PROFESSIONAL INSULATED REFRIGERANT TUBE ·SMART FACTORY

プロの被覆冷媒配管・知恵の工場

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TATSUKIN®

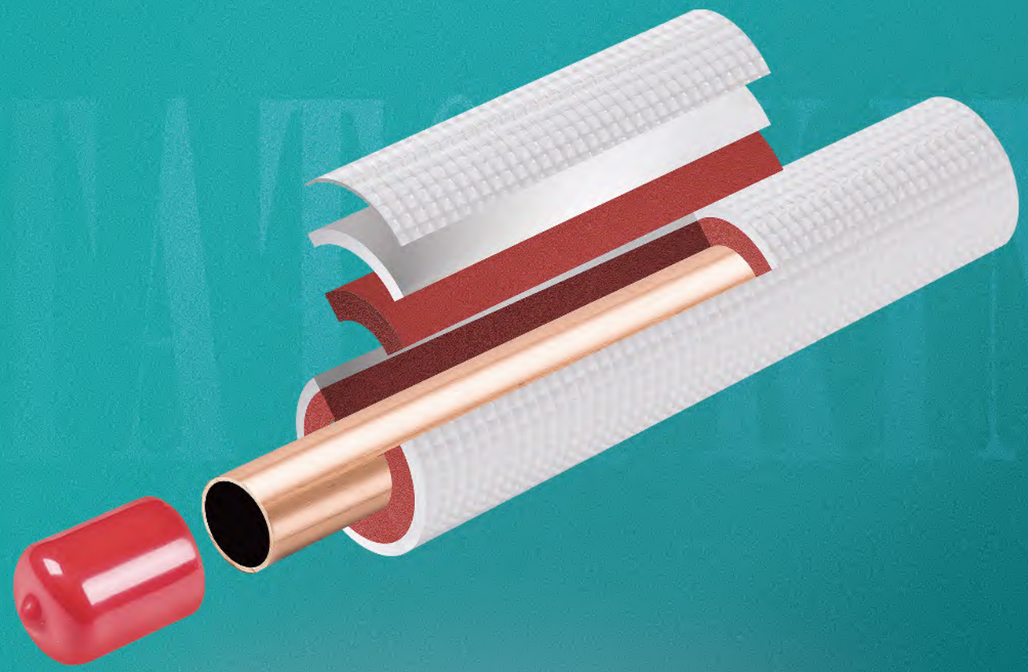
PROFESSIONAL INSULATED REFRIGERANT TUBE · SMART FACTORY

日本の精度　達錦の態度

PRECISION OF JAPAN
ATTITUDE OF TATSUKIN

—OUR QUALITY IS HIGHER THAN THE INDUSTRY STANDARD IN JAPAN—

日本の工業規格より優れる品質



〔THE BESTSELLER IN JAPANESE MARKET FOR 20 YEARS〕

日本マーケットで２０年続く人気ブランド

Tatsukin Foaming Raw Materials

プロの被覆冷媒配管・知恵の工場

Precision of Japan
Attitude of Tatsukin
日本の精度 達錦の態度

①激しい温度差で使え、冷暖兼用
②柔軟であり、成形しやすく、加工が便利である
③清潔で、母材が安全であり、清潔である。最新のE

①Suitable for wide range of low and high temperature.
②Elastic and easy to process
③Safe and environment-friendly,
complying with the latest EU environmental standards (SVHC)

Foaming raw materials

Tatsukin insulation products are mainly made of engineered polyethylene which is environment-friendly. It overcomes the shortcomings of traditional foaming materials such as fragile, easy-to-deform, poor resilient and excessive formaldehyde. It features high temperature resistance, low moisture penetration, , noise barrier, shock absorption, flexibility and non-toxic etc.

Those various advantages over traditional insulation makes it an ideal substitute for traditional foam materials. It can be widely used in the production of thermal insulation products and food packaging materials.

Foaming material A（FM-A）

Foamed Material A is made of Low Density Polyethylene (LDPE) as the main raw material and grafted with Silane. The foamed products have the following characteristics:

- **Suitable for application under wide range of temperature:**
  stable permanently under -60℃ to 120℃ and intermittently under 130℃~150℃
- **Thermal Insulation:**
  Fine and tight independent closed bubble structure can effectively reduce air convection and thermal conductivity
- **Noise barrier:**
  30 times foaming with independent closed-cell structure, more than 75% inner hollow structure, excellent sound wave barrier. Applicable for noisy environment for motor and transportation.
- **Easy-to-process:**
  easily shaped for application in automotive, air conditioning, evaporator and other refrigeration.
- **impact-absorption:**
  applicable for protection in sports and entertainment product area.
- **Environment-friendly:**
  non-toxic, odorless, zero formaldehyde, non-harmful to health.

■ User guides

Cross-linking conditions	The products after foaming need cross-linking treatment. The method is as follows ① Placed in the natural environment for several days. Under humid environment the natural treatment time can be shortened. ② 2 Several hours treatment under steaming environment.
Usage	Mix FM-A and FM-B in a ratio of 25:1.5. The mixture must be used up within 8 hours.
Package	plastic-lined woven bag, 25kg/ bag.
Shelf life	The expiry date is one year after production date.
Storage	In clean and dry warehouse
Humidity Protection	After opening the package, avoid ingress of external humidity. The grafted material should be used up within 8 hours. Otherwise, the surface of the product will be pre-crosslinked, which will affect the apparent quality of the final product.

Physical Parameters

Test Item	Unit	Test Value
Relative Density2	⩾0.940	0.947
Tensile Strength Mpa	⩾23	27.8
Yield Strength Mpa	⩾18	22.1
Elongation at Break %	⩾350	448
Crosslink Degree %	⩾65	73.2
Moisture ppm	⩽200	37
Aging: test temperature:120±2℃ Test period: 168h Tensile strength variation rate after aging % Elongation variation rate after aging %	 ±20 ±20	 4.6 -3.2
Brittleness temperature -70℃	adopt	adopt
Environmental stress cracking resistance F0 50℃	⩾5000	⩾5000

Parameters

Test Item	Unit	Test Value
Grafting material density	g/cm3	0.918-0.926
Melt flow rate	g/10min	2.0-3.6
Working temperature	℃	-76—120℃
Instantaneous maximum temperature	℃	120-150℃

Foaming Material B (FM-B)

The FM-B is compounded with catalyst, nucleating agent, foaming agent and some functional agents etc. It is catalyst master batch.

- **Environment-friendly:**
  non-toxic, odorless, zero formaldehyde; the material is applicable for food package.
- **Anti-Corrosion:**
  Corrosion-resistant to oil, acid, alkali and other chemicals.
- **Thermal Insulation:**
  low thermal conductivity ensures good thermal insulation effect

User guides:

Product Types	white FM-B, black FM-B, brown FM-B, red FM-B, blue FM-B, or optional colors upon customer request.
Usage	Mix 8%~10% FM-B. The percentage can be customized by user based on the color of the product. The mixture must be used up within 8 hours.
Package	plastic-lined woven bag, 25kg/ bag.
Shelf life	The expiry date is one year after production date.
Storage	In clean and dry warehouse
Humidity Protection	After opening the package, avoid ingress of external humidity. Otherwise, foaming quality problem will occur.

Fire retardant

Tatsukin has two types of Fire Retardants: ECO Foaming Fire Retardant and M1 Grade Eco Foaming Fire Retardant. Both are Nano materials with much better improvements on mechanical and thermal properties than traditional fire retardants.

ECO Foaming flame retardant

ECO Foaming flame retardant is an additive Nano-grade fire retardant master batch which has excellent processing fluidity, thermal stability and light stability. It is well compatible with resin and suitable for fire retardant of physical foaming of PE and other materials.

Outstanding advantages

- The products produced with this fire retardant master batch have no precipitation and whitening.
- It can be directly mixed with PE to produce finished products, reducing processing procedures and costs.
- Fully compliant with the latest EU Environmental Standards (SVHC), no dust pollution.
- High thermal stability. Suitable for high processing temperatures (⩾200 ℃).
- Good mechanical properties (good compatibility with resin). Almost all aspects of performance are consistent with pure resin.

User guides

Usage	①Mixing with 10%~15% of FM-B as filler is acceptable. ②The fire-retardant master batch can be directly foamed or injection molded by mixing with the base material and other additives.
Package	plastic-lined woven bag, 25kg/ bag.
Storage and transportation	Operation according to non-dangerous goods requirements.

Parameters

Item	Appearance	Volatile Matter	Thermal Decomposition	Acetone Insoluble	Purity
First Class	White Particle	⩽0.3%	⩾260℃	⩽0.03%	80%

Usage Instruction: Suggested Formula

Pe (% wt)	Suggested Quantity (%wt)	Fire Class
(Foaming) 92-90	6—10	UL94V-0

M1 Grade Eco Foaming Fire Retardant

M1 Grade Eco Foaming Fire Retardant is an additive Nano-grade fire retardant with excellent processing fluidity, thermal stability and light stability, which solves the problems of the finished product' s high density, high cost, poor mechanical properties and incompatibility with resin caused by large amount of added traditional fire-retardant additives. Therefore, this type of fire retardant is one of the top choices for current PE foaming. It can also be used as fire retardant for IXPE foam sheet.

Outstanding advantages

- Small quantity of additives with low cost.
- Fully compliant with the latest EU Environmental Standards (SVHC), no dust pollution.
- High thermal stability. Suitable for high processing temperatures (⩾170 °C).
- Good mechanical properties (good compatibility with resin). Almost all aspects of performance are consistent with pure resin.
- Good coloration and can be configured easily in a variety of colors.

■ User guides

Usage	①Add 3% ~ 5% maleic anhydride grafted PE compatibilizer to improve fire retardancy and other mechanical properties. ②Different types of PE's melting index is different, consequently the optimal addition ratio of flame retardant is slightly different. It is recommended to use PE material with melting index above 10. ③If recycled material is used, the proportion of the flame retardant can be appropriately increased by 1% to 4%. ④Mixing with 10%~15% of FM-B as filler is acceptable.
Package	plastic-lined woven bag, 25kg/ bag.
Storage and transportation	Operation according to non-dangerous goods requirements.

■ Parameters

Item	Appearance	Volatile Maatter	Thermal Decomposition	Acetone Insoluble	Purity
First Class	White Particle	⩽0.3%	⩾230℃	⩽0.03%	⩾99.5%

■ Usage Instruction: Suggested Formula

Pe (% wt)	Suggested Quantity (%wt)	Fire Class
(Foaming) 94-90	6—10	UL94V-0

■ Parameters (For reference only)

Item	Unit	Non-fire Retarded PE	Fire Retarded PE (with 5% fire Retardant)
Density	g/cm3	0.91	0.93—0.96
Tensile Strength	Mpa	32	31.5
Izod impact strength	KJ/m2	4.7	4.8
Elongation at Break	%	260	245
Bending Strength	Mpa	27	26.5
Heat Distortion Temperature	℃	80	90
Average Self-Extinguish Time	second	—	⩽2
Fire Resistant Level	UI94 1.6mm	No flame retardant	V—0

Anti-UV PE film

Tatsukin PE anti-UV film is consist of LDPE、LLDPE、HDPE、Nano fire resistant、antioxidant and other kinds of raw materials,which formed by blowing film, The product display high gloss 、thickness uniformity、high flexibility、good Elastic、easy processing , the advantage is fire retardant、Anti-aging、Low temperature resistant、anti-scratch、durability、Environment-friendly non-toxic and so on.

Product characteristics

- The material is softer, more transparent and easier-to-process than HDPE film.
- Raw materials are environment-safe and can be used as food packaging bags and plastic wrap.
- Anti-UV, anti-corrosion and anti-aging. Life time is 2~3 times longer than the traditional insulation materials.

IXPE foam sheet

Tatsukin IXPE foam sheet is Closed-cell polyethylene foam sheet.It can be divided into Standard type, Fire Retardant type, Conductive type and other various types of products. They are mainly used in vehicle and ship manufacturing, thermal engineering, construction, air conditioning, refrigeration, packaging, agriculture, aviation, military and high precision electronic instruments areas. They can be used for thermal insulation, heat barrier, fire retardant and shock-absorption. The production process includes mixing, smelting, granulation, extrusion, press polishing, irradiation crosslinking, heat foaming etc.

◉ Application areas:

Food industry
used as food packaging bags, plastic wrap etc.

Civil engineering
used as thermal insulation, sound barrier for buildings.

Refrigeration industry
used as insulation for cold storage wall, refrigerated trucks, refrigerators, freezers and others.

Transportation
Used for heat insulation, heat preservation, interior decoration and shock absorption for vehicles and ships.

Instrumentation
Packaging and gaskets for instruments.

Lifesaving
core material of life-saving equipment and floating material.

Daily ware
material for bathroom mats, car mats, picnic mats, yoga mats etc.

Characteristics for Products of IXPE foam sheet:

- Independent closed-cell structure, waterproof, heat-insulated, sound-proof and shockproof.
- Low thermal conductivity, great thermal insulation performance.
- Easy-to-process, Easy-to-compound with other materials
- Good coloration, nice apperance
- Suitable for wide range of environment temperature, low and high temperature resistant.

Tatsukin Insulation tube

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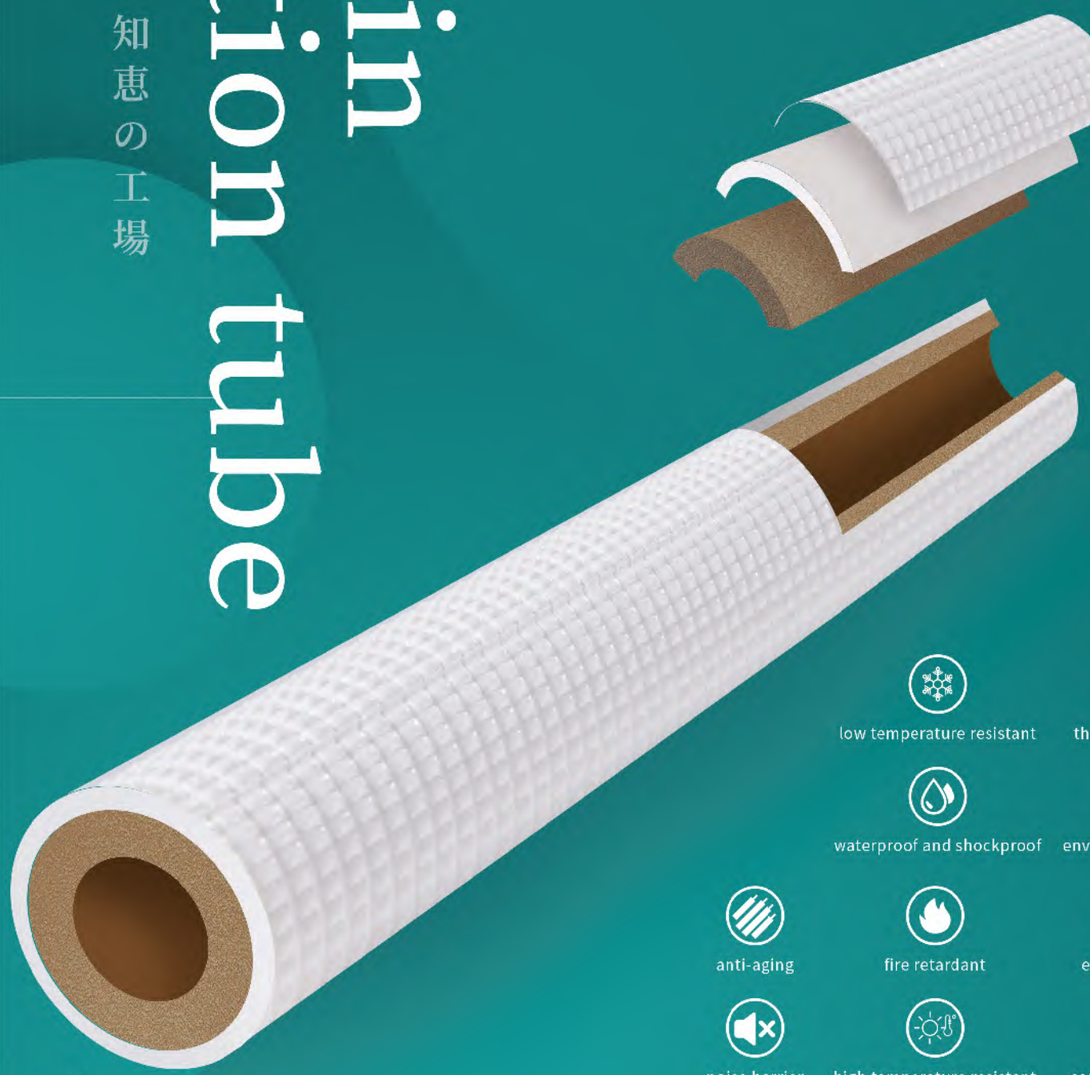
Attitude of Tatsukin

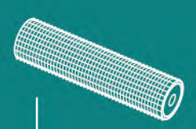
日本の精度 達錦の態度



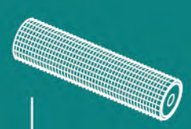
low temperature resistant
thermal insulation
waterproof and shockproof
environment-friendly
anti-aging
fire retardant
easy processing
noise barrier
high temperature resistant
corrosion resistant

Insulation tube products

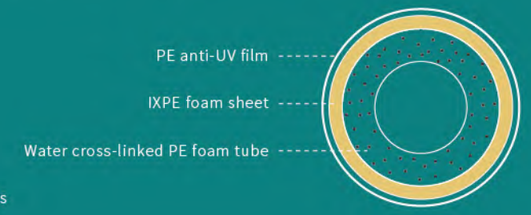
Tatuskin insulation tube series products have better thermal conductivity performance than Japanese national standards, and have 10 key characteristics such as High Temperature Resistance (120 ° C and fire retardant), wear resistance, impact resistance and anti-aging etc. They have nice appearance and long service life. The product is made by cross-linked polyethylene closed-cell foaming technology. The inner tube is extruded seamlessly, the outer layer tube has no cracks and air pockets. Therefore, the insulation tube has very low water absorption rate, high thermal insulation performance and no corrosion to copper and aluminum tube. Tatsukin insulation tube can be widely used in commercial and domestic air conditioning system and automotive air conditioning systems. It can also be applied in construction, commercial, industrial pipe line insulation engineering projects. Based on different formulas and production processes, Tatsukin insulation tube products are categorized into two main ranges: Fire Retardant insulation tubes (FR type) and High Temperature Resistant plus Fire Retardant insulation tubes (HTFR type).



fire retardant insulation tube



high temperature resistant plus fire retardant insulation tube



fire retardant insulation tube:

- Tatsukin's specially engineered Fire retardant additives make high fire resistant level. Its fire retardant level is proved to meet the B1 (China), JIS standard (Japan), UL-94HF-1 (US), M1 (France), BL-s1-d0 (European Union) etc.

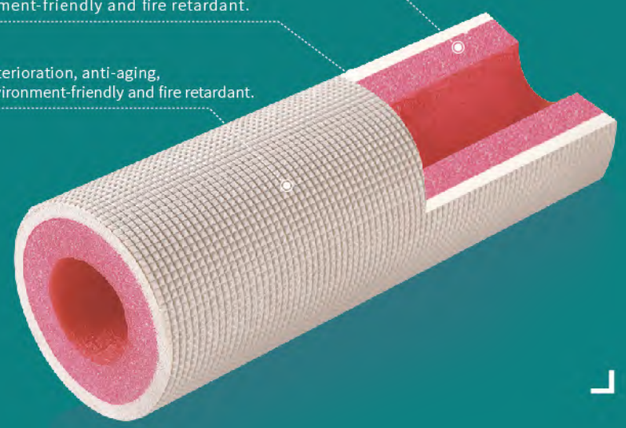
high temperature resistant plus fire retardant insulation tube:

- This series of products are made of unique formula with enhanced temperature resistance on the basis of Fire-Retardant formula. They are suitable for severe temperature range of -60°C~120°C, and can effectively prevent condensation on the inside and outside surface and avoid polluting the indoor environment.
- The insulation tube can withstand the irradiation of Xenon arc lamp for 200h without wrinkles, pinholes, pulverization, cracks, etc., which stands for 8~10 years of normal aging time.

INNER LAYER Water cross-linked PE foam; 30 times foaming with closed-cell structure, air tightness; good thermal insulation.

MIDDLE LAYER IXPE foam, dense cell, heat and cold-resistant, wear-resistant, environment-friendly and fire retardant.

OUTER LAYER Anti-aging, UV-resistant film; anti-deterioration, anti-aging, no cracking, no water penetration, environment-friendly and fire retardant.



10 key features demonstrate quality

The quality of Tatsukin insulation tube is higher than the industry standard in Japan. It applies in wide temperature range and has 10 outstanding characteristics.

LOW TEMPERATURE RESISTANT

-60°C

the tube does not embrittle and crack under the low temperature of -60 ° C, which is suitable for air conditioning, refrigeration industry as thermal insulation material.

HIGH TEMPERATURE RESISTANT

120°C

the tube does not shrink under the high temperature of 120 °C

ENVIRONMENT-FRIENDLY

0-FORMALDEHYDE

non-toxic, odorless, zero formaldehyde; the material is recyclable

NOISE BARRIER

30 TIMES

30 times foaming with independent closed-cell structure, more than 75% inner hollow structure, excellent sound wave barrier.

ANTI-AGING

ANTI-UV TREATMENT

anti-UV treatment, effectively prevent aging

FIRE RETARDANT

FRENCH M1 ETC.

Fire retardant formula; the tubes comply with many international standards (i.e. US UL and EU Bl-s1-d0; French M1 etc.)

THERMAL INSULATION

Fine and tight independent closed bubble structure can effectively reduce air convection and thermal conductivity

WATERPROOF AND SHOCKPROOF

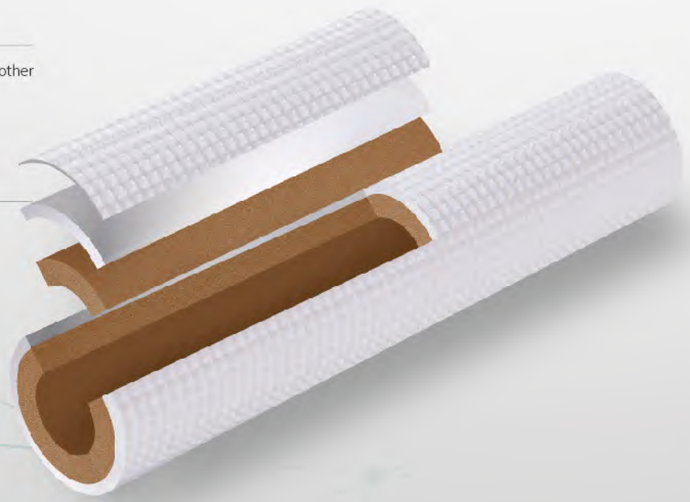
closed-cell structure, light weight, flexible, waterproof and shockproof

CORROSION RESISTANT

Fine molecular polymer, resistant to oil, acid, alkali and other chemicals

EASY TO INSTALL

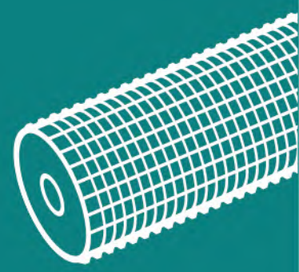
the tube is flexible, can be easily cut and jointed.



Single-layer insulation tube

Suitable for both low and high temperature application Fire retardant

High temperature resistant up to 120 ° C



o single-layer fire retardant insulation single tube

o single-layer high temperature resistant plus fire retardant insulation single tube

■ Standard size

INSULATION TUBE SINGLE-LAYER SINGLE TUBE Fire retardant single tube High Temperature Resistant + Fire Retardant single tube	Item No.	Description	Applied Copper Tube	Inner Diameter (mm)	Tolerance (mm)	Wall Thickness (mm)	Tolerance (mm)	Length	Performance	Color
	TK30-001	1/4"	Φ6.35	Φ8.0	±1.0	8	±1.0	Infinite length	High temperature resistant up to 120 ° C, Fire retardant	According to customer requirements
	TK30-002	3/8"	Φ9.52	Φ12.0	±1.0	8	±1.0			
	TK30-003	1/2"	Φ12.70	Φ14.5	±1.5	8	±1.0			
	TK30-004	5/8"	Φ15.88	Φ18.0	±1.5	8	±1.0			
	TK30-005	3/4"	Φ19.05	Φ22.0	±1.5	8	±1.0			
	TK30-006	7/8"	Φ22.22	Φ25.0	±1.5	8	±1.0			
	TK30-007	1/4"	Φ6.35	Φ8.0	±1.0	10	±1.0			
	TK30-008	3/8"	Φ9.52	Φ12.0	±1.0	10	±1.0			
	TK30-009	1/2"	Φ12.70	Φ14.5	±1.5	10	±1.0			
	TK30-010	5/8"	Φ15.88	Φ18.0	±1.5	10	±1.0			
	TK30-011	3/4"	Φ19.05	Φ22.0	±1.5	10	±1.0			
	TK30-012	7/8"	Φ22.22	Φ25.0	±1.5	10	±1.0			

Insulated tube Produced According

■ Insulated tube Produced According to JIS A9511 2009 A-PE-C-2 Standard.

Description	Type	Designation	Thermal Conductivity (average temperature 20±2°C) W/m.K{Kcal/m.h.°C}	Working Temperature °C	Tensile Strength N/cm²{Kgfcm²}	Water Absorption Rate g/100cm²	Radial Contraction Rate (120±5°C)%
Water bridge ross linked,30 times PE foaming pipe with outer cover.	2	A-PE-C-2	0.043{0.037}Following	-40 to 120°C	14 Above	2.0 Following	7 Following

Standard of (Copper Tube) and Insulation Tube

■ Copper Tube and Insulation Tube

Region	Insulation tube
Japan	JIS A9511 2009 A- PE-C-2 PEF8/JCDA0009
Australia	AS/NZS 1530.3
America	UL94 HF-1
Europe	EN 13501-1 BL-s1-d0
France	EN 13501-1 M1

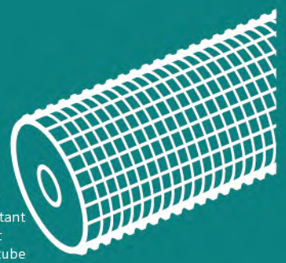
The thermal conductivity coefficient of Tatsukin insulation tube is 0.033W/(m.k), which is better than Japanese standard!

Remarks: Tatsukin insulation tubes meet Japanese JIS standards, Australian AS/NZS standards, US UL standards, European Union BL standards, French M1 standards.

Double-layer insulation tube

Suitable for both low and high temperature application Fire retardant

High temperature resistant up to 120 ° C



o double-layer fire retardant insulation single tube

o double-layer high temperature resistant plus fire retardant insulation single tube

o double-layer fire retardant insulation single tube

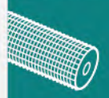
o double-layer high temperature resistant plus fire retardant insulation single tube

■ Single tube standard size

INSULATION TUBE
DOUBLE-LAYER
SINGLE TUBE

Double-layer fire retardant tube

High Temperature Resistant + Fire Retardant tube



Item No.	Description	Applied Copper Tube	Inner Diameter (mm)	Tolerance (mm)	Wall Thickness (mm)	Tolerance (mm)	Length	Performance	Color
TK30-001	1/4"	Φ6.35	Φ8.0	±1.0	8	±1.0	Infinite length	High temperature resistant up to 120 ° C, Fire retardant	According to customer requirements
TK30-002	3/8"	Φ9.52	Φ12.0	±1.0	8	±1.0			
TK30-003	1/2"	Φ12.70	Φ14.5	±1.5	8	±1.0			
TK30-004	5/8"	Φ15.88	Φ18.0	±1.5	8	±1.0			
TK30-005	3/4"	Φ19.05	Φ22.0	±1.5	8	±1.0			
TK30-006	7/8"	Φ22.22	Φ25.0	±1.5	8	±1.0			
TK30-007	1/4"	Φ6.35	Φ8.0	±1.0	10	±1.0			
TK30-008	3/8"	Φ9.52	Φ12.0	±1.0	10	±1.0			
TK30-009	1/2"	Φ12.70	Φ14.5	±1.5	10	±1.0			
TK30-010	5/8"	Φ15.88	Φ18.0	±1.5	10	±1.0			
TK30-011	3/4"	Φ19.05	Φ22.0	±1.5	10	±1.0			
TK30-012	7/8"	Φ22.22	Φ25.0	±1.5	10	±1.0			

■ Twin tube size

INSULATION TUBE
DOUBLE-LAYER
TWIN TUBE

Double-layer fire retardant tube

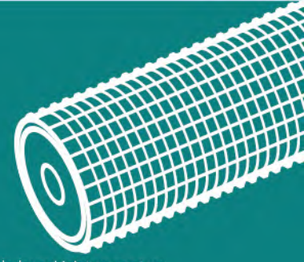
High Temperature Resistant + Fire Retardant tube

Item No.	Description	Applied Copper Tube	Inner Diameter (mm)	Tolerance (mm)	Wall Thickness (mm)	Tolerance (mm)	Length	Performance	Color
TK40-001	1/4"+3/8"	Φ6.35+Φ9.52	Φ8.0	±1.0	8	±1.0	Infinite length	High temperature resistant up to 120 ° C, Fire retardant	According to customer requirements
			Φ12.0	±1.0	8	±1.0			
TK40-002	1/4"+1/2"	Φ6.35+Φ12.7	Φ8.0	±1.0	8	±1.0			
			Φ14.5	±1.5	8	±1.5			
TK40-003	1/4"+5/8"	Φ6.35+Φ15.88	Φ8.0	±1.0	8	±1.0			
			Φ18.0	±1.5	8	±1.5			
TK40-004	3/8"+5/8"	Φ9.52+Φ15.88	Φ12.0	±1.0	8	±1.0			
			Φ18.0	±1.5	8	±1.5			
TK40-005	3/8"+3/4"	Φ9.52+Φ19.05	Φ12.0	±1.0	8	±1.0			
			Φ22.0	±1.5	8	±1.5			
TK40-006	1/2"+3/4"	Φ12.7+Φ19.05	Φ14.5	±1.0	8	±1.0			
			Φ22.0	±1.5	8	±1.5			
TK40-007	1/4"+3/8"	Φ6.35+Φ9.52	Φ8.0	±1.0	10	±1.0			
			Φ12.0	±1.0	10	±1.0			
TK40-008	1/4"+1/2"	Φ6.35+Φ12.7	Φ8.0	±1.0	10	±1.0			
			Φ14.5	±1.5	10	±1.5			
TK40-009	1/4"+5/8"	Φ6.35+Φ15.88	Φ8.0	±1.0	10	±1.0			
			Φ18.0	±1.5	10	±1.5			
TK40-010	3/8"+5/8"	Φ9.52+Φ15.88	Φ12.0	±1.0	10	±1.0			
			Φ18.0	±1.5	10	±1.5			
TK40-011	3/8"+3/4"	Φ9.52+Φ19.05	Φ12.0	±1.0	10	±1.0			
			Φ22.0	±1.5	10	±1.5			
TK40-012	1/2"+3/4"	Φ12.7+Φ19.05	Φ14.5	±1.0	10	±1.0			
			Φ22.0	±1.5	10	±1.5			

Triple-layer insulation tube

Suitable for both low and high temperature application Fire retardant

High temperature resistant up to 120 ° C



o triple-layer fire retardant insulation single tube

o triple-layer high temperature resistant plus fire retardant insulation single tube

o triple-layer fire retardant insulation twin tube

o triple-layer high temperature resistant plus fire retardant insulation twin tube

■ Single tube standard size

INSULATION TUBE
DOUBLE-LAYER
SINGLE TUBE

triple-layer fire retardant tube

High Temperature Resistant + Fire Retardant tube

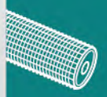
Item No.	Description	Applied Copper Tube	Inner Diameter (mm)	Tolerance (mm)	Wall Thickness (mm)	Tolerance (mm)	Length	Performance	Color
TK50-001	1/4"	Φ6.35	Φ8.0	±1.0	8	±1.0	Infinite length	High temperature resistant up to 120 ° C, Fire retardant	According to customer requirements
TK50-002	3/8"	Φ9.52	Φ12.0	±1.0	8	±1.0			
TK50-003	1/2"	Φ12.70	Φ14.5	±1.5	8	±1.0			
TK50-004	5/8"	Φ15.88	Φ18.0	±1.5	8	±1.0			
TK50-005	3/4"	Φ19.05	Φ22.0	±1.5	8	±1.0			
TK50-006	7/8"	Φ22.22	Φ25.0	±1.5	8	±1.0			
TK50-007	1/4"	Φ6.35	Φ8.0	±1.0	10	±1.0			
TK50-008	3/8"	Φ9.52	Φ12.0	±1.0	10	±1.0			
TK50-009	1/2"	Φ12.70	Φ14.5	±1.5	10	±1.0			
TK50-010	5/8"	Φ15.88	Φ18.0	±1.5	10	±1.0			
TK50-011	3/4"	Φ19.05	Φ22.0	±1.5	10	±1.0			
TK50-012	7/8"	Φ22.22	Φ25.0	±1.5	10	±1.0			

■ Extra Thick Single tube size

INSULATION TUBE
EXTRA THICK
TRIPLE-LAYER
SINGLE TUBE

triple-layer fire retardant tube

High Temperature Resistant + Fire Retardant tube



Item No.	Description	Applied Copper Tube	Inner Diameter (mm)	Tolerance (mm)	Wall Thickness (mm)	Tolerance (mm)	Length	Performance	Color
TK70-001	1/4"	Φ6.35	Φ8.0	±1.0	15	±1.0	3m、4m、5m、∞	High temperature resistant up to 120 ° C, Fire retardant	According to customer requirements
TK70-002	3/8"	Φ9.52	Φ12.0	±1.0	15	±1.0	3m、4m、5m、∞		
TK70-003	1/2"	Φ12.70	Φ14.5	±1.5	15	±1.0	3m、4m、5m、∞		
TK70-004	5/8"	Φ15.88	Φ18.0	±1.5	15	±1.0	3m、4m、5m、∞		
TK70-005	3/4"	Φ19.05	Φ22.0	±1.5	15	±1.0	3m、4m、5m、∞		
TK70-006	7/8"	Φ22.22	Φ25.0	±1.5	15	±1.0	3m、4m、5m		
TK70-007	1"	Φ25.4	Φ27.0	+2;-1	15	±1.2	3m、4m、5m		
TK70-008	1-1/8"	Φ28.58	Φ30.0	+2;-1	15	±1.2	3m、4m、5m		
TK70-009	1-1/4"	Φ31.75	Φ33.0	+2;-1	15	±1.2	3m、4m、5m		
TK70-010	1-3/8"	Φ34.92	Φ36.0	+2;-1	15	±1.2	3m、4m、5m		
TK70-011	1-1/2"	Φ38.1	Φ40.0	+2;-1	15	±1.2	3m、4m、5m		
TK70-012	1-5/8"	Φ41.28	Φ43.0	+2;-1	15	±1.2	3m、4m、5m		
TK70-013	1-3/4"	Φ44.45	Φ46.5	+2;-1	15	±1.2	3m、4m、5m		
TK70-014	2"	Φ50.8	Φ53.0	+2;-1	15	±1.2	3m、4m、5m		
TK70-015	2-1/8"	Φ53.98	Φ56.0	+2;-1	15	±1.2	3m、4m、5m		
TK70-016	1/4"	Φ6.35	Φ8.0	±1.0	20	±1.0	3m、4m、5m、∞		
TK70-017	3/8"	Φ9.52	Φ12.0	±1.0	20	±1.0	3m、4m、5m、∞		
TK70-018	1/2"	Φ12.70	Φ14.5	±1.5	20	±1.0	3m、4m、5m、∞		
TK70-019	5/8"	Φ15.88	Φ18.0	±1.5	20	±1.0	3m、4m、5m、∞		
TK70-020	3/4"	Φ19.05	Φ22.0	±1.5	20	±1.0	3m、4m、5m、∞		
TK70-021	7/8"	Φ22.22	Φ25.0	±1.5	20	±1.0	3m、4m、5m		
TK70-022	1"	Φ25.4	Φ27.0	+2;-1	20	±1.2	3m、4m、5m		
TK70-023	1-1/8"	Φ28.58	Φ30.0	+2;-1	20	±1.2	3m、4m、5m		
TK70-024	1-1/4"	Φ31.75	Φ33.0	+2;-1	20	±1.2	3m、4m、5m		
TK70-025	1-3/8"	Φ34.92	Φ36.0	+2;-1	20	±1.2	3m、4m、5m		
TK70-026	1-1/2"	Φ38.1	Φ40.0	+2;-1	20	±1.2	3m、4m、5m		
TK70-027	1-5/8"	Φ41.28	Φ43.0	+2;-1	20	±1.2	3m、4m、5m		
TK70-028	1-3/4"	Φ44.45	Φ46.5	+2;-1	20	±1.2	3m、4m、5m		
TK70-029	2"	Φ50.8	Φ53.0	+2;-1	20	±1.2	3m、4m、5m		
TK70-030	2-1/8"	Φ53.98	Φ56.0	+2;-1	20	±1.2	3m、4m、5m		

■ Twin tube size

INSULATION TUBE
TRIPLE-LAYER
TWIN TUBE

triple-layer fire retardant tube

High Temperature Resistant + Fire Retardant tube

Item No.	Description	Applied Copper Tube	Inner Diameter (mm)	Tolerance (mm)	Wall Thickness (mm)	Tolerance (mm)	Length	Performance	Color
TK60-2301	1/4"+3/8"	Φ6.35+Φ9.52	Φ8.0	±1.0	8	±1.0	Infinite length	High temperature resistant up to 120 ° C, Fire retardant	According to customer requirements
			Φ12.0	±1.0	8	±1.0			
TK60-2401	1/4"+1/2"	Φ6.35+Φ12.7	Φ8.0	±1.0	8	±1.0			
			Φ14.5	±1.5	8	±1.0			
TK60-2501	1/4"+5/8"	Φ6.35+Φ15.88	Φ8.0	±1.0	8	±1.0			
			Φ18.0	±1.5	8	±1.0			
TK60-3501	3/8"+5/8"	Φ9.52+Φ15.88	Φ12.0	±1.0	8	±1.0			
			Φ18.0	±1.5	8	±1.0			
TK60-3601	3/8"+3/4"	Φ9.52+Φ19.05	Φ12.0	±1.0	8	±1.0			
			Φ22.0	±1.5	8	±1.0			
TK60-4601	1/2"+3/4"	Φ12.7+Φ19.05	Φ14.5	±1.0	8	±1.0			
			Φ22.0	±1.5	8	±1.0			
TK60-2302	1/4"+3/8"	Φ6.35+Φ9.52	Φ8.0	±1.0	10	±1.0			
			Φ12.0	±1.0	10	±1.0			
TK60-2402	1/4"+1/2"	Φ6.35+Φ12.7	Φ8.0	±1.0	10	±1.0			
			Φ14.5	±1.5	10	±1.0			
TK60-2502	1/4"+5/8"	Φ6.35+Φ15.88	Φ8.0	±1.0	10	±1.0			
			Φ18.0	±1.5	10	±1.0			
TK60-3502	3/8"+5/8"	Φ9.52+Φ15.88	Φ12.0	±1.0	10	±1.0			
			Φ18.0	±1.5	10	±1.0			
TK60-3602	3/8"+3/4"	Φ9.52+Φ19.05	Φ12.0	±1.0	10	±1.0			
			Φ22.0	±1.5	10	±1.0			
TK60-4602	1/2"+3/4"	Φ12.7+Φ19.05	Φ14.5	±1.0	10	±1.0			
			Φ22.0	±1.5	10	±1.0			

■ Extra Thick twin tube size

INSULATION TUBE
EXTRA THICK
TRIPLE-LAYER
TWIN TUBE

triple-layer fire retardant tube

High Temperature Resistant + Fire Retardant tube

Item No.	Description	Applied Copper Tube	Inner Diameter (mm)	Tolerance (mm)	Wall Thickness (mm)	Tolerance (mm)	Length	Performance	Color
TK60-2303	1/4"+3/8"	Φ6.35+Φ9.52	Φ8.0	±1.0	8	±1.0	Infinite length	High temperature resistant up to 120 ° C, Fire retardant	According to customer requirements
			Φ12.0	±1.0	20	±1.0			
TK60-2403	1/4"+1/2"	Φ6.35+Φ12.7	Φ8.0	±1.0	8	±1.0			
			Φ14.5	±1.5	20	±1.0			
TK60-2503	1/4"+5/8"	Φ6.35+Φ15.88	Φ8.0	±1.0	8	±1.0			
			Φ18.0	±1.5	20	±1.0			
TK60-3503	3/8"+5/8"	Φ9.52+Φ15.88	Φ12.0	±1.0	8	±1.0			
			Φ18.0	±1.5	20	±1.0			
TK60-3603	3/8"+3/4"	Φ9.52+Φ19.05	Φ12.0	±1.0	10	±1.0			
			Φ22.0	±1.5	20	±1.0			
TK60-4603	1/2"+3/4"	Φ12.7+Φ19.05	Φ14.5	±1.0	10	±1.0			
			Φ22.0	±1.5	20	±1.0			
TK60-2304	1/4"+3/8"	Φ6.35+Φ9.52	Φ8.0	±1.0	12	±1.0			
			Φ12.0	±1.0	15	±1.0			
TK60-2404	1/4"+1/2"	Φ6.35+Φ12.7	Φ8.0	±1.0	12	±1.0			
			Φ14.5	±1.5	15	±1.0			
TK60-2504	1/4"+5/8"	Φ6.35+Φ15.88	Φ8.0	±1.0	12	±1.0			
			Φ18.0	±1.5	15	±1.0			
TK60-3504	3/8"+5/8"	Φ9.52+Φ15.88	Φ12.0	±1.0	12	±1.0			
			Φ18.0	±1.5	15	±1.0			
TK60-3604	3/8"+3/4"	Φ9.52+Φ19.05	Φ12.0	±1.0	12	±1.0			
			Φ22.0	±1.5	15	±1.0			
TK60-4604	1/2"+3/4"	Φ12.7+Φ19.05	Φ14.5	±1.0	12	±1.0			
			Φ22.0	±1.5	15	±1.0			

Tatsukin Insulated Refrigerant Tube

プロの被覆冷媒配管・知恵の工場

Precision of Japan
Attitude of Tatsukin

日本の精度 達錦の態度

①チリの鉱脈山から採掘した99.99%の陰極銅を使用します
②先進な切断機を使用し、管壁にバリを残しません
③使用年数は8年以

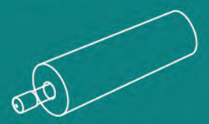
① Copper raw material from Chile, 99.99% cathode copper
② Advanced debris-free cutting equipment, leaving no residue in the copper pipe wall
③ more than 8-year service life time

冷暖兼用 | やりやすさ | 省エネ、エコ | 耐久性

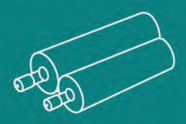
SUITABLE FOR BOTH LOW AND HIGH TEMPERATURE APPLICATION |
EASY-TO-INSTALL |
ENERGY-SAVING AND ENVIRONMENT-FRIENDLY |
DURABLE AND LONG LIFETIME |

Insulated copper tube

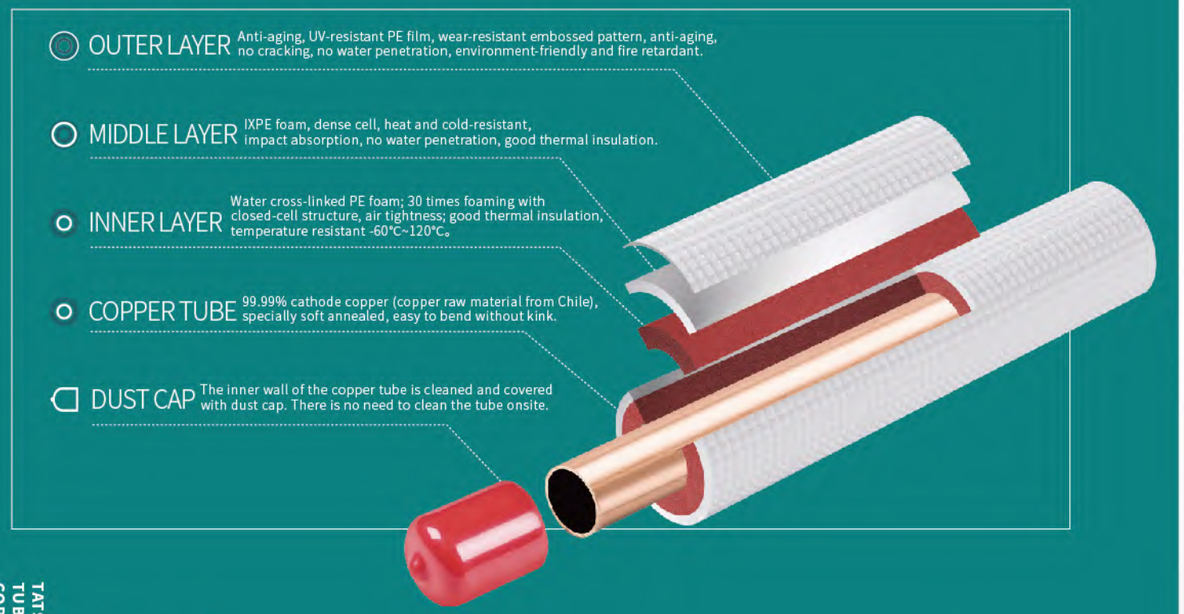
Tatsukin insulated copper tube series products integrate copper pipe, insulation tube and dust cover. It has the characteristics of small size, light weight, energy-saving and environment-friendliness, convenience for transportation etc. Installers do not need to manually insert the copper pipe into the insulation and clean the inner copper pipe wall onsite. Therefore, it greatly improves the installation efficiency. Tatsukin Insulated copper tube can meet the requirements for all types of household and commercial air conditioning systems used in household, government, shopping malls, schools, office buildings etc.



Insulated single copper pipe coil



Insulated copper pair coil



TATSUKIN INSULATED COPPER TUBE' S ADVANTAGE OVER BARE COPPER TUBE

VS

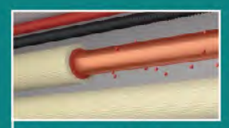
RUBBER TUBE

EFFICIENCY

Tatsukin insulated copper tube is pre-insulated. No onsite inserting copper tube into the insulation tube is needed, which greatly improves the installation efficiency.

Traditional installation with 2-meter length NBR insulation tubes and bare copper pipe is time-consuming and laborious and easily causes pipeline damage.

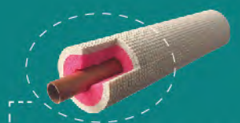
ENVIRONMENTAL PROTECTION



Tatsukin insulated copper tube is non-toxic, odorless, zero formaldehyde

the material is recyclable. Most of the rubber insulation tubes in the market have excessive formaldehyde and harmful irritating odor.

DURABLE



Tatsukin insulated copper tube has longer service life time. It is suitable for wider temperature range

higher outer layer strength, wear-resistant, no deformation, anti-aging, no cracking; The normal NBR insulation has shorter life time. It is easy to melt when exposed to high temperature and easy to deform when exposed to low temperature. The glue jointsat every 2 meters are easy to break.

Series products of Insulated copper tube

INSULATED STRAIGHT COPPER PIPE

3m, 4m and other customized length, no need to cut during installation, saving time.

INSULATED COPPER PAIR COIL

The liquid tube and gas tube are integrated together. The paired tubes can also be easily split. This structure greatly improves the installation efficiency and apperance.

INSULATED SINGLE COPPER PIPE COIL

The insulation material is resistant to high temperature of 120 °C and fire retardant. Length mark by meter is printed on the outside of the insulation pipe which facilitate the length measuring according to the onsite need and avoid material waste.

FLARED INSULATED COPPER TUBE WITH NUTS

The copper tubes are pre flared by professional high precision machine. The precisely shaped surface effectively avoids the risk of gas leakage. The well forged and tempered nuts are very durable. This combination guarantees quality and efficient installation.

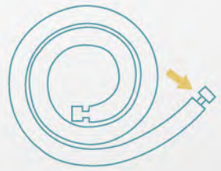
Remarks:

All above types of products can be customized with optional insulation structures (single-layer, double-layer, triple-layer), wall thickness (10mm standard type, 15mm thick type, 20mm super thick type and other thickness) and colors.

Note

Unwinding method:

1. Unwind the coil from the outer rings



2. Evenly pull the coil. Do not jerk it.

Bending:

1. Bending toward the inner side of the curve.

2. Keep both hands close and apply force evenly and slowly

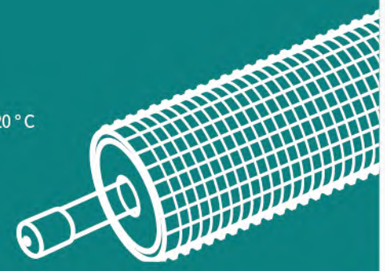
3. Avoid bending repeatedly.

4. Make sure the bending radius bigger than 6cm.

Insulated single copper pipe coil

Suitable for both low and high temperature application, high temperature resistant up to 120 °C

Fire retardant, suitable for most refrigerants including R410A and R32



■ 20m single coil (10mm insulation)

INSULATED SINGLE COPPER PIPE COIL	Designation	Refrigerant Type	size	Copper Size (mm)		Insulation size (mm)		Length (m)	Insulation Parameters	Color
				Nominal Diameter	Thickness	Inner Diameter	Wall Thickness			
	TK91-0220	③	1/4"	Φ6.35	0.80	Φ8.0	8	20	120℃ Resistant, Fire Retarded	On Request
	TK91-0320	③	3/8"	Φ9.52	0.80	Φ12.0	8			
	TK91-0420	②	1/2"	Φ12.70	0.80	Φ14.5	10			
	TK91-0520	②	5/8"	Φ15.88	1.00	Φ18.0	10			
	TK91-0620	②	3/4"	Φ19.05	1.20	Φ22.0	10			

■ 30m single coil (10mm insulation)

INSULATED SINGLE COPPER PIPE COIL	Designation	Refrigerant Type	size	Copper Size (mm)		Insulation size (mm)		Length (m)	Insulation Parameters	Color
				Nominal Diameter	Thickness	Inner Diameter	Wall Thickness			
	TK91-0230	③	1/4"	Φ6.35	0.80	Φ8.0	8	30	120℃ Resistant, Fire Retarded	On Request
	TK91-0330	③	3/8"	Φ9.52	0.80	Φ12.0	8			
	TK91-0430	②	1/2"	Φ12.70	0.80	Φ14.5	10			
	TK91-0530	②	5/8"	Φ15.88	1.00	Φ18.0	10			
	TK91-0630	②	3/4"	Φ19.05	1.20	Φ22.0	10			

■ 50m single coil (10mm insulation)

INSULATED SINGLE COPPER PIPE COIL	Designation	Refrigerant Type	size	Copper Size (mm)		Insulation size (mm)		Length (m)	Insulation Parameters	Color
				Nominal Diameter	Thickness	Inner Diameter	Wall Thickness			
	TK91-0250	③	1/4"	Φ6.35	0.80	Φ8.0	8	50	120℃ Resistant, Fire Retarded	On Request
	TK91-0350	③	3/8"	Φ9.52	0.80	Φ12.0	8			
	TK91-0450	②	1/2"	Φ12.70	0.80	Φ14.5	10			
	TK91-0550	②	5/8"	Φ15.88	1.00	Φ18.0	10			
	TK91-0650	②	3/4"	Φ19.05	1.20	Φ22.0	10			

■ 20m single coil (15mm insulation)

INSULATED SINGLE COPPER PIPE COIL	Designation	Refrigerant Type	size	Copper Size (mm)		Insulation size (mm)		Length (m)	Insulation Parameters	Color
				Nominal Diameter	Thickness	Inner Diameter	Wall Thickness			
	TK91-0220	③	1/4"	Φ6.35	0.80	Φ8.0	15	20	120℃ Resistant, Fire Retarded	On Request
	TK91-0320	③	3/8"	Φ9.52	0.80	Φ12.0	15			
	TK91-0420	②	1/2"	Φ12.70	0.80	Φ14.5	15			
	TK91-0520	②	5/8"	Φ15.88	1.00	Φ18.0	15			
	TK91-0620	②	3/4"	Φ19.05	1.20	Φ22.0	15			

■ 30m single coil (15mm insulation)

INSULATED SINGLE COPPER PIPE COIL	Designation	Refrigerant Type	size	Copper Size (mm)		Insulation size (mm)		Length (m)	Insulation Parameters	Color
				Nominal Diameter	Thickness	Inner Diameter	Wall Thickness			
	TK91-0230	③	1/4"	Φ6.35	0.80	Φ8.0	15	30	120℃ Resistant, Fire Retarded	On Request
	TK91-0330	③	3/8"	Φ9.52	0.80	Φ12.0	15			
	TK91-0430	②	1/2"	Φ12.70	0.80	Φ14.5	15			
	TK91-0530	②	5/8"	Φ15.88	1.00	Φ18.0	15			
	TK91-0630	②	3/4"	Φ19.05	1.20	Φ22.0	15			

■ 20m single coil (20mm insulation)

INSULATED SINGLE COPPER PIPE COIL	Designation	Refrigerant Type	size	Copper Size (mm)		Insulation size (mm)		Length (m)	Insulation Parameters	Color
				Nominal Diameter	Thickness	Inner Diameter	Wall Thickness			
	TK91-0220	③	1/4"	Φ6.35	0.80	Φ8.0	20	20	120℃ Resistant, Fire Retarded	On Request
	TK91-0320	③	3/8"	Φ9.52	0.80	Φ12.0	20			
	TK91-0420	②	1/2"	Φ12.70	0.80	Φ14.5	20			
	TK91-0520	②	5/8"	Φ15.88	1.00	Φ18.0	20			
	TK91-0620	②	3/4"	Φ19.05	1.20	Φ22.0	20			

■ 30m single coil (20mm insulation)

INSULATED SINGLE COPPER PIPE COIL	Designation	Refrigerant Type	size	Copper Size (mm)		Insulation size (mm)		Length (m)	Insulation Parameters	Color
				Nominal Diameter	Thickness	Inner Diameter	Wall Thickness			
	TK91-0230	③	1/4"	Φ6.35	0.80	Φ8.0	20	30	120℃ Resistant, Fire Retarded	On Request
	TK91-0330	③	3/8"	Φ9.52	0.80	Φ12.0	20			
	TK91-0430	②	1/2"	Φ12.70	0.80	Φ14.5	20			
	TK91-0530	②	5/8"	Φ15.88	1.00	Φ18.0	20			
	TK91-0630	②	3/4"	Φ19.05	1.20	Φ22.0	20			

Copper Tube Produced According

■ Nuts Torgue Value

Type	1/4"	3/8"	1/2"	5/8"	3/4"
扭力值 (N·m)	16±2	38±4	55±6	75±7	110±10

■ Suitable Refrigerant

Type	Max working pressure	Suitable refrigerant
1种	3.45MPa	R22,R407C,R404A,R507A等
2种	4.30MPa	R32,R407C,R407A,R410,R404A,R507A等
3种	4.80MPa	4.80MPa以下高压冷媒

■ Copper model and Character JIS H3300:2006 C1220T

Item	Chemical%		Mechanical			
	Cu	P	Material	Tensile StrengthKgf/mm2	Elongation	Grain Size (mm)
Tp2	99.90以上	0.015~0.040	O	21以上	40以上	0.025~0.060
			1/2H	25-33	—	—
			H	32以上	—	—

Insulated tube Produced According

■ Insulated tube Produced According to JIS A9511 2009 A-PE-C-2 Standard.

Description	Type	Designation	Thermal Conductivity (average temperature 20±2℃) W/m.K{Kcal/m.h.℃}	Working Temperature ℃	Tensile Strength N/cm²{Kgfcm²}	Water Absorption Rate g/100cm²	Radial Contraction Rate (120±5℃)%
Water bridge ross linked,30 times PE foaming pipe with outer cover.	2	A-PE-C-2	0.043{0.037}Following	-40 to 120℃	14 Above	2.0 Following	7 Following

Standard of (Copper Tube) and Insulation Tube

■ Copper Tube and Insulation Tube

Region	Copper pipe	Insulation tube
Japan	JIS H3300:2006 C1220T	JIS A9511 2009 A- PE-C-2 PEF8/JCDA0009
Australia	AS/NZS 1571	AS/NZS 1530.3
America	ASTM B280-03	UL94 HF-1
Europe	EN 12735-1	EN 13501-1 BL-s1-d0
France	EN 12735-1	EN 13501-1 M1

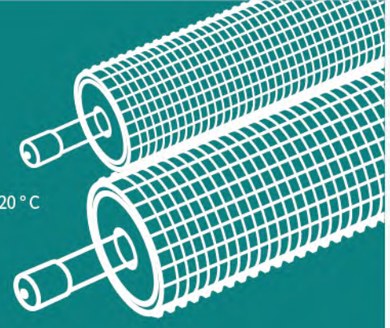
Tatsukin Copper Tube purity reaches 99.99%, raw material from Chile!

Remarks: Tatsukin insulation tubes meet Japanese JIS standards, Australian AS/NZS standards, US UL standards, European Union BL standards, French M1 standards.

Insulated copper pair coil

Suitable for both low and high temperature application, high temperature resistant up to 120 ° C

Fire retardant suitable for most refrigerants including R410A and R32



■ 20m twin coil (10mm insulation)

INSULATED COPPER PAIR COIL	Designation	Refrigerant Type	size	Copper Size (mm)		Insulation size (mm)		Length (m)	Insulation Parameters	Color
				Nominal Diameter	Thickness	Inner Diameter	Wall Thickness			
	TK90-2320	③	1/4"	Φ6.35	0.80	Φ8.0	8	20	120℃ Resistant, Fire Retarded	On Request
			3/8"	Φ9.52	0.80	Φ12.0	8			
	TK90-2420	③	1/4"	Φ6.35	0.80	Φ8.0	8			
			1/2"	Φ12.70	0.80	Φ14.5	10			
	TK90-2520	②	1/4"	Φ6.35	0.80	Φ8.0	8			
			5/8"	Φ15.88	1.00	Φ18.0	10			
	TK90-3520	②	3/8"	Φ9.52	0.80	Φ12.0	8			
			5/8"	Φ15.88	1.00	Φ18.0	10			
	TK90-3620	②	3/8"	Φ9.52	0.80	Φ12.0	8			
			3/4"	Φ19.05	1.20	Φ22.0	10			
	TK90-4620	②	1/2"	Φ12.70	0.80	Φ14.5	8			
			3/4"	Φ19.05	1.20	Φ22.0	10			

■ 30m twin coil (10mm insulation)

INSULATED COPPER PAIR COIL	Designation	Refrigerant Type	size	Copper Size (mm)		Insulation size (mm)		Length (m)	Insulation Parameters	Color
				Nominal Diameter	Thickness	Inner Diameter	Wall Thickness			
	TK90-2330	③	1/4"	Φ6.35	0.80	Φ8.0	8	30	120℃ Resistant, Fire Retarded	On Request
			3/8"	Φ9.52	0.80	Φ12.0	8			
	TK90-2430	③	1/4"	Φ6.35	0.80	Φ8.0	8			
			1/2"	Φ12.70	0.80	Φ14.5	10			
	TK90-2530	②	1/4"	Φ6.35	0.80	Φ8.0	8			
			5/8"	Φ15.88	1.00	Φ18.0	10			
	TK90-3530	②	3/8"	Φ9.52	0.80	Φ12.0	8			
			5/8"	Φ15.88	1.00	Φ18.0	10			

■ 20m twin coil (15mm insulation)

INSULATED COPPER PAIR COIL	Designation	Refrigerant Type	size	Copper Size (mm)		Insulation size (mm)		Length (m)	Insulation Parameters	Color
				Nominal Diameter	Thickness	Inner Diameter	Wall Thickness			
	TK901-2320	③	1/4"	Φ6.35	0.80	Φ8.0	8	20	120℃ Resistant, Fire Retarded	On Request
			3/8"	Φ9.52	0.80	Φ12.0	15			
	TK901-2420	③	1/4"	Φ6.35	0.80	Φ8.0	8			
			1/2"	Φ12.70	0.80	Φ14.5	15			
	TK901-2520	②	1/4"	Φ6.35	0.80	Φ8.0	8			
			5/8"	Φ15.88	1.00	Φ18.0	15			
	TK901-3520	②	3/8"	Φ9.52	0.80	Φ12.0	10			
			5/8"	Φ15.88	1.00	Φ18.0	15			
	TK901-3620	②	3/8"	Φ9.52	0.80	Φ12.0	10			
			3/4"	Φ19.05	1.20	Φ22.0	15			
	TK901-4620	②	1/2"	Φ12.70	0.80	Φ14.5	10			
			3/4"	Φ19.05	1.20	Φ22.0	15			

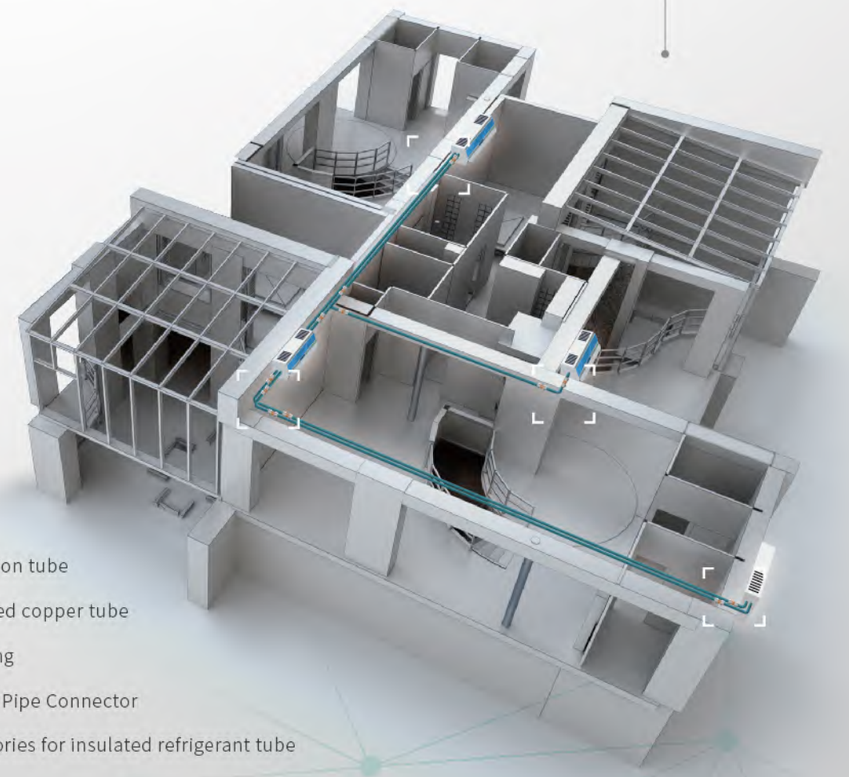
■ 30m twin coil (15mm insulation)

INSULATED COPPER PAIR COIL	Designation	Refrigerant Type	size	Copper Size (mm)		Insulation size (mm)		Length (m)	Insulation Parameters	Color
				Nominal Diameter	Thickness	Inner Diameter	Wall Thickness			
	TK902-2320	③	1/4"	Φ6.35	0.80	Φ8.0	12	30	120℃ Resistant, Fire Retarded	On Request
			3/8"	Φ9.52	0.80	Φ12.0	15			
	TK902-2420	③	1/4"	Φ6.35	0.80	Φ8.0	12			
			1/2"	Φ12.70	0.80	Φ14.5	15			
	TK902-2520	②	1/4"	Φ6.35	0.80	Φ8.0	12			
			5/8"	Φ15.88	1.00	Φ18.0	15			
	TK902-3520	②	3/8"	Φ9.52	0.80	Φ12.0	12			
			5/8"	Φ15.88	1.00	Φ18.0	15			
	TK902-3620	②	3/8"	Φ9.52	0.80	Φ12.0	12			
			3/4"	Φ19.05	1.20	Φ22.0	15			
	TK902-4620	②	1/2"	Φ12.70	0.80	Φ14.5	12			
			3/4"	Φ19.05	1.20	Φ22.0	15			

ONE-STOP SUPPLIER OF AIR-CONDITIONING INSTALLATION MATERIALS

Tatsukin provides full range of products for manufacturing and installation of air-conditioning refrigerant pipes. The products cover mainly foaming raw materials, fire retardant, anti-UV PE film, foam sheet, insulation tube, insulated copper pipe, other accessories and tools for refrigerant pipe installation.

Schematic view of insulated refrigerant pipe for Air Conditioning

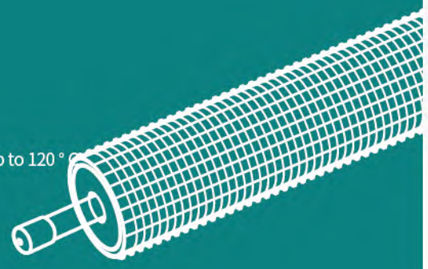


- Insulation tube
- Insulated copper tube
- LOF-Ring
- Branch Pipe Connector
- Accessories for insulated refrigerant tube

Insulated straight copper pipe

Suitable for both low and high temperature application, high temperature resistant up to 120 °C

Fire retardant, suitable for most refrigerants including R410A and R32



■ 4m Insulated straight copper pipe (15mm insulation)

INSULATED STRAIGHT COPPER PIPE	Designation	size	Copper Size (mm)				copper pipe	Insulation size (mm)		Length (m)	Insulation Parameters	Color
			Nominal Diameter	Thickness	internal diameter	Thickness	state	Inner Diameter	Wall Thickness			
	TK-DHS15-034	3/8"	Φ9.52	0.80	9.62	9.00	1/2H	41	15	4	120℃ Resistant, Fire Retarded	On Request
	TK-DHS15-044	1/2"	Φ12.70	0.80	12.81	10.00	1/2H	44	15			
	TK-DHS15-054	5/8"	Φ15.88	1.00	16.0	12.00	1/2H	47	15			
	TK-DHS15-064	3/4"	Φ19.05	1.05	19.19	16.00	1/2H	51	15			
	TK-DHS15-074	7/8"	Φ22.22	1.20	22.36	18.00	1/2H	54	15			
	TK-DHS15-104	1"	Φ25.4	1.35	25.55	21.00	1/2H	57	15			
	TK-DHS15-114	1-1/8"	Φ28.58	1.55	28.75	22.00	1/2H	60	15			
	TK-DHS15-124	1-1/4"	Φ31.75	1.70	31.9	24.00	1/2H	63	15			
	TK-DHS15-134	1-3/8"	Φ34.92	1.85	35.11	25.00	1/2H	66	15			
	TK-DHS15-144	1-1/2"	Φ38.1	2.00	38.3	27.00	1/2H	70	15			

■ 3m Insulated straight copper pipe (15mm insulation)

INSULATED STRAIGHT COPPER PIPE	Designation	size	Copper Size (mm)				copper pipe	Insulation size (mm)		Length (m)	Insulation Parameters	Color
			Nominal Diameter	Thickness	internal diameter	Thickness	state	Inner Diameter	Wall Thickness			
	TK-DHS15-033	3/8"	Φ9.52	0.80	9.62	9.00	1/2H	41	15	3	120℃ Resistant, Fire Retarded	On Request
	TK-DHS15-043	1/2"	Φ12.70	0.80	12.81	10.00	1/2H	44	15			
	TK-DHS15-053	5/8"	Φ15.88	1.00	16.0	12.00	1/2H	47	15			
	TK-DHS15-063	3/4"	Φ19.05	1.05	19.19	16.00	1/2H	51	15			
	TK-DHS15-073	7/8"	Φ22.22	1.20	22.36	18.00	1/2H	54	15			
	TK-DHS15-103	1"	Φ25.4	1.35	25.55	21.00	1/2H	57	15			
	TK-DHS15-113	1-1/8"	Φ28.58	1.55	28.75	22.00	1/2H	60	15			
	TK-DHS15-123	1-1/4"	Φ31.75	1.70	31.9	24.00	1/2H	63	15			
	TK-DHS15-133	1-3/8"	Φ34.92	1.85	35.11	25.00	1/2H	66	15			
	TK-DHS15-143	1-1/2"	Φ38.1	2.00	38.3	27.00	1/2H	70	15			

■ 4m Insulated straight copper pipe (20mm insulation)

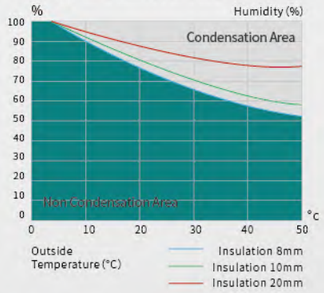
INSULATED STRAIGHT COPPER PIPE	Designation	size	Copper Size (mm)				copper pipe	Insulation size (mm)		Length (m)	Insulation Parameters	Color
			Nominal Diameter	Thickness	internal diameter	Thickness	state	Inner Diameter	Wall Thickness			
	TK-DHS15-034	3/8"	Φ9.52	0.80	9.62	9.00	1/2H	51	20	4	120℃ Resistant, Fire Retarded	On Request
	TK-DHS15-044	1/2"	Φ12.70	0.80	12.81	10.00	1/2H	54	20			
	TK-DHS15-054	5/8"	Φ15.88	1.00	16.0	12.00	1/2H	57	20			
	TK-DHS15-064	3/4"	Φ19.05	1.05	19.19	16.00	1/2H	61	20			
	TK-DHS15-074	7/8"	Φ22.22	1.20	22.36	18.00	1/2H	64	20			
	TK-DHS15-104	1"	Φ25.4	1.35	25.55	21.00	1/2H	67	20			
	TK-DHS15-114	1-1/8"	Φ28.58	1.55	28.75	22.00	1/2H	70	20			
	TK-DHS15-124	1-1/4"	Φ31.75	1.70	31.9	24.00	1/2H	73	20			
	TK-DHS15-134	1-3/8"	Φ34.92	1.85	35.11	25.00	1/2H	76	20			
	TK-DHS15-144	1-1/2"	Φ38.1	2.00	38.3	27.00	1/2H	80	20			

■ 3m Insulated straight copper pipe (20mm insulation)

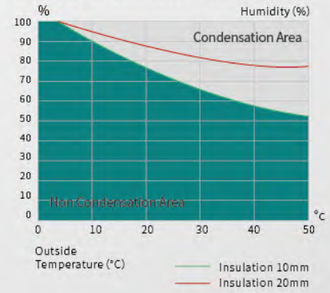
INSULATED STRAIGHT COPPER PIPE	Designation	size	Copper Size (mm)				copper pipe	Insulation size (mm)		Length (m)	Insulation Parameters	Color
			Nominal Diameter	Thickness	internal diameter	Thickness	state	Inner Diameter	Wall Thickness			
	TK-DHS15-033	3/8"	Φ9.52	0.80	9.62	9.00	1/2H	51	20	3	120℃ Resistant, Fire Retarded	On Request
	TK-DHS15-043	1/2"	Φ12.70	0.80	12.81	10.00	1/2H	54	20			
	TK-DHS15-053	5/8"	Φ15.88	1.00	16.0	12.00	1/2H	57	20			
	TK-DHS15-063	3/4"	Φ19.05	1.05	19.19	16.00	1/2H	61	20			
	TK-DHS15-073	7/8"	Φ22.22	1.20	22.36	18.00	1/2H	64	20			
	TK-DHS15-103	1"	Φ25.4	1.35	25.55	21.00	1/2H	67	20			
	TK-DHS15-113	1-1/8"	Φ28.58	1.55	28.75	22.00	1/2H	70	20			
	TK-DHS15-123	1-1/4"	Φ31.75	1.70	31.9	24.00	1/2H	73	20			
	TK-DHS15-133	1-3/8"	Φ34.92	1.85	35.11	25.00	1/2H	76	20			
	TK-DHS15-143	1-1/2"	Φ38.1	2.00	38.3	27.00	1/2H	80	20			

Insulated copper tube condensation chart

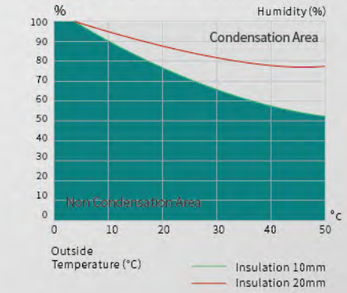
■ Copper Diameter 9.52



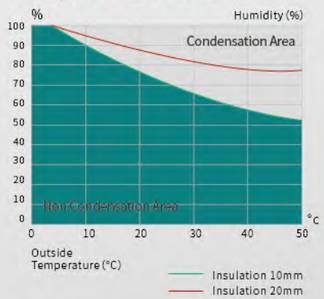
■ Copper Diameter 12.70



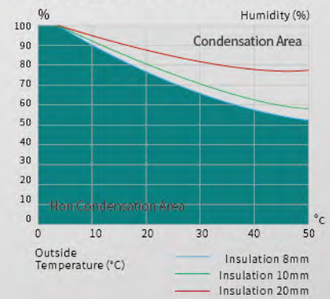
■ Copper Diameter 15.88



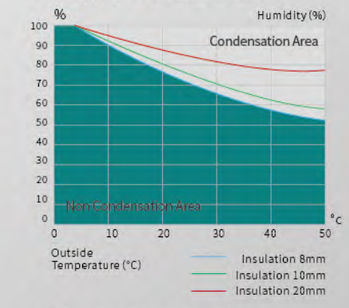
■ Copper Diameter 19.05



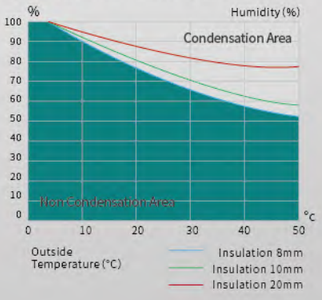
■ Copper Diameter 22.22



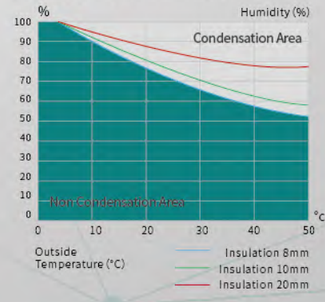
■ Copper Diameter 25.40



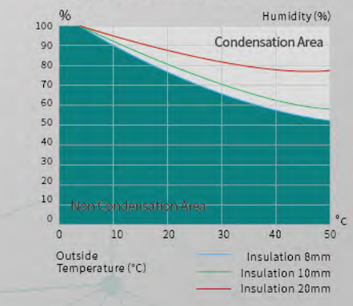
■ Copper Diameter 28.58



■ Copper Diameter 31.75



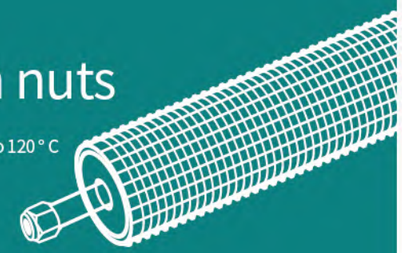
■ Copper Diameter 38.10



Flared insulated copper tube with nuts

Suitable for both low and high temperature application, high temperature resistant up to 120 ° C

Fire retardant suitable for most refrigerants including R410A and R32



■ Insulated single copper tube

SINGLE TUBE OF FLARING

Designation	Refrigerant Type	size	Copper Size (mm)		Insulation size (mm)		Length (m)	Insulation Parameters	Color
			Nominal Diameter	Thickness	Inner Diameter	Wall Thickness			
TKACT-02	③	1/4"	Φ6.35	0.80	Φ8.0	8	3、3.5、4、5、7、10	120℃ Resistant, Fire Retarded	On Request
TKACT-03	③	3/8"	Φ9.52	0.80	Φ12.0	8			
TKACT-04	③	1/2"	Φ12.70	0.80	Φ14.5	10			
TKACT-05	②	5/8"	Φ15.88	1.00	Φ18.0	10			
TKACT-06	②	3/4"	Φ19.05	1.20	Φ22.0	10			

■ Insulated twin copper tube

TWIN TUBE OF FLARING

Designation	Refrigerant Type	size	Copper Size (mm)		Insulation size (mm)		Length (m)	Insulation Parameters	Color
			Nominal Diameter	Thickness	Inner Diameter	Wall Thickness			
TKACT-23	③	1/4"	Φ6.35	0.80	Φ8.0	8	3、3.5、4、5、7、10	120℃ Resistant, Fire Retarded	On Request
		3/8"	Φ9.52	0.80	Φ12.0	8			
TKACT-24	③	1/4"	Φ6.35	0.80	Φ8.0	8	3、3.5、4、5、7、10		
		1/2"	Φ12.70	0.80	Φ14.5	10			
TKACT-25	②	1/4"	Φ6.35	0.80	Φ8.0	8	3、3.5、4、5、7		
		5/8"	Φ15.88	1.00	Φ18.00	10			
TKACT-35	②	3/8"	Φ9.52	0.80	Φ12.00	8	3、3.5、4、5、7		
		5/8"	Φ15.88	1.00	Φ18.00	10			
TKACT-36	②	3/8"	Φ9.52	0.80	Φ12.00	8	3、3.5、4、5		
		3/4"	Φ19.05	1.20	Φ22.00	10			
TKACT-46	②	1/2"	Φ12.70	0.80	Φ14.50	8	3、3.5、4、5		
		3/4"	Φ19.05	1.20	Φ22.00	10			

■ Installation kit (1/4"-3/8") Electric wire on request

MATCHED COMPONENTS

Designation	Tube Length (m)	Wrap tape	Adhesive tape	Wall hole cover	Through-hole casing	Saddle	Screws	Putty	Drainage tube
		50*18m	19*5m	Φ60	Φ60	Φ38-Φ50	5 piece/box	200g	Φ14*Φ16*Φ18
TKACT-23030	3	1	1	1	1	3	1	1	2m
TKACT-23035	3.5	1	1	1	1	3	1	1	3m
TKACT-23040	4	1	1	1	1	3	1	1	3m
TKACT-23050	5	1	1	1	1	4	1	1	3m
TKACT-23070	7	1	1	1	1	5	1	1	5m
TKACT-23100	10	2	1	1	1	7	2	1	5m

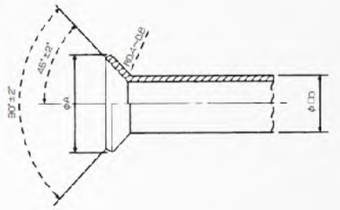
■ Installation kit (1/4"-1/2") Electric wire on request

MATCHED COMPONENTS

Designation	Tube Length (m)	Wrap tape	Adhesive tape	Wall hole cover	Through-hole casing	Saddle	Screws	Putty	Drainage tube
		50*18m	19*5m	Φ60	Φ60	Φ38-Φ50	5 piece/box	200g	Φ14*Φ16*Φ18
TKACT-23030	3	1	1	1	1	3	1	1	2m
TKACT-23035	3.5	1	1	1	1	3	1	1	3m
TKACT-23040	4	1	1	1	1	3	1	1	3m
TKACT-23050	5	1	1	1	1	4	1	1	3m
TKACT-23070	7	1	1	1	1	5	1	1	5m
TKACT-23100	10	2	1	1	1	7	2	1	5m

Flaring processing

When expanding the grooving process, the flaring size is divided into two types. The first type is suitable for the refrigerant (R22 R407C), the second type is suitable for the refrigerant (R410A, etc.), and the pipe for the R410A is flaring for the second processing size.

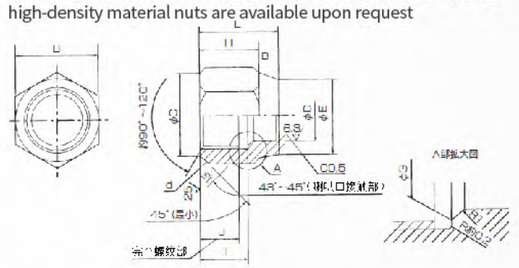


mm

Item	Copper Size	A $^{+0}_{-0.4}$	
		Type one	Type two
1/4"	6.35	9.0	9.1
3/8"	9.52	13.0	13.2
1/2"	12.70	16.2	16.6
5/8"	15.88	19.4	19.7
3/4"	19.05	23.3	24.0

Flared nuts

There are 3 kinds of nuts. The early varieties are suitable for the refrigerant (R22), the first one is suitable for the refrigerant (R22 R407C), the second is suitable for the refrigerant (R410A, etc.), and the piping nut for the R410A corresponds to the second type. Processing size. Forged high-density material nuts are available upon request



■ First type of nut size

单位：mm

Size	Copper size	d	B-0.6	D+0.1	E (minimum)	H±0.8	J	L±0.5	T	G	C (Approximate)
1/4"	6.35	7/16-20UNF	17.0	6.5	13.0	12.0	6.3	15.0	9.0	9.7	16.5
3/8"	9.52	5/8-18UNF	22.0	9.7	20.0	16.0	7.8	18.0	10.8	14.3	21.0
1/2"	12.70	3/4-16UNF	24.0	12.9	20.0	16.0	10.0	22.0	13.0	17.3	23.0
5/8"	15.88	7/8-14UNF	27.0	16.0	24.0	20.0	12.5	26.0	15.5	20.2	26.0
3/4"	19.05	1.1/16-14UNS	36.0	19.2	28.0	24.0	16.0	30.0	19.0	25.0	34.0

■ Second type of nut size

单位：mm

Size	Copper size	d	B-0.6	D+0.1	E (minimum)	H±0.8	J	L±0.5	T	G	C (Approximate)
1/4"	6.35	7/16-20UNF	17.0	6.5	13.0	12.0	6.3	15.0	9.0	9.7	16.5
3/8"	9.52	5/8-18UNF	22.0	9.7	20.0	16.0	7.8	18.0	10.8	14.3	21.0
1/2"	12.70	3/4-16UNF	26.0	12.9	23.0	19.0	10.0	22.0	13.0	17.3	26.0
5/8"	15.88	7/8-14UNF	29.0	16.0	25.0	22.0	12.5	26.0	15.5	20.2	28.0
3/4"	19.05	1.1/16-14UNS	36.0	19.2	28.0	24.0	16.0	30.0	19.0	25.0	34.0

■ Standard dimension for nuts of earlier varieties

单位：mm

Size	Copper size	d	B-0.6	D+0.1	E (minimum)	H±0.8	J	L±0.5	T	G	C (Approximate)
1/4"	6.35	7/16-20UNF	17.0	6.5	11.0	12.0	6.3	15.0	9.0	9.7	16.5
3/8"	9.52	5/8-18UNF	22.0	9.7	12.5	16.0	7.8	18.0	10.8	14.3	21.0
1/2"	12.70	3/4-16UNF	24.0	12.9	16.0	16.0	10.0	22.0	13.0	17.3	23.0
5/8"	15.88	7/8-14UNF	27.0	16.1	12.5	20.0	12.5	26.0	15.5	20.2	26.0
3/4"	19.05	1.1/16-14UNS	36.0	19.2	16.0	24.0	16.0	30.0	19.0	25.0	34.0

■ Nuts Torgue Value

Type	1/4"	3/8"	1/2"	5/8"	3/4"
Torgue Value (N·m)	16±2	38±4	55±6	75±7	110±10

Professional Tools, Easy Installation!

Accessories For Insulated Refrigerant Tube

プロの被覆冷媒配管・知恵の工場

Precision of Japan
Attitude of Tatsukin

日本の精度 達錦の態度

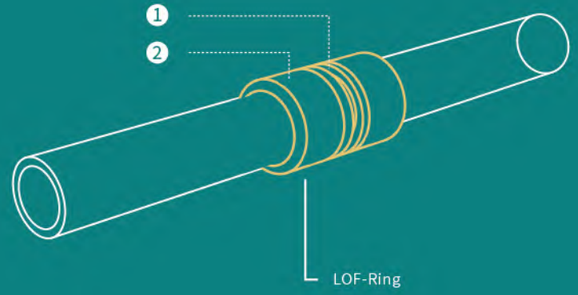
安全 | 優れる作業性 | 効率的に | 省エネ&エコ

SAFE | EASY OPERATION | HIGHLY EFFICIENT |
ENERGY SAVING AND ENVIRONMENT-FRIENDLY |

LOF-Ring

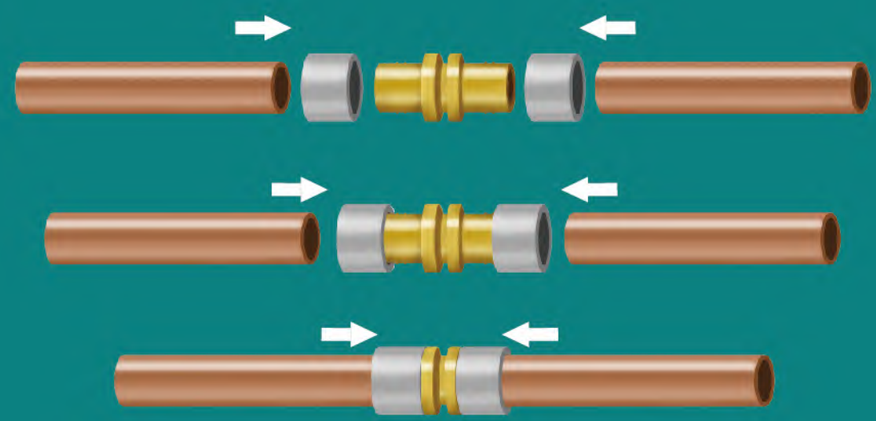
The LOF-Ring is a quick connector for air-conditioning tubes which needs no flame-welding. Compared with the traditional welding connection, LOF-Ring leads the air-conditioning installation industry into a new era with its unique advanced, practical, safe and environment-friendly advantages.

No flames | No cumbersome operations | No energy waste | No pollution



【LOF-Ring Annulus】
The components of LOF-Ring : Pipe and Connectors

【LOF-Ring Cover】
The components of LOF-Ring : Pipe and Connectors



Working Principle:

When the LOF-Ring is installed with the connecting tube, due to the precise conical inner contour of it, the connecting tube is pressed firmly against the LOF-ring's conical surface which makes reliable metal-to-metal seal.

While the pre-tension of LOF-Ring permanent elastic Which can ensure permanent air-tightness of pipeline, and the tension is generate by the reverse of radical force between the inner tube and outer tube at the LOF-Ring connection.

LOF-Ring

4 key advantages of LOF-Ring

- High safety: Avoid fire hazards by removing welding flame
- Easy installation: no special technical requirements on installer.
- High efficiency: convenient for transportation and carrying
- Energy saving and environment-friendly: no toxic and harmful gases are produced during operation.

■ LOF-Ring Union

LOF-RING UNION	Type	Airtightness (H)	Bursting Pressure (MPa)	Package Number
	6.35	2.0	>30	28 (piece/box)
	9.52	2.0	>30	24 (piece/box)
	12.7	2.0	>30	12 (piece/box)
	15.88	2.0	>30	12 (piece/box)
	19.05	2.0	>30	7 (piece/box)
	22.2	2.0	>30	5 (piece/box)
	25.4	2.0	>30	5 (piece/box)
	28.6	2.0	>30	5 (piece/box)
	31.8	2.0	>30	5 (piece/box)
	34.9	2.0	>30	5 (piece/box)
	38.1	2.0	>30	2 (piece/box)
	41.3	2.0	>30	2 (piece/box)
	44.5	2.0	>30	2 (piece/box)

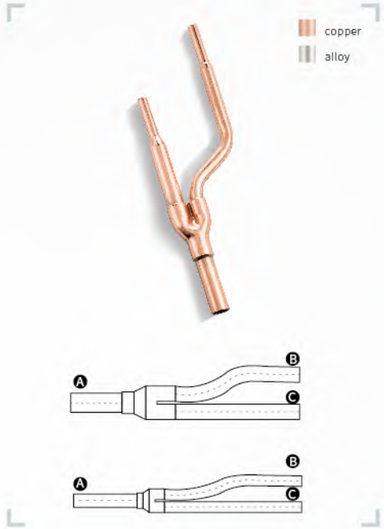
■ LOF-Ring Reducer

LOF-RING REDUCER	Type	Airtightness (H)	Bursting Pressure (MPa)	Package Number
	6.35/9.52	2.0	>30	28 (piece/box)
	9.52/12.7	2.0	>30	24 (piece/box)
	12.7/15.88	2.0	>30	12 (piece/box)
	15.88/19.05	2.0	>30	12 (piece/box)
	19.05/22.2	2.0	>30	7 (piece/box)
	22.2/25.4	2.0	>30	5 (piece/box)
	25.4/28.6	2.0	>30	5 (piece/box)
	28.6/31.8	2.0	>30	5 (piece/box)
	31.8/34.9	2.0	>30	5 (piece/box)
	34.9/38.1	2.0	>30	5 (piece/box)
	38.1/41.3	2.0	>30	2 (piece/box)
	41.3/44.5	2.0	>30	2 (piece/box)

■ LOF-Ring Insulation

LOF-RING INSULATION	Specification	Type	Thickness	Package Number
	DN25/DN32	19.05	14mm	10 (piece/box)
		22.2	14mm	
		25.4	14mm	
		28.6	14mm	
		31.8	14mm	
		34.9	14mm	
		38.1	14mm	
		41.3	14mm	
		44.5	14mm	

Branch Pipe Connector



■ Branch Pipe Connector

BRANCH PIPE CONNECTOR	Type		Gas Pipe	liquid Pipe	Package Number
	W-22T	A:	15.88/19.05	9.52/12.7	2 (piece/box)
		B:	19.05/15.88/12.7	12.7/9.52/6.35	
		C:	15.88/12.7/9.52	9.52/6.35	
	W-33T	A:	19.05/22.2	9.52/12.7	
		B:	22.2/19.05/15.88	12.7/9.52	
		C:	15.88/12.7/9.52	9.52/6.35	
	W-72T	A:	22.2/25.4/28.6	9.52/12.7/15.88	
		B:	28.6/25.4/22.2	15.88/12.7/9.52	
		C:	22.2/15.88/12.7	12.7/9.52	
	W-73T	A:	31.8/34.9	15.88/19.05	
		B:	34.9/31.8/28.6	19.05/15.88/12.7	
		C:	28.6/22.2/15.88	15.88/12.7/9.52	
	W-74T	A:	31.8/34.9	19.05/22.2	
		B:	34.9/31.8/28.6	22.2/19.05/15.88	
		C:	28.6/22.2/15.88	15.88/12.7	
	W-75T	A:	38.1/44.5	19.05/22.2	
		B:	44.5/38.1/34.9	22.2/19.05/15.88	
		C:	34.9/28.6/25.4	19.05/15.88	

Insulation Box

■ Y type insulation box

Y TYPE INSULATION BOX	Designation	Wall Thickness
	Y-12	14mm
		14mm
	Y-13	14mm
		14mm
	Y-14	14mm
		14mm
	Y-24	14mm
		14mm
	Y-25	14mm
		14mm

■ U type insulation box

U TYPE INSULATION BOX	Designation	Wall Thickness
	U-12	14mm
		14mm
	U-13	14mm
		14mm
	U-14	14mm
		14mm
	U-24	14mm
		14mm
	U-25	14mm
		14mm

■ insulation box for Condensate pipe T connector

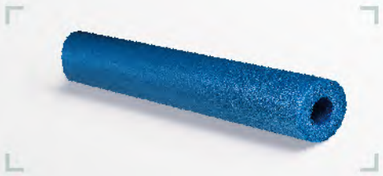
INSULATION BOX FOR CONDENSATE PIPE T CONNECTOR	Designation	Wall Thickness
	DN25	9mm
	DN32	9mm

■ Condensate pipe Elbow

CONDENSATE PIPE ELBOW	Designation	Wall Thickness
	DN25	9mm
	DN32	9mm

■ Insulation box for Condensate Pipe Reducer

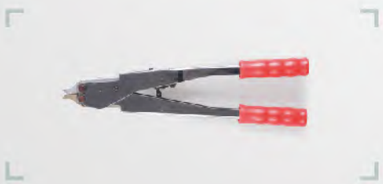
INSULATION BOX FOR CONDENSATE PIPE REDUCER	Designation	Wall Thickness
	DN25	9mm
	DN32	9mm



■ Insulation tube for Condensate pipe

INSULATION TUBE FOR CONDENSATE PIPE	Designation	Wall Thickness
	DN25	9mm
	DN32	9mm

Handheld electrical-hydraulic Assembly tools



■ Hand Assembly Tool

Applicable Scope	Weight	Package Number 1 (piece/box)
6.35~19.05	1.5kg	1 (piece/box)

■ Handheld electrical-hydraulic Assembly tools

Applicable Scope	Output Pressure (T)	Weight	Package Number 1 (piece/box)
6.35~44.5	4.5	3.5kg	1 (piece/box)

Refrigerant tube related accessories

■ Putty

Item No.	Specification	Color
700200	200g	Ivory
700100	100g	Ivory

■ Adhesive tape

Item No.	Specification	Size	Color
701902	VT-19×02	19mm×2m	White、Ivory
701905	VT-19×05	19mm×5m	White、Ivory
701910	VT-19×10	19mm×10m	White、Ivory
701920	VT-19×20	19mm×20m	White、Ivory
705020	VT-50×20	50mm×20m	White、Ivory

■ Non-adhesive tape

Item No.	Specification	Size	Color
706001	KVT-50×15	50mm×15m	White、Ivory
706002	KVT-75×15	75mm×15m	White、Ivory
706003	KVT-50×18	50mm×18m	White、Ivory
706004	KVT-75×18	75mm×18m	White、Ivory
706005	KVT-50×20	50mm×20m	White、Ivory
706006	KVT-60×20	60mm×20m	White、Ivory
706007	KVT-50×30	50mm×30m	White、Ivory
706008	KVT-60×30	60mm×30m	White、Ivory

■ Micro-adhesive tape

Item No.	Specification	Size	Color
706003	KVT-50×18	50mm×18m	Ivory

■ Thick-wall hole cover

Item No.	Specification	Diameter (mm)
708001	WC-60	Φ60mm
708002	WC-65	Φ65mm

■ Thin-wall hole cover

Item No.	Specification	Diameter (mm)
708003	WC-60	Φ60mm

■ Through-hole casing

Item No.	Specification	Diameter (mm)
708004	WCP-60	Φ61mm
708005	WCP-65	Φ67mm

■ Through-hole casing with cover

Item No.	Specification	Diameter (mm)
708006	WKP-60	Φ61mm
708007	WKP-65	Φ66mm

■ Fixing clip for Through-hole casing

Item No.	Material Science	Diameter	Color
708008	PE	Φ38--Φ53	Ivory

■ adhesive insulation tape

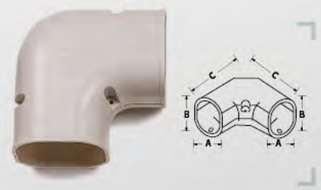
Item No.	Specification	Size (mm×m)	Thickness(mm)	Color
708011	DNT-60-3	60×3	4	White
708012	DNT-60-15	60×15		
708013	DNT-100-15	100×15		

■ Fire Retardant adhesive insulation tape

Item No.	Specification	Size (mm×m)	Thickness(mm)	Color
708012	NDNT-60-3	60×3	5	Gray

■ Cover

Item Code		Dimension (mm)					Pcs/carton
Lvory	Brown	A	B	C	D	E	
SW-80	SW-80BR	83	68	225	121	90	30
SW-100	SW-100BR	108	74	247	155	96	20
SW-120	SW-120BR	123	80	250	164	97	10
SW-140	SW-140BR	148	85	300	196	103	10



■ Horizontal elbow

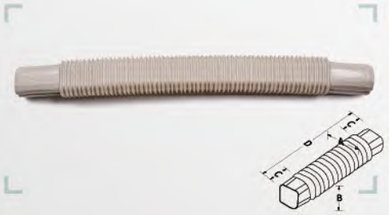
Item Code		Dimension (mm)			Pcs/carton
Lvory	Brown	A	B	C	
SE-80	SE-80BR	82	70	130	20
SE-100	SE-100BR	107	76	151	10
SE-120	SE-120BR	130	82	180	10
SE-140	SE-140BR	146	86	190	10

Vertical elbow

Item Code		Dimension (mm)			Pcs/carton
Lvory	Brown	A	B	C	
SL-80	SL-80BR	80	70	123	20
SL-100	SL-100BR	105	75	134	10
SL-120	SL-120BR	128	81	139	10
SL-140	SL-140BR	146	86	149	10

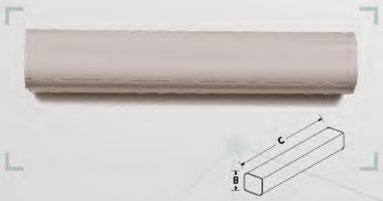
T Joint

Item Code		Dimension (mm)					Pcs/carton
Lvory	Brown	A	B	C	D	E	
ST-80	ST-80BR	81	71	120	195		10
ST-100	ST-100BR	106	76	162	215		10
ST-120	ST-120BR	129	82	181	235	30	10
ST-140	ST-140BR	147	87	202	254	30	10



Flexible Tube

Item Code		Dimension (mm)				Pcs/carton
Lvory	Brown	A	B	C	D	
SF-80	SF-80BR	80	72	60	800	20
SF-80M	SF-80MBR	80	72	60	1200	10
SF-100	SF-100BR	110	80	75	900	10
SF-120	SF-120BR	130	85	82	960	10
SF140	SF-140BR	145	95	80	980	10



anti-UV duct

Item Code		Dimension (mm)			Pcs/carton
Lvory	Brown	A	B	C	
SD-80	SD-80BR	75	65	2000	6
SD-100	SD-100BR	100	70	2000	6
SD-120	SD-120BR	122	75	2000	6
SD-140	SD-140BR	140	80	2000	6

Condensate Pipe product

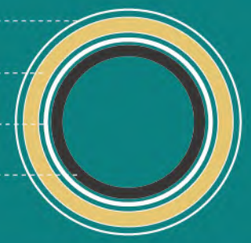
The inner layer of the Tatsukin double-layer anti-UV corrugated drain pipe is made of antibacterial material, which can effectively avoid bacteria and moss growth and any possible blockage. It is a pipeline with anti-bacterial, bacteria-inhibiting and self-cleaning functions.

The outer layer: anti-aging, anti-UV composite PE film

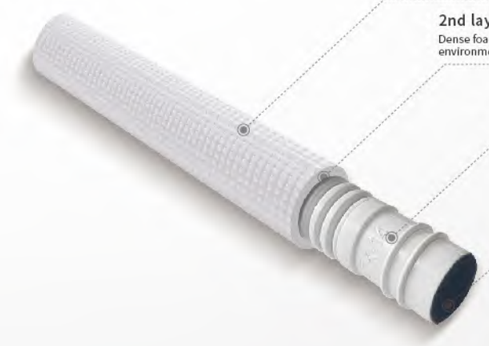
2nd layer: IXPE foam

3rd layer: Corrugated PE pipe

4th layer: Anti-bacterial material liner



Internal Structure



The outer layer: anti-aging, anti-UV composite PE film

Embossed surface, anti-deterioration, anti-aging, no cracking, no water penetration, environment-friendly and fire retardant.

2nd layer: IXPE foam

Dense foam, anti-extreme temperature, thermal insulation, environment-friendly and fire retardant.

3rd layer: Corrugated PE pipe

The annular corrugated structure greatly enhances the radial strength of the pipe and improves the resistance of deformation and kinks.

4th layer: Anti-bacterial material liner

Anti-bacterial material and other additives make the pipeline with anti-bacterial, bacteria-inhibiting and self-cleaning function.

Two layers anti-UV drainage horse

Item No.	Specification	Length (m)	Color	Flammability
708009	Φ14×Φ16	50	White and Black	Fire Resistant

Insulated two layers anti-UV drainage horse

Item No.	Specification	Length (m)	Color	Flammability
708010	Φ14×Φ16	25	White and Black	Fire Resistant