

**COPPER PIPE & TUBE
FOR PLUMBING OR INDUSTRIAL USE**

about SAMPO

Since Sampo Industrial Co, Ltd, was established in **1977**, it has been making various efforts and trial for growing into the company which is one of the leading manufacturers producing copper tube in Korea.

Over a period of 49 years, Sampo has built long-term relationships with domestic & oversea customers and reliability in the market. The company is proud of its reputation for dynamic & can-do attitude and, in every situation, strives to achieve outcomes which benefit all parties. With long experience and accumulated technology, we make a strenuous effort to confirm the diverse needs of customers worldwide.

Even in fluctuating market situation, Sampo has great development capability and competitiveness in the oversea market, and the exports reach 70% of its total output. The company continually improves upon its optimization processes, allowing us to give our customers the best service possible and guarantees that our service will go beyond your expectations.

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SAMPO
PROMOTION
MOVIE CLIP

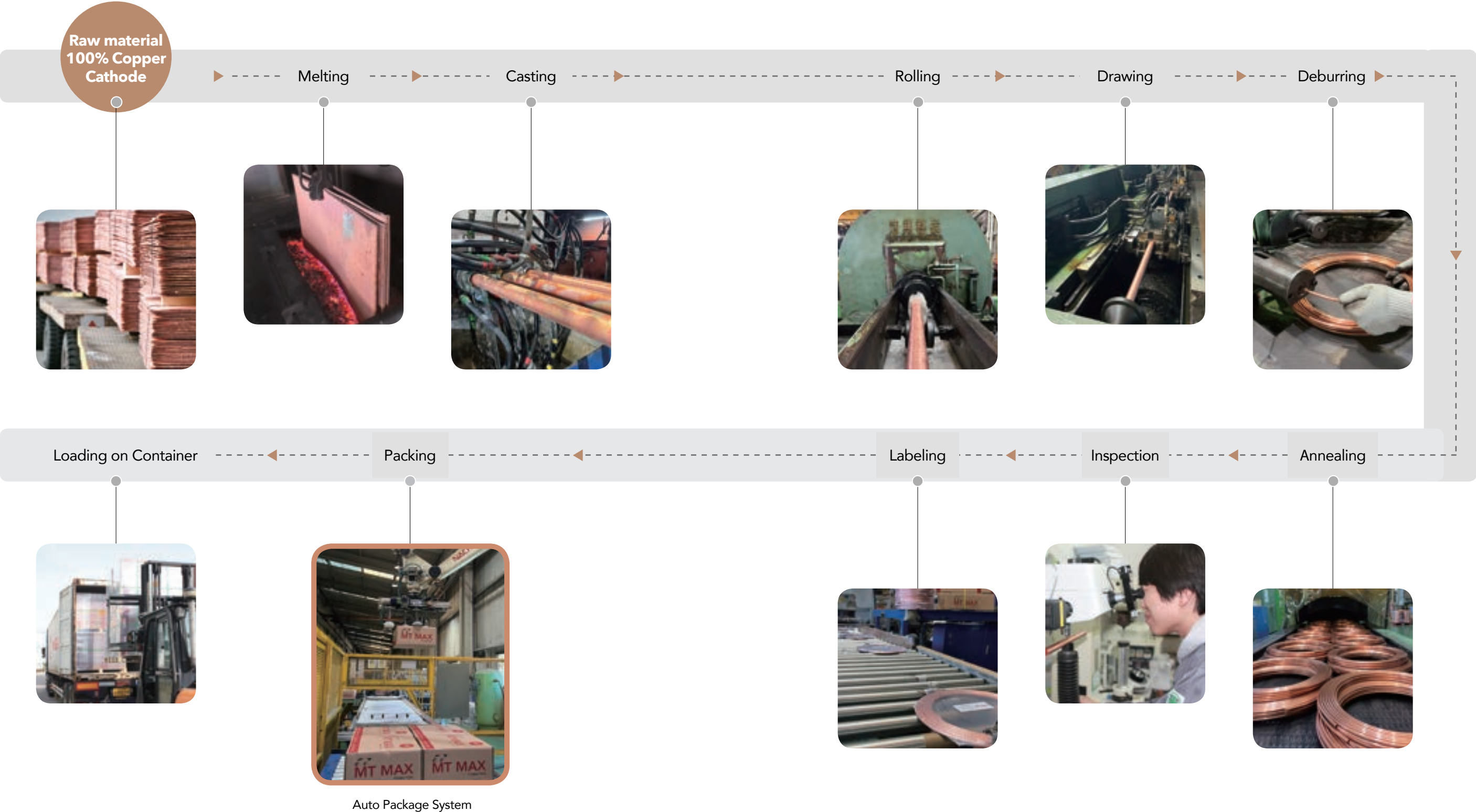


History

1977. 06	Foundation of Sampo Industrial
1978. 11	Installation for Electric furnace
1984. 10	Installation for 4 sets of drawing machine
1985. 02	Acquisition of KS certificate (Korean Industrial Standard)
1995. 07	Merging Kuri Metal Co., LTD in Eumsung
1995. 08	Installation for Combined Machine
1997. 12	Moving mill from Kuro to Eumsung by huge extension of Eumsung factory
1999. 10	Acquisition of ITS certificate (ASTM B 280, ASTM B88 etc)
2002. 07	Acquisition of ISO 9001 certificate by KOTRIC certificate center
2002. 11	Award for the export of \$5 million
2003. 02	Acquisition of NSF certificate
2004. 02	Acquisition of JIS certificate (JIS H3300)
2005. 10	Installation for UDDL(Cascade)
2005. 11	Acquisition of AS certificate (AS 1432 & AS 1571)
2006. 11	Establishment of SMARTCO in Australia (Master Wholesaler in Australia)
2006. 12	Award for the export of \$10 million
2008. 07	Acquisition of EN CERTIFICATE (EN 12735)
2008. 11	Award for the export of \$20 million
2009. 03	Acquisition of EN CERTIFICATE (EN 1057)
2010. 11	Award for the export of \$30 million
2011. 11	Award for the export of \$50 million
2013. 05	Starting a Warehouse Business in USA (DALLAS)
2013. 11	Award for the export of \$70 million
2016. 07	Installation for Auto Package System
2020. 07	Acquisition of UL certificate (UL 700 PSI)
2025. 11	BIS certificate



Manufacturing Process



about Copper Tube

Copper tubing is most often used for supply of hot and cold tap water, and as refrigerant line in HVAC systems. There are two basic types of copper tubing, soft copper and rigid copper. Copper tubing is joined using flare connection, compression connection or solder.

Soft (or ductile) copper tubing can be bent easily to travel around obstacles in the path of the tubing. While the work hardening of the drawing process used to size the tubing makes the copper hard/rigid, it is carefully annealed to make it soft again ; it is therefore more expensive to produce than non-annealed, rigid copper tubing. It can be joined by any of the three methods used for rigid copper, and it is the only type of copper tubing suitable for flare connections. Soft copper is the most popular choice for refrigerant lines in split-system air conditioners and heat pumps.

Rigid copper is a popular choice for water lines. It is joined using a sweat, roll grooved, compression or crimped/pressed connection. Rigid copper, rigid due to the work hardening of the drawing process, cannot be bent and must use elbow fittings to go around corners or around obstacles. If heated and allowed to cool in a process called annealing, rigid copper will become soft and can be bent/formed without cracking.

Advantage of Copper Tube

Strong, long lasting, copper tube is the leading choice of modern contractors for plumbing, heating and cooling installations in all kinds of residential and commercial buildings. The primary reasons for this are:

- Copper is economical
- Copper is lightweight *
- Copper is formable
- Copper is easy to join
- Copper is safe
- Copper is dependable
- Copper is long-lasting
- Copper is 100% recyclable



* Copper tube does not require the heavy thickness of ferrous or threaded pipe of the same internal diameter.

This means copper costs less to transport, handles more easily and, when installed, takes less space.

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ACR TUBE

for Air conditioning & Refrigeration

SAMPO manufactures various range of seamless copper tube in soft and hard drawn straight lengths intended for use in connection, repairs, or alternations of field air conditioning & refrigeration units. This tube is dehydrated, cleaned and capped to reduce refrigerant contamination.

Specification

ASTM B280 ASTM B 743 AS/NZS 1571 EN 12735	Copper Alloy No.	C12200 CuDHP
	Chemical Requirement	Cu+Ag min. 99.9% P 0.015-0.040%
	Tolerances	As required by the standard
	Cleanness	0.038g/m ²
	Origins	Made in Korea
	H.S.CODE	7411.10.0000

Brand



PANCAKE COIL

Copper tubes are used mainly to transport refrigerant gas, liquids in refrigeration and air conditioning units as well as heat exchangers.

Standard size

		PANCAKE COILS					
		OD		WT		Length	Safe Working Pressure at service temperature
		Inch	mm	Inch	mm	FT	65°C kPa 149°F psi
ACR coil	1/4"		6.35	0.030	0.76	50ft, 100ft+	9,300 1,350
	5/16"		7.94	0.032	0.81	50ft, 100ft+	7,800 1,140
	3/8"		9.52	0.032	0.81	50ft, 100ft+	6,400 930
	1/2"		12.7	0.032	0.81	50ft, 100ft+	4,700 690
	5/8"		15.88	0.035	0.89	50ft, 100ft+	4,100 600
	3/4"		19.05	0.042	1.07	50ft, 100ft+	3,400 490
	7/8"		22.22	0.045	1.14	50ft, 100ft+	3,700 540
	1-1/8"		28.58	0.050	1.27	50ft, 100ft+	3,200 470

Economic size

		PANCAKE COILS					
		OD		WT		Length	Safe Working Pressure at service temperature
		Inch	mm	Inch	mm	FT	65°C kPa 149°F psi
ACR coil	1/4"		6.35	0.024	0.61	50ft, 100ft+	7,300 1,060
	5/16"		7.94	0.024	0.61	50ft, 100ft+	5,700 830
	3/8"		9.52	0.024	0.61	50ft, 100ft+	4,700 690
	1/2"		12.7	0.028	0.71	50ft, 100ft+	4,100 600
	5/8"		15.88	0.028	0.71	50ft, 100ft+	3,200 470
	3/4"		19.05	0.032	0.81	50ft, 100ft+	3,100 450
	7/8"		22.22	0.040	1.02	50ft, 100ft+	3,000 440
	1-1/8"		28.58	0.045	1.14	50ft, 100ft+	2,900 380

※ Other sizes are available upon request

Tube wall thickness will determine which refrigerant is suitable, depending upon temperature range.

Features

- Highly efficient
- Durability
- Expansive applications
- Non-corrosive

Mechanical Properties

- Tensile strength : 205 Mpa/min
- Elongation : min 40%
- Hardness : 40-50 VPN
- Temper : Soft annealed (O60, R220)

Packing

- Double Layered
- End-Cap
- Shrink Package & Label
- Sampo carton Box (Brown)
- Wooden pallet (ISPM 15)

Cleanness



The process of air-blowing with high pressure in order to make sure that no chip inside of coil

CHAMFER &
AIR BLOWING

NITROGEN
GAS

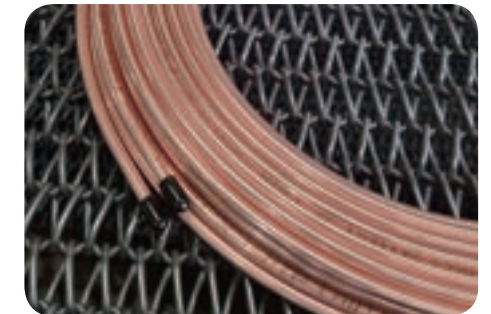
HEAT
TREATMENT
(ANNEALING)

PCC

Packing



DOUBLE LAYERED



END CAP



CARTON BOX (AUTO)



SHRINK PACKAGE & LABEL (AUTO)



WOODEN PALLET (AUTO)



CONTAINER STUFFING

ACR PIPE

Copper tubes are manufactured without processing oils that would be incompatible with the oils used to lubricate the compressors in the AC system.

HARD LENGTHS							
ACR pipe	OD		WT		Length	Safe Working Pressure at service temperature	
	Inch	mm	Inch	mm	FT	65°C kPa	149°F psi
	3/8"	9.52	0.030	0.76	12ft, 20ft+	6,000	870
	1/2"	12.7	0.035	0.89	12ft, 20ft+	5,200	750
	5/8"	15.88	0.040	1.02	12ft, 20ft+	4,700	690
	3/4"	19.05	0.042	1.07	12ft, 20ft+	4,100	600
	7/8"	22.22	0.045	1.14	12ft, 20ft+	3,700	540
	1-1/8"	28.58	0.050	1.27	12ft, 20ft+	3,200	470
	1-3/8"	34.93	0.055	1.40	12ft, 20ft+	2,900	420
	1-5/8"	41.28	0.060	1.52	12ft, 20ft+	2,600	380
	2-1/8"	53.98	0.070	1.78	12ft, 20ft+	2,300	340
	2-5/8"	66.68	0.080	2.03	12ft, 20ft+	2,200	320
	3-1/8"	79.38	0.090	2.29	12ft, 20ft+	2,000	300
	3-5/8"	92.08	0.100	2.54	12ft, 20ft+	1,900	280
	4-1/8"	104.78	0.110	2.79	12ft, 20ft+	1,900	270



※Other sizes are available upon request

Mechanical Properties

- Tensile strength : 250 Mpa/min
- Hardness : 100 VPN
- Temper : Hard Drawn (H58, R290)
- Packing : All the tubes are plugged with caps to ensure cleanness of the inner surface during transportation and storage.

Straight tube in bundles and wrapped with plastic bag



While the rating for hard draw tube are substantially higher, they should only be used for systems using properly designed flare or compression mechanical joins, since joining by any heating process might anneal (soften) the tube.

2 PLUMBING TUBE

for Plumbing, Gasfitting & drainage applications

SAMPO manufactures various range of seamless copper tube in soft and hard drawn straight lengths intended for use in general plumbing and similar applications in fluid conveyance.

Specification

ASTM B88 AS/NZS 1432 EN 1057	Copper Alloy No.	C12200 CuDHP
	Chemical Requirement	Cu+Ag min. 99.9% P 0.015-0.040%
	Tolerances	As required by the standard
	Origins	Made in Korea
	H.S.CODE	7411.10.0000

Brand



Typical uses includes

- Type K** underground residential, commercial and industrial uses.
- Type L** residential and commercial uses.
- Type M** above ground residential and light commercial uses.

Mechanical Properties

- Tensile strength : 250 Mpa/min
- Hardness : 100 VPN
- Temper : Hard Drawn (H58, R290)
- Packing : Straight tube in bundles and wrapped with plastic bag



In the American plumbing industry, the size of copper tubing is designated by its nominal diameter, which is 1/8th inch less than the outside diameter. (This nominal diameter does not match any other physical dimension on the pipe ; it may be larger or smaller than the inside diameter depending on the size of pipe)

	HARD LENGTHS				
	Nominal	Actual size		TYPE K	
	OD	OD		WT	
	Inch	Inch	mm	Inch	mm
Straight type	1/4"	3/8"	9.52	0.035	0.89
	3/8"	1/2"	12.7	0.049	1.24
	1/2"	5/8"	15.88	0.049	1.24
	5/8"	3/4"	19.05	0.049	1.24
	3/4"	7/8"	22.22	0.065	1.65
	1"	1-1/8"	28.58	0.065	1.65
	1-1/4"	1-3/8"	34.93	0.065	1.65
	1-1/2"	1-5/8"	41.28	0.072	1.83
	2"	2-1/8"	53.98	0.083	2.11
	2-1/2"	2-5/8"	66.68	0.095	2.41
	3"	3-1/8"	79.38	0.109	2.77
	3-1/2"	3-5/8"	92.08	0.120	3.05
	4"	4-1/8"	104.78	0.134	3.40
	5"	5-1/8"	130.18	0.160	4.06
	6"	6-1/8"	155.58	0.192	4.88

※Other sizes are available upon request

Type K has the thickest wall section of the three types of pressure rated tubing and is commonly used for deep underground burial such as under sidewalks and streets, with a suitable corrosion protection coating or continuous polyethylene sleeve as required by code. It usually has green colored printing.

Type L has a thinner pipe wall section, and is used in residential and commercial water supply and pressure applications. It usually has blue colored printing.

	HARD LENGTHS				
	TYPE L		TYPE M		Length
	WT		WT		FT
	Inch	mm	Inch	mm	
	0.030	0.76	–	–	12ft, 20ft +
	0.035	0.89	0.025	0.64	12ft, 20ft +
	0.040	1.02	0.028	0.71	12ft, 20ft +
	0.042	1.07	–	–	12ft, 20ft +
	0.045	1.14	0.032	0.81	12ft, 20ft +
	0.050	1.27	0.035	0.89	12ft, 20ft +
	0.055	1.40	0.042	1.07	12ft, 20ft +
	0.060	1.52	0.049	1.24	12ft, 20ft +
	0.070	1.78	0.058	1.47	12ft, 20ft +
	0.080	2.03	0.065	1.65	12ft, 20ft +
	0.090	2.29	0.072	1.83	12ft, 20ft +
	0.100	2.54	0.083	2.11	12ft, 20ft +
	0.110	2.79	0.095	2.41	12ft, 20ft +
	0.125	3.18	0.109	2.77	12ft, 20ft +
	0.140	3.56	0.122	3.01	12ft, 20ft +

Type M has an even thinner pipe wall section, and is used in residential and commercial water supply and pressure applications. It usually has red colored printing.

Type K and L are generally available in both hard drawn "sticks" and in rolls of soft annealed tubing, whereas type M is usually only available in hard drawn "sticks".

Certificate

SAMPO factory is certified as a Quality Endorsed facility to ISO9001 as shown by the Certificate of Registration below. SAMPO also has a variety of accreditations to American Standards, Australian and European for many of its products ranges.

ASTM B280 is a standard that specifies the requirements for seamless copper tubes used in air conditioning and refrigeration systems.	EN 12735 is an European standard that specifies requirements for copper tubes used in air conditioning and refrigeration.	BIS IS 10773 is an Indian standard that specifies requirments for copper tubes used in refrigeration and air conditioning applications.
ASTM B88 is a standard that specifies the requirements for seamless copper water tubes used in plumbing and other water supply systems.	EN 1057 is an European standard that specifies requirements for seamless copper tubes used in water and gas installations.	KS D 5301 is an Korean standard that specifies requirements for copper tubes used in heat exchangers, chemical industry, hot & cold water supply, gas piping and air conditioning systems.
NSF/ANSI 61 is a standard that was developed to establish minimum requirements for the control of potential adverse human health effects from products that contact drinking water.	ISO 9001 is an international standard that sets out the criteria for a quality management system to ensure consistent product and service quality,	UL 700 PSI indicates that the product has been tested and certified by UL to safely withstand pressures up to 700 psi.



Item	ASTM B 280		ASTM B 88	ASTM B 743
What is it?	Copper pipe for air-conditioners and refrigeration		Copper pipe for water, gas, and heating in buildings	Copper coil pipe for air-conditioners (field use)
Main Use	Air-conditioners, refrigerat lines		Water lines, gas lines, plumbing systems	Flexible A/C pipe used in on-site installaton
Pressure Rating	High-pressure (for refrigerant gas)		Normal pressure (for water/gas)	High-pressure (same as B 280)
Inside Condition	Clean, dry, oil-free, caps (safe for refrigerant)		Inside cleanness not required	Clean, dry, oil-free, caps (same as B 280)
Wall Thickness	ACR (slightly thicker)		K (thick), L, or M (thin) types	ACR thickness (same as B 280)
Chemical Composition				
Copper, min (%)	C12200 99.90			
Phosphorus (%)	0.015-0.040			
Shape/Form	coil	Straight pipe	Mostly straight pipe	Coil only (flexible)
Temper	Soft Annealed O60	Hard Drawn H58	Hard Drawn H58	Soft Annealed O60
Rockwell Hardness	50 max (HR F)	50 max (HR 30T)	50 max (HR 30T)	50 max (HR F)
Tensile Strength	205 min (Mpa)	250 min (Mpa)	250 min (Mpa)	205 min (Mpa)
Avg. Grain Size	0.040 min (mm)	—	—	0.040 min (mm)

FAQ

Consumer’s Most Common Questions

1. B280 vs B88 - What’s the real difference?
B280 is **clean and safe for gas (refrigerants)** under high pressure.
B88 is for **regular water/gas plumbing** in buildings. Not used for refrigerants.
2. Why would I use B743 instead of B280?
B743 is **flexible coil** pipe – perfect when you need to bend the pipe during installation.
It’s basically **B280 in coil form**.
3. I’m doing plumbing work at home - which one should I buy?
For **water, gas, or heating** → use **B88**
For **air conditioning or refrigerator pipes** → use **B280 or B743 (if flexible)**
4. What are the differences in pressure and temperature tolerance?

ASTM B280

- Q. What pressure and temperature can it handle?
- A. Suitable for refrigeration system ; handles high pressure (400~700 psi) and temperatures from around -196°C to 150°C.

ASTM B88

- Q. Is it suitable for high temperatures and pressure?
- A. Used for plumbing and heating ; suitable for moderate pressure and temperatures up to about 120°C.

ASTM B743

- Q. Can it withstand harsh condition?
- A. Yes, designed for heat exchanger ; withstands high pressure and temperature.

Exhibition



2011 DUBAI BIG 5 SHOW



2012 DUBAI BIG 5 SHOW



2012 CHICAGO AHR SHOW



2014 DUBAI BIG 5 SHOW



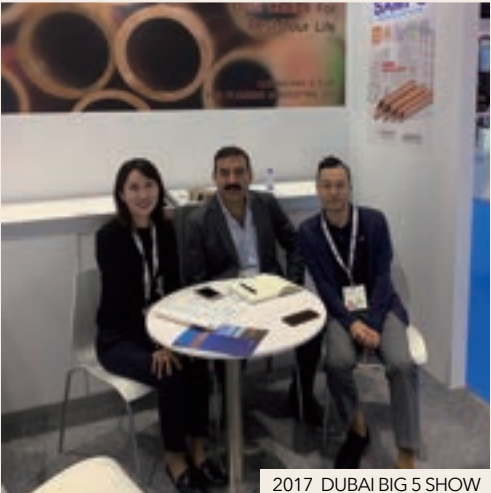
2016 DUBAI BIG 5 SHOW



2013 DUBAI BIG 5 SHOW



2015 DUBAI BIG 5 SHOW



2017 DUBAI BIG 5 SHOW



2024 NEW DELHI KoINDEX



2024 DUBAI BIG 5 SHOW



2019 DUBAI BIG 5 SHOW



2025 RIYADH BIG 5 SHOW



2025 DUBAI BIG 5 SHOW



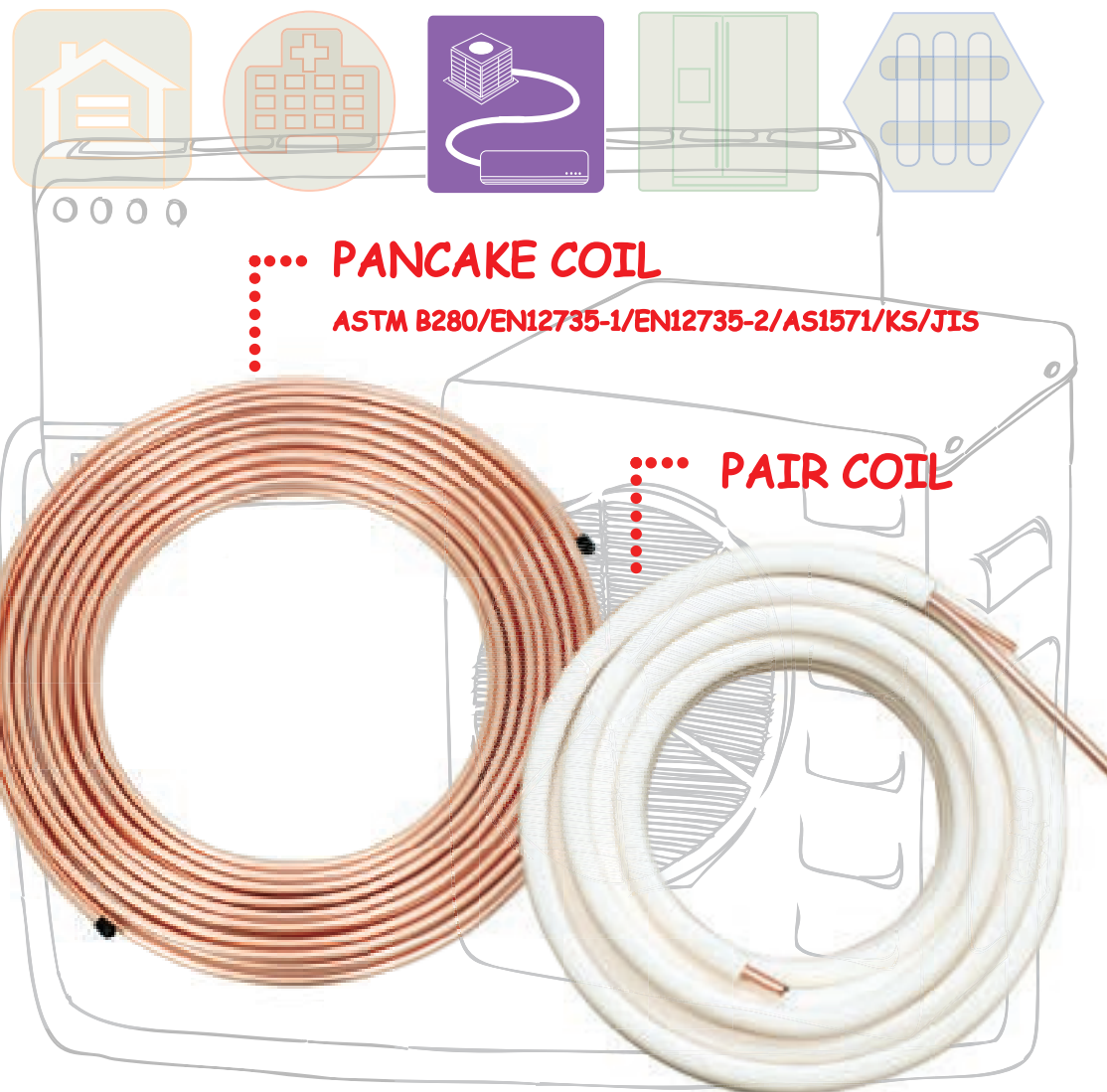
2026 AHR VEGAS



www.sampotube.com

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MEMO

