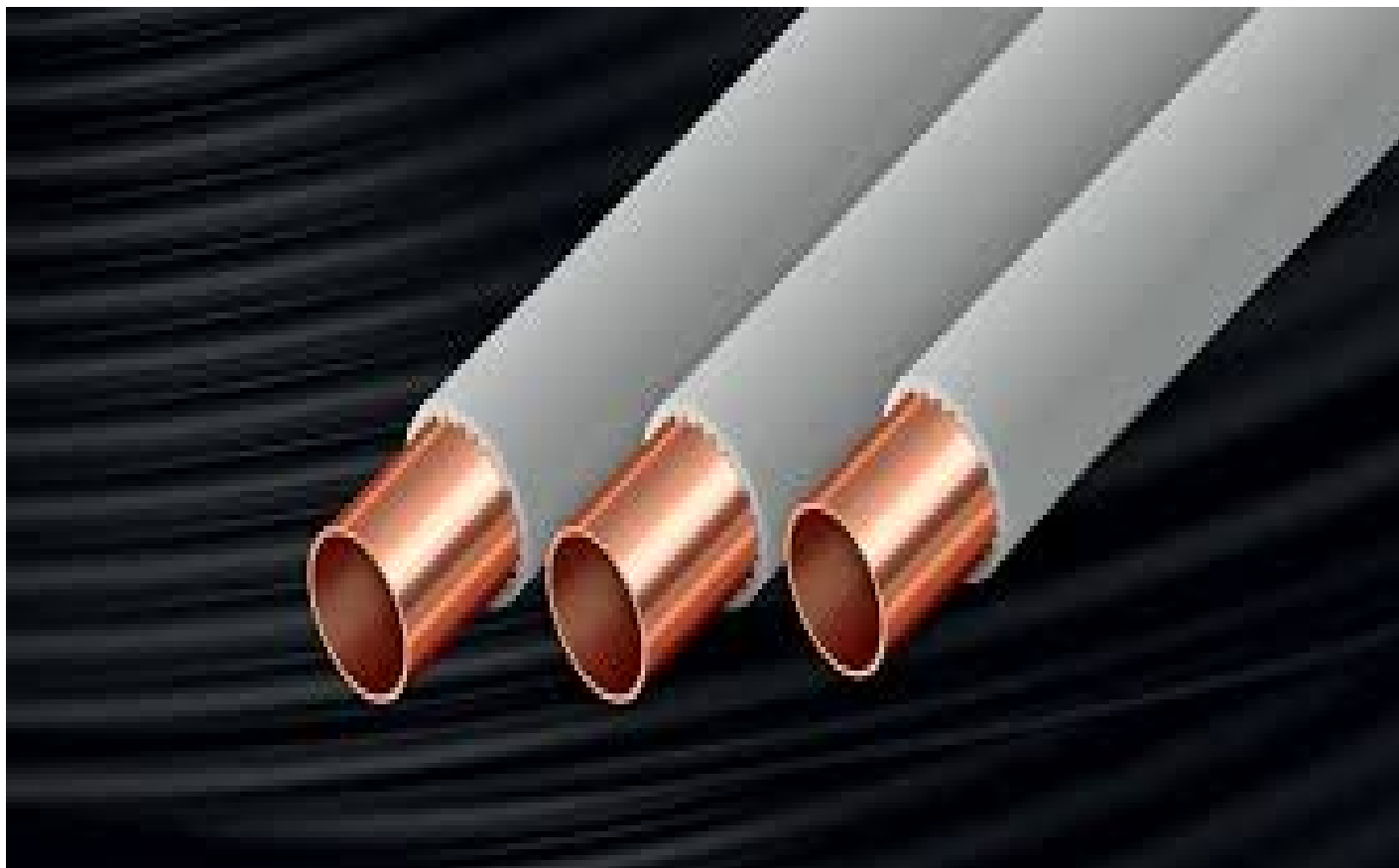
ASTM B280
(Product Availability Specified As Per ASTM B743),
ASTM B68, ASTM B75, EN1057, JIS H3300

APPLICATIONS :

- VRV And VRF - Air Conditioning And Refrigeration
- Heat Exchangers
- Chillers
- Solar Equipments
- Medical Gas Piping
- Electrical Heaters
- Piping For Water Gas And Oil
- General Engineering Purpose
- Plumbing

COPPER TUBE (COILS/STRAIGHT TUBE) - COATED WITH PVC

Seamless copper tubes are available with PVC coating, applied through a continuous extrusion process. This protective sheath of polyvinyl chloride safeguards the tubes from external damage, making them ideal for use in challenging environmental conditions.

**TEMPER**

SOFT ANNEALED - 060
HARD ANNEALED - H58

SIZES AVAILABLE

Range: OD: : 4.76 mm to 19.05 mm
Thickness: 0.41 mm to 1.20 mm
PVC Coating Thickness: Max 3 mm
(Variable As Per Customers Requirement)

INTERNATIONAL STANDARD:

ASTM B280, BS EN 1057

APPLICATIONS :

- Fuel Gas Piping
- Gas Transmission
- Oil and Gas Industry
- Medical Gas piping

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