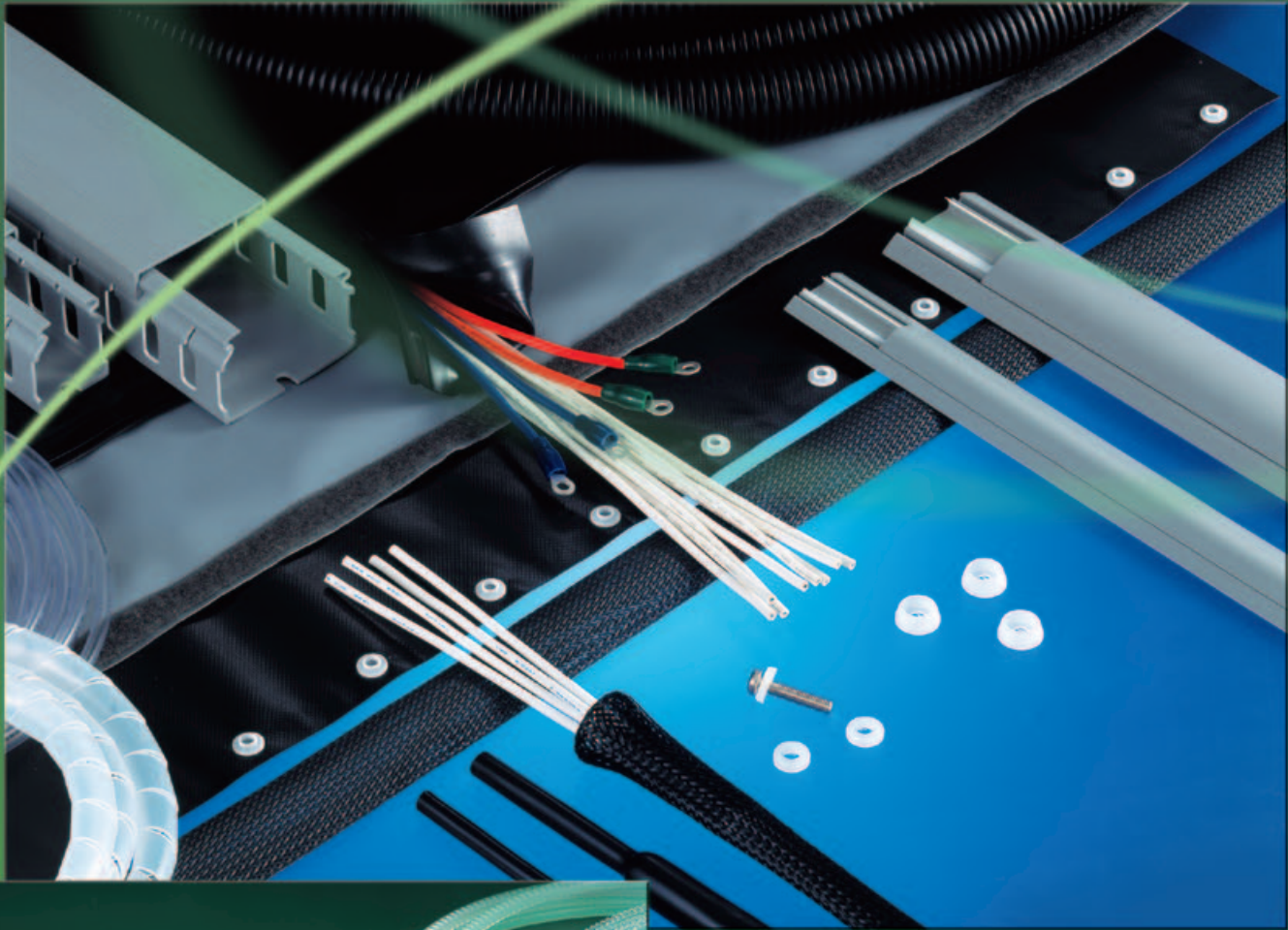


WIRING ACCESSORY



SHINAGAWA SHOKO

WIRING PROTECTOR

● Edge holder	EH-1 series	72
	EHS/EHP series	73
	LT series	74
● Free bush	SG series	75
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● Grommet	ESG series	76
● Edging	EE/EO series	76
● Spiral tubing	SS series	77
● Corrugated tubing	CDP-B series	78 · 79
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● SF tubing®	SF series	80
	SF-A series	81
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● EXLON UL tubing		82
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Edge holder

EH-1 series



Recyclable Model



Feature

- Holders that reliably protect and insulate electrical wiring from the edges of chassis, frames, etc.
- Attach with a single touch.
- Recyclable model that is easy to remove from chassis.

Material

Nylon 66

Standard color

UL94V-2: Black

UL94V-0: Black



UL recognized product E191920

Cat. No. EH-1 Rating: 85°C

Cat. No. EH-1107U, -1409U ... Rating: 85°C

Cat. No. EH-1411U, -1814U ... Rating: 85°C

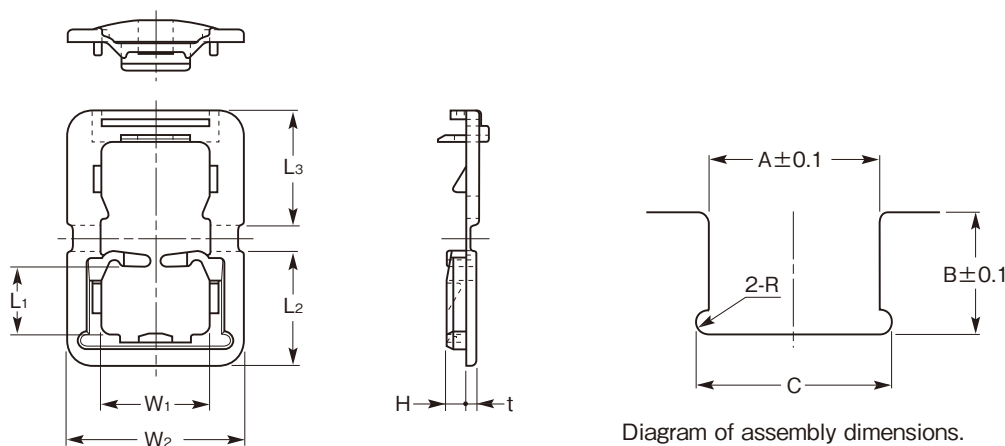


Diagram of assembly dimensions.

Part No.		Dimensions (mm)							Packing unit (pieces)	
UL94V-2	UL94V-0	W ₁	W ₂	L ₁	L ₂	L ₃	H	t	Applicable board thickness	500
EH-1107	EH-107U	11.0	18.0	(7)	11.7	11.7	2.0	1.0		
EH-1409	EH-1409U	14.0	22.0	(9)	14.3	14.3	2.0	1.3		
EH-1411	EH-1411U	14.0	22.0	(10.7)	16.0	16.0	2.0	1.3		
EH-1814	EH-1814U	18.0	26.0	(13.8)	19.0	19.0	2.0	1.3		

Mounting dimensions

Part No.		Dimensions (mm)			
		A	B	C	R
EH-1107	EH-1107U	14.0	10.0	16.0	1.0
EH-1409	EH-1409U	17.0	12.5	19.2	1.1
EH-1411	EH-1411U	17.0	14.5	19.2	1.1
EH-1814	EH-1814U	21.0	17.5	23.4	1.2

INSULATION SLEEVE FOR TERMINAL

CIRCUIT BOARD ACCESSORY

WIRING CLAMP

WIRING PROTECTOR

FASTENER

DIP-MOLDED PRODUCT

Edge holder

EHS series



Feature

- Holders that reliably protect and insulate electrical wiring from the edges of chassis, frames, etc.
- Attach with a single touch.

Material

Nylon 66

Standard color

UL94V-2: Black

UL94V-0: Black

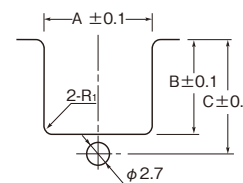
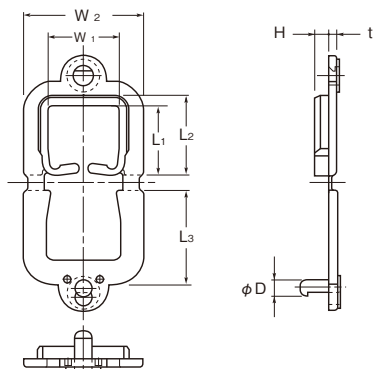


UL recognized product E191920

Cat. No. EHS..... Rating: 85°C

Cat. No. EHS-11U..... Rating: 65°C

Cat. No. EHS-18U..... Rating: 85°C



Mounting dimensions

Part No.		Dimensions (mm)									Packing unit (pieces)
UL94V-2	UL94V-0	W1	W2	L1	L2	L3	H	φD	t	Applicable board thickness 0.8 ~ 2.0	500
EHS-11	EHS-11U	11.0	18.4	10.8	12.3	14.5	2.0	2.5	1.3		
EHS-18	EHS-18U	18.0	25.4	19.5	21.0	23.4	2.0	2.5	1.3		

Mounting dimensions

Part No.		Dimensions (mm)			
		A	B	C	R1
EHS-11	EHS-11U	14.0	12.3	15.0	1.0
EHS-18	EHS-18U	21.0	21.0	23.4	1.5

Edge holder

EHP series

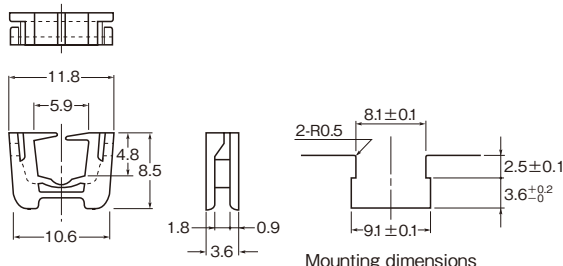


Feature

- Protect and insulate wire and cable from the edge of chassis and frame, etc.
- Can be mounted with single-push.
- Best suited for small wiring.



UL recognized product E191920 Cat. No. EHP-U..... Rating: 85°C



Mounting dimensions

Material

Nylon 66

Standard color

UL94V-2: Natural

UL94V-0: White

Part No.		Dimensions (mm)		Packing unit (pieces)
UL94V-2	UL94V-0	Applicable board thickness		500
EHP-6	EHP-6U	0.8 ~ 1.6		

is UL recognized product.



Edge holder

LT series

Feature

- Protect and insulate wire and cable from the edge of chassis and frame, etc.
- The wire guide locking mechanism enables these edge holder to be mounted sideways or upside down.
- Can be mounted on either side or upper edge of chassis.
- Utilize the wiring spaces effectively.

Material

Nylon 66

Standard color

UL94V-2: Black

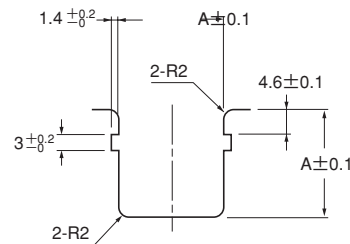
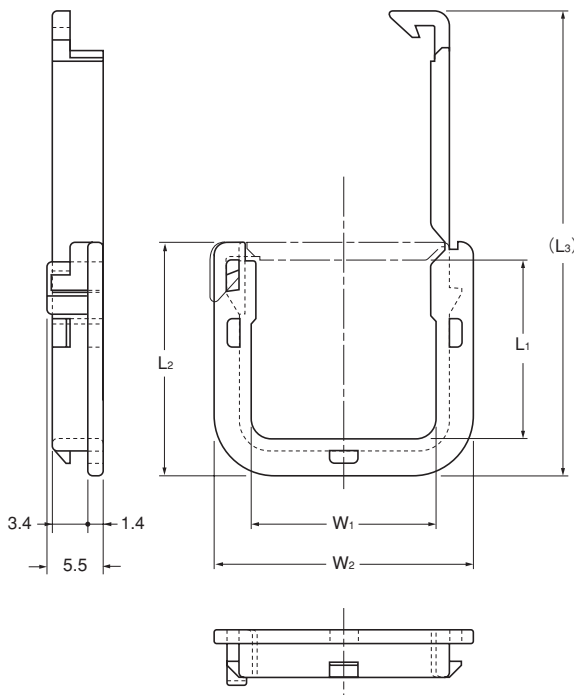
UL94V-0: Black



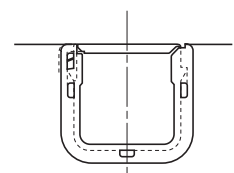
UL recognized product

E191920

Cat. No. LT Rating: 85°C



Mounting hole dimensions



Mounted

Part No.		Dimensions (mm)						Applicable board thickness	Packing unit (pieces)
UL94V-2	UL94V-0	W ₁	W ₂	L ₁	L ₂	(L ₃)	A		
LT-11	LT-11U	11.6	18.0	11.1	15.8	31.4	14.0	0.5 ~ 1.6	500
LT-18	LT-18U	18.4	25.8	17.7	23.2	46.1	21.0		

INSULATION SLEEVE FOR TERMINAL

CIRCUIT BOARD ACCESSORY

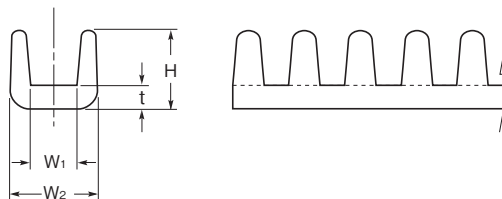
WIRING CLAMP

WIRING PROTECTOR

FASTENER

DIP-MOLDED PRODUCT

Free bush SG series



Feature

- Protect the wiring passing through the chassis and frame etc.
- Protect the wire from edge.
- Fit various shape of hole.

Material

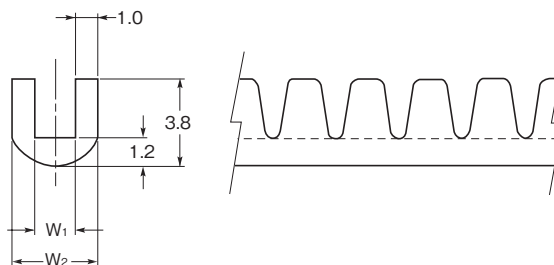
Nylon 6 UL94V-2

Standard color

Natural

Part No.	Dimensions (mm)					Packing unit (pieces)
	W ₁	W ₂	t	H	Applicable board thickness	
SG-12	1.2	4.0	1.2	4.1	1.2	250mm×100
SG-16	1.6	4.1		4.1	1.6	
SG-24	2.4	4.5		4.0	2.3	
SG-32	3.2	5.5	2.0	4.1	3.2	320mm×100
SG-45	5.1	8.3		6.1	4.5	
SG-62	6.6	9.8		6.1	6.2	
SG-16L	1.6	4.1	1.2	4.1	1.6	500mm×50
SG-24L	2.4	4.5		4.0	2.3	
SG-32L	3.2	5.5		4.1	3.2	

EL free bush EL series



Feature

- Protect the wiring passing through the chassis and frame etc.
- Protect the wire from edge.
- 100 metres per roll. Can be cut in the length of requirement.

Material

Nylon 6 UL94V-2

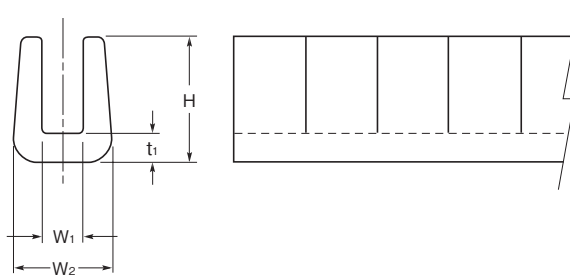
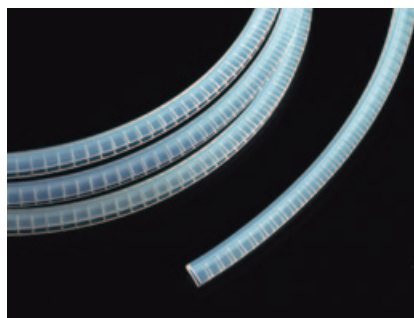
Standard color

Natural

Part No.	Dimensions (mm)			Packing unit (m)
	W ₁	W ₂	Applicable board thickness	
EL-10	1.2	3.2	1.0	100
EL-12	1.4	3.4	1.2	
EL-16	1.8	3.8	1.6	
EL-24	2.6	4.6	2.3	
EL-32	3.4	5.4	3.2	

Grommet

ESG series



Feature

- Serrated, slit-type bush.
- 100 metres per roll. Can be cut in the length of requirement.

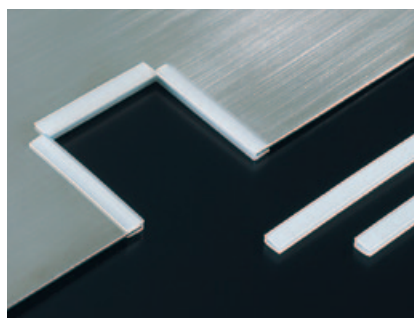
Material Standard color

Nylon 6 Natural
UL94V-2

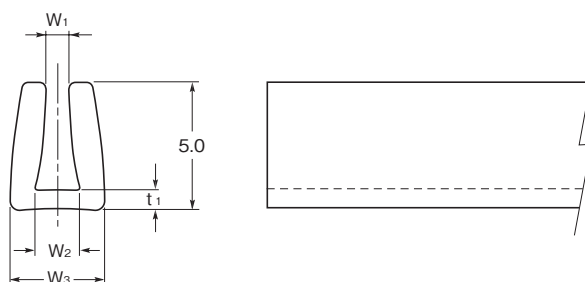
Part No.	Dimensions (mm)					Packing unit (m)
	W ₁	W ₂	t ₁	H	Applicable board thickness	
ESG-10	1.1	3.1	1.0	5.0	1.0	100
ESG-12	1.3	3.3			1.2	
ESG-16	1.7	3.7	1.6			
ESG-24	2.4	4.4	2.3			
ESG-32	3.2	5.3	3.2			

Edging

EE/EO series



EE series



EE series

Feature

- Protect wire from edge.

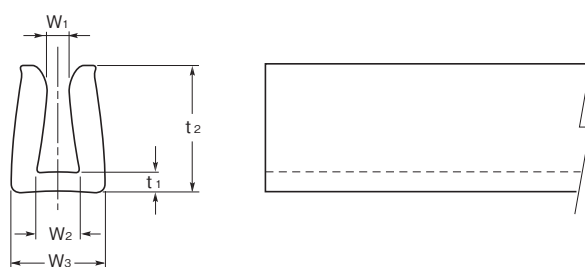
Material

Nylon 6 UL94V-2

Standard color

Natural

EO series



EO series

Feature

- Easy to fit on edge, but hard to come off.

Material

Nylon 6 UL94V-2

Standard color

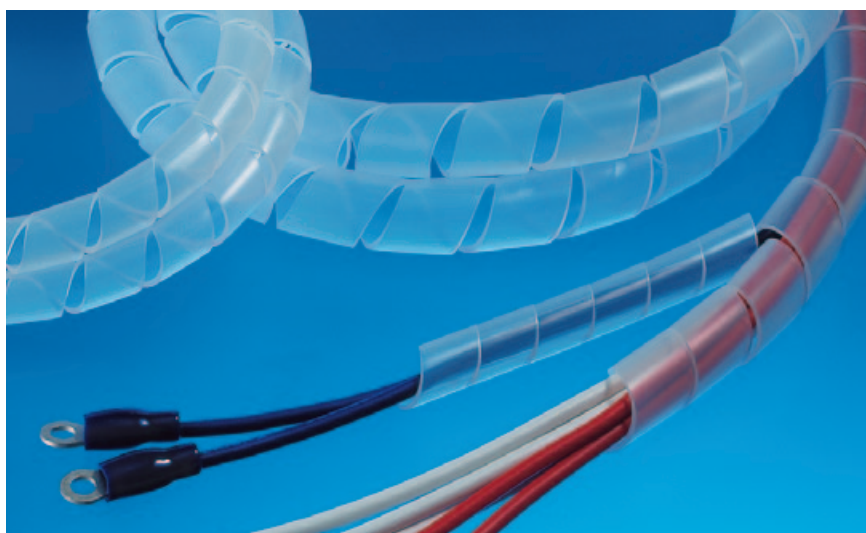
Natural

Part No.	Dimensions (mm)					Packing unit (pieces)
	W ₁	W ₂	W ₃	t ₁	Applicable board thickness	
EE-12	0.6	1.3	3.3	0.7	1.0 ~ 1.2	1m x 100
EE-16	0.9	1.7	3.7		1.2 ~ 1.6	
EE-24	1.2	2.4	4.4	0.8	1.6 ~ 2.3	
EE-32	1.9	3.3	5.3		2.3 ~ 3.2	

Part No.	Dimensions (mm)						Packing unit (pieces)
	W ₁	W ₂	W ₃	t ₁	t ₂	Applicable board thickness	
EO- 8N	0.3	1.0	3.0	0.7	5.0	0.5 ~ 0.8	1m x 100
EO-10N	0.5	1.1	3.1	0.7	5.0	0.8 ~ 1.0	
EO-12N	0.6	1.3	3.3	0.7	5.0	1.0 ~ 1.2	
EO-16N	0.9	1.7	3.7	0.7	5.0	1.2 ~ 1.6	
EO-24N	1.2	2.4	4.4	0.8	5.0	1.6 ~ 2.3	
EO-32N	1.9	3.3	5.0	0.8	5.5	2.3 ~ 3.2	

Spiral tubing

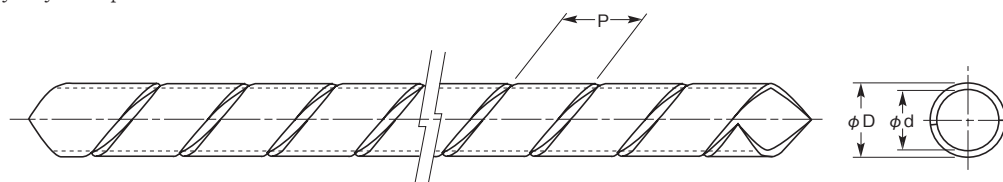
SS series



Feature

- For protecting and bundling of wire.
- Effective for the protection of bundled wire having branches, flexibility etc.

● IMAGE : Polyethylene spiral



Polyethylene spiral

Material

Low-density polyethylene

Standard color

Natural

Black

(Black color is to have the suffix of "B".)

Part No.	Dimensions (mm)				Packing unit (m)
	ϕD	ϕd	P (pitch)	Bundle diameter range	
SS- 2.6	4.0	2.6	5.2 ± 1.5	2.6 ~ 7	100
SS- 4	5.4	4.0	7.7 ± 1.5	4 ~ 12	
SS- 6	7.9	6.0	8.7 ± 1.5	6 ~ 18	
SS- 8	9.9	8.0	11.0 ± 1.5	8 ~ 25	
SS-10	11.9	10.0	11.0 ± 1.5	10 ~ 30	50
SS-12	14.5	12.0	14.0 ± 1.5	12 ~ 35	
SS-15	17.2	15.0	19.0 ± 2.0	15 ~ 45	25
SS-20	22.8	20.0	19.0 ± 2.0	20 ~ 60	
SS-25	27.8	25.0	27.0 ± 3.0	25 ~ 75	

Nylon spiral

Material

Nylon 6 UL94V-2

Standard color

Natural

Part No.	Dimensions (mm)				Packing unit (m)
	ϕD	ϕd	P (pitch)	Bundle diameter range	
SS- 2.6N	3.4	2.6	4.1 ± 1.5	2.6 ~ 7	100
SS- 4N	4.9	4.0	7.0 ± 1.5	4 ~ 12	
SS- 6N	7.2	6.0	7.5 ± 1.5	6 ~ 18	
SS- 9N	10.4	9.0	10.0 ± 1.5	9 ~ 25	50
SS-12N	13.4	12.0	14.0 ± 1.5	12 ~ 35	
SS-15N	16.6	15.0	16.1 ± 2.0	15 ~ 45	25
SS-20N	21.8	20.0	16.5 ± 2.0	20 ~ 60	
SS-25N	27.0	25.0	24.8 ± 2.0	25 ~ 75	

Flame retardant nylon spiral

Material

Nylon 6 UL94V-0

Standard color

White

Part No.	Dimensions (mm)				Packing unit (m)
	ϕD	ϕd	P (pitch)	Bundle diameter range	
SS- 2.6U	3.4	2.6	4.1 ± 1.5	2.6 ~ 7	100
SS- 4U	4.9	4.0	7.0 ± 1.5	4 ~ 12	
SS- 6U	7.2	6.0	7.5 ± 1.5	6 ~ 18	
SS- 9U	10.4	9.0	10.0 ± 1.5	9 ~ 25	50
SS-15U	16.6	15.0	16.1 ± 2.0	15 ~ 45	
SS-20U	21.8	20.0	16.5 ± 2.0	20 ~ 60	25
SS-25U	27.0	25.0	24.8 ± 2.0	25 ~ 75	

Dimensions of outer dia./inner dia. and length in all materials are the ones prior to the process.

Corrugated tubing

CDP series



Feature

- For protecting and bundling of wire and cable.
- Very light and flexible.
- Robust structure, hard to get squashed.
- Available for two type having slit or none.
- Excellent cold-resistance and for applications in cold location.
- Easy to store with the boxed packaging that protects from scratches and dusts.

Material

Flame-retardant PR

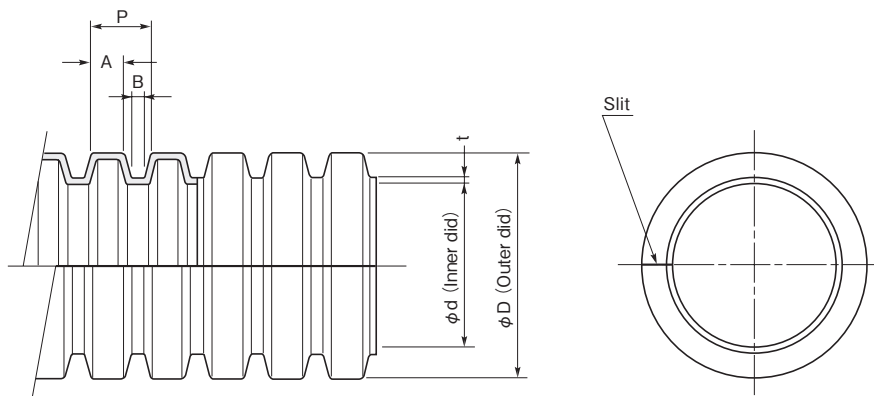
Standard color

Flame-retardant: Black

Rodent-resistant: Light Gray

- Red · White · Blue · Yellow · Grey
- Orange is order-made.

Available with only flame retardant type. (Contact us for size and production volume.)



Part No.		Slit	Dimensions (mm)						Packing unit (m)	
Flame-retardant	Rodent-resistant (Flame-retardant)		φ d	φ D	(P)	(A)	(B)	t ^{±0.1}	Small box	Large box
CDP-B903-1	CDP-K903-1	W	3.2 ^{±0.3}	5.2 ^{±0.3}	2.2	1.3	0.5	0.20	1,000	-
CDP-B903-0	CDP-K903-0	W/O								
CDP-B905-1	CDP-K905-1	W	5.3 ^{±0.3}	7.5 ^{±0.3}	2.3	1.3	0.5	0.20	500	1,500
CDP-B905-0	CDP-K905-0	W/O								
CDP-B907-1	CDP-K907-1	W	7.4 ^{±0.3}	10.2 ^{±0.4}	2.7	1.5	0.6	0.25	250	1,000
CDP-B907-0	CDP-K907-0	W/O								
CDP-B910-1	CDP-K910-1	W	10.7 ^{±0.3}	14.1 ^{±0.4}	2.7	1.5	0.6	0.25	150	500
CDP-B910-0	CDP-K910-0	W/O								
CDP-B913-1	CDP-K913-1	W	13.2 ^{±0.4}	17.5 ^{±0.4}	3.5	2.2	0.7	0.25	100	350
CDP-B913-0	CDP-K913-0	W/O								
CDP-B915-1	CDP-K915-1	W	15.3 ^{±0.4}	19.5 ^{±0.4}	3.6	2.0	0.8	0.25	80	300
CDP-B915-0	CDP-K915-0	W/O								
CDP-B919-1	CDP-K919-1	W	19.5 ^{±0.4}	23.7 ^{±0.4}	3.6	2.0	0.8	0.25	60	200
CDP-B919-0	CDP-K919-0	W/O								
CDP-B922-1	CDP-K922-1	W	22.3 ^{±0.4}	27.1 ^{±0.4}	4.3	2.4	0.8	0.30	50	140
CDP-B922-0	CDP-K922-0	W/O								
CDP-B925-1	CDP-K925-1	W	25.2 ^{±0.4}	30.0 ^{±0.5}	4.3	2.4	1.0	0.35	40	120
CDP-B925-0	CDP-K925-0	W/O								
CDP-B928-1	CDP-K928-1	W	28.4 ^{±0.5}	33.8 ^{±0.5}	4.4	2.4	0.7	0.35	30	100
CDP-B928-0	CDP-K928-0	W/O								
CDP-B932-1	CDP-K932-1	W	32.7 ^{±0.5}	38.0 ^{±0.6}	4.4	2.4	0.7	0.35	-	50
CDP-B932-0	CDP-K932-0	W/O								

※ Rodent-resistant tube is order-made. (Contact us for production volume.)

● Rodent-resistant tube is available only with large box. (Except CDP-K903-1, -0)

● In case of ordering flame-retardant tube with small box, attach the suffix of "B" as below.

i.e.: CDP-B905B-1, CDP-B905B-0

Feature of Anti-rodent corrugated tubing

Feature

1. Tubing contains rodent repellent

When rodents gnaw on the tubing, they taste a sharp, fiery flavor (agent found in chili peppers) that discourages further chewing. This feature results in a far lower incidence of rodent damage (gnawing) than observed in conventional wiring and protective tubing.

2. Easy to shape and install

Tubing can be easily bent by hand, and installed in any location. Easily cut by knife; light and easy to carry. Simply slides over cable without splitting or cracking. Excellent fitting ability under cold conditions.

3. Safe (flame extinguishing properties, voltage withstanding properties, non-conducting)

Heat durable, and has fire extinguishing properties. Can withstand a voltage of 200V for 15 minutes, and has an insulating resistance of at least 100MQ. Will not crack under strong impacts or pressures, and exhibits a very high rate of shape recovery. Use with confidence.

4. Maintains rodent-repellent effect for a long period

The rodent repelling agent is resistant to heat, water and UV radiation, and maintains its effectiveness for a long time.

※. Change in the concentration of the effective ingredient of the rodent repellent (outdoor durability test)

Conditions		Initial value	3 month	6 month	1 year	2 year	3 year
Exposure to sunlight Rain	Concentration of effective ingredient	0.413%	0.373%	0.343%	0.300%	0.242%	0.207%
	Residual percentage	100%	90%	83%	73%	59%	50%
No sunlight No rain	Concentration of effective ingredient	0.413%	0.391%	0.378%	0.363%	0.337%	0.316%
	Residual percentage	100%	95%	92%	88%	82%	77%
Kept indoors	Concentration of effective ingredient	0.413%	—	—	0.409%	0.401%	0.375%
	Residual percentage	100%	—	—	99%	97%	91%

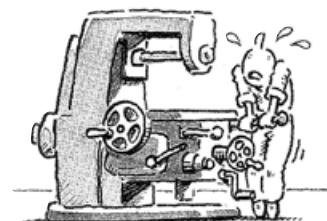
Applications



■ Sewer cable



■ OA equipment



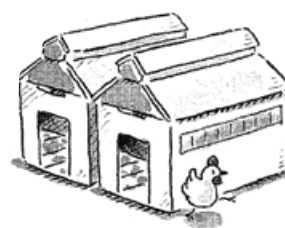
■ Factory machinery



■ Agricultural machinery



■ Automatic vending machines



■ Poultry farms

■ Also available for use for kitchen equipment, indoor and warehouse circuitry.

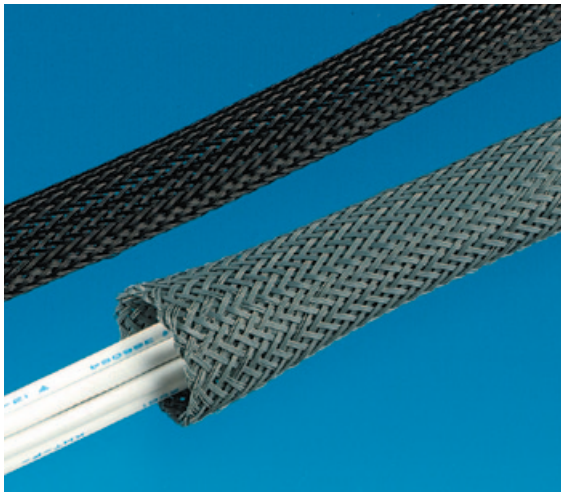
Use cautions

- The repellent ingredient used in this product will irritate the human skin, nose and eyes. Please observe the following points when using this product.
 1. Wear gloves when processing or fitting this product.
 2. Make sure that the outer surfaces of the gloves do not touch the skin, mucous membranes (particularly the eyes and nose) or clothing.
 3. If the skin, mucous membranes, clothes, etc., come in direct contact with this product and a burning sensation is experienced, wash the affected parts immediately.
 4. Covering the surface of the product with tape, etc., reduces the rodent repelling effect. If taping is necessary, use rodent repelling tape.
 5. Store indoors, out of the reach of children.
- The tiny specks visible on the surface of the anti-rodent corrugated tubing are particles of the repellent.



SF tubing[®]

SF series



Feature

- Wiring protection tube braided with polyester fiber.
- Excellent in elasticity and flexibility by woven construction, and it will expand 1.5 ~ 4 times by pressing from side to side.
- Can be used with a wide applicable range of bundled wire. Economical.
- Effective for protection of electric and electronic wiring.
- Recognized for "Flame-retardant" at the Anti-flammable test of Railway-Car-Material.

Material

Polyester (monofilament)

Standard color

Standard color: Black

Flame-retardant (Halogen-Free): Gray

How to use

- ① Open the end of the tubing, then fold several centimeters of the tubing back inside the tubing, as shown in the photographs.
 - ② Insert the wire bundle into the mouth of the SF tubing. (Insertion will be easier if you first cover the end of the wire bundle with a cap, etc. For example, you may use one of our VCP cap.)
- SF tubing is best cut with a heated knife. Be sure to leave no frayed ends on the cut end when cutting SF tubing.



UL recognized product

E108566 VW-1
Cat. No. SF



CSA recognized product

LR85455 VW-1/FT-1
Cat. No. SF..... Rating: 125°C

Part No.		Dimensions (mm)			Packing unit (m)
Standard	Flame-retardant	Min. Diameter	Max. expanded diameter	Flattened Width	
SF- 3	SF- 3U	3	12	approx 6	100
SF- 6	SF- 6U	6	24	approx 15	
SF-10	SF-10U	10	28	approx 19	
SF-12	SF-12U	12	33	approx 22	
SF-19	SF-19U	19	45	approx 30	
SF-30	SF-30U	30	55	approx 35	

is UL recognized product.

SF-A Series : Fray-resistance series are also available

Preparing the tube end for wire insertion



① Hold both ends and compress.



② Fold an end back into the tubing.



③ Insertion has been made.

Heated knife



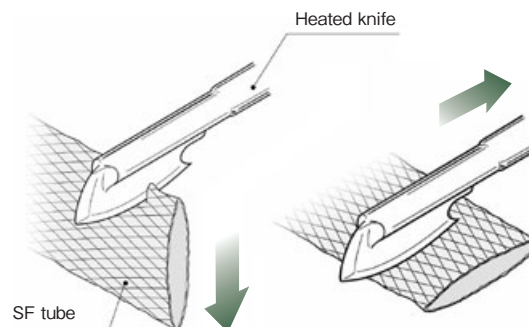
Part No.

Heated knife

Rating : AC100V 71W

Note : During use, the metal part of the heated knife becomes very hot. Avoid direct contact.

How to use a heated knife



- Once the cutting edge of the knife is sufficiently hot, press it down on the SF tubing to cut as shown in the diagram.

SF tubing®

SF-A series



The cut surfaces of SF Tubes do not fray.

Feature

- We used a new production technique to make it more difficult for cut surfaces to fray.
- Contributes to more efficient cutting.
- It is extremely easy to insert electrical wiring because the tube holds its shape well.
- Braided material is extremely bendable, flexible and stretchable.
- We offer standard and flame-resistant (UL- and CSA-approved products) models.

Material

Polyester (monofilament)

Standard color

Standard Product: Black

Flame-Resistant (Halogen-Free) Product: Gray



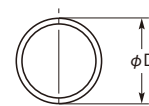
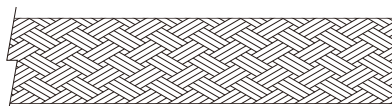
UL recognized product

E108566 VW-1
Cat. No. SF



CSA recognized product

LR85455 VW-1/FT-1
Cat. No. SF-A Rating: 125°C



Part No.		Dimensions (mm)		Packing unit (m)
Standard	Flame-retardant	Bound Wire Diameter	φD	
SF-A02	SF-A02U	2~ 3	(3)	(300)
SF-A05	SF-A05U	5~13	(6)	
SF-A08	SF-A08U	8~21	(9)	
SF-A11	SF-A11U	11~29	(12)	

is UL recognized product.

Net Protector SS®

NPSS series



Feature

- Highly wear-resistant, protects against wear from the friction of hoses against pipes, etc.
- Braided material is extremely bendable and stretchable, fits many different types of pipes and hoses and creates a smart, neat look.
- Netted pattern resists heat and humidity and is lighter than other protective covers.
- Expandable diameter means one size fits many applications and saves money.
- The Secret of the Net Protector SS

The innovative, fanned ends of the Net Protector SS are what give it an edge over existing products¹. The ends are fanned out wide through a distinct manufacturing process and prevent fraying, slip on quickly, largely improve operational efficiency and contribute to cost-cutting. ¹Shinagawa Shoko has applied for intellectual property rights in major countries.

Part No.	Recommended Diameter Range (mm)
NPSS-05	φ5~φ10
NPSS-09	φ9~φ14
NPSS-12	φ12~φ22
NPSS-17	φ17~φ30

Material

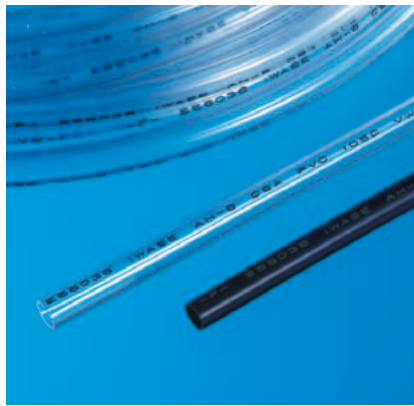
Nylon 66 + PET plastic

Standard color

Black

- We will cut the Net Protector SS to the length you specify before delivery.
When you order, specify the finished length in terms of natural length by adding "L" and a three-digit length to the end of the Product Number (Ex: NPSS-12-L150 for an NPSS-12 with natural length of 150 mm)

EXLON UL tubing



Feature

- Electrically insulating vinyl tube with a performance based on UL and CSA standards.
- Excellent heat- and incombustible properties.
- Has passed the Japan Electrical Appliance and Material Control Law's incombustibility tests and bears the "F" mark.

Material

Soft PVC

Registered under the Japan Electrical Appliance and Material Control Law

AHT-50-1 011CA0295

AHC-60-1 011CA0294

Standard color

Transparent, Black

Tube surface printing

For 300 V applications:

- F- AH-3 VW-1 IWASE CSA PVC
- 105°C OFT

For 600 V applications:

- F- AH-6 VW-1 IWASE CSA PVC
- 105°C OFT

EXLON - Flow-link tubing

NHX series



Feature

- Halogen-free product not containing either halogen compound or environmentally hazardous substances which will cause the contamination and dioxin pollution.
- Excellent in heat-resistance due to high flame retardation.(VW-1 recognized)
 - NHX-105:105°C
 - NHX-125:125°C
- Excellent in flexibility and re-usable.

Material Standard color

Elastomer Black

	UL224	CSA C22.2	PSE	
			Clear	Except Clear
File No.	E56036	LR33763	Max. temp. use registration	
Rated temperature			011CA0295	011CA0294
Rated voltage	105°C		105°C (Max.)	110°C (Max.)
Rating	300V (AH-3) · 600V (AH-6)		-	-
Flame-retardant	VW-1		- F -	

Size	Internal diameter (mm)	Internal diameter tolerance (mm)	Cat.No. AH-6	Cat.No. AH-3	Packed length (m) (1per roll)
			UL, CSA600V	UL, CSA300V	
			Min. thickness (mm)	Min. thickness (mm)	
AWG 24	0.55	± 0.1	0.60	0.40	300
22	0.65	± 0.1	0.60	0.40	
20	0.85	± 0.1	0.60	0.40	
19	0.9	± 0.1	0.60	0.40	
18	1.0	± 0.15	0.60	0.40	
17	1.2	± 0.15	0.62	0.40	
16	1.3	± 0.15	0.62	0.40	
15	1.5	± 0.15	0.62	0.40	
14	1.7	± 0.15	0.62	0.40	
13	1.9	± 0.2	0.62	0.40	
12	2.1	± 0.2	0.62	0.40	
11	2.4	± 0.2	0.62	0.40	
10	2.7	± 0.2	0.62	0.50	
9	3.0	± 0.25	0.62	0.50	
8	3.3	± 0.25	0.62	0.50	
7	3.7	± 0.25	0.62	0.50	
6	4.2	± 0.3	0.62	0.50	
5	4.7	± 0.3	0.62	0.50	
4	5.3	± 0.3	0.62	0.50	
3	5.9	± 0.3	0.62	0.50	
2	6.6	± 0.3	0.62	0.50	
1	7.4	± 0.35	0.62	0.50	
0	8.3	± 0.35	0.62	0.50	
5/16"	8.0	± 0.35	0.62	-	200
6/16"	9.5	± 0.35	0.62	-	
7/16"	11.1	± 0.35	0.62	-	
8/16"	12.7	± 0.35	0.62	-	
9/16"	14.3	± 0.4	0.80	-	100
10/16"	16.0	± 0.4	0.80	-	
12/16"	19.0	± 0.4	0.90	-	
14/16"	22.0	+0.7 -0.5	0.90	-	
16/16"	25.0	+0.7 -0.5	0.90	-	50
1-1/16"	27.0	+0.7 -0.5	1.00	-	
1-1/4"	32.0	+1.0 -0.5	1.05	-	
1-1/2"	38.0	+1.0 -0.5	1.20	-	
1-3/4"	44.0	+1.5 -1.0	1.40	-	
16/8"	50.0	+1.5 -1.0	1.50	-	

● Red, Blue, Yellow, Grey, White, Green, and Orange color is order-made items.

Property (EXLON UL tubing)

	Actual spec	Standard spec (UL · CSA)	Test condition etc.	
Anti-expansion	17.0 or more	10.4 or more	-	
Extension	250 or more	100 or more	-	
Tolerable voltage	10,000V 1 min or more	2,500V 1 min or more	-	
After heat-aging	Tensile strength	15.0MPa or more	7.4MPa or more	
	Extension	200% or more	100% or more	
	Tolerable voltage	10,000V 1 min or more	2,500V 1 min or more	136°C 7 days
	Copper stability	Extension 200% or more	Extension 100% or more	
Flexibility	No defect	No crack or deformity		
Volume resistance	10 ¹² Ω - cm or more	10 ¹⁰ Ω - cm or more	-	
Flame-retardation	VW-1	VW-1	-	
Bent in cold temp	No crack	No crack	- 30°C 1 hour	
Shrinkage	4.0 or less	- 5 ~ + 5	100°C 2 hour	

EXLON Flow-ling tubing

NHR series



Feature

- Halogen-free product not containing either halogen compound or environmentally hazardous substances which will cause the contamination and dioxin pollution.
- Excellent in flexibility and re-usable.
- Best suited for replacement of PVC soft tubing.

Material

Elastomer

Standard color

Black

Contact us for size and production volume.

Properties comparison table (Soft-Eco-PVC)

Item	Unit	EXLON Soft-Eco NHR-80	EXLON-PVC J (black)	Test condition
Hardness (shore-A)	—	85	85	after 15s.
Tensile strength	MPa	> 8.0	> 12.0	—
Elongation	%	> 300	> 200	—
after heat aging	Minimum tensile strength	%	> 90	121°C × 168 hr. the ratio to unaged
	Minimum elongation	%	> 90	
Dielectric voltage	—	Not break	Not break	2,500 V × 1 min.
Cold bend	—	No crack	No crack	for 1hr. at - 10°C
Flame retardant level	—	HB	HB	UL-94 method