

BANDO

AUTHORIZED DISTRIBUTOR OF
TOTAKU & HAKKO

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Bando Manufacturing (Thailand) Ltd.

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บริษัท แบนโด แมนูแฟคเจอริ่ง (ประเทศไทย) จำกัด
47/7 ม. 4 ถ. บางปลา ต. บ้านเกาะ อ. เมือง จ. สมุทรสาคร 74000

HAKKO
CORPORATION

**HIGH QUALITY
HOSES**
MADE IN JAPAN

PRODUCTS CATALOGUE 2017

TOTAKU



MUDDY WATER DISCHARGE
 สำหรับงานปูน, โคลน และของเหลวที่ลักษณะคล้ายกัน

Product ชื่อผลิตภัณฑ์	Fluids Application ประเภทการใช้งาน	Nominal Diameter (mm) เส้นผ่านศูนย์กลาง (มม.)	Usable Temperature Range(°C) ช่วงอุณหภูมิที่รองรับ (องศาเซลเซียส)	Page หน้าอ้างอิง
 TOTAKU LINE POWER-AT	 Muddy water, Cement, Slurry น้ำโคลน, ซีเมนต์, สารละลาย	50 ~ 200	-10 ~ 50	3 - 4
 TOTAKU LINE ACE	 Water, Muddy water, Slurry, Others น้ำ, น้ำโคลน, สารละลาย, อื่นๆ	25 ~ 300	-10 ~ 50	5 - 6

FOOD & BEVERAGE PROCESSING
 สำหรับลำเลียงอาหาร และ เครื่องดื่ม

 TOTAKU SD-F	 Liquor, Beer, Soft drink, Light oil สุรา, เบียร์, น้ำอัดลม	25 ~ 150	-10 ~ 50	7
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MATERIAL TRANSPORTATION
 สำหรับลำเลียงวัสดุ

 TOTAKU SD-AS	 Plastic pellets, Powder, Granule เม็ดพลาสติก, แป้ง, เม็ดกลม	25 ~ 150	-10 ~ 50	7
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DUST COLLECTION
 สำหรับลำเลียงวัสดุสำหรับงานหนัก

 TOTAKU HERAN DUCT	 Powder, Granule, Iron filings, Others เม็ดกลม, ผงเหล็ก, ผงไม้, อื่นๆ	38 ~ 300	-30 ~ 80	7
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AIR-CONDITIONING
 สำหรับลำเลียงอากาศ

 TOTAKU RIGID DUCT-PP	 Spot air conditioner ส่งความเย็นเฉพาะจุด	55 ~ 300	-10 ~ 80	8
 TOTAKU IT-13	 Hot air ลมร้อน	50 ~ 300	-20 ~ 130	9
 TOTAKU MD-25	 Hot air, Welding fume, Exhaust gas ลมร้อน, ประกายไฟจากการเชื่อม	50 ~ 300	-20 ~ 250	9
 TOTAKU DUCT-EE	 Ventilation, Sawdust collection, Others ระบายอากาศ, เก็บขี้เลื่อย, ควันโอเลียง	32 ~ 300	-10 ~ 50	10
 TOTAKU DUCT-OR	 Oil mist ละอองน้ำมัน	50 ~ 200	-10 ~ 50	10
 TOTAKU ELASTIC DUCT	 Warm air exhaust ควันโอเลียง, ท่อเป่าลม (สำหรับลมร้อนได้)	38 ~ 300	-20 ~ 80	11

PIPING FOR MACHINERY EQUIPMENT
 สำหรับใช้กับเครื่องจักร

Product ชื่อผลิตภัณฑ์	Fluids Application ประเภทการใช้งาน	Nominal Diameter (mm) เส้นผ่านศูนย์กลาง (มม.)	Usable Temperature Range (°C) ช่วงอุณหภูมิที่รองรับ (องศาเซลเซียส)	Page หน้าอ้างอิง
 HAKKO E-TB	 Water น้ำ	6 ~ 50	0 ~ 60	12
 HAKKO E-STB	 Oil น้ำมัน	6 ~ 50	0 ~ 60	12
 HAKKO E-SP	 Water น้ำ	15 ~ 50	0 ~ 50	12

PAINT PROCESSING
 สำหรับลำเลียงสี

 HAKKO E-PFN	 Solvent ตัวทำละลาย	6.5 ~ 8.9	-20 ~ 60	13
 HAKKO E-AFC	 Air ลม	6.5 ~ 8.9	-20 ~ 60	13

CHEMICAL PROCESSING
 สำหรับลำเลียงสารเคมี

 HAKKO E-SJ	 Chemical สารเคมี, น้ำหมึก, อาหาร, น้ำ, อื่นๆ	2 ~ 8	-20 ~ 80	14
 HAKKO E-SJB	 Ink	9 ~ 25	-20 ~ 80	14
 HAKKO E-SJSP	 Food	12 ~ 38	-20 ~ 80	14

TOTAKU

Suction Hose pioneer in the world

Nowadays hoses which support affluent society is requested by the age. TOTAKU continuously engaged in research and development of high-quality hoses which contribute to a creation of comfortable environment and to greater working efficiency in transportation system. TOTAKU always leads the hose industry, and is dedicated to the creation of a rich society in the future by supplying its hoses that offer the advanced level and originality to a wide usage from industrial applications to the domestic use.

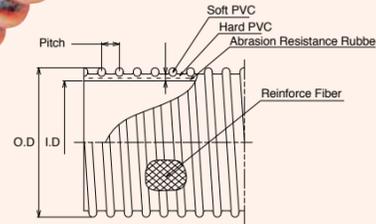
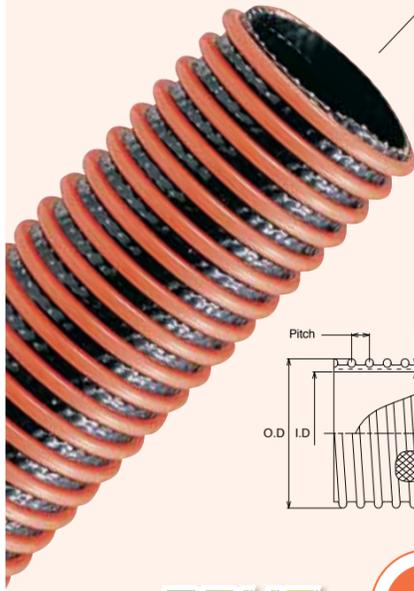
HAKKO
CORPORATION

A Manufacturer of Resin Hose in Japan

HAKKO has manufactured a large number of made-to-order hoses by processing a wide variety of materials. We are pioneer of manufacturing multi-layer hoses with the co-extrusion technology, designing the hose fittings, multi-pipe tubings, curling, coiling, and assembling. Thus, we can guarantee matching between hose and fittings.

WORLD CLASS DUCT

& HOSE MANUFACTURER



Inner Pressure-Resistance

Excellent Abrasion-Resistance

Smooth Surface

*Outer surface design prevents the Hose to get stuck on the ground

No bending

TOTAKU LINE POWER-AT

Features

- Max allowable pressure is 10 Bar {1.00 Mpa} (at room temperature), good pressure durability, and a structure of less elongation during pressuring.
- As the inside layer is of abrasion resistant rubber, abrasion resistance is good.
- Strong resistance to outside pressure, with little deformation.

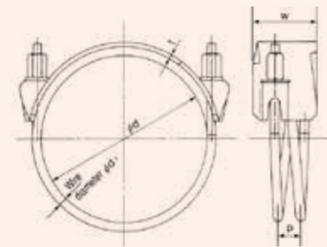
Applications

- For suction/delivery of muddy water for construction sites using the shield method of muddy water, the reverse method, etc.
- For suction/delivery of muddy water at normal construction sites.
- For suction/delivery of sand, gravel, sludge, etc.
- For dredging, filling-in.
- For suction/delivery of powder, pellets such as cement.
- For transportation of high-density material and for high-elevation delivery.

STANDARD DIMENSIONS & PROPERTIES

Nominal diameter	I.D.	O.D.	Pitch	Weight (reference)	L/coil	Allowable pressure (at room temperature)	Vacuum Deformation temperature (-101.3kPa) (-760mmHg)	Allowable bending radius
mm	mm	mm	mm	g/m	m	Bar (MPa)	°C	mm
50 (2)	50.8	69.5	10.0	1725				600
65 (2½)	63.5	86.0	14.3	2270	20-50		65	750
75 (3)	76.2	99.5	15.1	2790				
100 (4)	101.6	129.0	17.0	4400		10 (1.00)		1250
125 (5)	127.0	159.5		6110				1700
150 (6)	152.4	187.5	22.0	7740	20		60	2000
200 (8)	203.2	247.5	25.0	13250	10			2250

- As for the maximum length of the hose, please consult us regarding possible special freight costs when placing an order.
- Note1. vacuum deformation temperature does not mean allowable use temperature.



TOTAKU POWER BAND

Applicable for TOTAKU LINE POWER-AT

Calling	d	d-1	p	w	t	Weight	Dia. and length of bolt
50AT	65		10.0	50		230	M = 6 L = 50
65AT	78	5			2.3 (2.0)	250	
75AT	90	7	15.0			330	M = 8 L = 50
100AT	117		17.0	55		590	M = 10 L = 70
125	143					840	
150AT	175	9	22.0		3.2 (3.0)	970	M = 10 L = 90
200	225		25.0	75		1450	M = 10 L = 120

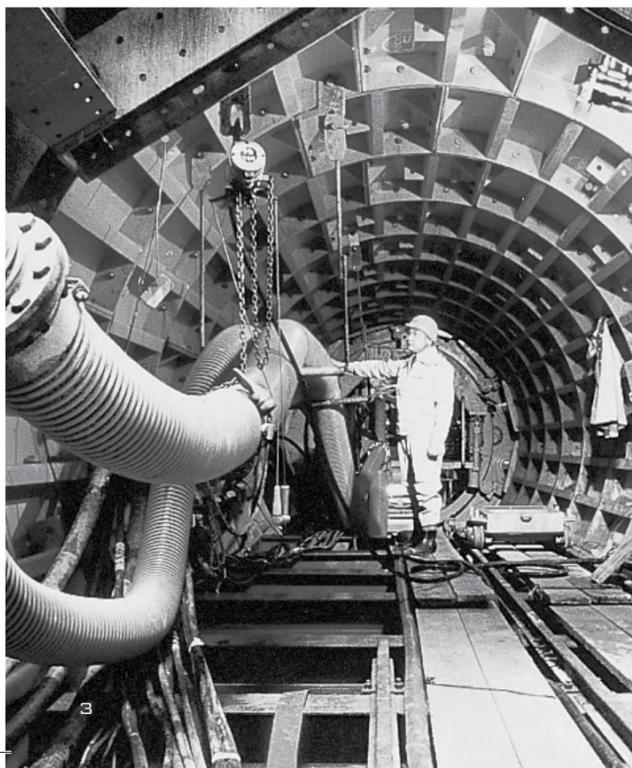
Note 1 The value of () is the stainless value.



SHIME-TOTAKU

Applicable for TOTAKU LINE POWER-AT

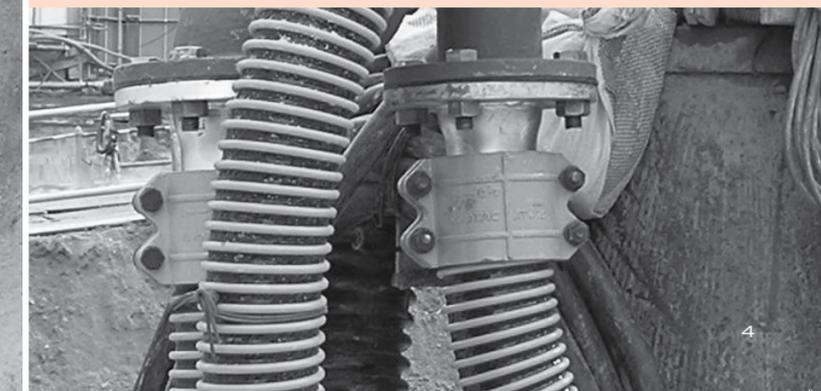
- Size range : ø 50~ ø 100 (Made of Aluminum)
- Size ø 65 is only iron type.
- Special fittings required from TOKAKU.

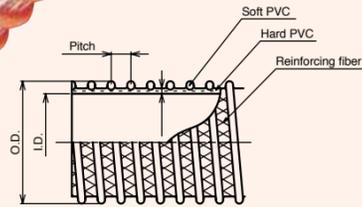
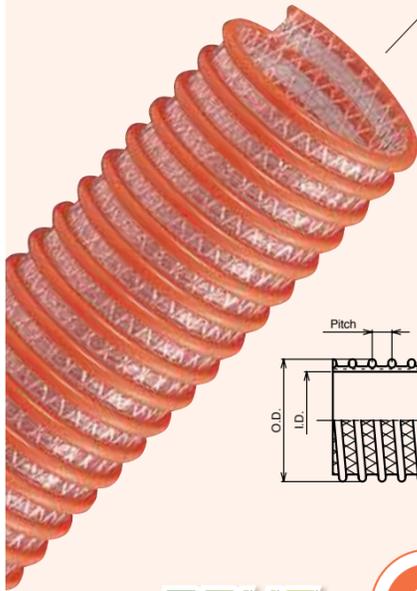


For civil engineering work



SHIME-TOTAKU (Iron) with TOTAKU LINE POWER-AT hose





TOTAKU LINE ACE

Features

- With reinforcing fiber, withstands a maximum working pressure of 5 Bar (0.50MPa).

Applications

- For suction/delivery
- For the beginning of water pumps, high-elevation, hoisting, and so on
- For suction of dumper-cars
- For suction/delivery of dewatering pump



Inner Pressure-Resistance

Light Weight

Smooth Surface

*Outer surface design prevents the Hose to get stuck on the ground

Flexible

STANDARD DIMENSIONS & PROPERTIES

Nominal diameter	I.D. mm	O.D. mm	Pitch mm	Weight (reference) g/m	L/coil m	Allowable pressure (at room temperature) Bar (MPa)	Vacuum Deformation Temperature (-101.3kPa) (-760mmHg) °C	Allowable bending radius mm
25 (1)	25.4	34.9	7.5	400				105
32 (1¼)	32.0	42.5	8.5	520	50		70	120
38 (1½)	38.0	48.8	9.0	680			65	150
50 (2)	50.8	63.4	10.0	950				225
65 (2½)	63.5	78.5	14.3	1305				270
75 (3)	76.2	92.0	15.1	1635	20-50	5 (0.50)	60	375
90 (3¾)	88.9	106.5	16.2	2280				480
100 (4)	101.6	120.0	16.4	2620				540
125 (5)	125.9	152.5	22.0	4220	20		55	630
150 (6)	151.4	180.0	24.0	5860	10		50	780
200 (8)	203.7	237.0	28.0	8590	5	2.5 (0.25)	45	1200
250 (10)	254.0	295.0	32.0	13540				1890
300 (12)	304.8	347.0	34.0	16260				2190



SHIME-TOTAKU

Applicable for TOTAKU LINE ACE (Made By Resin)

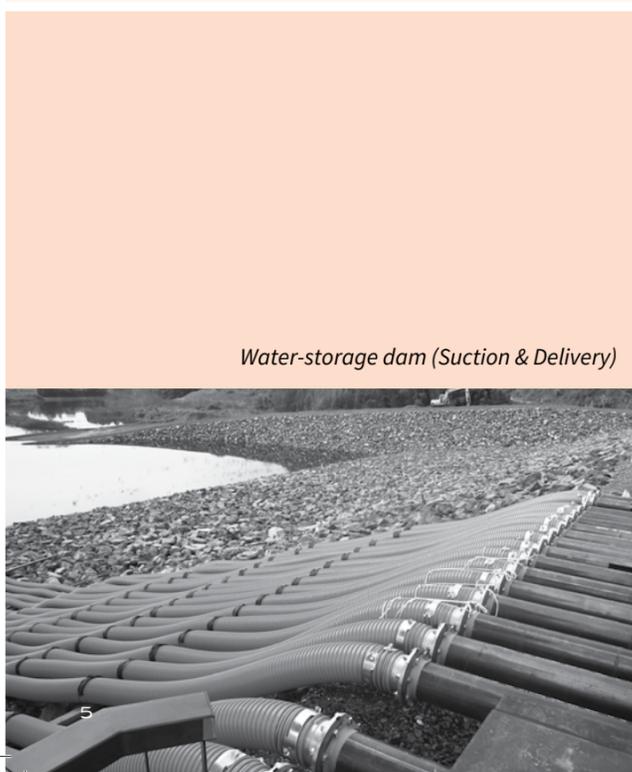
Features

- This resin-made coupling is as lightweight as one half of the weight of metal couplings.
- Allowable pressure of TOTAKU LINE ACE with which SHIME-TOTAKU is connected is equal to that of the hose only.
- Attaching and detaching work of the couplings on the job site is easy.
- It doesn't rust due to being made by the resin.
- Has a high durability. (Proven upon the repeating pressure test) SHIME-TOTAKU was installed at both ends of TOTAKU LINE ACE placed in a straight form, and then 0-5 Bar pressure was repeatedly applied to them in every 20 seconds.

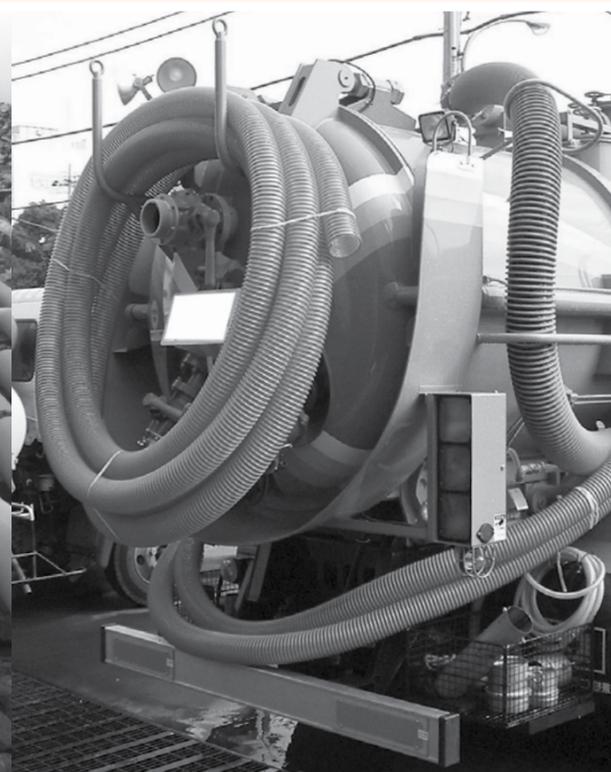
Size & Kind

- Nominal Dia. of 38, 50, 65, 75 and 100mm are available. (Note) PT Nipple made by resin is available only in sizes of 38 and 50mm.
- Besides the newly released PT Nipple and S Collar Nipple (both made of plastic), Nipple with JIS10KF (made of iron and SUS), M1 Nipple, S-Collar Nipple, G-Collar Nipple and Both Mouth Nipple (made of iron) are available as special order items.

Patent Registered:



Water-storage dam (Suction & Delivery)



Dumper Car (Suction)

Fish Processing Industry (Suction)

TOTAKU SD-F



Features

- No taste and scentless, good for transporting foodstuffs
- Partly transparent structure, you can easily confirm inner fluid
- Consists of plasticizer of a non-phthalic acid system, conforming to Notification of Ministry of Health, Labor and Welfare No.267 dated August 1st, 2003.
- Can transport fat or fatty foodstuffs
- Completely conforms to Notification of Ministry of Health, Labor and Welfare No.201

Applications

- For transportation of Sake, Liquor, Beer, and Soft-drinks
- Additionally, for transportation of other foodstuffs.
- For transportation of kerosene, light oil, equipment oil, etc.
- For suction/delivery

- In the case of transporting powdered foodstuffs, please put earth wire (such as copper wire) around the outside of the Hose, and connect the wire to an earth-cable.
- After using the hose, please take care to not leave organic solvents (such as high concentration alcohol) inside the hose.



This product is suitable regarding the following notification
Notification of Ministry of Health, Labor and Welfare No.201 and No.267

<Regarding fat and fatty foodstuffs>
According to "The Food Sanitation Law", fat and fatty foodstuffs are the following. It's said to be "foods where the content of oils and fats in the food or on the food surface is roughly 20% or more, not including dried solid food items, or foods that contain fat or fatty foodstuffs." For example, beef suet, vegetable oil, ham, bacon, beef, pork, chocolate, potato chips, tempura, deep-fried tofu, deep-fried fish paste cake, croquettes, pork cutlets, mayonnaise, dressing, cheese, butter, hamburger steak, dumplings, fried chicken, meatballs, curry, beef stew, simmered meat and potatoes, vegetable stir-fry dishes, fried burdock root, cooked food including oil and fried tofu, potato salad, doughnuts, cakes, cookies, fried dough cookies, fried rice crackers, etc.

STANDARD DIMENSIONS & PROPERTIES

Nominal diameter	I.D.	O.D.	Weight (reference)	L/coil	Allowable pressure (at room temperature)	Vacuum Deformation Temperature (-101.3kPa) (-760mmHg)	Allowable bending radius
mm	mm	mm	g/m	m	Bar (MPa)	°C	mm
25 (1)	25.4	31.2	340	50	5 (0.50)	65	240
32 (1½)	32.0	39.2	510		4.5 (0.45)		340
38 (1½)	38.0	46.0	650		350		
50 (2)	50.8	61.0	1120		500		
65 (2½)	63.5	74.8	1525	20-50	4 (0.40)	60	600
75 (3)	76.2	88.0	1885		775		
90 (3½)	88.9	100.5	2190		1065		
100 (4)	101.6	115.8	3080	20	3 (0.30)	60	1150
125 (5)	127.0	141.0	3660		2.5 (0.25)		1600
150 (6)	152.4	167.8	5000		2 (0.20)		1900

MATERIAL TRANSPORTATION



TOTAKU SD-AS

Features

- With special formulation of soft-PVC, the anti-static effect will last as shown in the under-mentioned table. (ref. Table 2)
- Transparent wall (clear green) enables visual check of the material flow.

Applications

- For transportation of plastic pellets, especially good for Nylon/ABS, etc which require pre-drying.
- For transportation of white powder like calcium carbonate, etc
- Additionally, for transportation of pellets/powder (except foodstuffs)

STANDARD DIMENSIONS & PROPERTIES

Nominal diameter	I.D.	O.D.	Pitch	Weight (reference)	L/coil	Allowable pressure (at room temperature)	Vacuum Deformation Temperature (-101.3kPa) (-760mmHg)	Allowable bending radius
mm	mm	mm	mm	g/m	m	Bar (MPa)	°C	mm
25 (1)	25.4	30.8	7.5	200	50	2 (0.20)	60	70
32 (1½)	32.0	38.2	8.5	255		1.5 (0.15)	55	80
38 (1½)	38.0	44.6	9.0	385		90		
50 (2)	50.8	58.0	10.0	540		150		
65 (2½)	63.5	73.0	14.3	810	20-50	1 (0.10)	50	210
75 (3)	76.2	87.5	15.1	1125		180		
100 (4)	101.6	115.0	16.4	1965		300		
125 (5)	125.9	141.6	22.0	2520	20	1.5 (0.15)	60	350
150 (6)	152.4	172.0		4530				675

Note1. Vacuum deformation temperature does not mean allowable use temperature

Table 2 : Anti-static effect

Line	Name of product	General product	TOTAKU SD-AS
		ø38	(Anti-static Product ø38)
Soft-PVC Transportation line		1600Volt	100Volt
Hard-PVC Transportation line		33000Volt	100Volt

Table 1 : Special properties of material

Item	Unit	TOTAKU SD-AS Special combination PVC	General soft-PVC	Test method & condition
Volume resistivity	(Ω-cm)	2.7×10 ⁸	4.2×10 ¹¹	JIS K-6911
Surface resistivity	(Ω)	9.8×10 ⁸	3.5×10 ¹²	
Static decay time 50%		0.01	0.64	Temperature 23°C Humidity 60%
Static decay time 90%	(sec)		11.10	
Static decay time 100%			30.30	

Static-protection-type and general products are laid in the PVC pellet transport line and the maximum voltage of static electricity is measured.

Mounting method

For installation, please use ABA BAND (Ø25) to smooth surfaces, SPIRAL WIRE BAND (ø32-ø75) and TOTAKU POWER BAND



TOTAKU HERAN DUCT

Features

- More than double abrasion-resistance compared with the standard of TOTAKU DUCT (according to our testing methods)
- Excellent cold-resistance and heat-resistance (Permissible temperature range : -30~80°C)
- Excellent anti-static effect (material resistance by volume : 10⁵ cm or less)
- Less Ozone-crack damage compared to a traditional rubber hose.

Applications

- For transportation of pellets, iron-powder, wood-powder and paper dust.
- For hot wind machines (heat resistant type)
- Additionally, use this as a duct hose where abrasion resistance, heat-resistance, and effects of electricity guiding are required.

STANDARD DIMENSIONS & PROPERTIES

Nominal diameter	I.D.	O.D.	Pitch	Weight (reference)	L/coil	Allowable pressure (at room temperature)	Allowable decompression power (at room temperature)	Allowable bending radius
mm	mm	mm	mm	g/m	m	Bar (MPa)	kPa (mmHg)	mm
38 (1½)	38.0	46.8	9.5	335	30	0.3 (0.03)	-40.0 (-300)	45
50 (2)	50.6	61.2	10.0	550				55
65 (2½)	62.4	73.0	12.0	605				65
75 (3)	76.4	87.2	13.0	725				75
90 (3½)	88.9	100.3	13.5	890	20	0.1 (0.01)	-20.0 (-150)	90
100 (4)	101.6	113.0	15.0	935				100
125 (5)	125.9	139.7	21.5	1315				125
150 (6)	152.4	166.2	20.0	1560	10	0.05 (0.005)	-13.0 (-98)	150
200 (8)	203.7	217.5	22.5	2070				200
250 (10)	252.0	274.2	25.0	5620				250
300 (12)	303.0	328.2	30.0	6150	300	0.05 (0.005)	-16.5 (-124)	350

Connection method

For installation, please use exclusive rubber cuffs (ø38-ø200) or put it in directly. Furthermore please use an exclusive spiral wire band for installation bands.

AIR-CONDITIONING



TOTAKU RIGID DUCT-PP

Features

- It can be 10-20% lighter than the former model (made of PVC)
- Can be bent freely, and be installed while keeping the bent angle (Please use this in indoor environments.)
- By twisting the duct end, the diameter can be varied
- Easy to cut with knife
- By screwing into each end of the connecting ducts, they can be easily combined (After connecting them, please wind the joint parts with a vinyl tape, etc.)

Applications

- For spot coolers
- For ducting and blower of air-conditioners
- For dust collecting of woodwork machine and metal-grinding machine, etc
- For construction site, piping and wiring of electricity, and agriculture, etc

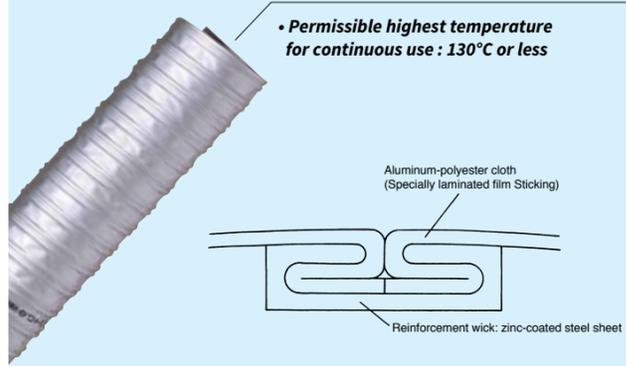
STANDARD DIMENSIONS & PROPERTIES

Nominal diameter	I.D.	O.D.	Pitch	Weight (reference)	L/coil	The caliber rate of change (%)		Compared with elasticity	Allowable bending radius	Practicable upper limit temperature
						Expansion	Reduction			
mm	mm	mm	mm	g/m	mxpcs.				mm	°C
55 (2)	55.0	60.8	7.0	450	10	20	15	1.5	140	80
65 (2½)	65.0	70.8		510					155	
75 (3)	75.0	82.4		675					175	
90 (3½)	90.0	97.4		775					210	
100 (4)	100.0	107.4	7.5	845	10	20	15	1.5	230	75
125 (5)	125.0	132.8		1175					300	
150 (6)	150.0	157.8		1380					350	
175 (7)	175.0	182.8	10.5	1785	4	15			400	70
200 (8)	200.0	208.0		1855					450	
250 (10)	250.0	259.6		3195					960	
300 (12)	300.0	309.6		3990					1000	

End cover

• There are all sizes of made soft-PVC.

• Permissible highest temperature for continuous use : 130°C or less



ROHS COMPLIANT



TOTAKU IT-13

Features

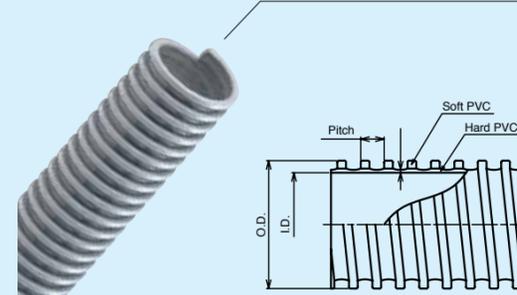
- Made of aluminum-polyester cloth and zinc-coated steel sheet, and is usable at the temperature of 130°C or less.
- Specially laminated film is used, which reduces dusts being generated by surface friction.
- Retractable, and easy storage and transportation.

Applications

- For blowing and exhausting use, where smaller amount of dusts raising is required such as the clean-room.
- For air-intake and exhaust of hot air generator.
- Very little dust-raising material is used for this duct. However, your specific check on dust-raising is required before actual use since an amount of dusts is variable depending on use conditions (such as fluid substance, temperature and pressure).

STANDARD DIMENSIONS & PROPERTIES

Nominal diameter	I.D.	O.D.	Pitch	Weight (reference)	L/coil	Allowable pressure (at room temperature)	Allowable decompression power (at room temperature)	Allowable bending radius
mm	mm	mm	mm	g/m	m	Bar (MPa)	kPa (mmHg)	mm
50 (2)	51.0	54.5		365			-8.5 (-64)	120
65 (2½)	67.5	71.5	20.0	445			-8.0 (-60)	140
75 (3)	76.0	80.0		520			-7.0 (-53)	160
100 (4)	102.5	106.0		630			-6.5 (-49)	210
125 (5)	127.5	131.0		755	5	0.07 (0.007)	-6.0 (-45)	250
150 (6)	152.0	155.0		925			-6.0 (-45)	300
175 (7)	176.5	180.0	23.0	1050			-5.0 (-38)	
200 (8)	202.0	205.0		1225			-4.5 (-34)	400
250 (10)	253.0	256.0		1550			-3.0 (-23)	600
300 (12)	303.0	306.0		1840			-3.0 (-23)	600



Example of cuffs installation

ROHS COMPLIANT



Mounting method

When mounting, please either put it in directly or tighten it with an ABA band or a spiral wire band using exclusive cuffs made of polyvinyl chloride.

TOTAKU DUCT-EE

Features

- Lightness and Flexibility enable labor-saving.
- Easy to cut and install, easy connection

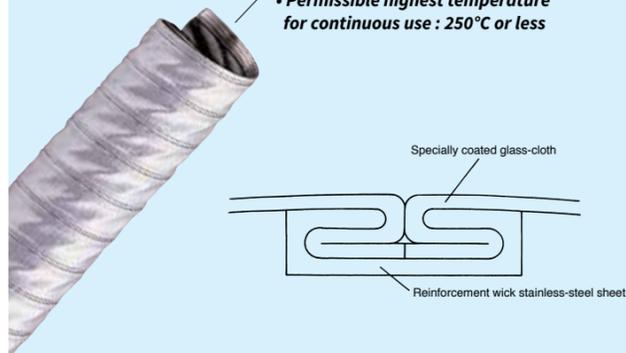
Applications

- For indoor ducting and blowers.
- For ducting and blowers for factory equipment.
- Additionally, for dust collection and air supplying exhaust.

STANDARD DIMENSIONS & PROPERTIES

Nominal diameter	I.D.	O.D.	Pitch	Weight (reference)	L/coil	Allowable pressure (at room temperature)	Allowable decompression power (at room temperature)	Allowable bending radius
mm	mm	mm	mm	g/m	m	Bar (MPa)	kPa (mmHg)	mm
32 (1¼)	32.4	38.6	8.4	220				32
38 (1½)	37.3	44.5	9.2	295	50	0.6 (0.06)		38
50 (2)	50.6	60.2	10.0	585		0.5 (0.05)	-66.0 (-495)	50
65 (2½)	62.4	72.0	12.0	645				65
75 (3)	76.4	86.4	13.0	775	30	0.4 (0.04)		75
90 (3½)	88.9	99.5	13.5	945			-33.0 (-248)	90
100 (4)	101.6	112.2	15.0	1020		0.3 (0.03)	-21.5 (-161)	100
115 (4½)	114.3	125.9	17.4	1255				110
125 (5)	125.9	138.7	21.0	1350			-20.0 (-150)	125
150 (6)	152.4	164.8	20.0	1670	20	0.2 (0.02)	-14.5 (-109)	150
165 (6½)	165.0	177.8	22.0	1770			-10.0 (-75)	175
175 (7)	177.8	190.6	20.0	1935				175
200 (8)	203.7	217.1	22.5	2190			-6.0 (-45)	200
225 (9)	227.0	240.4	23.5	2440			-5.5 (-41)	225
250 (10)	252.0	266.2	25.0	2950	10	0.1 (0.01)	-4.5 (-34)	250
275 (11)	278.0	292.6	28.0	3150			-4.0 (-30)	275
300 (12)	303.0	318.0	30.0	3480			-3.0 (-23)	300

• Permissible highest temperature for continuous use : 250°C or less



ROHS COMPLIANT



TOTAKU MD-25

FREE INSTALLATION

Features

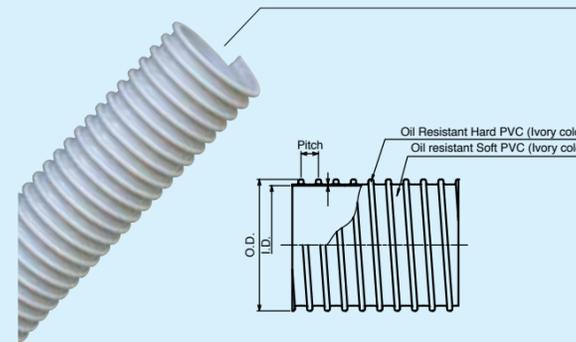
- With specially coated glass-cloth and stainless-steel sheets (SUS304) as a reinforcing core, this can be used at 250°C or less.
- Stretchable and easy for placing, storing and transporting
- Specially coated glass-cloth is good for flame-retarding. (Acceptable product for flame prevention, first class)

Applications

- For suction ducts of equipment for producing and circulating hot wind, sparks of electric/gas welding and sparks of grinders, etc.

STANDARD DIMENSIONS & PROPERTIES

Nominal diameter	I.D.	O.D.	Pitch	Weight (reference)	L/coil	Allowable pressure (at room temperature)	Allowable decompression power (at room temperature)	Allowable bending radius
mm	mm	mm	mm	g/m	m	Bar (MPa)	kPa (mmHg)	mm
50 (2)	51.0	54.5		360			-8.5 (-64)	110
65 (2½)	67.0	71.5	20.0	480			-8.0 (-60)	140
75 (3)	76.0	80.0		525			-7.0 (-53)	160
90 (3½)	91.0	94.5		545			-6.5 (-49)	190
100 (4)	102.5	106.0		635			-6.5 (-49)	210
125 (5)	127.5	131.0		770	5	0.07 (0.007)	-6.0 (-45)	250
150 (6)	152.5	155.5		910			-6.0 (-45)	280
175 (7)	176.5	180.0	23.0	1165			-4.0 (-30)	340
200 (8)	202.0	205.0		1240			-4.0 (-30)	380
250 (10)	253.0	256.0		1570			-3.0 (-23)	510
300 (12)	303.5	306.5		1905			-3.0 (-23)	610



ROHS COMPLIANT



TOTAKU DUCT-OR

Features

- Excellent oil resistance.
- Ivory color harmonizes with the equipment.
- Lightweight and superior flexibility.
- Small internal resistance helps working efficiency and energy saving.

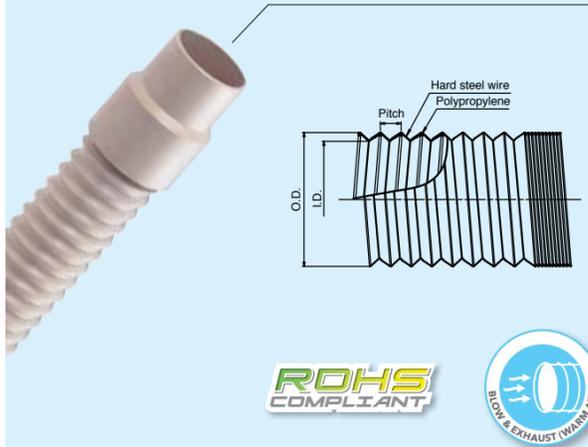
Applications

- Air intake and exhaust of oil mist
- Collection of oil mist of a lathe, a milling machine and etc.

STANDARD DIMENSIONS & PROPERTIES

Nominal diameter	I.D.	O.D.	Pitch	Weight (reference)	L/coil	Allowable pressure (at room temperature)	Allowable decompression power (at room temperature)	Allowable bending radius
mm	mm	mm	mm	g/m	m	Bar (MPa)	kPa (mmHg)	mm
50 (2)	50.6	60.2	10.0	625		0.5 (0.05)	-66.0 (-495)	50
75 (3)	76.4	86.4	13.0	775	30	0.4 (0.04)	-33.0 (-248)	75
100 (4)	101.6	112.2	15.0	1120		0.3 (0.03)	-21.5 (-161)	100
125 (5)	125.9	138.7	21.0	1350			-20.0 (-150)	125
150 (6)	152.4	164.8	20.0	1670	20	0.2 (0.02)	-14.5 (-109)	150
200 (8)	203.2	216.5	22.5	2190		0.1 (0.01)	-6.0 (-45)	200

TOTAKU ELASTIC DUCT



Features

- Length can be adjusted, and can be fixed at any angle and in any direction
- Can be shrunk to 1/3-1/4 of the original length, which can decrease transport costs and storage space before installation

Applications

- For ducting and blowers of hot air (80°C or less)
- For air-conditioning and ventilation
- For equipment exhaust

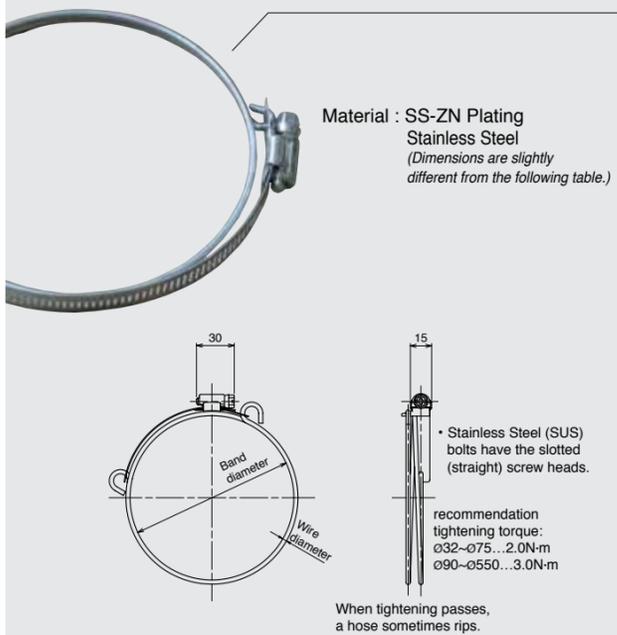
STANDARD DIMENSIONS & PROPERTIES

Nominal diameter	I.D. (reference) mm	O.D. mm	Pitch mm	Weight (reference) g/m	L/coil m	Durability of Stretching	Durability of Bending	Allowable bending radius mm	Practicable upper limit temperature °C
38 (1½)	35	42.0	10.5	165				30	
50 (2)	50	58.0	12.3	190				40	
65 (2½)	63	72.0	14.0	230				55	
75 (3)	71	81.0	15.7	255				60	
90 (3½)	83	94.0	18.5	365	5	More than one hundred thousand times (0°C, 25°C)	More than one hundred thousand times (Bending angle 90° on the level) (0°C, 25°C)	70	80
100 (4)	97	108.0	17.0	440				80	
125 (5)	123	135.0	18.5	630				100	
150 (6)	145	158.0	22.5	730				120	
200 (8)	196	209.5	24.5	920				160	
300 (12)	294	309.5	27.0	1555				240	

The inside diameter is a reference value. When using an insertion-type coupling and part, please check it with the actual article.
In case of ordering at standard length, the duct has original cuffs at both ends.



HOSE BAND



SPIRAL WIRE BAND [SY Band]

For DUCT HOSE (mm)

Calling	Hose size	Band diameter	Wire Diameter	Applicable product
SY 32	32	37 ~ 32		Duct Hose 032, Duct Cuffs 032
SY 38	38	46 ~ 38		Duct Hose 038, Duct Cuffs 038
SY 50	50	60 ~ 51	2.6	Duct Hose 050, Duct Cuffs 050
SY 60	60	67 ~ 58		Duct Hose 065
SY 65	65	72 ~ 63		Duct Hose 065, Duct Cuffs 065
SY 75	75	85 ~ 76		Duct Hose 075, Duct Cuffs 075
SY 90	90	98 ~ 88		Duct Hose 090, Duct Cuffs 090
SY 100	100	117 ~ 97		Duct Hose 0100, Duct Cuffs 0100
SY 117	117	121 ~ 101		TOTAKU DUCT-AL 0117, TOTAKU DUCT-EE 0115
SY 125	125	135 ~ 119		Duct Hose 0125, Duct Cuffs 0125
SY 150	150	160 ~ 146		Duct Hose 0150, Duct Cuffs 0150
SY 165	165	180 ~ 161	3.0	Duct Hose 0165
SY 175	175	190 ~ 171		Duct Hose 0175, Duct Cuffs 0175
SY 200	200	217 ~ 197		Duct Hose 0200, Duct Cuffs 0200
SY 225	225	240 ~ 220		Duct Hose 0225
SY 250	250	267 ~ 247		Duct Hose 0250
SY 275	275	291 ~ 271		Duct Hose 0275
SY 300	300	315 ~ 296		Duct Hose 0300

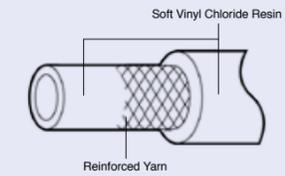
Note. 060...made of SUS only, 0165-0300...made of steel only

HAKKO E-TB

Features

- Transparency makes easier to confirm fluid flow.
- Excellent in pressure resistance by means of built-in reinforcing threads.

Code	I.D. x O.D. mm	Working Pressure Bar		Bend. Radius mm (at 20°C)	Temp. range °C	Length m	Standard Price (not include Vat) (THB/m)
		at 20°C	at 60°C				
E-TB-6	6 x 11			40			39.00
E-TB-8	8 x 13.5			55			49.00
E-TB-9	9 x 15		0~7	65		100	61.00
E-TB-10	10 x 16			70			69.00
E-TB-12	12 x 18	0~10		85			73.00
E-TB-15	15 x 22			105	0~60		103.00
E-TB-19	19 x 26			135			129.00
E-TB-21.5	21.5 x 29		0~6	155		50	185.00
E-TB-25	25 x 33			175			195.00
E-TB-32	32 x 41			225			293.00
E-TB-38	38 x 48	0~5	0~3.5	265			412.00
E-TB-50	50 x 62	0~3	0~2	350		40	651.00

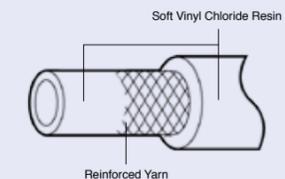


HAKKO E-STB

Features

- Have oil proof, compared with pressure hoses.
- Transparency makes easier to confirm fluid flow.
- Excellent in pressure resistance by means of built-in reinforcing threads.

Code	I.D. x O.D. mm	Working Pressure Bar		Bend. Radius mm (at 20°C)	Temp. range °C	Length m	Standard Price (not include Vat) (THB/m)
		at 20°C	at 60°C				
E-STB-6	6 x 11			40			71.00
E-STB-8	8 x 13.5			55			76.00
E-STB-9	9 x 15		0~7	65		100	90.00
E-STB-12	12 x 18	0~10		85			108.00
E-STB-15	15 x 22			105			172.00
E-STB-19	19 x 26			135	0~60	50	198.00
E-STB-21.5	21.5 x 29		0~6	155			261.00
E-STB-25	25 x 33			175			284.00
E-STB-32	32 x 41			225			598.00
E-STB-38	38 x 48	0~5	0~3.5	265		40	805.00
E-STB-50	50 x 62	0~3	0~2	350			1060.00

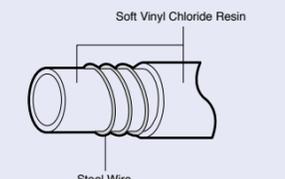


HAKKO E-SP

Features

- The spring wire structure also allows vacuum capability.
- With the spring wire it is suitable for small space piping.
- Transparency makes easier to confirm fluid flow.

Code	I.D. x O.D. mm	Working Pressure Bar		Bend. Radius mm (at 20°C)	Temp. range °C	Length m	Standard Price (not include Vat) (THB/m)
		at 20°C	at 50°C				
E-SP-15	15 x 22	-1~5	-1~2.5	60			119.00
E-SP-19	19 x 26			75		50	154.00
E-SP-25	25 x 33	-1~4	-1~2	100	0~50		223.00
E-SP-32	32 x 41			130			320.00
E-SP-38	38 x 48	-1~3	-1~1.5	150		40	438.00
E-SP-50	50 x 62			200			717.00



HAKKO E-PFN

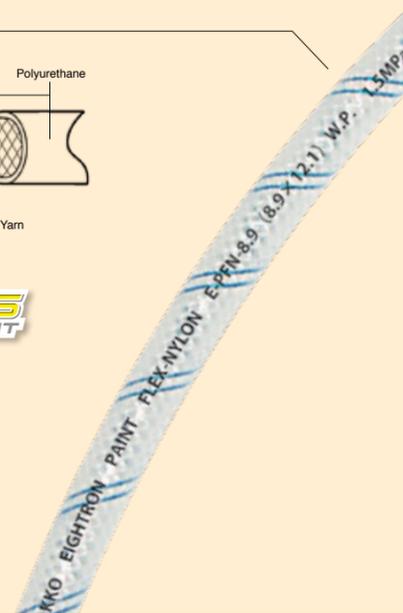
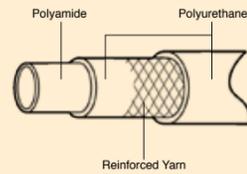
Features

• Solvent resistance:
Since the inner layer is made of Nylon resin, it shows greater levels of solvent resistance against paints, organic solvents, thinner, and so on.

• Easy to cut:
Since we print the cut mark on the tubing every meter, it is easy to cut the length you would like to.

• Flexibility:
Due to the laminated structure, compared with the nylon single-layer tubing, E-PFN is superior in flexibility, resulting in kink-resistance.

Code	I.D. x O.D. mm	Working Pressure Bar		Bend. Radius mm (at 20°C)	Temp. range °C	Length m
		at 20°C	at 60°C			
E-PFN-6.5	6.5 x 9.5			50		
E-PFN-8.9	8.9 x 12.1	0~15	0~7	80	-20~60	100

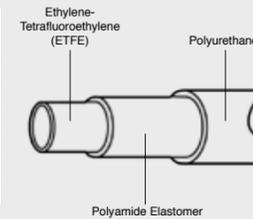


Features

- The laminated structure gives flexibility greater than that of conventional single-layered fluorine hoses, improving usability.
- The inner layer of each hose is laminated with 4-fluorine line fluorine resin (ETFE), providing excellent chemical resistance, and is effective against almost all chemicals including solvents such as ketones.
- Fluorine resin used in the inner layer of each hose is non-toxic, and complies with the requirements of the Food Sanitation Law, Japanese Ministry of Health and Welfare, Notification No. 370.

HAKKO E-SJ (Non-Braided Tube Type)

Code	I.D. x O.D. mm	Working Pressure Bar		Bend. Radius mm (at 20°C)	Temp. range °C	Length m	Standard Price (not include Vat) (THB/m)
		at 20°C	at 80°C				
E-SJ-2 x 4	2 x 4			15			130.00
E-SJ-3 x 5	3 x 5	0~6		20			180.00
E-SJ-4 x 6	4 x 6			25			220.00
E-SJ-6 x 8	6 x 8	0~4	0~2	50	-20~80	100	320.00
E-SJ-6 x 9	6 x 9			35			350.00
E-SJ-8 x 12	8 x 12	0~6		50			540.00



HAKKO E-AFC

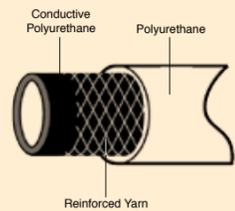
Features

• Conductive:
The inner layer is made of conductive urethane resin. Thus, if the hose is attached to our original fittings, it eliminates static electricity, preventing spark discharge.

• Duration:
Polyurethane resin is strong in abrasion resistance. Thus, E-AFC is suitable for air tools such as air driver.

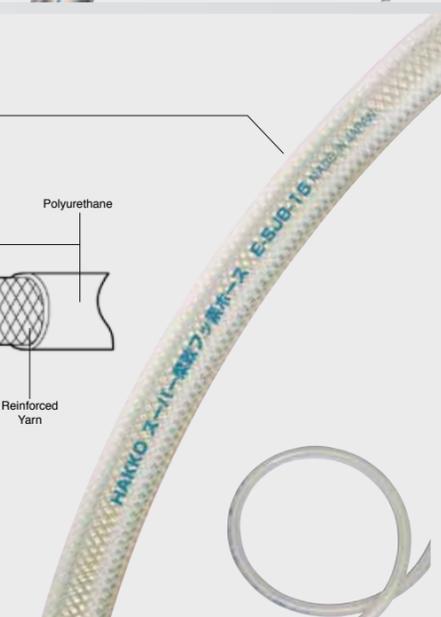
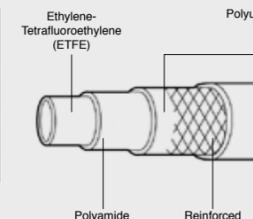
• Cold resistance:
Polyurethane resin is great at cold resistance. Thus, even though temperature reaches around -20°C, E-AFC does not get harden, keeping the work efficiency.

Code	I.D. x O.D. mm	Working Pressure Bar		Bend. Radius mm (at 20°C)	Temp. range °C	Length m
		at 20°C	at 60°C			
E-AFC-6.5	6.5 x 9.5			50		
E-AFC-8.9	8.9 x 12.1	0~15	0~6	80	-20~60	100



HAKKO E-SJB (Reinforcing Braided Type)

Code	I.D. x O.D. mm	Working Pressure Bar		Bend. Radius mm (at 20°C)	Temp. range °C	Length m	Standard Price (not include Vat) (THB/m)
		at 20°C	at 80°C				
E-SJB-9	9 x 15			65			1020.00
E-SJB-12	12 x 18			85			1440.00
E-SJB-15	15 x 22	0~10	0~5	105	-20~80	20	2160.00
E-SJB-19	19 x 26			135			2880.00
E-SJB-25	25 x 33			175			3600.00



FITTINGS Applicable for HAKKO E-PFN & E-AFC

Fitting	Model Number	Type	Applicable Hose	Thread	Sheet	Material	Weight (g/pc)
	HAKKO E-FB-6.5-G1/4		E-PFN-6.5	G1/4		Brass Nickel Plate	55
	HAKKO E-FB-6.5-G3/8		E-AFC-6.5	G3/8			65
	HAKKO E-FB-8.9-G1/4		E-PFN-8.9	G1/4			80
	HAKKO E-FB-8.9-G3/8		E-AFC-8.9	G3/8			90
	HAKKO E-FS-6.5-G1/4	Female Screw (Fixed)	E-PFN-6.5	G1/4	Male Sheet	Wetted Part : SUS304	55
	HAKKO E-FS-6.5-G3/8		E-AFC-6.5	G3/8			65
	HAKKO E-FBG-6.5-G1/4		E-PFN-6.5	G1/4			70
	HAKKO E-FBG-6.5-G3/8		E-AFC-6.5	G3/8			80
	HAKKO E-FBG-8.9-G1/4		E-PFN-8.9	G1/4		Brass Nickel Plate	100
	HAKKO E-FBG-8.9-G3/8		E-AFC-8.9	G3/8			110
	HAKKO E-FSG-6.5-G1/4		E-PFN-6.5	G1/4			70
	HAKKO E-FSG-6.5-G3/8		E-AFC-6.5	G3/8			80

HAKKO E-SJSP (Reinforcing Spring Wire Type)

Code	I.D. x O.D. mm	Working Pressure Bar		Bend. Radius mm (at 20°C)	Temp. range °C	Length m	Standard Price (not include Vat) (THB/m)
		at 20°C	at 80°C				
E-SJSP-12	12 x 18			50			1600.00
E-SJSP-15	15 x 22	-1~5	-1~2.5	60			2400.00
E-SJSP-19	19 x 26			75	-20~80	20	3200.00
E-SJSP-25	25 x 33	-1~4	-1~2	100			4000.00
E-SJSP-32	32 x 41			130			5870.00
E-SJSP-38	38 x 48	-1~3	-1~1.5	150			8000.00

