

Multi-Purpose/Chemical Resistant Hose

Single-layer teflon hose is hard and easy to break. Our Flexible Fluorine (ETFE) Resin Yarn Reinforced Hose is an alternative hose for a teflon hose.

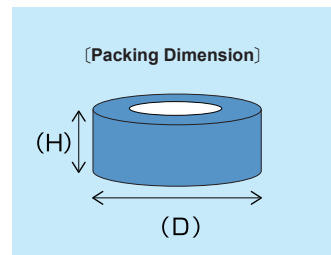
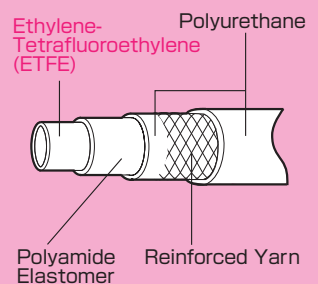
Flexible Fluorine (ETFE) Resin Yarn Reinforced Hose

[Model Number: E-SJB-(I.D.)]

Applications • Fluids



(Materials / Structure)



- For Transferring Organic Solvents of the Painting Equipment and Paints
- For Transferring Chemicals used in Laboratory Equipment
- For Transferring Chemicals used in Semiconductor-Related Devices and Flat-Panel Display (FPD) Manufacturing Devices
- For Transferring Beverage and Food
- For Transferring Fatty Acid Ester such as Biofuel (BDF)
- For Transferring Chemical and Industrial Wastes
- For Transferring Alcohol, Cosmetics, and Chemicals
- For Transferring Chemicals used in Medical Equipment, Endoscope, and so on
- For Transferring Chemicals used in Manufacturing Fuel Cell and Pure Water
- For Filling Line of Paints and Adhesives
- For Filling Line of Fragrance, Colorant, and Additive
- For Air Supplying Pipes at Clean Room
- For Transferring Screw, Metal Powder, and Solids

Standard • Packing Information

Model Number	Inch (Inside Diameter) (*1)	I.D. × O.D. mm	Working Pressure MPa		Minimum Bend Radius at 20°C mm	Temperature Range °C	Standard Length m	Product Weight kg/roll	Color	Packing Dimension(*2)			
			at 20°C	at 80°C						Packing	Diameter (D) cm	Height (H) cm	Weight/roll kg/roll
E-SJB-9	3/8	9 × 15			65						46	16	3.58
E-SJB-12	1/2	12 × 18			85						46	16	4.31
E-SJB-15	5/8	15 × 22	0 ~ 1.0	0 ~ 0.5	105						52	17	6.31
E-SJB-19	3/4	19 × 26			135	-20 ~ 80	20	6.21	Clear	Box	52	17	7.41
E-SJB-25	1	25 × 33		0 ~ 0.3	175			9.14			64	21	10.84
E-SJB-32	1 1/4	32 × 41			225			12.67			83	24	15.40
E-SJB-38	1 1/2	38 × 48	0 ~ 0.5	0 ~ 0.25	265			16.50			83	24	19.23

*1: Please note that inch size is approximate, which is not equal to milliumit.

*2: "Diameter (D)" × "Height (H)" means "External Dimensions of Cardboard Box (D)" × "Height (H)."

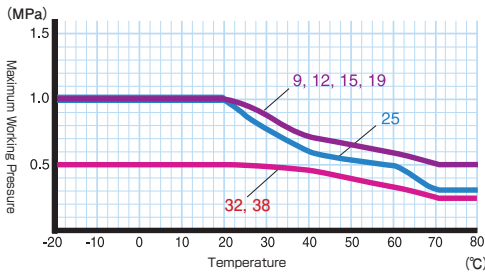
Characteristics and Functions



- Chemical Resistance**...Since the inner layer is made of ETFE fluorine resin, E-SJB is resistant to most of the chemical substances. For more information on chemical resistance data, please refer to our corporate website.
- Flexibility**...Due to the laminated structure, compared with the conventional single-layer fluorine tubing, E-SJB is superior in flexibility. This improves your work efficiency.
- Hard to Break**...Unlike the conventional single-layer fluorine tubing, E-SJB is hard to break. (Even if it breaks, you can restore its shape to some extent.)
- Non-Adhesiveness**...Since fluorine resin is superior in water-proof and non-adhesiveness, you can wash out the fluids very easily.
- Abrasion Resistance**...Fluorine resin (inner layer) shows higher levels of abrasion resistance. Thus, you can transfer chemical slurry.
- Plasticizer-Free**...E-SJB does not contain plasticizer (an elution material) at all. E-SJB is an oil-free hose.
- Non-PVC**...E-SJB is made of a non-PVC material.
- Low Elution and Low Odor**...Since E-SJB contains very low levels of elution and odor, it is recommended for use in transfers of food, beverage, and cosmetics.
- High Purity**...Fluorine resin does not contain any additives such as plasticizer, so E-SJB is suitable for transferring high purity chemical fluids.
- Easy to Cut**...Since we print the cut mark on the hose every meter, it is easy to cut the length you would like to.
- Transparency**...E-SJB enables you to check the fluid very easily.
- Green Procurement**...E-SJB is compliant with RoHS2 requirements.
- Original Fittings**...By using our original fittings, you can avoid accidents which are caused by incorrect choices of hose and fittings.
- Food Sanitation Law Certified**...E-SJB conforms to the Food Sanitation Standard No.370 (The Ministry of Health and Welfare for Food Sanitation, No.370, 1959). (Conformity to N-Heptane).
- Hose Cap**...Hose cap at both ends of the hose prevents contamination (only packed in standard length).

Technical Information

E-SJB: Relationship between Working Temperature and Maximum Working Pressure

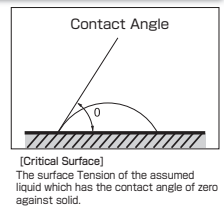


※ The above graph is the value when our original E-FTS fittings are used.

Non-Adhesiveness Comparison Data

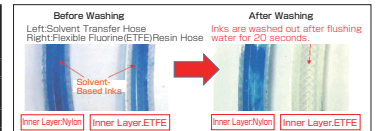
Non-adhesiveness and smoothness, which are peculiar to fluorine resin, make it easier to wash out the fluid. You can check the data about critical surface tension and contact angle against water.

Resins	Critical Surface Tension (dyne/cm)	Contact Angle for Water (θ)
Ethylene-Tetrafluoroethylene (ETFE)	22	96
Polyvinylidene Fluoride (PVDF)	25	82
High Density Polyethylene	31	73
Hard Vinyl Chloride	39	68
PET	43	-
Nylon	46	54



Washing out the inks (by organic solvents) stuck inside the hose
 Test Piece 1 : Inner Layer: Nylon-Solvent Transfer Hose (E-SV)
 Test Piece 2 : Inner Layer: Ethylene-Tetrafluoroethylene-Flexible Fluorine (ETFE) Resin Yarn Reinforced Hose (E-SJB)

Test Conditions	Solvent-Based Inks		
	Ink Inclusion Period	7 Days (at Room Temperature)	
Washing Methods	Cleaning Solution	Ethyl Acetate	
	Cleaning Period	20 Seconds	
	Pressure	Less than 0.01MPa	



Flexible Fluorine (ETFE) Resin Hose is excellent in non-adhesiveness of the inner layer, so you can reduce washing time and save cleaning solutions and labor costs.

HAKKO Original Fittings

Model	Features	Model	Features
EIGHTLOCK FERRULE (E-ELF)	<ul style="list-style-type: none"> Material : Body: SCS16, Nut and Ring: SCS13 (Sleeve: POM) You can replace a hose even though the hose needs replacement, since EIGHTLOCK Ferrule Fitting is a nut ferrule fitting. You can install and detach the fitting on site. You can make use of a wide range of usages such as pipes for chemicals, food, beverage, and alcohol. The nipple end is less likely to accumulate fluids, so you do not have to worry about contamination very much. 	Ferrule Fitting	<ul style="list-style-type: none"> Material : SUS 316L (Body) - SUS304 (Fitting Cover) Due to the relatively flat structure between hose and nipple, it is possible to transfer fluids in a sanitary way. You can make use of a wide range of usages such as pipes for chemicals, food, beverage, and alcohol. The hose end is less likely to accumulate fluids, so you do not have to worry about contamination and the quantity of washing very much.
EIGHTLOCK S (E-ELS)	<ul style="list-style-type: none"> Material : SUS304 Our Nut Type Original Fittings Since the inner layer of the fitting is flat and does not use the rubber packing, fluid accumulation is unlikely to occur. Thus, it is easy to wash out. Since you do not need hose clamp and the controlling torque value, you can standardize how to install the fitting. 	EIGHTNIPPLE S (E-FTS)	<ul style="list-style-type: none"> Material : SUS316L SUS 316L is superior in corrosion resistance, so you can transfer a wide range of fluids. Two-stage flat nipple structure which maximizes hose pressure Our Original Barb Nipple Fittings
EIGHTLOCK B (E-ELB)	<ul style="list-style-type: none"> Material : BSBM (Brass Cadmium Less than 75ppm) Our Nut Type Original Fittings Since the inner layer of the fitting is flat and does not use the rubber packing, fluid accumulation is unlikely to occur. Thus, it is easy to wash out. Since you do not need hose clamp and the controlling torque value, you can standardize how to install the fitting. 	EIGHTNIPPLE B (E-FTB)	<ul style="list-style-type: none"> Material : BSBM (Brass Cadmium Less than 75ppm) Two-stage flat nipple structure which maximizes hose pressure Our Original Barb Nipple Fittings
		Protective Spring Guards (E-HSL)	<ul style="list-style-type: none"> Material : SUS304 (Band, Spring, Fastener) Spring guards prevent kinking, so you can transfer fluids safely. Prevent kinking even if the bending radius is small due to the space-saving piping. As a protection accessory for cleaning hose if its hose is easy to break at hand.

- ⚠ *Due to the laminated structure tubing, please use the joints to seal an inner surface of the hose.
- *Please do not use the joints to seal an outer surface of the hose. This may result in the bursting or coming off from the hose.
- *When you use our products, please refer to "Precautions for Use" available on our webpage and product catalog.
- *In terms of chemical resistance, please refer to "Chemical Resistance Data" available on our webpage and product catalog.
- *Although the inner layer is made of fluorine, please make sure whether or not E-SJB is usable for high purity fluids before you use.
- *Although the inner layer is resistance to fluids, but depending on working environments, the fluids would be permeated through the inner layer, resulting in the danger of swelling and degradation of the middle or outer layer.

Contact us if you have any inquiries about HAKKO products.

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