

Multi-Purpose/Chemical Resistant Hose

For customers who transfer UV-based Inks, UV-based paints which become hardened inside the tube or who look for a soft tube for UV-based inks.

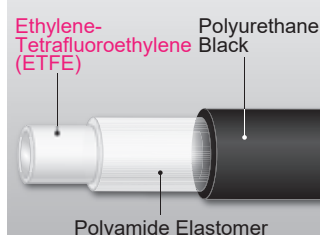
Flexible Fluorine (ETFE) Resin Tubing Black (Ultra Soft Type)

[Model Number : E-SJUS-(I.D.×O.D.)-BK]

Applications • Fluids

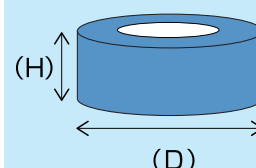


[Materials / Structure]



- For Industrial Ink-Jet Printers (For UV Ink Supplying Pipes)
- For Transferring UV-based Paints and Solvents of the Painting Equipment
- For Transferring Chemicals used in Laboratory Equipment
- For Transferring Chemicals used in Semiconductor-Related Devices and Flat-Panel Display (FPD) Manufacturing Devices
- For Filling Line of UV Paints and UV-based Adhesives

[Packing Dimension]



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-SJUS-2×4-BK	5/64"	2 × 4			30		20	0.24		Plastic Bag	23.5	5	0.24
							100	1.17		Cardboard Box	38.5	15	1.69
E-SJUS-3×5-BK	1/8"	3 × 5	0 ~ 0.5		35		20	0.30		Plastic Bag	25.5	5	0.30
							100	1.60		Cardboard Box	38.5	15	2.10
E-SJUS-1/8"×1/4"-BK	5/32"	3.18 × 6.35			50		20	0.60		Cardboard Box	26	5	0.80
							100	2.90		Cardboard Box	38.5	15	3.50
E-SJUS-4×6-BK	1 1/64"	4 × 6	0 ~ 0.4	0 ~ 0.1	50	-20 ~ 80	20	0.40	Black	Plastic Bag	26	5	0.60
							100	2.00		Cardboard Box	38.5	15	2.50
E-SJUS-4.3×6.4-BK	1/4"	4.3 × 6.4			30		20	0.44		Cardboard Box	26	5	0.64
							100	2.30		Cardboard Box	38.5	15	2.80
E-SJUS-6×8-BK	1/8"	6 × 8	0 ~ 0.3		75		20	0.55		Cardboard Box	28	5	0.80
							100	2.80		Cardboard Box	46	16	3.50
E-SJUS-1/4"×3/8"-BK	1/4"	6.35 × 9.53	0 ~ 0.4		80		20	0.98		Cardboard Box	34	5	1.20
							100	4.90		Cardboard Box	46	21	5.70
E-SJUS-8×10-BK	5/16"	8 × 10	0 ~ 0.15		100		20	0.75		Plastic Bag	34	5	0.75
							100	3.60		Cardboard Box	46	26	5.00

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

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

Characteristics and Functions

Non-PVC

Non-Adhesiveness

Chemical Resistance

Solvent Resistance

Low Elution

Flexibility

UV Cut

Oil-Proof

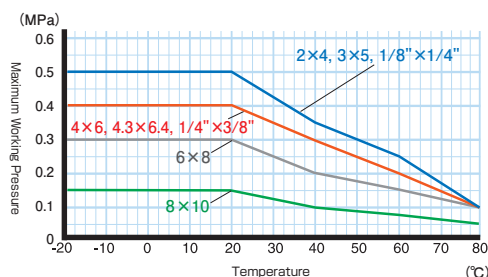
Alcohol Resistant

Cold Resistance

- **UV Cut**...By cutting ultraviolet, E-SJUS-BK is suitable for transferring UV-based paints, adhesives, and inks.
- **Chemical Resistance**...Since the inner layer is made of ETFE fluorine resin, E-SJUS-BK 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-SJUS-BK is superior in flexibility. This improves your work efficiency.
- **Hard to Break**...Unlike the conventional single-layer fluorine tubing, E-SJUS-BK 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.
- **Plasticizer-Free**...E-SJUS-BK does not contain plasticizer (an elution material) at all. E-SJUS-BK is an oil-free tubing.
- **Non-PVC**...E-SJUS-BK is made of a non-PVC material.
- **High Purity**...Fluorine resin does not contain any additives such as plasticizer, so this tubing is suitable for transferring high purity chemical fluids.
- **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.
- **Green Procurement**...E-SJUS-BK is compliant with RoHS2 requirements (directive 2011/65/EU:RoHS2). (RoHS 2 free products mean that they do not contain or below the threshold of 10 substances.)
- **Ultra Softness**...Compared with E-SJ-BK, E-SJUS-BK is much softer, leading to high working efficiency.
- **Original Fittings**...By using our original fittings, you can avoid accidents which are caused by incorrect choices of hose and fittings.

Technical Information

E-SJUS-BK: Relationship between Working Temperature and Maximum Working Pressure

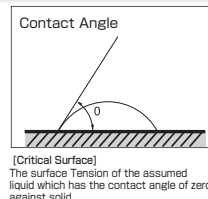


* The above graph is the value when our original fittings are used.

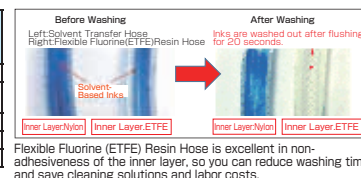
Non-Adhesiveness Comparison Data

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 (°)
Ethylene-Tetrafluoroethylene (ETFE)	22	96
Polyvinylidene Fluoride (PVDF)	25	82
High Density Polyethylene	31	73
Hard Vinyl Chloride	39	68
PET	43	68
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 Reinforced Hose (E-SJUS)		
Test Conditions	Kind of Ink	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.

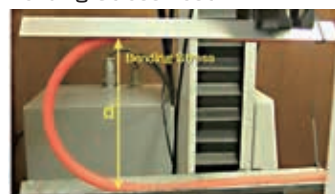
(Bending Stress Data)

(Test Temperature: 20°C)

Sample	Bending Stress (N/50mm)
E-SJUS-4 × 6-BK	0.8
E-SJ-4 × 6-BK	3.5

The lower the value of bending stress is, the more flexible it is.

Bending Stress Test

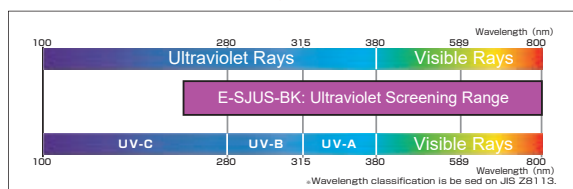


- The elastic force generated when the tube is bent into a U-shape as shown in the photograph is measured.
- ※ "d"=Distance : 50mm

(UV Penetration Data)

- Test Sample : E-SJUS- 4 × 6-BK
- UV Wavelength Range : 240nm ~ 800nm
- Test Machine : Spectrophotometer U-4100 (Hitachi, Ltd)

Test Result : Ultraviolet Screening 99%

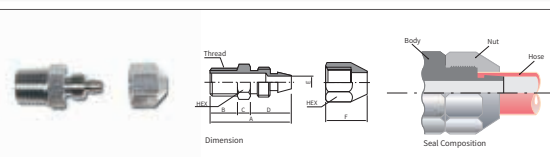


HAKKO Original Fittings

Model Number	Body						Nut		Weight Gram/Piece	Applicable Hose
	A	B	C	D	E	Thread	HEX	F		
E-FTS-2 × 4-R1/8	24.5	10	4	10.5	1.7	R1/8	10	10.5	13	E-SJUS-2 × 4-BK
E-FTS-3 × 5-R1/4	30	12	5	13	2.5	R1/4	14	13	26	E-SJUS-3 × 5-BK
E-FTS-4 × 6-R1/4	31	12	5	14	3.5	R1/4	14	14	29	E-SJUS-4 × 6-BK
E-FTS-6 × 8-R1/4	33	12	5	16	5.5	R1/4	17	16	32	E-SJUS-6 × 8-BK

※ We do not have the original fittings for E-SJUS-4.3 × 6.4-BK, E-SJUS-8 × 10-BK, E-SJUS-1/8" × 1/4"-BK and E-SJUS-1/4" × 3/8"-BK.

- ⚠ *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-SJUS-BK is usable for high purity fluids before you use.
- *This product has a thinner inner layer than E-SJ-BK: Flexible Fluorine (ETFE) Resin Tubing Black. Even if the inner layer has resistance to fluid, it may permeate the inner layer and swell or deteriorate depending on the operating conditions (high temperature, high pressure, etc.).



Material: 316 L Steel Use Stainless (Body) and 304 Steel Use Stainless (Nut)

Contact us if you have any inquiries about HAKKO products.

HAKKO

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HAKKO CORPORATION

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