PRODUCT CATALOGUE | YOZONETECH

Tubing & Cable Protection

Fluoropolymers. Heat-shrink systems. Industrial hoses.







Tangshan Yuzhong Technology Co., Ltd.

Yozonetech brings together fluoropolymer tubing, heat-shrink insulation, cable protection and industrial hose solutions. Our portfolio supports fluid handling, electrical insulation, sealing, identification and mechanical protection across industrial and demanding equipment applications.

Select by material, product construction and application. This catalogue combines product photographs, technical properties and complete size-selection tables, with dedicated material documentation and Military cable-protection sections.

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CATALOGUE DIRECTORY

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01

PTFE Tubing & Components

Fluoropolymer tubing, heat-shrink sleeves, rods, films and sheet products for insulation, chemical service and precision components. Separate constructions retain their own dimensional and performance data.



8 product and selection entries

PTFE

PTFE Capillary & Electrical Insulation Tubing

PTFE Capillary Tubing. PTFE capillary tubing for electrical insulation, instrumentation, electronics, automotive, aerospace, chemical and industrial applications.



Features & operating conditions

- Operating temperature up to 260°C
- Voltage resistance 150-600 V
- Melting point 327°C
- Flame rating V-0
- Dielectric strength 45 kV/mm

Colors: clear, black, blue, red, yellow and green.

AWG capillary dimensions

AWG	ID (mm)	OD-L (mm)	OD-T (mm)	OD-S (mm)	Tolerance (mm)	Roll (m)
30	0.3	0.6	0.76	0.8	±0.08	305
28	0.38	0.68	0.84	0.88	±0.08	305
26	0.46	0.76	0.92	0.96	±0.08	305
24	0.56	0.86	1.06	1.16	±0.08	305
23	0.66	0.96	1.16	1.26	±0.08	305
22	0.71	1.01	1.21	1.31	±0.08	305
21	0.81	1.11	1.31	1.41	±0.08	305
20	0.86	1.16	1.46	1.66	±0.08	305
19	0.96	1.26	1.56	1.76	±0.08	305
18	1.07	1.37	1.67	1.87	±0.08	305
17	1.19	1.49	1.79	1.99	±0.08	305
16	1.34	1.64	1.94	2.14	±0.08	305
15	1.5	1.8	2.1	2.3	±0.08	153
14	1.68	2.08	2.28	2.48	±0.08	153
13	1.93	2.33	2.53	2.73	±0.08	153
12	2.16	2.56	2.77	2.96	±0.08	153
11	2.41	2.81	3.01	3.21	±0.08	153
10	2.69	3.09	3.29	3.49	±0.08	153
9	3	3.4	3.76	4	±0.1	100
8	3.38	3.78	4.14	4.38	±0.1	100
7	3.76	4.16	7.52	4.76	±0.1	100
6	4.22	4.72	4.98	5.22	±0.1	100
5	4.72	5.22	5.48	5.72	±0.1	100
4	5.28	5.78	6.04	6.28	±0.1	100
3	5.94	6.44	6.7	6.94	±0.1	100
2	6.68	7.18	7.44	7.68	±0.1	100
1	7.46	7.96	8.22	8.46	±0.1	100

PTFE

WF | PTFE Electrical Insulation Tubing

PTFE tubing for electrical, chemical and thermal insulation in demanding environments.



Features & operating conditions

- Chemically inert
- High temperature resistance
- Continuous operating
- Temperature:-65°C-200°C
- Corrosion resistance(acid/alkali resistance, chemical reagents oil-proof)
- High pressure resistance
- Standard: UL224 VW-1 C-UL CSA22.20FT
- UL file number: E203950

PTFE Capillary & Electrical Insulation Tubing | WF

Dimensions

Size AWG	Expanded Internal Diameter mm	External Diameter (S)	External Diameter (T)	External Diameter (L)	Standard Package M/Spool
30	0.30±0.10	0.80±0.10	0.70±0.10	0.60±0.10	305
28	0.38±0.10	0.88±0.10	0.78±0.10	0.68±0.10	305
26	0.46±0.10	0.96±0.10	0.86±0.10	0.76±0.10	305
24	0.56±0.10	1.16±0.10	1.06±0.10	0.86±0.10	305
23	0.66±0.10	1.26±0.10	1.16±0.10	0.96±0.10	305
22	0.71±0.10	1.31±0.10	1.21±0.10	1.01±0.10	305
21	0.81±0.10	1.41±0.10	1.31±0.10	1.11±0.10	305
20	0.86±0.10	1.66±0.10	1.46±0.10	1.16±0.10	305
19	0.96±0.20	1.76±0.20	1.56±0.20	1.26±0.20	200
18	1.07±0.20	1.87±0.20	1.67±0.20	1.37±0.20	200
17	1.19±0.20	1.99±0.20	1.79±0.20	1.49±0.20	200
16	1.34±0.20	2.14±0.20	1.94±0.20	1.64±0.20	153
15	1.50±0.20	2.30±0.20	2.10±0.20	1.80±0.20	153
14	1.68±0.20	2.48±0.20	2.28±0.20	2.08±0.20	100
13	1.93±0.20	2.73±0.20	2.53±0.20	2.33±0.20	100
12	2.16±0.25	2.96±0.25	2.76±0.25	2.56±0.25	100
11	2.41±0.25	3.21±0.25	3.01±0.25	2.81±0.25	150
10	2.86±0.25	3.49±0.25	3.29±0.25	3.09±0.25	150
9	3.00±0.25	4.00±0.25	3.80±0.25	3.40±0.25	150
8	3.38±0.25	4.38±0.25	4.18±0.25	3.78±0.25	100
7	3.76±0.25	4.76±0.25	4.56±0.25	4.16±0.25	100
6	4.22±0.25	5.22±0.25	5.02±0.25	4.80±0.25	100
5	4.72±0.25	5.72±0.25	5.52±0.25	5.32±0.25	50
4	5.28±0.30	6.28±0.30	6.08±0.30	5.88±0.25	50
3	5.94±0.30	6.94±0.30	6.74±0.30	6.54±0.25	1.00
2	6.68±0.30	7.68±0.30	7.48±0.30	7.28±0.25	1.00
1	7.46±0.30	8.46±0.30	8.26±0.30	8.06±0.25	1.00
0	8.38±0.30	9.38±0.30	9.18±0.30	8.98±0.25	1.00

Technical Data

Property	Method Test	Standard
Tensile Strength(MPa)	ASTMD 2671	⩾25
Elongation(%)	ASTMD 2671	⩾300
Flammablity	VW-1	Pass
Dieletric strength(kV/mm)	IEC 60243	⩾26
Volume resistivity(Ω.cm)	IEC 60093	$\geqslant 1X10^{14}$

PTFE

PTFE Heat Shrink Tubing

PTFE Heat Shrink Tubing - Catalogue Range. PTFE heat shrink tubing for high-temperature insulation and strong-acid / alkali resistance. Source lists 1.7:1 and 4:1 shrink ratios.



Features & operating conditions

- Operating temperature to 260°C
- Standard color: clear
- Custom colors, sizes and wall thicknesses

PTFE 1.7:1 dimensions

Size	Supplied ID (mm)	Recovered ID (mm)	Recovered wall (mm)
Φ0.5	0.7 ± 0.2	≤0.4	0.15 ± 0.03
Φ1.0	1.0 ± 0.2	≤0.6	0.15 ± 0.03
Φ1.5	1.5 ± 0.2	≤0.9	0.15 ± 0.03
Φ2.0	2.0 ± 0.2	≤1.3	0.15 ± 0.03
Φ2.5	2.5 ± 0.2	≤1.5	0.2 ± 0.03
Φ3.0	3.0 ± 0.2	≤1.8	0.2 ± 0.03
Φ3.5	3.5 ± 0.2	≤2.0	0.2 ± 0.03
Φ4.0	4.0 ± 0.3	≤2.5	0.2 ± 0.03
Φ4.5	4.5 ± 0.3	≤2.8	0.2 ± 0.03
Φ5.0	5.0 ± 0.3	≤3.0	0.2 ± 0.03
Φ6.5	6.5 ± 0.3	≤3.8	0.2 ± 0.03
Φ7.0	7.0 ± 0.3	≤4.0	0.25 ± 0.03
Φ8.0	8.0 ± 0.3	≤4.8	0.25 ± 0.03
Φ9.5	9.0 ± 0.3	≤5.4	0.35 ± 0.03
Φ10.0	10.0 ± 0.3	≤6.0	0.35 ± 0.03
Φ11.0	11.0 ± 0.3	≤6.8	0.35 ± 0.03
Φ12.0	12.0 ± 0.3	≤7.0	0.38 ± 0.01
Φ13.0	13.0 ± 0.3	≤7.6	0.38 ± 0.01
Φ14.0	14.0 ± 0.3	≤8.2	0.38 ± 0.01
Φ15.0	15.0 ± 0.3	≤8.8	0.38 ± 0.01
Φ16.0	16.0 ± 0.3	≤9.4	0.38 ± 0.01
Φ17.0	17.0 ± 0.3	≤10.0	0.38 ± 0.01
Φ18.0	18.0 ± 0.3	≤10.5	0.6 ± 0.1
Φ19.0	19.0 ± 0.3	≤11.2	0.6 ± 0.1
Φ20.0	20.0 ± 0.3	≤11.8	0.6 ± 0.1
Φ21.0	21.0 ± 0.3	≤12.3	0.6 ± 0.1

Packaging: sizes 0.5-4.0: 200 m/roll; sizes 4.5-13.0: 100 m/roll; sizes 14.0-21.0: 50 m/roll.

PTFE 4:1 dimensions

PTFE Heat Shrink Tubing

Size	Supplied ID (mm)	Supplied wall (mm)	Recovered ID (mm)	Recovered wall (mm)
Φ2.0	2.0+0.2	0.10 ± 0.05	≤0.50	0.30 ± 0.05
Φ2.5	2.5+0.3	0.10 ± 0.05	≤0.65	0.30 ± 0.05
Φ3.0	3.0+0.4	0.10 ± 0.05	≤0.80	0.30 ± 0.05
Φ3.5	3.5+0.4	0.10 ± 0.05	≤0.9	0.30 ± 0.05
Φ4.0	4.0+0.5	0.10 ± 0.05	≤1.0	0.30 ± 0.05
Φ4.5	4.5+0.5	0.12 ± 0.05	≤1.15	0.30 ± 0.05
Φ5.0	5.0+0.5	0.12 ± 0.05	≤1.25	0.30 ± 0.05
Φ6.0	6.0+0.5	0.12 ± 0.05	≤1.5	0.30 ± 0.05
Φ7.0	7.0+0.6	0.12 ± 0.05	≤1.75	0.30 ± 0.05
Φ8.0	8.0+0.6	0.15 ± 0.05	≤2.0	0.35 ± 0.05
Φ9.0	9.0+0.8	0.15 ± 0.05	≤2.25	0.35 ± 0.05
Φ10.0	10.0+0.8	0.15 ± 0.05	≤2.5	0.45 ± 0.05
Φ13.0	13.0+0.8	0.15 ± 0.05	≤3.3	0.45 ± 0.05

D = supplied inside diameter; d = fully recovered inside diameter; W = fully recovered wall thickness. No printing. Do not burn. Clear tubing is stated to use virgin PTFE without additives; colors use a corresponding masterbatch. Source states EU RoHS compliance.

Packaging

Type	Net mass (kg)	Volume stated in source	Dimensions / capacity
Small reel	0.35	0.71	Ø45 cm × 5 cm
Large reel	0.5	1.56	Ø45 cm × 11 cm
Large carton	1.2	101.62	46 × 47 × 47 cm; 4 large or 7 small reels
Medium carton	1.0	54.05	46 × 47 × 25 cm; 2 large or 4 small reels
Small carton	0.8	34.92	47.5 × 49 × 15 cm; 1 large or 2 small reels

The stated volume unit m^3 conflicts with the package dimensions. Confirm packaging volume when ordering.

PTFE

RSFR-TFE | PTFE Heat Shrink Tubing

PTFE heat shrink tubing for chemical processing, machinery, aerospace, vehicles, transformers and communications. This family also includes the separately specified PTFE260 variants.



Features & operating conditions

- High performance for anti-corrosion (anti-acid/alkali/chemical/oil)
- High voltage resistant
- Operating Temperature: -65°C-200°C
- Standard color: Clear
- Shrink ratio:1.7:1, shrink temperature:>350°C

Dimensions

Size (mm)	Expanded	Recovered		Standard Package (m/spool)	Round/Flat
	Internal Diameter (mm)	Internal Diameter (mm)	Wall Thickness (mm)		
1.0	1.0±0.2	≤0.6	0.20±0.05	200	Round
1.5	1.5±0.2	≤0.9	0.20±0.05	200	Round
2.0	2.0±0.2	≤1.3	0.20±0.05	200	Round
2.5	2.5±0.2	≤1.5	0.20±0.05	200	Round
3.0	3.0±0.2	≤1.8	0.20±0.05	200	Round
3.5	3.5±0.2	≤2.0	0.20±0.05	100	Round
4.0	4.0±0.3	≤2.5	0.25±0.05	100	Round
4.5	4.5±0.3	≤2.8	0.25±0.05	100	Round
5.0	5.0±0.3	≤3.0	0.25±0.05	100	Round
6.0	6.0±0.3	≤3.8	0.25±0.05	100	Round
7.0	7.0±0.3	≤4.0	0.25±0.05	100	Round
8.0	8.0±0.3	≤4.8	0.25±0.05	1	Flat
9.0	9.0±0.3	≤5.0	0.30±0.05	1	Flat
10.0	10.0±0.3	≤5.8	0.30±0.05	1	Flat
11.0	11.0±0.3	≤6.4	0.30±0.05	1	Flat
12.0	12.0±0.3	≤7.0	0.30±0.05	1	Flat
13.0	13.0±0.3	≤7.5	0.35±0.05	1	Flat
14.0	14.0±0.3	≤8.0	0.35±0.05	1	Flat
15.0	15.0±0.3	≤8.5	0.40±0.05	1	Flat
16.0	16.0±0.3	≤9.0	0.40±0.05	1	Flat

Separate model specifications are retained below. Use the named model and its dimensional table when ordering.

PTFE Heat Shrink Tubing | RSFR-TFE

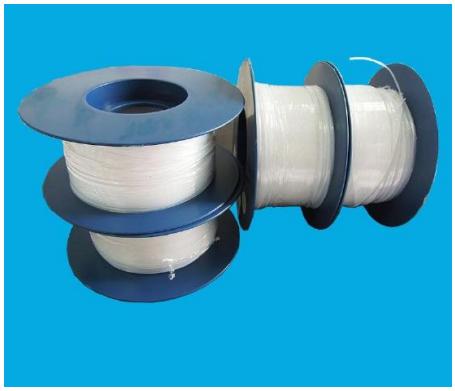
Technical Data

Property	Method Test	Typical Performance
Tensile Strength(MPa)	ASTMD 2671	19
Elongation(%)	ASTMD 2671	200
Cold impact (-65˚C)	ASTMD 2671 Method C	No cracking
Flammablity	ASTMD 2671	VW-1
Dielectric strength(kV/mm)	VDE 0303 Part2	26
Volume resistivity(Ω.cm)	VDE 0303 Part2	$1.0X10^{14}$

PTFE

PTFE260 (1.7X / 4X) | PTFE Heat Shrink Tubing

Extruded and sintered PTFE heat shrink tubing combines electrical insulation, flame retardancy, self-lubrication and resistance to high temperatures, chemical reagents and oils. Applications include automotive, defense, aerospace, electronics and chemical processing.



Features & operating conditions

- Resists corrosion, strong acids, alkalis, chemicals and oils.
- Shrink temperature: ≥350°C.
- Operating temperature: -75°C to 260°C.
- Environmental standard: RoHS.
- Standard color: clear; custom colors available.
- Shrink ratios: 1.7:1 and 4:1.

PTFE260 (1.7X / 4X) - Technical properties

Property	Value	Test Method / Conditions
Density	2.2 g/cm^3	ASTM D792
Elongation at Break	200%	ASTM D638
Dielectric Strength	25 kV/mm	ASTM D876
Dielectric Constant	2.1	IEC 250
Flammability	V-0	UL-224
Volume Resistivity	>1 × 10^{18} Ω·cm	ASTM D876
Solvent Resistance	Excellent	ASTM D543
Chemical Resistance	Excellent	ASTM D543
Water Absorption	0.01%	ASTM D570

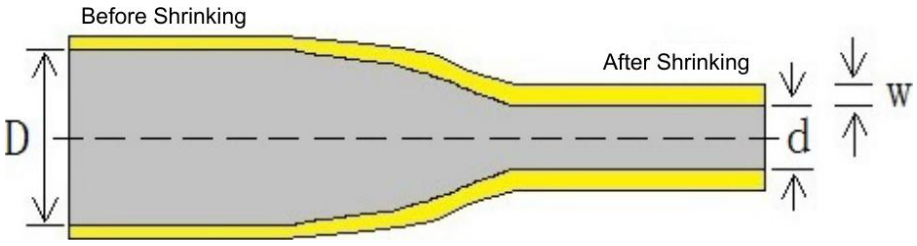
PTFE260 - Dimensions (source heading: 1.1:7)

Size	As-Supplied ID D (mm)	Fully Recovered Dimensions (mm)		Standard Packaging (m/roll)
		ID d	Wall Thickness w	
Φ0.5	0.5±0.2	≤0.40	0.15±0.05	200
Φ1.0	1.0±0.2	≤0.80	0.15±0.05	200
Φ1.5	1.5±0.2	≤0.95	0.15±0.05	200
Φ2.0	2.0±0.2	≤1.20	0.15±0.05	200
Φ2.5	2.5±0.3	≤1.60	0.15±0.05	200
Φ3.0	3.0±0.3	≤1.85	0.20±0.05	200
Φ3.5	3.5±0.3	≤2.10	0.20±0.05	100
Φ4.0	4.0±0.3	≤2.40	0.20±0.05	100
Φ4.5	4.5±0.3	≤2.70	0.20±0.05	100
Φ5.0	5.0±0.3	≤3.15	0.20±0.05	100
Φ5.5	5.5+0.5/-0.2	≤3.30	0.20±0.05	100
Φ6.0	6.0+0.5/-0.2	≤3.60	0.25±0.05	100
Φ6.5	6.5+0.5/-0.2	≤3.90	0.25±0.05	100
Φ7.0	7.0+0.5/-0.2	≤4.35	0.25±0.05	100
Φ7.5	7.5+0.5/-0.2	≤4.50	0.25±0.05	100
Φ8.0	8.0+0.8/-0.2	≤4.90	0.25±0.05	100
Φ8.5	8.5+0.8/-0.2	≤5.10	0.25±0.05	100
Φ9.0	9.0+0.8/-0.2	≤5.50	0.25±0.05	100
Φ9.5	9.5+0.8/-0.2	≤5.70	0.25±0.05	100
Φ10.0	10+1.0/-0.2	≤6.10	0.25±0.05	100
Φ11.0	11+1.0/-0.2	≤6.50	0.25±0.05	100
Φ12.0	12+1.0/-0.2	≤7.1	0.25±0.05	100
Φ13.0	13+1.0/-0.2	≤7.7	0.25±0.05	100
Φ14.0	14+1.0/-0.2	≤8.50	0.25±0.05	100
Φ15.0	15+1.0/-0.2	≤8.80	0.25±0.05	100
Φ16.0	16+1.0/-0.2	≤9.50	0.25±0.05	100
Φ17.0	17+1.5/-0.2	≤10.0	0.50±0.08	100
Φ18.0	18+1.5/-0.2	≤10.6	0.50±0.08	100
Φ19.0	19+1.5/-0.2	≤11.2	0.50±0.08	100
Φ20.0	20+1.5/-0.2	≤11.8	0.50±0.08	100
Φ21.0	21+2.0/-0.5	≤12.4	0.50±0.08	100
Φ22.0	22+2.0/-0.6	≤13.0	0.50±0.08	100
Φ23.0	23+2.0/-0.5	≤13.6	0.50±0.08	100
Φ24.0	24+2.0/-0.5	≤14.2	0.50±0.08	100
Φ25.0	25+2.0/-0.5	≤14.7	0.50±0.08	100

PTFE260 (1.7X / 4X) - Dimensions - 4:1

Size	As-Supplied ID D (mm)	Fully Recovered Dimensions (mm)		Standard Packaging (m/roll)
		ID d	Wall Thickness w	
Φ2.0	2.0+0.8/-0.2	≤0.50	0.25±0.05	200
Φ2.5	2.5+0.8/-0.2	≤0.60	0.25±0.05	200
Φ3.0	3.0+0.8/-0.2	≤0.80	0.25±0.05	100
Φ3.5	3.5+0.8/-0.2	≤0.90	0.30±0.05	100
Φ4.0	4.0+0.8/-0.2	≤1.00	0.30±0.05	100
Φ4.5	4.5+0.8/-0.2	≤1.20	0.30±0.05	100
Φ5.0	5.0+0.8/-0.2	≤1.30	0.30±0.05	100
Φ6.0	6.0+0.8/-0.2	≤1.50	0.30±0.05	100
Φ7.0	7.0+0.8/-0.2	≤1.80	0.30±0.05	100
Φ8.0	8.0+1.0/-0.2	≤2.2	0.30±0.05	100
Φ9.0	9.0+1.0/-0.2	≤2.5	0.30±0.05	100
Φ10.0	10+1.5/-0.5	≤2.8	0.30±0.05	100
Φ11.0	11+1.5/-0.5	≤3.2	0.30±0.05	100
Φ12.0	12+1.5/-0.5	≤3.5	0.30±0.05	100
Φ13.0	13+1.5/-0.5	≤3.80	0.38±0.08	100
Φ14.0	14+1.5/-0.5	≤4.0	0.38±0.08	100
Φ15.0	15+2.0/-0.5	≤4.30	0.38±0.08	100
Φ20.0	20+2.5/-1.0	≤5.80	0.38±0.08	100
Φ25.0	25+3.0/-1.0	≤7.20	0.38±0.05	100
Φ30.0	30+3.0/-1.5	≤8.6	0.38±0.08	100

Dimensional structure



PTFE

PTFE Rigid and Flexible Tubing

PTFE tube in rigid stock and flexible insulation tubing forms, with custom dimensions and lengths available.





Features & operating conditions

- Chemical resistance
- Low friction
- Electrical insulation
- High-temperature service

Rigid tubing dimensions and theoretical mass

OD × wall	OD (mm)	ID (mm)	Wall (mm)	kg / 4.2 m	kg / m	OD × wall	OD (mm)	ID (mm)	Wall (mm)	kg / 4.2 m	kg / m
9.5*1.75	9.5	6	1.75	0.38	0.09	60*5	60	50	5	7.80	1.86
9.5*2.75	9.5	4	2.75	0.53	0.13	70*3	70	64	3	5.70	1.36
13.5*4	13.5	5.5	4	1.08	0.26	70*12	70	46	12	19.73	4.70
14.5*4	14.5	6.5	4	1.19	0.28	71*5	71	61	5	9.36	2.23
20*2.5	20	15	2.5	1.24	0.30	70*10	70	50	10	17.01	4.05
20*2	20	16	2	1.02	0.24	80*2.5	80	75	2.5	5.49	1.31
20*3	20	14	3	1.45	0.34	80*3	80	74	3	6.55	1.56
20*3	20	13	3.5	1.64	0.39	80*5	80	70	5	10.63	2.53
20*4	20	12	4	1.81	0.43	80*4	80	72	4	8.62	2.05
20*5	20	10	5	2.13	0.51	90*3	90	84	3	7.40	1.76
20*6	20	8	6	2.38	0.57	90*5	90	80	5	12.05	2.87
20.5*2	20.5	16.5	2	1.05	0.25	90*8	90	74	8	18.60	4.43
30*3	30	24	3	2.30	0.55	90*10	90	70	10	22.68	5.40
30*2.5	30	25	2.5	1.95	0.46	90*6	90	78	6	14.29	3.40
30*5	30	20	5	3.54	0.84	100*10	100	80	10	25.52	6.08
30*6	30	18	6	4.08	0.97	100*5	100	90	5	13.47	3.21
30.5*4	30.5	22.5	4	3.01	0.72	110*3	110	104	3	9.10	2.17
40*3	40	34	3	3.15	0.75	110*5	110	100	5	14.89	3.54
40*3.5	40	33	3.5	3.62	0.86	130*4.5	130	121	4.5	16.01	3.81
40*4	40	32	4	4.08	0.97	150*3.2	150	143.6	3.2	13.32	3.17
40*5	40	30	5	4.96	1.18	250*15	250	220	15	99.95	23.80
40*7.5	40	25	7.5	6.91	1.65	260*5	260	250	5	36.15	8.61
50*2	50	46	2	2.72	0.65	305*5	305	295	5	42.53	10.13
50*2.5	50	45	2.5	3.37	0.80	350*5	350	340	5	48.91	11.65
50*3	50	44	3	4.00	0.95	360*5.5	360	349	5.5	55.28	13.16
50*3.5	50	43	3.5	4.61	1.10	408*5.5	408	397	5.5	62.77	14.95
50*13.5	50	23	13.5	13.97	3.33	460*6	460	448	6	77.24	18.39
50*5	50	40	5	6.38	1.52	508*6.3	508	495.4	6.3	89.62	21.34
60*3.5	60	53	3.5	5.61	1.34						

PTFE Rigid and Flexible Tubing

Nominal size designations are preserved exactly as printed, including duplicated / inconsistent size labels.

Rigid tube dimensional tolerance (mm)

Range	Tolerance
15-50	±0.3
51-100	±0.4
101-207	±0.5
208-360	±1
400-500	±1.5

Common insulation tubing dimensions - metric

ID × OD (mm)	ID × OD (mm)	ID × OD (mm)
0.3*0.6	5.0*9.0	10.0*11.5
1.0*2.0	6.0*7.0	10.0*12.0
1.0*3.0	6.0*7.5	10.0*13.0
1.5*2.5	6.0*8.0	11.0*12.5
2.0*3.0	6.0*9.0	11.0*13.0
2.0*4.0	6.0*10.0	12.0*14.0
2.0*4.5	6.5*8.5	12.0*15.0
2.0*5.0	6.5*10.0	12.0*16.0
2.5*4.5	7.0*8.0	13.0*15.0
3.0*4.0	7.0*9.0	14.0*16.0
3.0*5.0	7.0*10.0	15.0*17.0
3.0*6.0	7.5*9.0	15.0*18.0
3.5*4.5	7.5*10.0	16.0*19.0
3.5*5.5	8.0*10.0	17.0*19.0
4.0*5.0	8.0*12.0	17.0*20.0
4.0*5.5	8.5*10.5	18.0*20.0
4.0*6.0	9.0*10.0	20.0*22.0
4.0*7.0	9.0*11.0	20.0*23.0
4.0*8.0	9.0*12.0	22.0*24.0
5.0*6.0	9.5*10.5	22.0*25.00
5.0*7.0	9.5*11.5	33.0*38.0
5.0*8.0	10.0*11.0	Custom sizes

Last cell means other sizes available to order. Materials: PFA, FEP and PTFE.

Flexible tubing packaging: 10, 20, 30.4, 50, 100 or 500 m per roll; straight tube 2 m per piece. Colors: clear, translucent, white, red, blue, black, yellow, green and custom colors.

PTFE Rigid and Flexible Tubing

Common insulation tubing dimensions - imperial

OD × ID (in / mm)	OD × ID (in / mm)	OD × ID (in / mm)
1/8*1/16 (3.17*1.57)	1/4*5.5/32(6.35*4.35)	1/2*3/8(12.7*9.525)
1/4*1/8 (6.35*3.17)	1/4*3/16(6.35*4.76)	3/4*5/8(19.05*15.88)
1/4*5/32 (6.35*3.96)	3/8*1/4(9.525*6.35)	1*7/8(25.4*22.2)
1-1/4(31.75*27.95)	1-1/2(38.1*33.7)	2(50.8*42.5)

PTFE

PTFE Fittings and Machined Connectors

Sleeve-type fittings use a fitting body, locking nut and clamping ring to secure the tube. Machined options include flared, hose-barb, threaded, ball-valve, flange and other custom configurations.



Features & operating conditions

- Straight, elbow, tee and four-way fittings
- Custom machined parts

Standard sizes available from stock. Other sizes: minimum order one piece.

Available connection sizes

Metric (mm)	Imperial (in)
1	1/16
2	1/8
3	3/16
4	1/4
6	3/8
8	1/2
10	3/4
12	1
14	1.5
16	2
18	
20	
22	
28	
32	
35	

Metric and imperial sizes are separate offerings, not dimensional equivalents.

PTFE

PTFE Rods

Moulded, extruded and ram-extruded PTFE rods for machined connectors, terminals, electrical components, instrument clamps and check-valve balls.



Features & operating conditions

- Temperature resistance
- Machinability
- Chemical stability
- Weather and ageing resistance
- Low friction

Rod forms

Form	Diameter (mm)	Length (mm)
Moulded rod	6-500	100-1000
Extruded rod	1-4	1000-5000
Ram-extruded rod	5-150	1000 / 2000

Lengths can be machined to requirements.

Theoretical mass per metre

Diameter (mm)	kg/m	Diameter (mm)	kg/m	Diameter (mm)	kg/m
Φ5	0.05	Φ45	3.5	Φ130	32
Φ10	0.18	Φ50	4.4	Φ140	37.2
Φ15	0.4	Φ55	5.3	Φ150	40
Φ20	0.7	Φ60	6.4	Φ160	46.4
Φ22	0.9	Φ65	7.7	Φ170	53.2
Φ25	1.2	Φ70	8.8	Φ180	59.7
Φ26	1.2	Φ75	10.2	Φ190	66.8
Φ28	1.4	Φ80	12.1	Φ200	74.4
Φ29	1.5	Φ85	13.5	Φ210	82.7
Φ30	1.6	Φ90	14.3	Φ220	89
Φ32	1.8	Φ95	16.3	Φ230	101.4
Φ35	2.2	Φ100	17.6	Φ240	106.0
Φ38	2.5	Φ110	23.2	Φ250	114.5
Φ40	2.8	Φ120	26.7	Φ260	125.6

Fine rod / strand supply length

PTFE Rods

No.	Diameter (mm)	Length per 2 kg (m)
1	Φ0.45mm	4600
2	Φ0.8mm	1500
3	Φ1.0mm	1116
4	Φ1.5mm	496
5	Φ2.0mm	278
6	Φ2.5mm	178
7	Φ3.0mm	124
8	Φ3.2mm	108
9	Φ3.5mm	90
10	Φ4.0mm	68
11	Φ4.2mm	64
12	Φ4.5mm	54
13	Φ5.0mm	46
14	Φ6.0mm	32

PTFE

Expanded PTFE Products

Expanded PTFE has a flexible microporous fibril network. Product forms include tubing, membranes, gaskets, sheets and tape.



Features & operating conditions

- Flexible and resilient
- Chemical resistance
- High- and low-temperature service

Applications listed in the source include industrial filtration, sealing, technical fabrics and electrical insulation. Suitability for implantable or medical use requires application-specific assessment; source precautions prohibit direct contact with biological tissues or body fluids.

Expanded PTFE tubing dimensions

OD × ID (mm)	OD × ID (mm)	OD × ID (mm)
Φ1.5 × Φ0.6	Φ10.0 × Φ8.0	Φ18.0 × Φ14.0
Φ1.7 × Φ0.9	Φ12.0 × Φ10.0	Φ18.0 × Φ16.0
Φ2.0 × Φ1.2	Φ13.5 × Φ11.8	Φ19.7 × Φ13.7
Φ2.3 × Φ1.5	Φ13.35 × Φ7.35	Φ24.0 × Φ20.0
Φ2.5 × Φ1.5	Φ14.0 × Φ12.0	Φ26.0 × Φ22.0
Φ3.0 × Φ2.0	Φ15.0 × Φ9.0	Φ32.0 × Φ26.0
Φ3.5 × Φ2.5	Φ15.0 × Φ12.0	Φ36.0 × Φ30.0
Φ4.0 × Φ2.0	Φ15.0 × Φ13.0	Φ45.0 × Φ39.0
Φ5.0 × Φ3.0	Φ16.0 × Φ13.0	Φ60.0 × Φ56.0
Φ6.0 × Φ4.0	Φ16.0 × Φ14.0	Φ72.0 × Φ68.0
Φ8.0 × Φ7.0	Φ17.0 × Φ15.0	
Φ10.0 × Φ6.0	Φ16.52 × Φ10.52	

Custom specifications available.

PTFE

PTFE Sheet and Plate

Moulded and skived PTFE sheet in virgin and filled grades for gaskets, insulation and machined parts. Filled options include copper, glass, graphite and carbon.



Features & operating conditions

- Chemical stability
- Machinability
- Weather resistance
- Non-stick surface
- Low friction

Moulded PTFE plate dimensions

Length (mm)	Width (mm)	Thickness (mm)
300	300	2~100
400	400	2~100
450	450	2~100
500	500	2~100
600	600	2~100
800	800	2~100
1000	1000	2~100
1200	1200	2~100
1500	1500	2~50
1800	1200	2~50
1800	1200	2~50
2000	1000	2~50
2000	1000	2~50

Other PTFE sheet forms

Form	Length (mm)	Width (mm)	Thickness (mm)
Skived continuous sheet / strip	/	10-2700	0.02-10
Skived sheet	10-2700	10-2700	0.02-10
Sodium-treated sheet	/	/	0.2-100

Other sizes available. Select filled PTFE where higher wear resistance or compressive strength is required.

PTFE

PTFE Film

High-performance PTFE film with chemical inertness, low friction, electrical insulation and a non-stick surface. Standard color: milky white.



Features & operating conditions

- Chemical and temperature resistance
- Controlled pore structure
- Low friction

Standard specifications

Form	Width (mm)	Thickness (mm)	Length
Skived non-oriented film	5-1300	0.03-1.0	Not specified
Semi-oriented film	5-1300	0.03-1.0	Not specified
Oriented film	5-1300	0.03-1.0	Not specified

Applications include filtration and separation, protective fabrics, architectural membranes and electrical insulation.

Technical properties

Property	CSFM-1 oriented	CSFM-2 semi-oriented	CSFM-2 non-oriented	CSFM-3 non-oriented	CSFM-3 non-oriented
Tensile strength (MPa)	≥30	≥20	≥10	≥30	≥10
Elongation at break (%)	≥30	≥60	≥100	≥30	≥100
Dielectric constant at 1 MHz	1.8-2.2	/	/	1.8-2.2	1.8-2.2
DC dielectric strength average (kV/mm)	200	100	40	60	30
DC dielectric strength minimum (kV/mm)	40	10	4	/	/

CSFM-3 source has two columns both labelled non-oriented; labels are retained.

PTFE | MATERIAL REFERENCE

PTFE Technical Data Sheet

Reference material properties for selection and comparison. Finished-product dimensions and construction are listed in the individual product sections.

Physical and Thermal Properties

Property	Unit	Value
Specific Gravity	-	2.13-2.22
Melting Point	°C	327
Maximum Continuous Service Temperature	°C	260

Mechanical Properties

Property	Unit	Value
Tensile Strength	MPa	20-45
Elongation	%	200-450

Electrical Properties

Property	Unit	Value
Dielectric Constant at 10^3 Hz	-	2.1
Dielectric Constant at 10^6 Hz	-	2.1
Volume Resistivity	Ω·cm	$>10^{18}$
Dielectric Strength	V/mil	480

The values above are provided for material selection and technical reference. Actual performance may vary with resin grade, processing conditions, product dimensions and operating environment.

The maximum continuous service temperature is a material reference and does not establish a pressure rating for finished tubing or components. Suitability should be confirmed against the intended application.

PTFE | MATERIAL DOCUMENTATION

PTFE Material Reports

Supplier material reports are shown below. Results apply to the samples, grades, dates and test scopes identified in each report. Full reports are included in the digital reference package.



Certificate Of FDA Compliance

202008-202203

This is certified that:

At The Address Stated Below Has Completed U.S. FOOD And DRUG ADMINISTRATION Food Facility Registration And Test Through MANTONG.

Shandong Dongyue Polymer Materials Co., Ltd.
Add:1707 Industrial Road ,Tangshan Town ,Huantai County, Zibo City, Shandong Province

Product Description	PTFE Molding Powder
Report No.	J-00365530&J-00365531
Test Date	22-May-2020~01-Jun-2020
Test Requested	US FDA 21 CFR 177.1550
Test Laboratory	NSF International
Registration Number	16810829446

Executive Director
Date: 06/14/2020

MTG STANDARDS TESTING & CERTIFICATION CENTER www.fdacn.org



SGS

Test Report (SVHC) No.: SHAEC24002387901 Date: Feb 06, 2024 Page 1 of 14

Client Name: SHANDONG DONGYUE POLYMER MATERIAL CO.,LTD
Client Address: TANGSHAN TOWN,HUANTAI COUNTY,ZIBO CITY,SHANDONG PROVINCE ,CHINA

Sample Name: PTFE FINE POWDER
The above sample(s) and information were provided by the client.

SGS Job No.: SHP24-003320
Sample Receiving Date: Feb 01, 2024
Testing Period: Feb 01, 2024 – Feb 06, 2024
Test Requested: As requested by client, SVHC screening is performed according to: (i) Two hundred and forty (240) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before Jan 23, 2024 regarding Regulation (EC) No 1907/2006 concerning the REACH. (ii) One (1) potential Substances of Very High Concern (SVHC) in the notification of WTO on Jun 1, 2021. (iii) Eight (8) potential Substances of Very High Concern (SVHC) in the Intention List published by European Chemicals Agency (ECHA) regarding Regulation (EC) No 1907/2006 concerning the REACH.
Test Method(s): Please refer to next page(s).
Test Result(s): Please refer to next page(s).

Summary:

According to the specified scope and evaluation screening, the test results of SVHC are ≤ 0.1% (w/w) in the submitted sample.	Pass

Signed for and on behalf of
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Tom Ni
Approved Signatory



SGS

Test Report No.: SHAEC23021038101 Date: Dec 18, 2023 Page 1 of 8

Client Name: SHANDONG DONGYUE POLYMER MATERIAL CO.,LTD
Client Address: TANGSHAN TOWN,HUANTAI COUNTY,ZIBO CITY,SHANDONG PROVINCE ,CHINA

Sample Name: PTFE FINE POWDER
The above sample(s) and information were provided by the client.

SGS Job No.: SHP23-021967
Sample Receiving Date: Dec 13, 2023
Testing Period: Dec 13, 2023 – Dec 18, 2023
Test Requested: Select test(s) as requested by the client.
Test Method(s): Please refer to next page(s).
Test Result(s): Please refer to next page(s).

Test Requirement	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	Pass

Signed for and on behalf of
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Annie Liu
Approved Signatory

US FDA 21 CFR 177.1550 test reference

PTFE molding powder | NSF test reports J-00365530 / J-00365531 | 4 Jun 2020. US FDA 21 CFR 177.1550 extractive tests. Historical material test reference. Cover period: June 2020-May 2022.

REACH SVHC screening

PTFE fine powder | SGS SHAEC24002387901 | 6 Feb 2024. SVHC screening against the list scope stated in the report. Material-specific screening; report scope dated 2024.

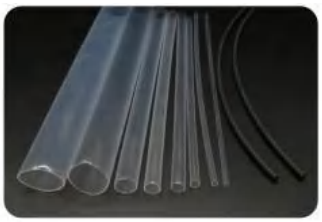
RoHS restricted substances

PTFE fine powder | SGS SHAEC23021038101 | 18 Dec 2023. RoHS substance testing. Results apply to the submitted PTFE material sample.

02

FEP Tubing & Heat Shrink

Transparent fluoropolymer tubing and heat-shrink solutions. Select from the dimensional schedules for each construction and use the accompanying material sheet and supplier reports as references.

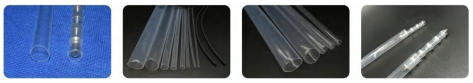


2 product and selection entries

FEP / PFA

FEP / PFA Heat Shrink Tubing

FEP / PFA Heat Shrink Tubing - Catalogue Range. Transparent FEP and PFA heat shrink tubing for insulation, fluid systems, motor insulation, chemical equipment and roller coverings.



Features & operating conditions

- Wide temperature range
- Chemical stability
- Transparency
- Electrical performance
- Flexibility

Material comparison

Parameter	FEP	PFA
Temperature range stated	-200 to +200°C	-200 to +260°C
Stable operating range stated	-200 to +200°C	-200 to +260°C
Shrink ratios	1.3:1; 1.7:1	1.3:1; 1.7:1

Common recovered ID × wall (mm)

Size
1.6 × 0.15
3.6 × 0.1
8 × 0.3
16 × 0.25
30 × 0.35
130 × 0.5
180 × 0.55
200 × 0.6

Source custom production range: 1.6-250 mm.

FEP

FEP-HS | FEP Heat Shrink Tubing

FEP heat shrink tubing offers abrasion resistance, chemical resistance and high-temperature performance for instrumentation, food and medical equipment, communications, motors, rail transport, automotive systems, appliances and specialty cables.



Features & operating conditions

- Color: clear; custom colors available.
- Operating temperature: -65°C to 200°C.
- Shrink temperature: >200°C.
- Abrasion and corrosion resistant.
- Flame retardant with electrical insulation properties.
- Environmental standard: RoHS.

FEP-HS - Technical properties

Property	Value	Test Method
Density	2.15 g/cm^3	ASTM D792
Tensile Strength	21 MPa	ASTM D638
Elongation at Break	300%	ASTM D638
Flammability	VW-1	UL-224
Dielectric Constant	2.1	ASTM D150
Volume Resistivity	>10^{15} Ω-cm	ASTM D257
Weathering Resistance	No Cracks	2000H
Solvent Resistance	Excellent	ASTM D543
Chemical Resistance	Excellent	ASTM D543

Custom sizes and packaging are available on request.

FEP / PFA Heat Shrink Tubing | FEP-HS

FEP-HS - Dimensions

Size	Before Shrinking	After Shrinking		Packaging (m/piece)
	ID (mm)	ID (mm)	Wall Thickness (mm)	
Φ1.0	1.0+0.2/-0.1	0.70±0.10	0.20±0.05	1
Φ1.5	1.5+0.2/-0.1	1.1±0.10	0.20±0.05	1
Φ2.0	2.0+0.2/-0.1	1.5±0.10	0.25±0.05	1
Φ2.5	2.5+0.2/-0.1	1.9±0.10	0.25±0.05	1
Φ3.0	3.0+0.4/-0.2	2.3±0.15	0.25±0.05	1
Φ3.5	3.5+0.4/-0.2	2.7±0.15	0.25±0.05	1
Φ4.0	4.0+0.4/-0.2	3.1±0.15	0.25±0.05	1
Φ4.5	4.5+0.4/-0.2	3.5±0.15	0.25±0.05	1
Φ5.0	5.0+0.4/-0.2	3.9±0.15	0.25±0.05	1
Φ5.5	5.5+0.4/-0.2	4.3±0.15	0.25±0.05	1
Φ6.0	6.0+0.4/-0.2	4.7±0.2	0.25±0.05	1
Φ6.5	6.5+0.5/-0.2	5.0±0.2	0.25±0.05	1
Φ7.0	7.0+0.5/-0.2	5.4±0.2	0.25±0.05	1
Φ7.5	7.5+0.5/-0.2	5.8±0.2	0.25±0.05	1
Φ8.0	8.0+0.5/-0.2	6.2±0.2	0.25±0.05	1
Φ8.5	8.5+0.5/-0.2	6.6±0.2	0.25±0.05	1
Φ9.0	9.0+0.5/-0.2	7.0±0.2	0.25±0.05	1
Φ9.5	9.5+0.5/-0.2	7.3±0.2	0.25±0.05	1
Φ10	10.0+0.5/-0.2	7.7±0.3	0.25±0.05	1
Φ11	11+1.0/-0.2	8.5±0.3	0.25±0.05	1
Φ12	12+1.0/-0.2	9.3±0.3	0.25±0.05	1
Φ13	13+1.0/-0.2	10.0±0.3	0.25±0.05	1
Φ14	14+1.0/-0.2	10.8±0.3	0.25±0.05	1
Φ15	15+1.0/-0.2	11.6±0.3	0.30±0.05	1
Φ16	16+1.0/-0.2	12.4±0.3	0.30±0.05	1
Φ17	17+1.0/-0.2	13.1±0.3	0.30±0.05	1
Φ18	18+1.0/-0.2	13.9±0.3	0.30±0.05	1
Φ19	19+1.0/-0.2	14.6±0.3	0.30±0.05	1
Φ20	20+1.0/-0.2	15.4±0.5	0.30±0.05	1

FEP

FEP Tubing - Metric and Imperial

Transparent, flexible FEP tubing for industrial fluids, analytical instrumentation, gas sampling, chemical service, laboratory equipment and fluid monitoring.



Features & operating conditions

- Chemical and solvent resistance
- Low friction
- Weldable
- Silicone-free
- UV resistance

Metric dimensions - DKF

DKF-0402	DKF-0425	DKF-0604	DKF-0806	DKF-1075	DKF-1008	DKF-1209	DKF-1210
DKF-0402	DKF-0425	DKF-0604	DKF-0806	DKF-1075	DKF-1008	DKF-1209	DKF-1210
4	4	6	8	10	10	12	12
2	2.5	4	6	7.5	8	9	10

Body rows: OD (mm), ID (mm).

Metric maximum operating pressure (MPa)

0402	0425	0604	0806	1075	1008	1209	1210
20℃	2.3	1.7	1.5	1	0.7	1	0.7
100℃	0.85	0.6	0.55	0.4	0.25	0.4	0.25
200℃	0.4	0.3	0.3	0.2	0.1	0.2	0.1

Body rows: 20°C, 100°C, 200°C. Model prefix: DKF-.

Metric minimum bend radius (mm)

DKF series - values in source order						
15	20	35	60	95	100	130

15, 20, 35, 60, 95, 100, 130; merged cells are preserved.

Imperial dimensions - DKIF

1	2	3	4	5	6	7	8	9	10	11
DKIF-1	DKIF-2	DFIF-3	DKIF-4	DKIF-5	DKIF-6	DKIF-7	DKIF-8	DKIF-9	DKIF-10	DKIF-11
1/8			3/16		1/4		3/8		1/2	3/4
3.18			4.75		6.35		9.53		12.7	19.05
0.093	0.086	0.065	0.137	0.124(1/8)	0.18	0.156(5/32)	0.275	0.25(1/4)	0.374(3/8)	0.624(5/8)
2.36	2.18	1.65	3.48	3.15	4.57	3.95	6.99	6.33	9.5	15.85

Model prefix DKIF- (source prints DFIF-3). Body rows: model; OD (in); OD (mm); ID (in); ID (mm).

FEP Tubing - Metric and Imperial

Imperial maximum operating pressure (MPa)

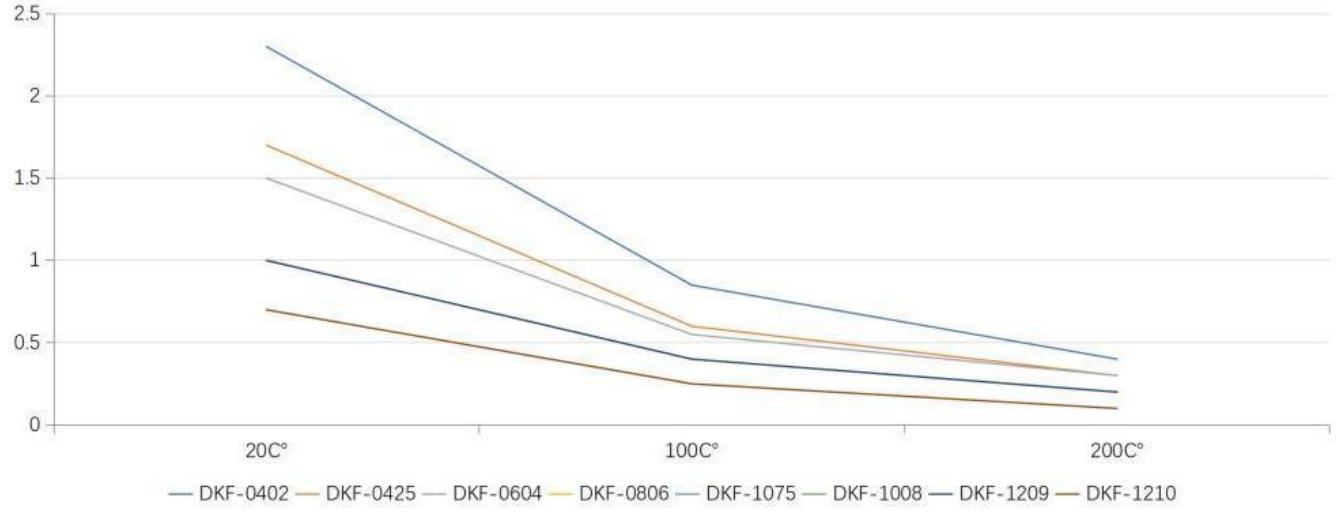
°C	1	2	3	4	5	6	7	8	9	10	11
20℃	1	2.3	1	1.5	1	1.7	1	1.5	1		0.7
100℃	0.4	0.85	0.4	0.55	0.4	0.6	0.4	0.55	0.4		0.25
200℃	0.2	0.4	0.2	0.3	0.2	0.3	0.2	0.3	0.2		0.1

DKIF model suffixes across columns.

Imperial minimum bend radius (mm)

1	2	3	4	5	6	7	8	9	10	11
25	20	10	35	25	55	35	85	60	95	220

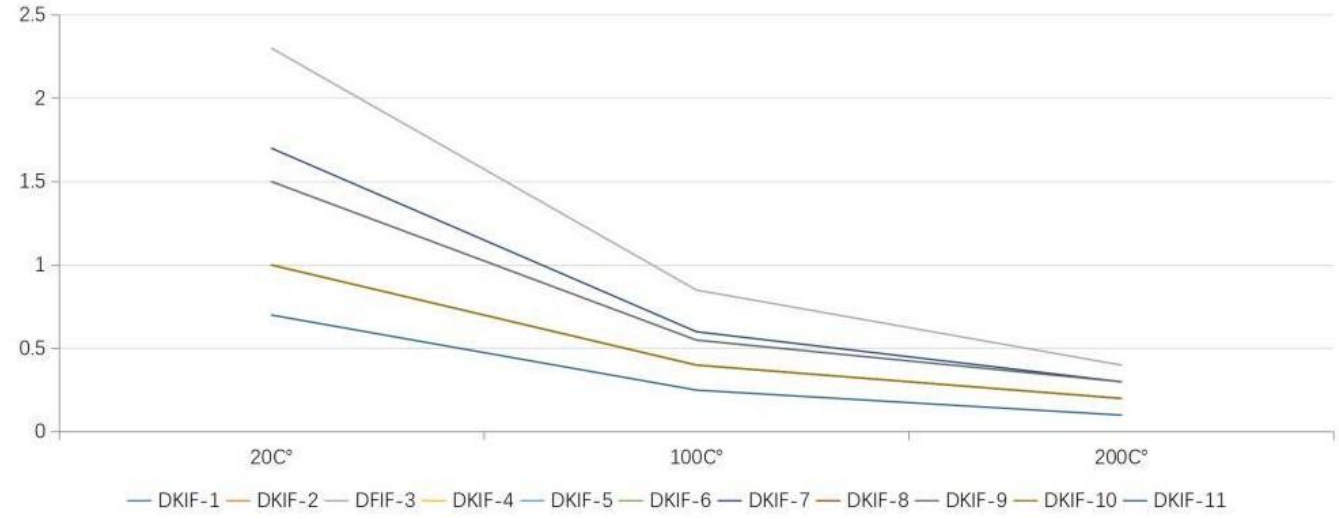
Metric pressure / temperature curves



Working pressure range stated in source: 0-28 bar; use the model- and temperature-specific pressure tables for selection. Air and inert gases: -20 to 200°C. Water: 0 to 100°C, unfrozen. Keep pressure surges within allowable ratings; avoid vibration and inspect regularly.

Source regulatory references: FDA 21 CFR 177.1550; Regulation 1935/2004; UL94 V-0; 97/23/EC (PED); 2002/95/EC and 2011/65/EC (RoHS); 1907/2006 (REACH). These are source references, not an assertion that every finished product has been separately certified.

Imperial pressure / temperature curves



FEP | MATERIAL REFERENCE

FEP Technical Data Sheet

Reference material properties for selection and comparison. Finished-product dimensions and construction are listed in the individual product sections.

Physical and Thermal Properties

Property	Unit	Value
Specific Gravity	-	2.12-2.17
Melting Point	°C	270
Maximum Continuous Service Temperature	°C	200

Mechanical Properties

Property	Unit	Value
Inner Diameter	mm	2 ±0.08
Outer Diameter	mm	3 ±0.08
Tensile Strength	MPa	19-22
Elongation	%	250-330

Electrical Properties

Property	Unit	Value
Dielectric Constant at 10^3 Hz	-	2.1
Dielectric Constant at 10^6 Hz	-	2.1
Volume Resistivity	Ω·cm	$>10^{18}$
Dielectric Strength	V/mil	500-600

The dimensional entries in this sheet refer to the listed 2 × 3 mm tubing specification. Other sizes are listed in the product selection tables.

The values above are provided for material selection and technical reference. Actual performance may vary with resin grade, processing conditions, product dimensions and operating environment.

The maximum continuous service temperature is a material reference and does not establish a pressure rating for finished tubing or components. Suitability should be confirmed against the intended application.

FEP | MATERIAL DOCUMENTATION

FEP Material Reports

Supplier material reports are shown below. Results apply to the samples, grades, dates and test scopes identified in each report. Full reports are included in the digital reference package.



Certificate Of Compliance
202307-202506

This is certified that:
At The Address Stated Below Has Completed U.S. FOOD And DRUG ADMINISTRATION Food Facility Registration And Test Through MANTONG.
Shandong Huaxia Shenzhou New Material Co.,Ltd
Tangshan Town,Huantai Country,Zibo City ,Shandong Province,China

Product Description	PERFLUORINATED ETHYLENE-PROPYLENE COPOLYMER DS602/DS612, DS611/DS601, DS610, DS618, DS605
Test Requested	With reference to U.S. F.D.A. C.F.R.21 Part 177.1550
Report No.	J-00466440 J-00466441
Test Performing Date	06-Jun-2023~13-Jun-2023
Registration Number	16304785574

Executive Director
Date: 2023-06-20

MTG STANDARDS TESTING &CERTIFICATION SERVICE CENTER www.fdacn.org



SGS

Test Report (SVHC) No.: TAOEC25000172109 Date: Jan 10, 2025 Page 1 of 16

Client Name: SHANDONG HUAXIA SHENZHOU NEW MATERIAL CO.,LTD
Client Address: TANGSHAN TOWN,HUANTAI COUNTY,ZIBO CITY,SHANDONG,CHINA

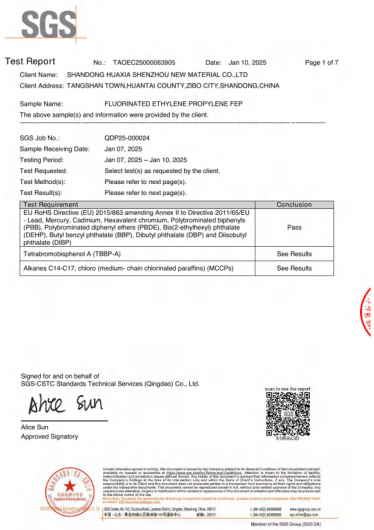
Sample Name: FLUORINATED ETHYLENE PROPYLENE FEP
The above sample(s) and information were provided by the client.

SGS Job No.: QDP25-000024
Sample Receiving Date: Jan 07, 2025
Testing Period: Jan 07, 2025 – Jan 10, 2025
Test Requested: As requested by client, SVHC in Candidate List screening is performed according to:
(i) Two hundred and forty two (242) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before Nov 07, 2024 regarding Regulation (EC) No 1907/2006 concerning the REACH.
As requested by client, Potential SVHC screening is performed according to:
(i) Six (6) substances in the Public Consultation List of potential Substances of Very High Concern (SVHC) published by European Chemicals Agency (ECHA) on and before Aug 30, 2024 regarding Regulation (EC) No 1907/2006 concerning the REACH.
(ii) One (1) potential Substances of Very High Concern (SVHC) in the Identification ongoing.
(iii) Six (6) potential Substances of Very High Concern (SVHC) in the Intention List published by European Chemicals Agency (ECHA) regarding Regulation (EC) No 1907/2006 concerning the REACH.
Test Method(s): Please refer to next page(s).
Test Result(s): Please refer to next page(s).

Summary:

According to the specified scope and evaluation screening, the results of 242 SVHC in the Candidate List are ≤ 0.1% (w/w) in the submitted sample.	Pass

Signed for and on behalf of SGS-CSTC Standards Technical Services (Qingdao) Co., Ltd.
Alice Sun
Approved Signatory



SGS

Test Report No.: TAOEC25000063905 Date: Jan 10, 2025 Page 1 of 7

Client Name: SHANDONG HUAXIA SHENZHOU NEW MATERIAL CO.,LTD
Client Address: TANGSHAN TOWN,HUANTAI COUNTY,ZIBO CITY,SHANDONG,CHINA

Sample Name: FLUORINATED ETHYLENE PROPYLENE FEP
The above sample(s) and information were provided by the client.

SGS Job No.: QDP25-000024
Sample Receiving Date: Jan 07, 2025
Testing Period: Jan 07, 2025 – Jan 10, 2025
Test Requested: Select test(s) as requested by the client.
Test Method(s): Please refer to next page(s).
Test Result(s): Please refer to next page(s).

Test Requirement	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU - Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	Pass
Tetrabromobisphenol A (TBBP-A)	See Results
Alkanes C14-C17, chloro (medium- chain chlorinated paraffins) (MCCPs)	See Results

Signed for and on behalf of SGS-CSTC Standards Technical Services (Qingdao) Co., Ltd.
Alice Sun
Approved Signatory

US FDA 21 CFR 177.1550 test reference

FEP copolymer | NSF J-00466440 / J-00466441 | 21 Jun 2023. US FDA 21 CFR 177.1550 extractive tests. Historical material test reference. Cover period: July 2023-June 2025.

REACH SVHC screening

FEP | SGS TAOEC25000172109 | 10 Jan 2025. Screening of 242 listed SVHC and 13 potential SVHC. Results relate to the submitted sample and stated list dates.

RoHS restricted substances

FEP | SGS TAOEC25000063905 | 10 Jan 2025. RoHS substance testing. Results apply to the submitted FEP material sample.

03

PFA Tubing, Fittings & Valves

PFA tubing, antistatic grades, connection components, valves and rod products. Metric and imperial selection data are preserved, together with material properties and documentation.

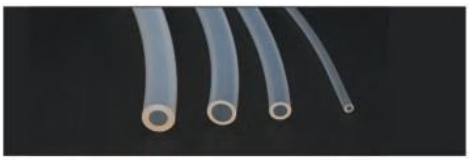


5 product and selection entries

PFA

PFA Tubing - Metric and Imperial

PFA tubing for air, water and inert gases, with metric DKP and imperial DKIP ranges. Maximum operating temperature: 260°C.



Features & operating conditions

- Chemical resistance
- Temperature resistance
- Metric and imperial sizes

Metric dimensions - DKP (100 m)

Model	OD × ID (mm)
DKP-0201	2*1
DKP-0302	3*2
DKP-0425	4*2.5
DKP-0403	4*3
DKP-0604	6*4
DKP-0806	8*6
DKP-1075	10*7.5
DKP-1008	10*8
DKP-1209	12*9
DKP-1210	12*10
DKP-1613	16*13
DKP-1916	19*16
DKP-2522	25*22

Metric maximum operating pressure (MPa)

Group	Model	20°C	100°C	200°C	260°C
A	DKP-0201	2.3	1.1	0.55	0.3
B	DKP-0425	1.7	0.9	0.45	0.23
C	DKP-0302	1.5	0.7	0.35	0.2
	DKP-0604				
D	DKP-0403	1	0.5	0.25	0.15
	DKP-0806				
	DKP-1075				
	DKP-1209				
E	DKP-1008	0.7	0.35	0.17	0.11
	DKP-1613				
F	DKP-1210	0.6	0.3	0.15	0.1
	DKP-1916				
G	DKP-2522	0.4	0.2	0.1	0.05

PFA Tubing - Metric and Imperial

Imperial dimensions - DKIP (100 m)

DKIP-1	DKIP-2	DKIP-3	DKIP-4	DKIP-5	DKIP-6	DKIP-7	DKIP-8	DKIP-9
DKIP-1	DKIP-2	DKIP-3	DKIP-4	DKIP-5	DKIP-6	DKIP-7	DKIP-8	DKIP-9
1/8*0.086	1/8*1/16	3/16*1/8	1/4*5/32	3/8*1/4	1/2*3/8	3/4*5/8	1*7/8	11/4*11/10
1/8		3/16	1/4	3/8	1/2	3/4	1	1-1/4
3.18		4.75	6.35	9.53	12.7	19.05	25.4	31.75
0.086	1/16	1/8	5/32	1/4	3/8	5/8	7/8	11/10
2.18	1.58	3.15	3.95	6.33	9.5	15.85	22.2	27.95

Body rows, in order: nominal OD × ID (in); OD (in); OD (mm); ID (in); ID (mm).

Imperial maximum operating pressure (MPa)

Group	Model	20°C	100°C	200°C	260°C
A	DKIP-2	2.3	1.1	0.55	0.3
B	DKIP-4	1.7	0.9	0.45	0.23
C	DKIP-3	1.5	0.7	0.35	0.2
	DKIP-5				
D	DKIP-1	1	0.5	0.25	0.15
	DKIP-16				
F	DKIP-7	0.6	0.3	0.15	0.1
G	DKIP-8	0.4	0.2	0.1	0.05
	DKIP-9				

The original table lists DKIP-16. This identifier is retained as supplied.

Bend-radius data (mm)

Sequence	Values
Recommended	10, 20, 20, 35, 35, 60, 95, 100, 100, 130, 220, 400
Yield	7, 15, 15, 20, 20, 40, 60, 65, 65, 110, 160, 290

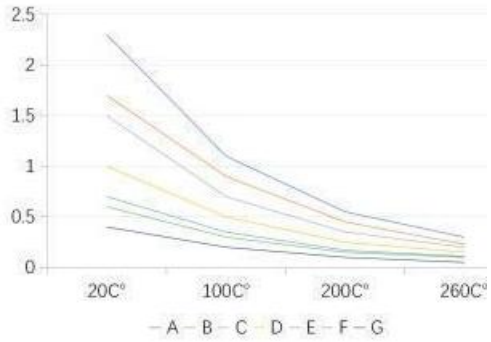
These are the twelve entries printed in both source bend-radius tables; the source does not provide one-to-one model labels.

Bend test

Condition	Procedure
Temperature	20°C
Method	Bend tube into a U shape, fix one end and move the other end progressively inward. Record 2R when the outside diameter at the bend changes by 5%.

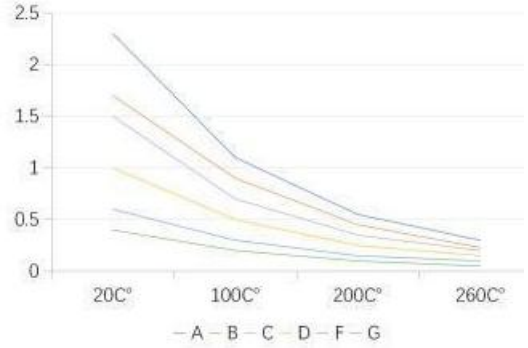
PFA Tubing - Metric and Imperial

Maximum pressure vs. temperature - metric



Keep pressure surges within the allowable tube and fitting ratings. Avoid vibration and inspect tubing periodically. Use a bend radius greater than the recommended value. Yield values are measured values, not guaranteed limits.

Maximum pressure vs. temperature - imperial



PFA

Antistatic PFA Tubing

High-purity PFA tubing with carbon-fibre conductive strips on the inner and outer surfaces for electrostatic control and high-purity fluid transfer.



Features & operating conditions

- Chemical resistance
- Temperature resistance
- High cleanliness
- Static dissipation

Outside diameter range: 3-38.1 mm. Source inspection value for a 100 mm sample: surface resistance 1 × 10^4 to 1 × 10^6 Ω.

Antistatic tubing dimensions

OD × ID (in)	Nominal OD (mm)	Tolerance	Fluid wall (mm)	Conductive wall (mm)	Strip width (mm)	Strip count	Roll (m)
3.17*1.59 (1/8")	3.17	±0.1	0.5	0.03	0.6	4	50 100 200
6.35*3.96 (1/4")	6.35	±0.1	1.2	0.06	1.5		
9.52*6.35 (3/8")	9.52	±0.12	1.59		2.4		
12.70*9.52 (1/2")	12.70	±0.12	1.59	0.06	2.6	8	50 100 200
19.05*15.88 (3/4")	19.05	±0.12	1.59		3.8		
25.40*22.22 (1")	25.40	±0.15	1.59		4.9		

PFA

PFA Fittings and Connectors

PFA tube fittings with beaded, flared and welded connection styles. Straight, elbow, tee, reducing, bulkhead, adapter, plug, sleeve and union-nut configurations are shown.



Features & operating conditions

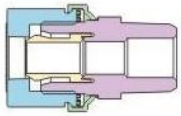
- Metric and imperial connections
- Custom configurations available

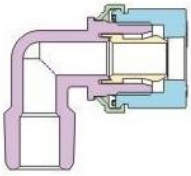
Common connection sizes

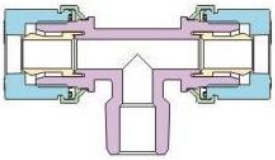
Size (in)	Tube diameter (mm)
1/8	3.175
1/4	6.35
3/8	9.53
1/2	12.7
3/4	19.05
1	25.4

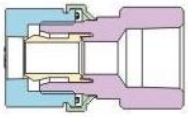
Sizes apply to straight unions, elbows, tees, male fittings and other configurations. Custom sizes available.

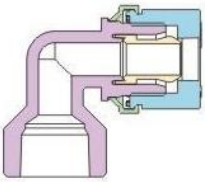
PFA fitting configurations

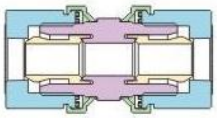

Male connector

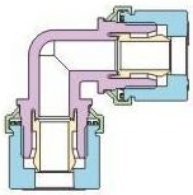

Male elbow

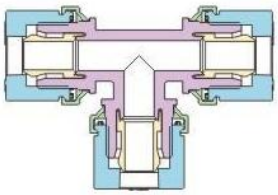

Male tee

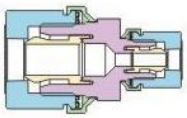

Female connector

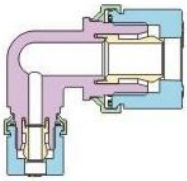

Female elbow

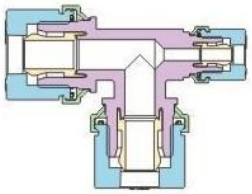

Union

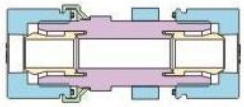

Union elbow

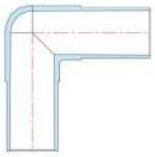

Union tee

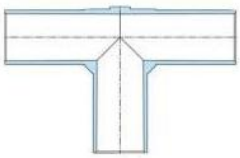

Reducing union

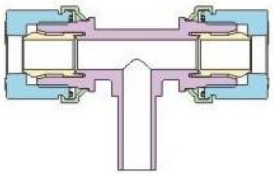

Reducing elbow

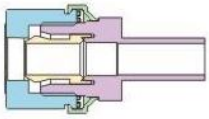

Reducing tee

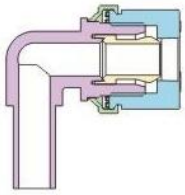

Bulkhead union

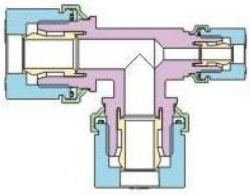

Weld elbow

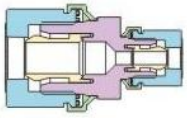

Weld tee

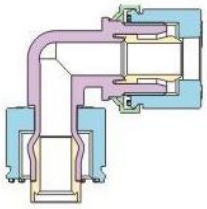

Tee adaptor


Union adaptor


Union elbow adaptor

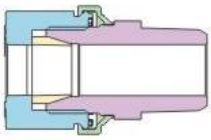

Reducing tee adaptor


Reducing adaptor

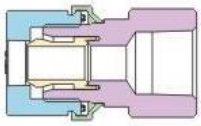

Union elbow adaptor

PFA Fittings and Connectors

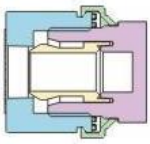
PFA plugs, sleeves and union nuts



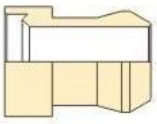
Male through connector



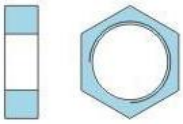
Female union



Plug



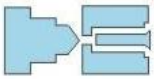
Sleeve



Union nut - bead



Union nut - flare



Other

PFA

PFA Valves and Diaphragm Valves

PFA valves for chemical liquids and ultrapure water. Available configurations include manual diaphragm, pneumatic diaphragm, pneumatic flow diaphragm, needle, rotary, suck-back and other valves.



Features & operating conditions

- PFA body and nuts
- PTFE diaphragm
- PVDF/PEEK base and actuator

Operating specifications

Parameter	Value
Working pressure	0-0.5 MPa
Pneumatic actuator control pressure	0.35-0.5 MPa
Back pressure	0-0.3 MPa
Standard temperature	0-100°C
High temperature	5-160°C
Ultra-high temperature	5-200°C

Diaphragm valve sizes

Model	Size
D2001	1/8 in
D2002	1/4 in
D2003	3/8 in
D2004	1/2 in
D2005	3/4 in
D2006	1 in
D2007	1-1/4 in
D2008	1-1/2 in
D2009	2 in
Other	On request

Manual flared valve dimensions (mm)

PFA Valves and Diaphragm Valves

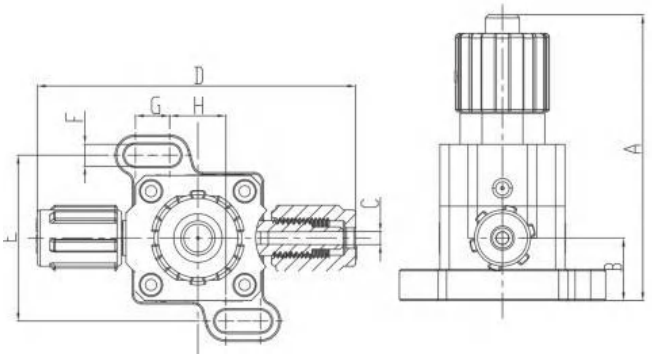
Size (in)	A	B	C	D	E	F	G	H
1/8"	91.3	20	1.9	85.6	53	7	11	18
1/4"	91.3	20	4.1	101.9	53	7	11	18
3/8"	100.8	22.7	6.7	109	53	7	11	18
1/2"	100.8	22.7	8.7	109.7	53	7	11	18
3/4"	122.2	30.9	15	137.7	71	9	14.8	24.5
1"	150.6	22.6	22.6	167	85	9	14.8	39.5

For liquids only; not for nitrogen, air or other gases. Confirm chemical compatibility, flow direction and vibration suitability.

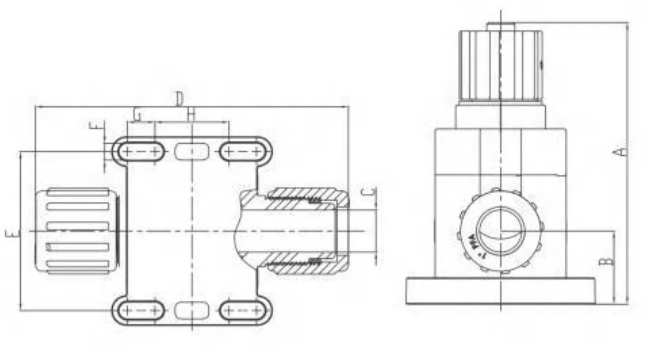
Diaphragm valve options: manual or pneumatic; flared, beaded or welded; room-temperature and high-temperature versions.

Manual flared valve drawings - 1/8 to 1/2 in and 3/4 to 1 in

1/8" ~1/2"



3/4~1"



PFA

PFA Rods and Welding Rods

PFA stock rods and welding rods for corrosion-resistant parts, seals, insulation, pumps, valves, semiconductor equipment and fluoropolymer fabrication.



Features & operating conditions

- Temperature resistance to 260°C
- Chemical and weather resistance
- Low water absorption
- Non-stick surface
- Machinable

Physical and mechanical properties

Property	Unit	Value
Density	g/cm^3	2.12-2.17
Tensile strength	MPa	≥15
Elongation at break	%	≥250
Hardness	Shore D	Approximately 55
Dielectric strength	kV/mm	≥50

Standard forms

Form	Size (mm)	Length / supply
Extruded rod	Ø10-165	100-1000 mm
Moulded rod	Ø6-135	<200 mm
Round welding rod	Ø3-5	20 m / 100 m
Flat welding strip	12 × 2.5; 14 × 2.5; 17 × 2.5	Width × thickness

PFA | MATERIAL REFERENCE

PFA Technical Data Sheet

Reference material properties for selection and comparison. Finished-product dimensions and construction are listed in the individual product sections.

Physical and Thermal Properties

Property	Unit	Value
Specific Gravity	-	2.12-2.17
Melting Point	°C	302-310
Maximum Continuous Service Temperature	°C	260

Mechanical Properties

Property	Unit	Value
Tensile Strength	MPa	27-35
Elongation	%	280-400

Electrical Properties

Property	Unit	Value
Dielectric Constant at 10^3 Hz	-	2.1
Dielectric Constant at 10^6 Hz	-	2.1
Volume Resistivity	Ω·cm	$>10^{18}$
Dielectric Strength	V/mil	500

The values above are provided for material selection and technical reference. Actual performance may vary with resin grade, processing conditions, product dimensions and operating environment.

The maximum continuous service temperature is a material reference and does not establish a pressure rating for finished tubing or components. Suitability should be confirmed against the intended application.

PFA | MATERIAL DOCUMENTATION

PFA Material Reports

Supplier material reports are shown below. Results apply to the samples, grades, dates and test scopes identified in each report. Full reports are included in the digital reference package.



SGS

Test Report No.: SHAEC25008089601 Date: May 20, 2025 Page 1 of 10

Client Name: JINHUA YONGHE FLUOROCHEMICAL CO., LTD.

Client Address: Qinglian Road 896#, Economic and Technological Development Zone (the West), Jinhua , Zhejiang

Sample Name: PFA

Client Ref. Information: Nifon PW-200、PW-200HP、PW-300、PW-300HP、PW-400、PW-400HP、PW-500、PW-500HP、PW-601、PW-601HP、PW-602、PW-602HP、PW-700、PW-700HP、PW-800、PW-800HP

The above sample(s) and information were provided by the client.

SGS Job No.: TIC1020250409161813DKLM

Sample Receiving Date: Apr 11, 2025

Testing Period: Apr 11, 2025 ~ May 20, 2025

Test Requested: Select test(s) as requested by the client.

Test Method(s): Please refer to next page(s).

Test Result(s): Please refer to next page(s).

	Test Requirement	Comment
1	Regulation (EC) No 1935/2004 of the European Parliament and of the Council of 27 October 2004, (EU) No 10/2011 and its amendment (EU) 2020/1245 Regulation - Overall Migration	Pass
2	Regulation (EC) No 1935/2004 of the European Parliament and of the Council of 27 October 2004, (EU) No 10/2011 and its amendment (EU) 2020/1245 Regulation - Specific migration of heavy metals	Pass
3	Regulation (EC) No 1935/2004 of the European Parliament and of the Council of 27 October 2004, (EU) No 10/2011 and its amendment (EU) 2020/1245 Regulation - Specific migration of primary aromatic amine (individual)	Pass
4	Regulation (EC) No 1935/2004 of the European Parliament and of the Council of 27 October 2004, (EU) No 10/2011 and its amendment (EU) 2020/1245 Regulation - Specific migration of primary aromatic amine (total)	Pass
5	Regulation (EC) No 1935/2004 of the European Parliament and of the Council of 27 October 2004, (EU) No 10/2011 and its amendment (EU) 2020/1245 & (EU) 2024/3190 Regulation - Specific migration of bisphenols and bisphenol derivatives	Pass

Signed for and on behalf of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Tom Ni

Tom Ni

Approved Signatory

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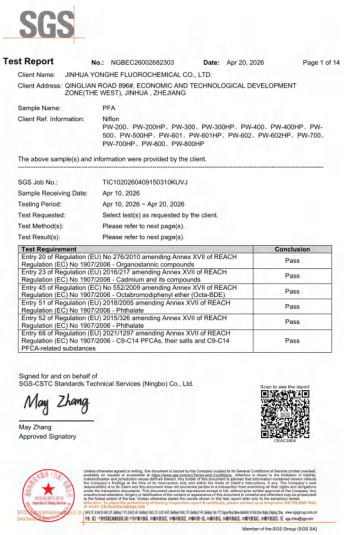
EU food-contact migration testing

PFA | SGS SHAEC25008089601 | 20 May 2025. EU food-contact migration and sensory tests. The supplied file is an EU food-contact test report.



SGS

Test Report No.: NGBEC26002682303 Date: Apr 20, 2026 Page 1 of 14

Client Name: JINHUA YONGHE FLUOROCHEMICAL CO., LTD.

Client Address: QINGLIAN ROAD 896#, ECONOMIC AND TECHNOLOGICAL DEVELOPMENT ZONE(THE WEST), JINHUA , ZHEJIANG

Sample Name: PFA

Client Ref. Information: Nifon PW-200、PW-200HP、PW-300、PW-300HP、PW-400、PW-400HP、PW-500、PW-500HP、PW-601、PW-601HP、PW-602、PW-602HP、PW-700、PW-700HP、PW-800、PW-800HP

The above sample(s) and information were provided by the client.

SGS Job No.: TIC1020260409150310KUVJ

Sample Receiving Date: Apr 10, 2026

Testing Period: Apr 10, 2026 ~ Apr 20, 2026

Test Requested: Select test(s) as requested by the client.

Test Method(s): Please refer to next page(s).

Test Result(s): Please refer to next page(s).

Test Requirement	Conclusion
Entry 20 of Regulation (EU) No 276/2010 amending Annex XVII of REACH Regulation (EC) No 1907/2006 - Organostannic compounds	Pass
Entry 23 of Regulation (EU) 2016/217 amending Annex XVII of REACH Regulation (EC) No 1907/2006 - Cadmium and its compounds	Pass
Entry 45 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 - Octabromodiphenyl ether (Octa-BDE)	Pass
Entry 51 of Regulation (EU) 2018/2005 amending Annex XVII of REACH Regulation (EC) No 1907/2006 - Phthalate	Pass
Entry 52 of Regulation (EU) 2015/326 amending Annex XVII of REACH Regulation (EC) No 1907/2006 - Phthalate	Pass
Entry 68 of Regulation (EU) 2021/1297 amending Annex XVII of REACH Regulation (EC) No 1907/2006 - C9-C14 PFCAs, their salts and C9-C14 PFCA-related substances	Pass

Signed for and on behalf of SGS-CSTC Standards Technical Services (Ningbo) Co., Ltd.

May Zhang

May Zhang

Approved Signatory

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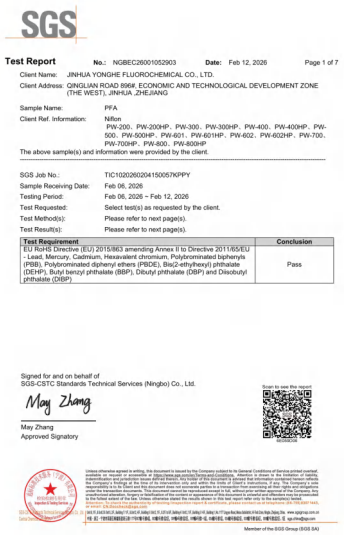
Member of the SGS Group (SGS SA)

REACH Annex XVII testing

PFA | SGS NGBEC26002682303 | 20 Apr 2026. Testing against selected REACH Annex XVII restrictions. Selected restricted-substance tests; this file is not an SVHC Candidate List report.



SGS

Test Report No.: NGBEC26001052903 Date: Feb 12, 2026 Page 1 of 7

Client Name: JINHUA YONGHE FLUOROCHEMICAL CO., LTD.

Client Address: QINGLIAN ROAD 896#, ECONOMIC AND TECHNOLOGICAL DEVELOPMENT ZONE (THE WEST), JINHUA , ZHEJIANG

Sample Name: PFA

Client Ref. Information: Nifon PW-200、PW-200HP、PW-300、PW-300HP、PW-400、PW-400HP、PW-500、PW-500HP、PW-601、PW-601HP、PW-602、PW-602HP、PW-700、PW-700HP、PW-800、PW-800HP

The above sample(s) and information were provided by the client.

SGS Job No.: TIC1020260204150057KPPY

Sample Receiving Date: Feb 06, 2026

Testing Period: Feb 06, 2026 ~ Feb 12, 2026

Test Requested: Select test(s) as requested by the client.

Test Method(s): Please refer to next page(s).

Test Result(s): Please refer to next page(s).

Test Requirement	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU - Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	Pass

Signed for and on behalf of SGS-CSTC Standards Technical Services (Ningbo) Co., Ltd.

May Zhang

May Zhang

Approved Signatory

Scan to see the report

Member of the SGS Group (SGS SA)

RoHS restricted substances

PFA | SGS NGBEC26001052903 | 12 Feb 2026. RoHS substance testing. Results apply to the submitted PFA material sample.

04

Specialty Fluoropolymers & Assemblies

PVDF and PCTFE products, corrugated and coiled tubing, braided hoses, multi-material films and sheets, sealing components and material comparison data.





12 product and selection entries

PVDF

PVDF Heat Shrink Tubing

PVDF Heat Shrink Tubing - Catalogue Range. Semi-rigid PVDF heat shrink tubing for oil-resistant electrical and mechanical protection in demanding industrial environments.





Features & operating conditions

- Shrink temperature above 175°C
- Radial shrinkage ≥50%
- Axial shrinkage ≤10%
- Shrink ratio 2:1
- Operating temperature -150 to 175°C

PVDF 2:1 dimensions

Size (in)	Size (mm)	Min. supplied ID	Max. recovered ID	Recovered wall	Roll (m)
3/64	1.20	1.20	0.60	0.25 ± 0.05	200
1/16	1.60	1.60	0.80	0.25 ± 0.05	200
3/32	2.40	2.40	1.20	0.25 ± 0.05	200
1/8	3.20	3.20	1.60	0.25 ± 0.05	100
3/16	4.80	4.80	2.40	0.25 ± 0.05	100
1/4	6.40	6.40	3.20	0.33 ± 0.05	100
3/8	9.5	9.5	4.80	0.33 ± 0.05	100
1/2	12.7	12.7	6.40	0.33 ± 0.05	100
3/4	19.1	19.1	9.50	0.43 ± 0.08	100/50
1	25.4	25.4	12.7	0.48 ± 0.08	50

PVDF

RSFR-VDF175 | Semi-Rigid PVDF Heat Shrink Tubing

Transparent thin-wall PVDF tubing for electronics, automotive and military applications requiring protection and visual inspection. The separately specified PVDF175 model is included in this family.



Features & operating conditions

- 2:1 shrink ratio
- Long term resistance to diesel, hydraulic fluids and chemicals
- Semi-rigid
- Flame retardant
- High abrasion and cut resistance
- Continuous operating temperature:-55°C-175°C
- Full recovery temperature:175°C
- Meets 23053/18

Dimensions

Size		Expanded	Recovered		Standard Package M/Spool	Round/Flat
Inch	mm	Internal Diameter (mm)	Internal Diameter (mm)	Wall Thickness (mm)		
3/64	1.2	1.2	0.6	0.25±0.05	200	Round
1/16	1.6	1.6	0.8	0.25±0.05	200	Round
3/32	2.4	2.4	1.2	0.25±0.05	200	Round
1/8	3.2	3.2	1.6	0.25±0.05	200	Round
3/16	4.8	4.8	2.4	0.25±0.05	100	Round
1/4	6.4	6.4	3.2	0.30±0.05	100	Round
3/8	9.5	9.5	4.8	0.30±0.05	50	Round
1/ 2	12.7	12.7	6.4	0.30±0.05	50	Round
3/4	19.1	19.1	9.5	0.42±0.05	50	Round
1	25.4	25.4	12.7	0.50±0.05	50	Round
1-1/ 2	38.1	38.1	19.1	0.50±0.05	50	Round

Note: 3:1 shrink ratio is available upon request

Separate model specifications are retained below. Use the named model and its dimensional table when ordering.

PVDF Heat Shrink Tubing | RSFR-VDF175

Property

Property	Test Method	Typical Performance
Tensile Strength(MPa)	ASTM D 2671	⩾30
Elongation(%)	ASTM D 2671	⩾150
Tensile	250°CX168hr	⩾100
Cold Bend	No cracking	⩾220
Flammability	ASTM D 2671	VW-1
Volume resistivity(Ω.cm)	IEC 60093	$\geqslant 10^{14}$

PVDF

PVDF175 (2X) | Semi-Rigid PVDF Heat Shrink Tubing

Irradiation-modified PVDF tubing provides transparent, flame-retardant protection for solder joints, terminations and connecting cables exposed to high temperatures, industrial fuels, solvents and chemicals.



Features & operating conditions

- Flexible and tough; resistant to abrasion, oils and solvents.
- Operating temperature: -55°C to 175°C.
- Shrink ratio: 2:1.
- Environmental standard: RoHS.
- Standard colors: clear and black.

PVDF175 (2X) - Technical properties

Property	Technical Specification	Test Method
Tensile Strength	≥34.5 MPa	ASTM D 638
Elongation at Break	≥150%	ASTM D 638
Elongation at Break after Heat Aging	≥100%	250°C × 168h
Flame Retardancy	VW-1	UL 224
Longitudinal Shrinkage	-5% to +5%	ASTM D 2671
Volume Resistivity	$\geq 10^{13}$ Ω·cm	ASTM D 876
Cold Bend	No Cracks	-55°C × 4h
Heat Shock	No Cracks	300°C × 4h
Corrosivity	No Corrosion	ASTM D 2671

PVDF175 (2X) - Dimensions

Size	As-Supplied ID (mm)	Fully Recovered Dimensions (mm)		Standard Packaging (m/reel)
		ID d	Wall Thickness w	
Φ0.8	0.8±0.15	≤0.5	0.20±0.05	200
Φ1.0	1.1±0.15	≤0.6	0.22±0.05	200
Φ1.2	≥1.2	≤0.6	0.25±0.05	200
Φ1.6	≥1.6	≤0.8	0.25±0.05	200
Φ2.4	≥2.4	≤1.2	0.25±0.05	200
Φ3.2	≥3.2	≤1.6	0.25±0.05	100
Φ4.8	≥4.8	≤2.4	0.25±0.05	100
Φ6.4	≥6.4	≤3.2	0.30±0.08	100
Φ9.5	≥9.5	≤4.8	0.30±0.08	100
Φ12.7	≥12.7	≤6.4	0.30±0.08	100
Φ19.1	≥19.1	≤9.5	0.43±0.08	100
Φ25.4	≥25.4	≤12.7	0.48±0.08	50

Fluoropolymer-Lined Valves

FLUOROPOLYMER SYSTEMS

Fluoropolymer-Lined Valves

PFA- and FEP-lined diaphragm, ball, butterfly and check valves for corrosive-media service.

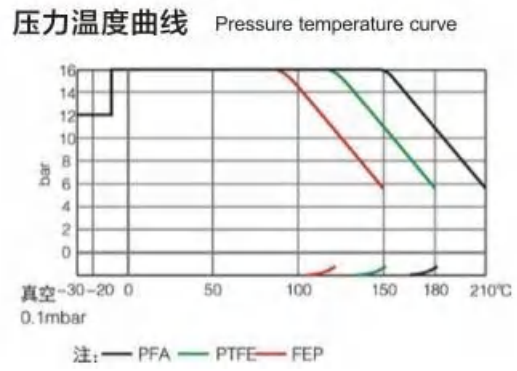


Features & operating conditions

- Diaphragm valve: isolated drive components and PTFE diaphragm
- FLBV ball valve: lining thickness 3 mm or greater; reinforced PTFE seat
- FLBB butterfly valve: PTFE/FEP/PFA lining, manual or worm-gear operation
- FLCV check valve: one-way flow; flanged or clamp connections

Check-valve lining options: FEP, PFA and GXPO.

Pressure-temperature curves (bar / °C), original chart



PCTFE Rods

PCTFE

PCTFE Rods

PCTFE rods provide high compressive strength, hardness, low creep and low water-vapour and gas permeability for high-pressure and cryogenic sealing applications.



Features & operating conditions

- High optical transmission
- Ultra-low-temperature performance
- Precision machinable

Source composition statement: fluorine content 49%. Custom machining to drawings or samples available.

Applications include electrical and communication components, gaskets and seats, chemical equipment, sealing parts, slide bearings and transparent components.

Dimensions

Diameter	Length
6-100 mm	1000 mm

FEP / PFA

FEP / PFA Annular Corrugated Tubing

Annular corrugated fluoropolymer tubing for liquid-cooling circuits and high-purity reagent delivery, including data centres, high-performance computing and laboratory equipment.



Features & operating conditions

- Flexible
- Chemical stability
- High transparency
- Ageing resistance
- Compatible with water-based coolants

Annular tubing dimensions

ID × OD (mm)	Wall (mm)	Straight ID (mm)	Straight OD (mm)
6*8	0.9–1.1	6 ± 0.1	8 ± 0.1
8*10	0.9–1.1	8 ± 0.1	10 ± 0.1
10*12	0.9–1.1	10 ± 0.1	12 ± 0.1
12*14	0.9–1.1	12 ± 0.15	14 ± 0.15
12*15	1.4–1.6	12 ± 0.15	15 ± 0.15
13*16	1.4–1.6	13 ± 0.15	16 ± 0.15

Common lengths: 130, 220, 300, 330, 450, 500 and 1800 mm. Dimensions are subject to actual product inspection.

Thin-wall PFA corrugated tubing

Nominal size (in)	Straight OD × ID (mm)	Wall (mm)
1/4	6.35*5.25	0.45mm ± 0.1
3/8	9.2*10.3	0.55mm ± 0.1
1/2	11.1*12.7	0.8mm ± 0.1
3/4	17.4*19	0.8mm ± 0.1

FLUOROPOLYMER SYSTEMS

PTFE / FEP / PFA Corrugated Tubing

Corrugated tubing for chemical service, semiconductor equipment, laboratories, food and beverage equipment, heat exchangers and high-purity fluid systems.



Features & operating conditions

- Allows misalignment and movement
- Vibration absorption
- High and low temperature resistance
- Chemical and ageing resistance

Corrugated tubing dimensions

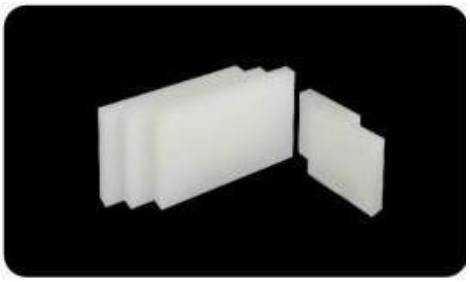
Straight ID × OD (mm)	Wall (mm)	Corrugated ID (mm)	Corrugated OD (mm)
6*8	0.9–1.0	4.9–5.1	7.5–7.7
8*9.53 (3/8)	0.7–0.8	6.8–7.2	9.0–9.4
8*10	0.9–1.0	6.8–7.2	9.5–9.8
10*12	0.9–1.0	7.8–8.1	11.0–11.4
10.2*12.7 (1/2)	1.2–1.3	8.0–8.3	11.7–12.1
10.7*12.7 (1/2)	0.9–1.0	8.5–8.8	11.7–12.1
16*19 (3/4)	1.4–1.6	13.0–13.2	18.0–18.3
22*25	1.4–1.6	16.7–16.8	23.0–23.2
22.2*25.4 (1)	1.4–1.7	16.8–16.9	23.2–23.5
25*28	1.4–1.6	20.5–20.8	26.5–27.2
29*32(1–1/4)	1.4–1.6	25.4–25.7	31.0–31.8
32*35	1.4–1.6	26.5–27.1	33.5–35.8
35*38 (1–1/2)	1.4–1.6	28.5–29.0	36.0–36.5
48*52(2)	1.9–2.1	43.0–43.5	51–51.8

Common sizes shown; custom specifications available. Actual dimensions depend on the product.

FLUOROPOLYMER SYSTEMS

PFA / FEP / PVDF / ETFE Sheet

Moulded and extruded fluoropolymer sheet for corrosion-resistant components, seals, electrical insulation, pump and valve linings and chemical containers.



Features & operating conditions

• Materials: PFA, FEP, PVDF and ETFE

Moulded sheet dimensions (mm)

Length × width	Thickness
120 × 200	3-60
200 × 200	3-50
250 × 250	3-50
300 × 300	3-50
400 × 400	6-30
495 × 495	6-30
645 × 560	8-40

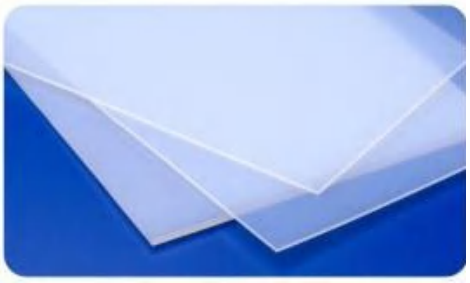
Extruded sheet dimensions (mm)

Width	Thickness
1000	1-4
1200	1-4

FLUOROPOLYMER SYSTEMS

PFA / FEP / PVDF / ETFE Film

Extruded and blown fluoropolymer films for chemical resistance, non-stick surfaces, transparent components, electrical insulation and laminated assemblies.



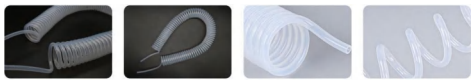
Film and thin-sheet dimensions (mm)

Form	Width / lay-flat width	Thickness
Extruded film / sheet	50-300	0.05-1.5
Blown film	100-600	0.03-0.25

FLUOROPOLYMER SYSTEMS

Fluoropolymer Coiled Tubing

Spring-form tubing in FEP, PFA and PTFE for compact flexible connections in electronics, machinery, semiconductors, chemical equipment and food processing.



Features & operating conditions

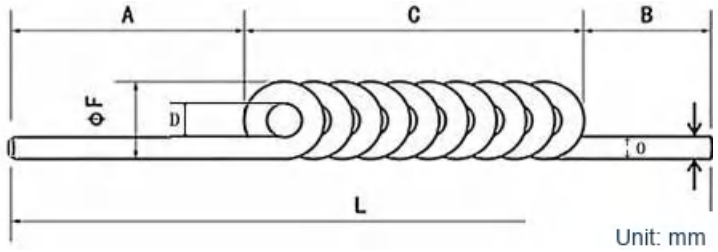
- Chemical resistance
- High and low temperature resistance
- Electrical insulation
- Non-stick
- Ageing resistance

Coiled tubing dimensions

Tube ID × OD	Working reach (m)	Tube length	Turns	End A	End B	Coil C	Total L	Coil ID D	Coil OD F	Tube ID O	Tube OD P
2*4	0.5~1	6	47	80	80	188	348	35	43	2	4
	1~1.5	9	72			288	448				
	1.5~2.5	12	96			384	544				
4*6	0.5~1	6	36			216	376	45	57	4	6
	1~1.5	9	55			330	490				
	1.5~2.5	12	74			444	604				
6*8	0.5~1	6	26			208	368	63	79	6	8
	1~1.5	9	39			312	472				
9*12	0.5~1	6	19			228	388	76	100	9	12
	1~1.5	9	29			348	508				
	1.5~2.5	12	39			468	628				
1/8 (3.2*1.6)	1~1.5	6	80			256	416	20	26.4	1.6	3.2
	1.5~3	9	121			378	538				
	2.5~3	12	162			518	678				
1/4 (6.35*4.35)	0.5~1	6	36			229	389	45	57.7	4.35	6.35
	1~1.5	9	55			349	509				
	1.5~2.5	12	73			464	624				
1/2 (12.7*9.53)	0.5~1	6	21			267	427	76	101.4	9.53	12.7
	1~1.5	9	32			406	566				
	1.5~2.5	12	42			533	693				

Dimensions in mm unless otherwise specified; source column for tube length is unlabelled for unit. Header in source repeats B for both straight-end lengths; dimensional drawing identifies A and B.

Coiled tubing dimensional key (mm)



FLUOROPOLYMER SYSTEMS

Braided Fluoropolymer Hose Assemblies

Braided hose assemblies with PTFE, FEP or PFA liners and selected fittings or flanges for hydraulic, lubrication, liquid and gas transfer systems.



Features & operating conditions

- Smooth, corrugated or antistatic liners
- 304 / 316 stainless-steel braid or other outer coverings
- Chemical and temperature resistance
- Low friction

Connector options: fittings, flanges or bare hose. Size column is retained as shown in source, which labels the column In. despite decimal values resembling millimetres.

Braided hose dimensions and pressure ratings

Model	Size (source)	ID min	ID max	OD min	OD max	Liner wall	Working bar	Burst bar	Bend radius	kg/m
DX-002-0190	4.9	4.65	5.16	7.32	8.43	0.90	276	828	51	0.090
DX-002-0200	5.1	4.85	5.36	7.49	8.61	0.90	264	793	64	0.094
DX-002-0260	6.7	6.45	6.96	8.83	9.86	0.75	224	672	76	0.092
DX-002-0330	8.4	8.15	8.66	10.54	11.56	0.65	207	621	102	0.141
DX-002-0410	10.3	9.93	10.64	12.78	14.10	0.65	183	552	133	0.148
DX-002-0530	13.4	13.06	13.36	15.88	17.22	0.90	161	483	152	0.249
DX-002-0650	16.6	16.10	17.12	18.95	20.57	0.90	114	345	178	0.290
DX-002-0780	19.8	19.30	20.32	22.15	23.77	1.00	103	310	203	0.339
DX-002-0870	22.1	21.59	22.61	24.46	26.09	1.00	92	276	229	0.382
DX-002-1030	26.1	25.60	26.62	28.45	30.07	1.20	80	241	305	0.461

FEP / PFA

FEP / PFA Encapsulated O-Rings

FEP- or PFA-encapsulated O-rings combine an elastomer core with a chemically resistant fluoropolymer jacket. Core options described in the source include silicone and FKM.



Features & operating conditions

- Chemical resistance
- Temperature resistance
- Low-friction jacket
- Elastic sealing core

Standard notation: ID × cross-section diameter (mm), GB3452.1-82; alternative OD × cross-section diameter (mm), GB1235-76. Jacket friction coefficient stated: 0.1-0.2.

Applications: new energy, semiconductor, optoelectronic, hydraulic, pump and valve, aerospace, petroleum and chemical equipment. Chemical limitations listed in source include alkali metals, fluorine and certain halides at elevated temperature.

Standard cross-section diameters (mm)

Available sizes
1.8, 2.0, 2.62, 3.0, 3.55, 4.0, 4.5, 5.0, 5.33, 5.5, 5.7, 6.0, 6.3, 7.0, 8.0, 8.6, 9.0, 10, 11, 12, 14, 16

Availability depends on inside diameter.

FLUOROPOLYMER SYSTEMS

PTFE / FEP / PFA Spiral Wrap

Spiral-cut fluoropolymer wrap for fibre-optic, wire, cable and lighting-equipment protection. Install by wrapping around the bundle.



Features & operating conditions

- Weather and ageing resistance
- Electrical insulation
- Chemical resistance
- Wear resistance
- Non-stick

Material properties

Material	Flame rating	Heat resistance	Standard color
PTFE	UL94 V-0	260°C	Milky white / translucent
FEP	UL94 V-0	200°C	Clear
PFA	UL94 V-0	260°C	Clear

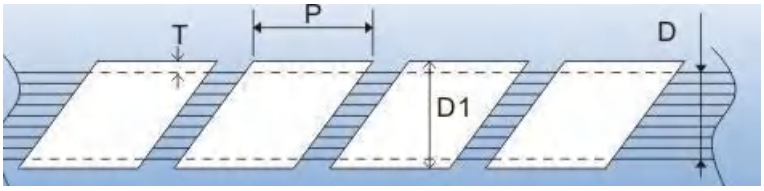
Other colors listed: black, blue and custom.

Spiral wrap dimensions

Model	ID D (mm)	OD D1 (mm)	Wall T (mm)	Pitch P (mm)	Bundle Ø (mm)	Roll (m)
DP-2T	2	4	1.00	6	3-6	100
DP-2.5	2.5	4	0.75	6	3-6	100
DP-4	4	5	0.50	8	4-7	100
DP-4T	4	6	1.00	8	4-11	100
DP-5	5	6	0.50	8	5-11	100
DP-6	6	7	0.50	10	6-12	100
DP-6T	6	8	1.00	10	6-15	100
DP-7	7	8	0.50	10	7-15	100
DP-8T	8	10	1.00	12	8-22	100
DP-10T	10	12	1.00	12	10-30	100
DP-14T	14	16	1.00	18	14-35	100
DP-20T	20	22	1.00	22	20-50	50
DP-25T	25	27	1.00	26	25-70	50

PTFE / FEP / PFA Spiral Wrap

D: inside diameter; D1: outside diameter; T: wall; P: pitch



TECHNICAL REFERENCE

Fluoropolymer Material Properties

Reference material-property matrix for PTFE, FEP, PFA, ETFE, ECTFE, PVDF and PCTFE. Values are supplied reference data; grade-specific product data take precedence.

Source values are experimental reference values rather than guaranteed specifications. Evaluate material compatibility and conditions for each application.

Use only within specified temperature ranges and intended applications. Maintain ventilation during processing above the service temperature. Refer to the material SDS. Source precautions prohibit direct contact with biological tissues/body fluids or introduction into the human body. Avoid open flame. Confirm aggressive-fluid compatibility and effects of loading, bending, abrasion and ageing.

Reference matrix

Property / method	PTFE	FEP	PFA	ETFE	ECTFE	PVDF	PCTFE
Relative density / ASTM D792	2.13-2.22	2.12-2.17	2.12-2.17	1.70-1.86	1.68	1.75-1.78	2.10-2.18
Elongation at break (%) / D638	200-450	250-330	280-400	420-460	200-300	300-450	150
Tensile strength (MPa) / D638	14-48	19-35	28-31	42-47	41-54	31-43	30-60
Flexural strength (MPa) / D790	No break	No break	No break	38	48	59-66	59
Compressive strength (MPa) / D695	24	15	17	8.8-12	8.8-12	80	38
Tensile modulus (MPa) / D638	393	345	500-600	586-655	1655	1103	1050-2100
Flexural modulus (MPa) / D790	490-586	538-634	548-682	883-1179	1655	621-1158	1241
Shore D hardness / D636	D50-60	D55	D55-60	D75	D75-90	D75-85	D90
Coefficient of friction against steel	0.02	0.05	0.2	0.06	0.19	0.4	0.08
Wear resistance, 1000 cycles / Taber	12	14-20	9-17	/	0.005	5-15	/
Notched Izod impact, 23°C (kJ/m^2) / D256	6.3	No break	No break	No break	No break	8.4	10.5
Melting point (°C)	320-327	250-270	302-310	218-270	240	160-180	210-216
Thermal conductivity (source unit omitted)	0.25	0.28	0.25	0.46-0.47	0.15	0.33	0.22
Continuous operating temperature, 20000 h (°C)	260	200	260	150	150-170	129	132

Property / method	PTFE	FEP	PFA	ETFE	ECTFE	PVDF	PCTFE
Flame rating / UL94	V-0	V-0	V-0	V-0	V-0	V-0	V-0
Thermal expansion (10^-5 °C^-1) / D696	>11.6	8.3-10.5	13	13	No break (source)	4.2	7.0
Brittle temperature (°C)	-268	-268	-268	-100	-76	-62	-240
Dielectric constant, 10^3 Hz / D150	2.1	2.1	2.1	2.6-2.8	2.5	7.72	2.3-2.7
Dielectric constant, 10^5 Hz / D150	2.1	2.1	2.1	2.6-2.8	2.59	6.43	2.3-2.5
Dielectric strength, 0.254 mm film (kV/mm) / D149	>1400	>2000	>2000	1600	/	>1080	/
Volume resistivity (Ω·cm) / D257	>10^18	>10^18	>10^18	>10^16	10^16	2 × 10^14	10^18
Surface resistivity (Ω) / D257	>10^17	>10^17	>10^17	>10^15	10^14-10^15	5 × 10^14	10^15
Chemical resistance / D543	Excellent	Excellent	Excellent	Excellent	Excellent	Very good	Good
Water absorption, 24 h (%) / D570	<0.01	<0.01	<0.03	<0.03	<0.1	<0.04	<0.01
Refractive index	1.35	1.338	1.34	1.40	1.447	1.42	/
Limiting oxygen index / D2863	>95	>95	>95	31-50	60	43	<95

Retains source numbers and units, including unusually high dielectric-strength values and the anomalous ECTFE thermal-expansion entry. Confirm before treating as guaranteed design data.

05

Polyolefin Heat Shrink & Accessories

Single-wall, adhesive-lined, medium-wall and heavy-wall products for electrical insulation, environmental sealing and connection protection. Each ratio and series retains its own technical schedule.



34 product and selection entries

POLYOLEFIN

SBRS-(2X)G | Dual-Wall Adhesive-Lined Heat Shrink Tubing - 2:1

Adhesive-lined polyolefin heat shrink tubing for environmental sealing of electrical assemblies, automotive and marine harnesses, wire splices, breakouts and connector-to-cable transitions.



Features & operating conditions

- 2:1 shrink ratio
- Superior sealing against water, moisture or other contaminants
- Inner adhesive bonds to plastics, steel and polyethylene
- Outer jacket flame retardant
- Continuous operating temperature:-45°C-125°C
- Full recovery temperature:≥125°C

Dimensions

Size		As Supplied	After Recovery			Standard Package
Inch	mm	Internal Diameter mm	Internal Diameter mm	Total Wall Thickness mm	Adhesive Thickness mm	Spool Length M/spool
1/16	1.6	1.6	0.8	0.60±0.30	0.30±0.2	200
3/32	2.4	2.4	1.2	0.70±0.30	0.35±0.2	200
1/8	3.2	3.2	1.6	0.70±0.30	0.35±0.2	200
3/16	4.8	4.8	2.4	0.80±0.30	0.40±0.2	100
1/4	6.4	6.4	3.2	0.80±0.30	0.40±0.2	100
5/16	7.9	7.9	3.9	0.90±0.30	0.45±0.2	100
3/8	9.5	9.5	4.8	0.90±0.30	0.45±0.2	50
1/2	12.7	12.7	6.4	0.95±0.40	0.45±0.2	1.22 OR 25M/Roll
5/8	15.9	15.9	7.9	0.95±0.40	0.45±0.2	1.22 OR 25M/Roll
3/4	19.1	19.1	9.5	1.00±0.40	0.45±0.2	1.22 OR 25M/Roll
1	25.4	25.4	12.7	1.10±0.40	0.50±0.2	1.22 OR 25M/Roll
1 1/4	31.8	31.8	15	1.15±0.40	0.50±0.2	1.22 OR 25M/Roll
1 1/2	38.1	38.1	19	1.25±0.40	0.50±0.2	1.22 OR 25M/Roll
1/ 3/4	44.5	44.5	22	1.35±0.40	0.55±0.2	1.22 OR 25M/Roll
2	50.8	50.8	25.4	1.50±0.40	0.60±0.2	1.22 OR 25M/Roll

SBRS-(2X)G | Dual-Wall Adhesive-Lined Heat Shrink Tubing - 2:1

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	≥10.4	11.5
Elongation(%)	ASTM D2671	≥300	450
Tensile Strength after aging (MPa)	UL224 158℃X168hr	≥7.3	8.5
Elongation after aging(%)	UL224 158℃X168hr	≥200	350
Dieletric strength(kv/mm)	IEC 60243	≥15	17.5
Volume resistivity(Ω.cm)	IEC 60093	$\geqslant 1X10^{14}$	$2.5X10^{14}$
Flammability	ASTM D2671B	Self-extinguish within 30s	

Hot Melt Adhesive Property

Property	Test Method	Stantard
Water Absorption	ASTM D570	≤0.2%
Sofening Point(°C)	ASTM E28	90±5
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRS-(3X)G | Dual-Wall Adhesive-Lined Heat Shrink Tubing - 3:1

Adhesive-lined polyolefin heat shrink tubing for environmental sealing of electrical assemblies, automotive and marine harnesses, wire splices, breakouts and connector-to-cable transitions.



Features & operating conditions

- 3:1 shrink ratio
- Low longitudinal shrinkage
- Flame retardant (out jacket only)
- Super sealing against water, moisture or other contaminates
- Continuous operating temperature:-45°C-125°C
- Full recovery temperature:≥125°C

Dimensions

Size		Expanded	After Recovery			Standard Package
Inch	mm	Internal Diameter mm	Internal Diameter mm	Total Wall Thickness mm	Adhesive Thickness mm	Spool Length M/spool
3/32	2.4	2.4	0.8	0.80±0.30	0.40±0.20	200
1/8	3.2	3.2	1.0	0.90±0.30	0.40±0.20	200
3/16	4.8	4.8	1.6	1.05±0.30	0.40±0.20	100
1/4	6.4	6.4	2.2	1.25±0.30	0.45±0.20	100
5/16	7.9	7.9	2.7	1.35±0.30	0.50±0.20	100
3/8	9.5	9.5	3.2	1.45±0.30	0.50±0.20	50
1/ 2	12.7	12.7	4.2	1.65±0.30	0.50±0.20	1.22 OR 25M/Roll
5/8	15	15	5.2	1.80±0.30	0.55±0.30	1.22 OR 25M/Roll
3/4	19.1	19.1	6.3	1.95±0.30	0.60±0.30	1.22 OR 25M/Roll
1	25.4	25.4	8.5	2.00±0.40	0.60±0.30	1.22 OR 25M/Roll
1-1/4	30	30	10.2	2.15±0.40	0.65±0.30	1.22 OR 25M/Roll
1-1/2	39	39	13.5	2.45±0.40	0.60±0.30	1.22 OR 25M/Roll
2	50	50	17	2.75±0.40	0.75±0.30	1.22 OR 25M/Roll
5/2	64	64	21	3.05±0.40	0.80±0.30	1.22 OR 25M/Roll
3	75	75	25	3.05±0.40	1.05±0.40	1.22 OR 25M/Roll
7/2	90	90	30	3.10±0.50	1.05±0.40	1.22 OR 25M/Roll
4	100	100	34	3.10±0.50	1.05±0.40	1.22 OR 25M/Roll
5	125	125	42	3.10±0.50	1.10±0.40	1.22 OR 25M/Roll

SBRS-(3X)G | Dual-Wall Adhesive-Lined Heat Shrink Tubing - 3:1

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	≥10.4	11.5
Elongation(%)	ASTM D2671	≥300	450
Tensile Strength after aging (MPa)	UI224 158°CX168hr	≥7.3	8.5
Elongation after aging(%)	UI224 158°CX168hr	≥200	350
Flammability	ASTM D2671B	Self-extinguish within 30s	Self-extinguish within 30s
Dieletric strength(kV/mm)	IEC 60243	≥15	17.5
Volume resistivity(Ω.cm)	IEC 60093	$\geqslant 1X10^{14}$	$2.5X10^{14}$

Hot Melt Adhesive Property

Property	Test Method	Stantard
Water Absorption	ASTM D570	<0.2%
Sofening Point(°C)	ASTM E28	90±5
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRS-(4X)G | Dual-Wall Adhesive-Lined Heat Shrink Tubing - 4:1

Adhesive-lined polyolefin heat shrink tubing for environmental sealing where a large diameter change is required, including splices, breakouts and connector transitions.



Features & operating conditions

- 4:1 shrink ratio
- Low longitudinal shrinkage
- Superior sealing against water, moisture or other contaminants
- Ideal for connector sealing covering large diameter differences
- Inner adhesive bonds to plastics, steel and polyethylene
- Flame retardant(out jacket only)
- Continuous operating temperature:-45°C-125°C
- Full recovery temperature:≥125°C

Dimensions

Size		Expanded	After Recovery			Standard Package
Inch	mm	Internal Diameter mm	Internal Diameter mm	Total Wall Thickness mm	Adhesive Thickness mm	Spool Length M/spool
5/32	4.0	4.0	1.0	1.05±0.30	0.50±0.30	200
1/4	6.0	6.0	1.5	1.15±0.30	0.50±0.30	100
5/16	8.0	8.0	2.0	1.55±0.30	0.60±0.30	50
1/ 2	12.0	12.0	3.0	1.75±0.30	0.60±0.30	1.22 OR 25M/Roll
5/8	16.0	16.0	4.0	2.00±0.30	0.70±0.30	1.22 OR 25M/Roll
25/32	20.0	20.0	5.0	2.30±0.40	0.70±0.30	1.22 OR 25M/Roll
1	24.0	24.0	6.0	2.60±0.40	0.75±0.30	1.22 OR 25M/Roll
1-1/4	32.0	32.0	8.0	3.00±0.40	0.90±0.30	1.22 OR 25M/Roll
2	52.0	52.0	13.0	3.35±0.50	0.95±0.30	1.22 OR 25M/Roll

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	⩾10.4	11.5
Elongation(%)	ASTM D2671	⩾300	450
Tensile Strength after aging (MPa)	UI224 158°CX168hr	⩾7.3	8.5
Elongation after aging(%)	UI224 158°CX168hr	⩾200	350
Flammability	ASTM D2671B	Self-extinguish within 30s	Self-extinguish within 30s
Dieletric strength(kV/mm)	IEC 60243	⩾15	17.5
Volume resistivity(Ω.cm)	IEC 60093	⩾$1X10^{14}$	$2.5X10^{14}$

SBRS-(4X)G | Dual-Wall Adhesive-Lined Heat Shrink Tubing - 4:1

Hot Melt Adhesive Property

Property	Test Method	Standard
Water Absorption	ASTM D570	＜0.2%
Sofening Point(°C)	ASTM E28	90±5
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRS-(2X)QF | Automotive Oil-Pipe Protection Tubing

Adhesive-lined tubing for automotive brake lines, fuel lines, hydraulic lines and other metal pipes exposed to bending or clamping during manufacture, installation and service.



Features & operating conditions

- Semi-rigid outer jacket for mechanical damage prevention
- Adhesive inner layer for sealing against moisture and corrosion
- Easy installation
- High strength bonding, the adhesive layer is hard to be peeled off from pipeline
- Continuous operating temperature:-45°C-105°C
- Full recovery temperature:≥125°C

Dimensions

Size	Expanded	After Recovery			Standard Package
mm	Internal Diameter Min(mm)	Internal Diameter Max(mm)	Total Wall Thickness Nom(mm)	Adhesive Thickness Nom(mm)	Spool Length M/spool
Φ6.0	6	4.5	1.20±0.20	0.20±0.05	300
Φ8.0	8	6.1	1.30±0.20	0.20±0.05	200
Φ11.0	11	7.1	1.30±0.20	0.20±0.05	200
Φ13.0	13	9.8	1.30±0.20	0.20±0.05	100
Φ15.0	15	11.5	1.30±0.20	0.20±0.05	100

Technical Data

Property	Test Method	Standard Performance
Tensile Strength(MPa)	ASTM D2671	≥12
Elongation(%)	ASTM D2671	⩾300
Longitudinal change	ASTM D2671	-10%~+10%
Tensile strength after aging(MPa)	120°CX24h	≥12
Non-deformability	140°C,10min,2kg/cm^2 ,loaded 5min	≤60%
Low-temperature impact	ASTM D 746	-35°C,no cracking
Impact resistance to fall	Room temperature&-40°CX30min, impacted by a weight of 200g, 0.5m high	no cracking
Stress-crack resistance	ASTM D 1693	no cracking
Chemical reagents resistance: 0.1mol/L H_2SO_4,0.1mol/L NaOH, Brake fluid, Engine oil, Gasoline	No abnormal in appearance	20°C,120hr

SBRS-(2X)QF | Automotive Oil-Pipe Protection Tubing

Adhesive

Property	Test Method	Standard
Water Absorption	ASTM D570	<0.5%
Sofening Point(°C)	ASTM E28	105±5
Strength of pearing(AL)	ASTM D 1000	120N/25mm
Strength of pearing(PE)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRS-(3X,4X)GF | Flame-Retardant Dual-Wall Heat Shrink Tubing

Adhesive-lined cross-linked polyolefin tubing for applications requiring both flame retardancy and environmental sealing.



Features & operating conditions

- 3:1&4:1 shrink ratio
- Highly flame retardant
- Superior sealing against water, moisture or other contaminants
- High shrink ratio allows for coverage of irregularly shaped connectors and components
- Superior sealing against water, moisture and other contaminants
- Continuous operating temperature:-55°C-135°C
- Full recovery temperature:≥125°C
- Meets MIL-DTL-23053/4

SBRS-(3X,4X)GF | Flame-Retardant Dual-Wall Heat Shrink Tubing

Dimensions

Size		Expanded	After Recovery			Standard Package
Inch	mm	Internal Diameter mm	Internal Diameter mm	Total Wall Thickness mm	Adhesive Thickness mm	Spool Length M/spool
1/8	3.2	3.2	1.0	0.90±0.30	0.40±0.20	200
3/16	4.8	4.8	1.6	1.05±0.30	0.40±0.20	100
1/4	5.4	5.4	2.2	1.25±0.30	0.45±0.20	100
5/16	7.9	7.9	2.7	1.35±0.30	0.45±0.20	100
3/8	9.5	9.5	3.2	1.45±0.30	0.50±0.20	50
1/ 2	12.7	12.7	4.2	1.650±0.30	0.50±0.20	1.22 OR 25M/Roll
5/8	15	15	5.2	1.80±0.30	0.55±0.30	1.22 OR 25M/Roll
3/4	19.1	19.1	6.3	1.95±0.30	0.60±0.30	1.22 OR 25M/Roll
1	25.4	25.4	8.5	2.00±0.40	0.60±0.30	1.22 OR 25M/Roll
1-1/4	30	30	10.2	2.15±0.40	0.65±0.30	1.22 OR 25M/Roll
1-1/2	39	39	13.5	2.45±0.40	0.75±0.30	1.22 OR 25M/Roll
2	50	50	17.0	2.75±0.40	0.80±0.30	1.22 OR 25M/Roll

SBRS-(4X)GF

Size		Expanded	After Recovery			Standard Package
Inch	mm	Internal Diameter mm	Internal Diameter mm	Total Wall Thickness mm	Adhesive Thickness mm	Spool Length M/spool
5/32	4.0	4,0	1.0	1.05±0.30	0.50±0.20	200
1/4	6.0	6,0	1.5	1.15±0.30	0.50±0.20	100
5/16	8.0	8,0	2.0	1.55±0.30	0.60±0.25	50
1/ 2	12.0	12,0	3.0	1.75±0.30	0.60±0.25	1.22 OR 25M/Roll
5/8	16.0	16,0	4.0	2.00±0.35	0.70±0.30	1.22 OR 25M/Roll
25/32	20.0	20,0	5.0	2.30±0.40	0.70±0.30	1.22 OR 25M/Roll
1	24.0	24,0	6.0	2.60±0.40	0.75±0.30	1.22 OR 25M/Roll
1-1/4	32.0	32,0	8.0	3.00±0.50	0.90±0.30	1.22 OR 25M/Roll
2	52.0	52,0	13.0	3.35±0.50	0.95±0.30	1.22 OR 25M/Roll

SBRS-(3X,4X)GF | Flame-Retardant Dual-Wall Heat Shrink Tubing

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	⩾12	12.5
Elongation(%)	ASTM D2671	⩾300	450
Tensile Strength after aging (MPa)	MIL-DTL-23053/4	⩾8.4	8.5
Elongation after aging(%)	MIL-DTL-23053/4	⩾100	350
Dieletric strength(kv/mm)	IEC 60243	⩾15	17.5
Volume resistivity(Ω.cm)	IEC 60093	$\geqslant 1X10^{14}$	$2.5X10^{14}$

Adhesive

Property	Test Method	Standard
Water Absorption	ASTM D570	<0.2%
Sofening Point(°C)	ASTM E28	90±5
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRS-(3X)GLW | Flexible Thick-Adhesive Dual-Wall Tubing

Flexible tubing co-extruded from polyolefin and hot-melt adhesive to insulate and seal bundled wires and metal tubes against water and moisture.



Features & operating conditions

- Low longitudinal shrinkage
- Thick adhesive liner bonding to a wide variety of plastics, rubber and metals forms an effective barrier against fluids and moisture,
- Flexible
- Continuous operating temperature:-45°C-125°C
- Min shrink temperature:110°C
- Shrink ratio: 3:1

Dimensions

Size		Expanded	After Recovery			Standard Package
Inch	mm	Internal Diameter mm	Internal Diameter mm	Total Wall Thickness mm	Adhesive Thickness mm	Spool Length M/spool
1/8	3.2	3.2	1.0	0.90±0.30	0.45±0.20	200
3/16	4.8	4.8	1.6	1.20±0.30	0.55±0.20	100
1/4	6.4	6.4	2.2	1.25±0.30	0.55±0.20	100
5/16	7.9	7.9	2.7	1.35±0.30	0.65±0.20	100
3/8	9.5	9.5	3.2	1.35±0.30	0.65±0.20	50
1/2	12.7	12.7	4.2	1.55±0.40	0.75±0.20	1.22 OR 25M/Roll
5/8	15.0	15.0	5.2	1.65±0.40	0.75±0.20	1.22 OR 25M/Roll
3/4	19.1	19.1	6.3	1.90±0.40	0.85±0.20	1.22 OR 25M/Roll
1	25.4	25.4	8.5	2.00±0.40	0.90±0.20	1.22 OR 25M/Roll
5/4	30.0	30.0	10.2	2.05±0.40	0.90±0.20	1.22 OR 25M/Roll
1-1/2	38.1	38.1	13.5	2.35±0.40	1.05±0.20	1.22 OR 25M/Roll

SBRS-(3X)GLW | Flexible Thick-Adhesive Dual-Wall Tubing

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	≥10.4	11
Elongation(%)	ASTM D2671	≥300	450
Tensile Strength after aging (MPa)	UI224 158°CX168hr	≥7.3	8.5
Elongation after aging(%)	UI224 158°CX168hr	≥200	350
Dieletric strength(kV/mm)	IEC 60243	≥15	17.5
Volume resistivity(Ω.cm)	IEC 60093	$\geqslant 1X10^{14}$	$2.5X10^{14}$

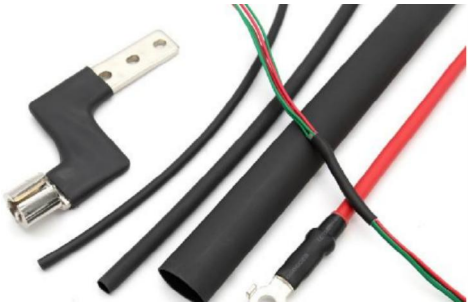
Adhesive

Property	Test Method	Standard
Water Absorption	ASTM D570	<0.2%
Sofening Point(°C)	ASTM E28	90±5
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRS-(3X)H | Halogen-Free Adhesive-Lined Heat Shrink Tubing

Halogen-free adhesive-lined tubing for automotive and marine wire harnesses, splices, breakouts and connector transitions.



Features & operating conditions

- 3:1 shrink ratio
- Halogen free
- Super sealing against water, moisture or other contaminates
- Continuous operating temperature:-45°C-125°C
- Full recovery Temperature:≥125°C
- Shrink ratio: 3:1
- Sony compliant

Dimensions

Size		Expanded	After Recovery			Standard Package
Inch	mm	Internal Diameter mm	Internal Diameter mm	Total Wall Thickness mm	Adhesive Thickness mm	Spool Length M/spool
3/32	2.4	2,4	0.8	0.85±0.15	0.40±0.10	200
1/8	3.2	3,2	1.0	0.95±0.15	0.40±0.10	200
3/16	4.8	4,8	1.6	1.10±0.15	0.40±0.10	100
1/4	6.4	6,4	2.2	1.20±0.15	0.45±0.12	100
5/16	7.9	7,9	2.7	1.35±0.15	0.50±0.12	100
3/8	9.5	9,5	3.2	1.45±0.20	0.50±0.12	50
1/ 2	12.7	12,7	4.2	1.70±0.20	0.50±0.12	1.22 OR 25M/Roll
5/8	15	15	5.2	1.80±0.20	0.55±0.15	1.22 OR 25M/Roll
3/4	19.1	19,1	6.3	2.00±0.20	0.55±0.15	1.22 OR 25M/Roll
1	25.4	25,4	8.5	2.10±0.25	0.55±0.15	1.22 OR 25M/Roll
1-1/4	30	30	10.2	2.20±0.25	0.60±0.15	1.22 OR 25M/Roll
1-1/2	39	39	13.5	2.40±0.25	0.60±0.15	1.22 OR 25M/Roll
2	50	50	17	2.70±0.25	0.70±0.15	1.22 OR 25M/Roll
5/2	64	64	21	3.00±0.30	0.70±0.15	1.22 OR 25M/Roll
3	75	75	25	3.00±0.30	1.00±0.20	1.22 OR 25M/Roll
7/2	90	90	30	3.00±0.30	1.00±0.20	1.22 OR 25M/Roll
4	100	100	34	3.00±0.30	1.00±0.20	1.22 OR 25M/Roll
5	125	125	42	3.00±0.30	1.00±0.20	1.22 OR 25M/Roll

SBRS-(3X)H | Halogen-Free Adhesive-Lined Heat Shrink Tubing

Technical Data

Property	Test Method	Standard
Tensile Strength(MPa)	ASTM D2671	⩾10.4
Elongation(%)	ASTM D2671	⩾300
Tensile Strength after aging (MPa)	UI224 158°CX168hr	⩾7.3
Elongation after aging(%)	UI224 158°CX168hr	⩾200
Flammability	ASTM D2671B	Self-extinguish within 30s
Dieletric strength(kV/mm)	IEC 60243	⩾15
Volume resistivity(Ω.cm)	IEC 60093	$\geqslant 1X10^{14}$

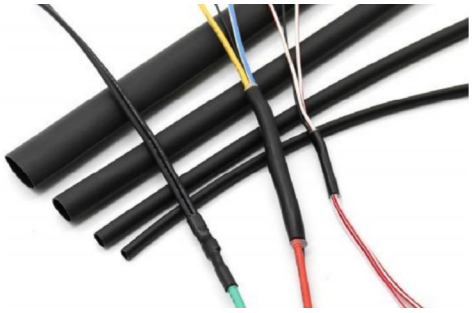
Adhesive

Property	Test Method	Standard
Water Absorption	ASTM D570	<0.5
Sofening Point(°C)	ASTM E28	90±5
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRS-(4X)GR | Semi-Rigid High-Ratio Adhesive-Lined Tubing

Semi-rigid dual-wall tubing designed to seal splices and protect them from environmental exposure.



Features & operating conditions

- 4:1 shrink ratio
- Super sealing against water, moisture or other contaminates
- Continuous operating temperature:-45°C-125°C
- Full recovery Temperature:≥125°C
- Shrink ratio: 4:1

Dimensions

Size		Expanded	After Recovery			Standard Package
Inch	mm	Internal Diameter Min(mm)	Internal Diameter Max(mm)	Total Wall Thickness Nom(mm)	Adhesive Thickness Nom(mm)	Spool Length M/spool
2/13	4	4.0	0.95	1.40±0.30	0.60±0.20	200
1/4	6	6.0	1.27	1.70±0.30	0.80±0.20	100
5/16	8	8.0	1.65	2.00±0.30	0.95±0.20	100
	10	10.0	2.00	2.30±0.40	1.10±0.20	1.22 OR 25M/Roll
1/ 2	12	12.0	2.41	2.45±0.40	1.20±0.20	1.22 OR 25M/Roll
3/4	18	18.0	4.45	2.60±0.40	1.34±0.30	1.22 OR 25M/Roll

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	≥10.4	11.5
Elongation(%)	ASTM D2671	≥300	450
Tensile Strength after aging (MPa)	UL224 158°CX168hr	≥7.3	8.5
Elongation after aging(%)	UI224 158°CX168hr	≥200	350
Dieletric strength(kV/mm)	IEC 60243	≥15	17.5
Volume resistivity(Ω.cm)	IEC 60093	≥$1X10^{14}$	$2.5X10^{14}$

SBRS-(4X)GR | Semi-Rigid High-Ratio Adhesive-Lined Tubing

Adhesive

Property	Test Method	Standard
Water Absorption	ASTM D570	<0.2%
Sofening Point(°C)	ASTM E28	90±5
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRS-(4X)GRF | Highly Flame-Retardant Dual-Wall Tubing

Semi-rigid cross-linked dual-wall tubing for splice sealing and automotive fuse-link protection.



Features & operating conditions

- 3:1&4:1 shrink ratio to cover varying splice configurations and substrate profiles
- Jacket and adhesive are exceptionally flame retardant
- Economical way to environmentally seal and protect automotive fuse-links, splice and terminals
- Highly resistance to common automotive fluids and solvents
- Semi-rigid and mechanically tough outer jacket provides added strain relief and excellent abrasion protection
- Thick adhesive liner forms an effective barrier against fluids and moisture penetration
- Continuous operating temperature:-45°C-125°C
- Full recovery Temperature:≥125°C

Dimensions

Size		Expanded	After Recovery			Standard Package
Inch	mm	Internal Diameter Min(mm)	Internal Diameter Max(mm)	Total Wall Thickness Nom(mm)	Adhesive Thickness Nom(mm)	
2/13	4	4.0	0.95	1.40±0.30	0.60±0.20	1.22
1/4	6	6.0	1.27	1.70±0.30	0.80±0.20	1.22
5/16	8	8.0	1.65	2.00±0.30	0.95±0.20	1.22
	10	10.0	2.00	2.30±0.40	1.10±0.20	1.22
1/ 2	12	12.0	2.41	2.45±0.40	1.20±0.20	1.22
3/4	18	18.0	4.45	2.60±0.40	1.34±0.30	1.22

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	⩾10.4	11.5
Elongation(%)	ASTM D2671	⩾300	450
Tensile Strength after aging (MPa)	UL224 158℃X168hr	⩾7.3	8.5
Elongation after aging(%)	UI224 158℃X168hr	⩾200	350
Dieletric strength(kV/mm)	IEC 60243	⩾15	17.5
Volume resistivity(Ω.cm)	IEC 60093	⩾$1X10^{14}$	$2.5X10^{14}$

SBRS-(4X)GRF | Highly Flame-Retardant Dual-Wall Tubing

Adhesive

Property	Test Method	Standard
Water Absorption	ASTM D570	<0.2%
Sofening Point(°C)	ASTM E28	90±5
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRS-(4X)GBK | Automotive Splice-Sealing Heat Shrink Tubing

Adhesive-lined tubing for insulating, sealing and protecting in-line splices in automotive harnesses and electronic assemblies.



Features & operating conditions

- 4:1 shrink ratio allows for fewer sizes to cover numerous splice configurations and diameters.
- Seals and protects against water, moisture and chemicals
- Adhesive bonds readily to PVC, XLPE and PP-EPDM cable jackets
- Shrinks rapidly for quick installation
- Continuous operating temperature:-45°C-125°C
- Initial shrinkage temperature:70°C
- Full recovery Temperature:≥110°C
- Black and clear

Dimensions

Size		Expanded	After Recovery			Standard Package
Inch	mm	Internal Diameter Min(mm)	Internal Diameter Max(mm)	Total Wall Thickness Nom(mm)	Adhesive Thickness Nom(mm)	
5/32	4	4.0	0.95	1.40±0.30	0.60±0.20	1.22 OR 25M/Roll
1/4	6	6.0	1.27	1.70±0.30	0.80±0.20	1.22 OR 25M/Roll
5/16	8	8.0	1.65	2.00±0.30	0.95±0.20	1.22 OR 25M/Roll
2/5	10	10.0	2.00	2.20±0.40	1.10±0.20	1.22 OR 25M/Roll
1/2	12	12.0	2.41	2.45±0.40	1.20±0.20	1.22 OR 25M/Roll
3/4	18	18.0	4.45	2.60±0.40	1.34±0.30	1.22 OR 25M/Roll

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	≥10.4	11.5
Elongation(%)	ASTM D2671	≥300	450
Tensile Strength after aging (MPa)	UL224 158°CX168hr	≥7.3	8.5
Elongation after aging(%)	UL224 158°CX168hr	≥200	350
Dieletric strength(kV/mm)	IEC 60243	≥15	17.5
Volume resistivity(Ω.cm)	IEC 60093	≥$1X10^{14}$	$2.5X10^{14}$

SBRS-(4X)GBK | Automotive Splice-Sealing Heat Shrink Tubing

Adhesive

Property	Test Method	Standard
Water Absorption	ASTM D570	<0.2%
Sofening Point(°C)	ASTM E28	90±5
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRS-DZ | Heat Shrink Insulated Connectors

Clear, semi-rigid adhesive-lined tubing with an integral solderless splice connector.



Features & operating conditions

- Exceptional clarity for visual confirmation of seal
- Seal& protects against water, corrosive compounds, moisture& contaminants
- Tough, durable heat shrink tubing resists abrasion, crimp tool damage& splitting
- Shrinks 40% faster than nylon, as stated in the source.
- Inner adhesive bonds to plastics, rubbers & metals
- Meets& conforms to OEM wiring specifications for installation& repairs
- Continuous operating temperature:-45°C-125°C
- Minimum shrinking temperature: 80°C

Dimensions

Code	Size		Tube Diameter			Color	Standard Package
	AWG	mm^2	Expanded Min(mm)	Recovered Max(mm)	Length (mm)		
SBRS-DZ-1	22-18	0.5-1.0	4.8	1.2	35.0	red	1000pc/bag
SBRS-DZ-2	16-14	1.5-2.5	5.5	1.4	35.0	blue	1000pc/bag
SBRS-DZ-3	12-10	4.0-6.0	6.5	1.5	42.0	yellow	500pc/bag

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	⩾14	16
Elongation(%)	ASTM D2671	⩾300	450
Tensile Strength after aging (MPa)	UL224 158°CX168hr	⩾7.3	15
Elongation after aging(%)	UI224 158°CX168hr	⩾200	350
Dieletric strength(kV/mm)	IEC 60243	⩾15	17.5
Volume resistivity(Ω.cm)	IEC 60093	⩾$1X10^{14}$	$2.5X10^{14}$

Adhesive

Property	Test Method	Standard
Water Absorption	ASTM D570	<0.5%
Sofening Point(°C)	ASTM E28	95±5
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRS-CAPS | Adhesive-Lined Insulating Caps

Adhesive-lined insulating caps for sealing and protecting end or stub splices in wiring harnesses and electronic assemblies.



Features & operating conditions

- 4:1 shrink ratio allows fewer sizes to cover a wide range of profiles
- Seals and protects against water, moisture and chemical
- Adhesive bonds readily to PVC, XLPE and PP-EPDM cable jackets
- Shrinks rapidly for quick installation
- Continuous operating temperature:-45°C-125°C
- Minimum shrinking temperature: 125°C

Dimensions

Code	Size (mm)	Standard Length(mm)	Expanded	Recoverd			
			Internal Diameter Min(mm)	Internal Diameter Max(mm)	Outer Layer Thickness (mm)	Adhesive Thickness (mm)	Total Wall Thickness (mm)
CAPS-1	3.2	22	≥5. 72	≤1.27	≥0.64	≥0. 56	≥1.20
CAPS-2	4.8	25.4	≥7.44	≤1.65	≥0.76	≥0.76	≥1.52
CAPS-3	6.4	28.4	≥10.85	≤2.41	≥0.89	≥1.37	≥1.91

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	≥10.4	11.5
Elongation(%)	ASTM D2671	≥300	450
Tensile Strength after aging (MPa)	UL224 158°CX168hr	≥7.3	8.5
Elongation after aging(%)	Ul224 158°CX168hr	≥200	350
Dieletric strength(kV/mm)	IEC 60243	≥15	17.5
Volume resistivity(Ω.cm)	IEC 60093	$\geqslant 1X10^{14}$	$2.5X10^{14}$

POLYOLEFIN

SBRS-CAPS NF | Semi-Rigid Non-Flame-Retardant Insulating Caps

Semi-rigid adhesive-lined caps for insulating and protecting end or stub splices under demanding operating conditions.



Features & operating conditions

- 4:1 shrink ratio allows fewer sizes to cover a wide range of profiles
- Seals and protects against water, moisture and chemical
- Adhesive bonds readily to PVC, XLPE and PP-EPDM cable jackets
- Shrinks rapidly for quick installation
- Continuous operating temperature:-45°C-125°C
- Full recovery temperature: 125°C
- Not flame-retardant

Dimensions

Code	Size (mm)	Standard Length (mm)	Expanded	Recoverd			
			Internal Diameter Min(mm)	Internal Diameter Max(mm)	Outer Layer Thickness (mm)	Adhesive Thickness (mm)	Total Wall Thickness (mm)
CAPS NF-1	3.2	22	3.2	0.80	0.64	0.56	1.20
CAPS NF-2	4.8	25.4	4.8	1.30	0.76	0.76	1.52
CAPS NF-3	6.4	28.4	6.4	1.52	1.00	0.91	19.10
CAPS NF-4	9.5	31.8	9.5	2.00	1.08	1.00	2.08
CAPS NF-5	12.7	38.1	12.7	2.41	1.30	1.24	2.54

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	≥10.4	11.5
Elongation(%)	ASTM D2671	≥300	450
Tensile Strength after aging (MPa)	UL224 158℃X168hr	≥7.3	8.5
Elongation after aging(%)	UL224 158℃X168hr	≥200	350
Dieletric strength(kV/mm)	IEC 60243	≥15	17.5
Volume resistivity(Ω.cm)	IEC 60093	$\geqslant 1X10^{14}$	$2.5X10^{14}$

POLYOLEFIN

SBRS-CAPS-RL | Semi-Rigid Cable End Caps

Heat shrink end caps for watertight sealing of cable ends, pipes, conduits and similar components. Source rating: 600/1000 V.



Features & operating conditions

- 3:1 shrink ratio
- Resistant to common fluids and solvents
- Superior resistance to weathering , moisture contamination and adverse environmental conditions
- Standard adhesive liner provides complete environmental protection and insulation
- Heat indicating lines
- Resistant to common fluids and solvents Coated hot melt adhesive resists pull-off Full recovery temperature : 125°C
- Continuous operating temperature: -55°C to 110°C

Dimensions

Expanded Length (Nom)		Expanded		Recoverd				General Use Diameter		Cable Range
		Internal Diameter Min		Internal Diameter Max-d		Wall Thickness Nom-W				
mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	AWG/MCM
50.80	2.00	10.20	0.40	3.80	0.15	2.00	0.080	4.5-8.5	0.18-0.34	#8-#1
63.50	2.50	19.10	0.75	5.60	0.22	2.00	0.080	6-16.5	0.24-0.65	#2-4/0
76.20	3.00	27.90	1.10	10.20	0.40	2.40	0.095	11.5-25	0.45-1	2/0-500
76.20	3.00	33.00	1.30	10.20	0.40	2.40	0.095	11.5-30	0.45-1.2	300-1000
88.90	3.50	38.10	1.50	12.70	0.50	2.40	0.095	14-35	0.55-1.4	500-1500
88.90	3.50	43.20	1.70	12.70	0.50	2.50	0.100	14-40	0.55-1.6	650-1750
88.90	3.50	52.10	2.05	19.00	0.75	2.50	0.100	21-45	0.82-1.8	900-2500
101.60	4.00	69.80	2.75	25.40	1.00	2.50	0.100	30-63	1.2-2.5	2000-2500
114.30	4.50	88.90	3.50	30.00	1.18	2.50	0.100	33-83.8	1.3-3.3	—
139.70	5.50	119.40	4.70	39.90	1.57	2.70	0.105	40.6-114.3	1.6-4.5	—

SBRS-CAPS-RL | Semi-Rigid Cable End Caps

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	⩾10.4	11.5
Elongation(%)	ASTM D2671	⩾300	450
Tensile Strength after aging (MPa)	UL224 158℃X168hr	⩾7.3	8.5
Elongation after aging(%)	Ul224 158℃X168hr	⩾200	350
Dieletric strength(kV/mm)	IEC 60243	⩾15	17.5
Volume resistivity(Ω.cm)	IEC 60093	⩾$1X10^{14}$	$2.5X10^{14}$

Adhesive

Property	Test Method	Standard
Water Absorption	ASTM D570	⩽0.2%
Sofening Point(℃)	ASTM E28	90±5
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRSM | Flame-Retardant Medium-Wall Tubing

Medium-wall adhesive-lined tubing for low-voltage electrical and mechanical applications where reduced weight and greater flexibility are important.



Features & operating conditions

- Seals and protects cable splices and terminations
- High resistance to impact and abrasion
- Thermoplastic adhesive liner for complete environmental protection and insulation
- Continuous operating temperature:-45°C-125°C
- Full recovery temperature: 125°C

SBRSM | Flame-Retardant Medium-Wall Tubing

Dimensions

Size	Expanded	After Recovery				Standard Package
mm	Internal Diameter mm	Internal Diameter mm	Jacket Thickness mm	Adhesive Thickness mm	Total Wall Thickness mm	M/pc
10.2/3.0	10.2	3.0	1.40±0.20	0.35±0.15	1.75±0.30	1.22
16.0/5.0	16.0	5.0	1.50±0.20	0.40±0.15	1.90±0.30	1.22
19.1/5.6	19.1	5.6	2.00±0.20	0.45±0.15	2.45±0.40	1.22
25.0/8.0	25.0	8.0	2.00±0.20	0.45±0.15	2.45±0.40	1.22
28.0/9.0	28.0	9.0	2.00±0.20	0.50±0.20	2.60±0.40	1.22
35.0/10.2	35.0	10.2	2.20±0.20	0.78±0.20	2.70±0.40	.1.22
38.1/12.0	38.1	12.0	2.20±0.20	0.50±0.20	2.70±0.40	1.22
43.2/12.7	43.2	12.7	2.20±0.25	0.50±0.20	2.70±0.40	1.22
52.1/16.0	52.1	16.0	2.30±0.25	0.50±0.20	2.80±0.45	1.22
55.0/16.0	55.0	16.0	2.30±0.25	0.50±0.20	2.80±0.45	1.22
63.0/19.0	63.0	19.0	2.50±0.25	0.50±0.20	3.00±0.45	1.22
75.0/22.0	75.0	22.0	2.60±0.25	0.50±0.20	3.00±0.45	1.22
85.0/25.0	85.0	25.0	2.80±0.35	0.50±0.20	3.30±0.45	1.22
95.0/29.0	95.0	29.0	3.10±0.45	0.60±0.20	3.70±0.50	1.22
115.0/34.0	115.0	34.0	3.10±0.45	0.60±0.20	3.70±0.50	1.22
140.0/42.0	140.0	42.0	3.10±0.45	0.60±0.20	3.70±0.50	1.22
160.0/48.0	160.0	48.0	3.10±0.45	0.60±0.20	3.70±0.50	1.22
180.0/58.0	180.0	58.0	3.10±0.45	0.60±0.20	3.70±0.50	1.22
200.0/60.0	≥200.0	≤60.0	3.10±0.45	0.60±0.20	3.70±0.50	1.22
230.0/69.0	≥230.0	≤69.0	3.10±0.45	0.60±0.20	3.70±0.50	1.22

Note: Tubing without adhesive is available upon request

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	≥10.4	11.5
Elongation(%)	ASTM D2671	≥300	450
Tensile Strength after aging (MPa)	UL224 158°CX168hr	≥7.3	8.5
Elongation after aging(%)	UL224 158°CX168hr	≥200	350
Dieletric strength(kV/mm)	IEC 60243	≥15	17.5
Volume resistivity(Ω.cm)	IEC 60093	≥$1X10^{14}$	$2.5X10^{14}$

Adhesive

Property	Test Method	Standard
Water Absorption	ASTM D570	<0.2%
Sofening Point(°C)	ASTM E28	95±5
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRSW | Flame-Retardant Heavy-Wall Tubing

Heavy-wall adhesive-lined tubing for electrical splices and terminations requiring flame retardancy, insulation and environmental sealing.



Features & operating conditions

- 3:1 shrink ratio
- Flame retardant
- SBRSW tubing will not split or rupture during installation, when overheated
- Thermoplastic adhesive liner for complete environmental protection and insulation
- Continuous operating temperature:-45°C-125°C
- Full recovery temperature: 125°C

Dimensions

Size	Expanded	After Recovery				Standard Package
mm	Internal Diameter mm	Internal Diameter mm	Jacket Thickness mm	Adhesive Thickness mm	Total Wall Thickness mm	M/pc
9.0/3.0	9.0	3.0	2.00±0.35	0.45±0.20	2.45±0.35	1.22
13.0/4.0	13.0	4.0	2.30±0.35	0.45±0.20	2.80±0.35	1.22
20.0/6.0	20.0	6.0	2.30±0.35	0.60±0.20	2.90±0.35	1.22
28.0/9.0	28.0	9.0	2.30±0.35	0.70±0.20	3.00±0.40	1.22
33.0/10.2	33.0	10.2	2.80±0.35	0.70±0.20	3.60±0.40	1.22
38.1/12.0	38.1	12.0	3.10±0.35	0.70±0.20	3.85±0.50	1.22
43.2/12.7	43.2	12.0	3.50±0.35	0.70±0.20	4.20±0.50	1.22
51.0/16.0	55.0	16.0	3.85±0.40	0.70±0.20	4.50±0.50	1.22
70.0/21.0	75.0	22.0	3.65±0.40	0.70±0.20	4.40±0.50	1.22
85.0/25.0	85.0	25.0	3.65±0.40	0.70±0.20	4.40±0.50	1.22
105.0/30.0	105.0	30.0	3.85±0.40	0.70±0.20	4.50±0.50	1.22
120.0/36.0	120.0	36.0	3.85±0.40	0.70±0.20	4.50±0.50	1.22
130.0/36.0	130.0	36.0	3.85±0.40	0.70±0.20	4.50±0.50	1.22
140.0/42.0	140.0	42.0	3.85±0.40	0.70±0.20	4.50±0.50	1.22

Note: Tubing without adhesive is available upon request

SBRSW | Flame-Retardant Heavy-Wall Tubing

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	≥10.4	11.5
Elongation(%)	ASTM D2671	≥300	450
Tensile Strength after aging (MPa)	UL224 158°CX168hr	≥7.3	8.5
Elongation after aging(%)	Ul224 158°CX168hr	≥200	350
Dieletric strength(kV/mm)	IEC 60243	≥15	17.5
Volume resistivity(Ω.cm)	IEC 60093	≥$1X10^{14}$	$2.5X10^{14}$

Adhesive

Property	Test Method	Standard
Water Absorption	ASTM D570	<0. 2%
Sofening Point(°C)	ASTM E28	95±5
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRSM-NF | Non-Flame-Retardant Medium-Wall Tubing

Medium-wall adhesive-lined tubing for low-voltage electrical and mechanical applications where weight and flexibility are important.



Features & operating conditions

- 3:1 shrink ratio, not Flame-retardant
- Seal and protect cable splice and terminations
- Rugged mechanical protection
- Complete moisture sealing
- Strain relief for delicate wire connections
- High resistance to impact and abrasion
- Thermoplastic adhesive liner for complete environmental protection and insulation
- Continuous operating temperature: 45°C-125°C
- Full recovery temperature: 125°C
- RoHS compliant

Operating temperature is printed as 45°C to 125°C in the source feature list; confirm the lower limit before use.

SBRSM-NF | Non-Flame-Retardant Medium-Wall Tubing

Dimensions

Size	Expanded	After Recovery				Standard Package
mm	Internal Diameter mm	Internal Diameter mm	Jacket Thickness mm	Adhesive Thickness mm	Total Wall Thickness mm	M/pc
6.0/2.0	6.0	2.0	1.40±0.20	0.45±0.15	1.85±0.30	1.22
8.0/2.0	8.0	2.0	1.40±0.20	0.45±0.15	1.85±0.30	1.22
10.2/3.0	10.2	3.0	1.40±0.20	0.50±0.15	1.90±0.30	1.22
12.0/3.0	12.0	3.0	1.40±0.20	0.50±0.15	1.90±0.30	1.22
16.0/5.0	16.0	5.0	1.50±0.20	0.55±0.20	2.15±0.35	1.22
19.1/5.6	19.1	5.6	1.80±0.20	0.60±0.20	2.40±0.40	1.22
22.0/6.0	22.0	6.0	2.00±0.30	0.60±0.20	2.60±0.40	1.22
25.0/8.0	25.0	8.0	2.00±0.30	0.65±0.20	2.70±0.40	1.22
28.0/6.0	28.0	6.0	2.40±0.30	0.95±0.25	3.30±0.45	1.22
33.0/8.0	33.0	8.0	2.50±0.30	0.80±0.25	3.30±0.45	1.22
38.1/12.0	38.1	12.0	2.40±0.30	0.80±0.25	3.30±0.45	1.22
43.2/12.7	43.2	12.7	2.40±0.30	0.80±0.25	3.30±0.45	1.22
55.0/16.0	55.0	16.0	2.40±0.30	0.80±0.25	3.30±0.45	1.22
65.0/19.0	65.0	19.0	2.50±0.30	0.80±0.25	3.30±0.45	1.22
75.0/22.0	75.0	22.0	2.90±0.30	0.80±0.25	3.70±0.50	1.22
85.0/25.0	85.0	25.0	2.90±0.30	0.80±0.25	3.70±0.50	1.22
95.0/30.0	95.0	30.0	3.00±0.30	0.80±0.25	3.70±0.50	1.22
115.0/34.0	115.0	34.0	3.00±0.30	0.80±0.25	3.70±0.50	1.22
140.0/42.0	140.0	42.0	3.00±0.30	0.80±0.25	3.70±0.50	1.22
160.0/50.0	160.0	50.0	3.10±0.30	0.80±0.25	3.70±0.50	1.00
180.0/65.0	180.0	65.0	3.10±0.30	0.80±0.25	3.70±0.50	1.00
200.0/69.0	200.0	69.0	3.10±0.30	0.80±0.25	3.70±0.50	1.00
230.0/78.0	230.0	78.0	3.10±0.30	0.80±0.25	3.70±0.50	1.00

Note: Tubing without adhesive is available upon request

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	⩾14	15
Elongation(%)	ASTM D2671	⩾400	450
Tensile Strength after aging (MPa)	UL224 158°CX168hr	⩾12	12.5
Elongation after aging(%)	UI224 158°CX168hr	⩾300	350
Dieletric strength(kV/mm)	IEC 60243	⩾15	17.5
Volume resistivity(Ω.cm)	IEC 60093	⩾$1X10^{14}$	$2.5X10^{14}$

Adhesive

Property	Test Method	Standard
Water Absorption	ASTM D570	<0.2%
Sofening Point(°C)	ASTM E28	95±5
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRSW-NF | Non-Flame-Retardant Heavy-Wall Tubing

Heavy-wall adhesive-lined tubing for insulating and protecting cable joints and terminations in demanding service.



Features & operating conditions

- 3: 1 shrink ratio, not flame-retardant
- Withstands severe mechanical requirements of U.R.D., submersible and direct burial installations
- High impact, abrasion, corrosion and chemical resistance
- Rated for 1kv, 90°C continuous use application
- Thermoplastic adhesive liner provides complete environmental protection and installation
- Continuous operating temperature:-45°C-110°C
- Full recovery temperature: 125°C

SBRSW-NF | Non-Flame-Retardant Heavy-Wall Tubing

Dimensions

Size	Expanded	After Recovery				Standard Package
mm	Internal Diameter mm	Internal Diameter mm	Jacket Thickness mm	Adhesive Thickness mm	Total Wall Thickness mm	M/pc
8.0/2.0	8.0	2.0	1.80±0.30	0.55±0.20	2.35±0.35	1.22
9.0/3.0	9.0	3.0	2.00±0.30	0.55±0.20	2.55±0.40	1.22
13.0/4.0	13.0	4.0	2.30±0.30	0.55±0.20	2.85±0.40	1.22
16.0/5.0	16.0	5.0	2.30±0.30	0.60±0.20	2.90±0.50	1.22
22.0/6.0	22.0	6.0	2.50±0.40	0.60±0.25	3.10±0.50	1.22
28.0/6.0	28.0	6.0	2.70±0.40	0.70±0.25	3.40±0.50	1.22
33.0/8.0	33.0	8.0	2.80±0.40	0.80±0.25	3.60±0.60	1.22
38.1/12.0	38.1	12.0	3.10±0.50	0.80±0.25	3.90±0.60	1.22
43.2/12.0	43.2	12.0	3.50±0.50	0.80±0.25	4.30±0.70	1.22
55.0/16.0	55.0	16.0	3.60±0.50	0.80±0.25	4.40±0.70	1.22
65.0/19.0	65.0	19.0	3.60±0.50	0.80±0.25	4.40±0.70	1.22
75.0/22.0	75.0	22.0	3.60±0.50	0.80±0.25	4.40±0.70	1.22
85.0/25.0	85.0	25.0	3.60±0.50	0.80±0.25	4.40±0.70	1.22
95.0/30.0	95.0	30.0	3.60±0.50	0.80±0.25	4.40±0.70	1.22
105.0/30.0	105.0	30.0	3.80±0.60	0.80±0.25	4.60±0.70	1.22
120.0/39.0	120.0	39.0	3.80±0.60	0.80±0.25	4.60±0.70	1.22
130.0/40.0	130.0	40.0	3.80±0.60	0.80±0.25	4.60±0.70	1.22
140.0/42.0	140.0	42.0	3.80±0.60	0.80±0.25	4.60±0.70	1.22
160.0/50.0	160.0	50.0	3.80±0.60	0.80±0.25	4.60±0.70	1.00
180.0/60.0	180.0	60.0	3.80±0.60	0.80±0.25	4.60±0.70	1.00
200.0/69.0	200.0	69.0	3.80±0.60	0.80±0.25	4.60±0.70	1.00

Note: Tubing without adhesive is available upon request

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	≥14	15
Elongation(%)	ASTM D2671	≥400	450
Tensile Strength after aging (MPa)	UL224 158°CX168hr	≥12	12.5
Elongation after aging(%)	UI224 158°CX168hr	≥300	350
Dieletric strength(kV/mm)	IEC 60243	≥15	17.5
Volume resistivity(Ω.cm)	IEC 60093	≥1X10^{14}	2.5X10^{14}

Adhesive

Property	Test Method	Standard
Water Absorption	ASTM D570	<0. 2%
Sofening Point(°C)	ASTM E28	95±5
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

SBRSTV | CATV Medium-Wall Heat Shrink Tubing

Adhesive-lined tubing for CATV splice and connector protection, with heat-indicating lines for installation.



Features & operating conditions

- 3: 1 shrink ratio
- Flame retardant
- Excellent resistance to weathering , moisture contamination and adverse environmental conditions
- Heat indicating lines
- Adhesive liner provides complete environmental protection and insulation
- Resists common fluids and solvents
- Continuous operating temperature:-45°C-110°C
- Full recovery temperature: 125°C

Dimensions

Size mm	Expanded	After Recovery				Standard Package M/pc
	Internal Diameter mm	Internal Diameter mm	Jacket Thickness mm	Adhesive Thickness mm	Total Wall Thickness mm	
10.2/3.8	10.2	3.8	1.40±0.20	0.50±0.10	1.90±0.25	1.22
19.0/5.6	19.0	5.6	1.80±0.20	0.60±0.15	2.40±0.30	1.22
28.0/6.0	28.0	6.0	2.40±0.30	0.95±0.20	3.30±0.35	1.22
33.0/8.0	33.0	8.0	2.50±0.30	0.80±0.15	3.30±0.35	1.22
38.1/12.0	38.1	12.0	2.40±0.30	0.80±0.15	3.30±0.35	1.22
43.2/12.7	43.2	12.7	2.40±0.30	0.80±0.15	3.30±0.35	1.22
55.0/16.0	55.0	16.0	2.40±0.30	0.80±0.15	3.30±0.35	1.22
70.0/25.4	70.0	25.4	2.80±0.30	0.60±0.15	3.40±0.40	1.22

SBRSTV | CATV Medium-Wall Heat Shrink Tubing

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	⩾10.4	11.5
Elongation(%)	ASTM D2671	⩾300	450
Tensile Strength after aging (MPa)	UL224 158℃X168hr	⩾7.3	8.5
Elongation after aging(%)	UL224 158℃X168hr	⩾200	350
Dieletric strength(kV/mm)	IEC 60243	⩾15	17.5
Volume resistivity(Ω.cm)	IEC 60093	$\geqslant 1X10^{14}$	$2.5X10^{14}$

Adhesive

Property	Test Method	Standard
Water Absorption	ASTM D570	<0.2%
Sofening Point(°C)	ASTM E28	85
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

WRSJD | Adhesive-Lined Heat Shrink Tape

Adhesive-lined heat shrink tape for sealing joints in spiral, flexible and flat-oval ducts used in heating, ventilation, air conditioning and exhaust recovery.



Features & operating conditions

- Eliminates air leakage in vacuum and ventilation systems
- Seals against moisture ingress and other contaminants
- Powerful adhesive bonds to galvanized steel, Aluminum and stainless steel
- Effective, reproducible seal allows for resistance to bending, vibrations and other mechanical stresses over a wide range of temperatures
- Application procedure is quick, simple and clean
- Continuous operating temperature:-45°C-125°C
- Full recovery temperature: 120°C
- Color: Black, Red, Green, Yellow

Dimensions

Order Number	Width	Wall Thickness	Standard Lenghth(m)
WRSJD-0825	25	0.80±0.10	5,10
WRSJD-0850	50	0.80±0.10	5,10
WRSJD-08100	100	0.80±0.10	5,10
WRSJD-1025	25	1.00±0.10	5,10
WRSJD-1050	50	1.00±0.10	5,10
WRSJD-10100	100	1.00±0.10	5,10

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	≥10.4	11.5
Elongation(%)	ASTM D2671	≥300	450
Tensile Strength after aging (MPa)	UI224 158°C X168hr	≥7.3	8.5
Elongation after aging(%)	UI224 158°C X168hr	≥200	350
Dieletric strength(kv/mm)	IEC243	≥15	17.5
Volume resistivity(Ω.cm)	ASTM D876	$\geqslant 1X10^{14}$	$2.5X10^{14}$

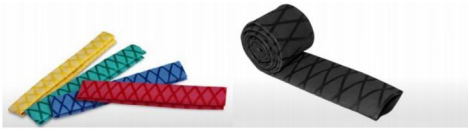
Adhesive

Property	Test Method	Standard
Water Absorption	ASTM D570	≤0.2%
Sofening Point(°C)	ASTM E28	95
Strength of pearing(PE)	ASTM D 1000	120N/25mm
Strength of pearing(AL)	ASTM D 1000	80N/25mm

POLYOLEFIN

WOLVO | Anti-Slip Heat Shrink Grip Tubing

Textured polyolefin heat shrink tubing for non-slip grips on fishing tackle, sports equipment, handles and consumer products.



Features & operating conditions

- Good abrasion resistant and anti-skid performance
- High flexibility
- Quick installation
- Continuous operating temperature:-55°C-125°C
- Shrink temperature: started at 70°C, full recovery at 110°C
- Standard color: Black, Red, Yellow, Green, Blue

Dimensions

Size	Expanded		After Recovery		Standard Package
mm	Internal Diameter mm	Wall Thickness mm	Internal Diameter mm	Wall Thickness mm	M/pc
15	15	0.45±0.15	8.0	0.85±0.15	1.0
18	18	0.45±0.15	10.0	0.85±0.15	1.0
20	20	0.50±0.15	11.0	0.90±0.15	1.0,1.6
22	22	0.50±0.15	12.5	0.90±0.15	1.0,1.6
25	25	0.50±0.15	14.5	1.00±0.15	1.0,1.6
28	28	0.50±0.15	15.5	1.00±0.15	1.0,1.6
30	30	0.60±0.15	17.5	1.20±0.15	1.0,1.6
35	35	0.60±0.15	20.0	1.20±0.15	1.0,1.6
40	40	0.60±0.15	23.0	1.20±0.15	1.0,1.6
45	45	0.65±0.15	25.0	1.25±0.15	1.0,1.6
50	50	0.65±0.15	28.0	1.25±0.15	1.0,1.6

Technical Data

Technical Data

Property	Test Method	Typical Performance
Tensile Strength(MPa)	ASTM D2671	⩾10.4
Elongation(%)	ASTM D2671	⩾200

POLYOLEFIN

RSFR-H(H) | Halogen-Free Thin-Wall Heat Shrink Tubing

Thin-wall, flexible, halogen-free heat shrink tubing.



Features & operating conditions

- Ultra thin wall
- Flexible
- Halogen free
- Flame retardant
- low smoke generation if burning
- Continuous operating Temperature:-55°C to 125°C
- Full recovery temperature:125°C
- RoHS and Sony compliant

RSFR-H(H) | Halogen-Free Thin-Wall Heat Shrink Tubing

Dimensions

Dimensions

Size		As Supplied	After Recovery		Standard Package
Inch	mm	Internal Diameter mm	Internal Diameter Max mm	Wall Thickness Nom mm	Spool Length M/spool
3/64	0.8	1.1±0.2	0.50	0.22	200
1/16	1.0	1.5±0.2	0.65	0.28	200
	1.5	2.0±0.2	0.85	0.32	200
3/32	2.0	2.5±0.2	1.00	0.35	200
	2.5	3.0±0.2	1.30	0.38	200
1/8	3.0	3.5±0.2	1.50	0.40	200
	3.5	4.0±0.2	1.80	0.42	200
	4.0	4.5±0.2	2.00	0.45	200
3/16	4.5	5.0±0.2	2.30	0.50	100
	5.0	5.5±0.2	2.5	0.55	100
1/4	6.0	6.5±0.2	3.0	0.55	100
5/16	7.0	7.5±0.3	3.5	0.55	100
	8.0	8.5±0.3	4.0	0.60	100
3/8	9.0	9.5±0.3	4.5	0.60	100
	10.0	10.5±0.3	5.0	0.60	100
	11.0	11.5±0.3	5.5	0.60	100
1/2	12.0	12.5±0.3	6.0	0.60	100
	13.0	13.5±0.3	6.5	0.65	100
	14.0	14.5±0.3	7.0	0.65	100
5/8	15.0	15.5±0.4	7.5	0.70	100
	16.0	16.5±0.4	8.0	0.70	100
	17.0	17.5±0.4	8.5	0.70	100
3/4	18.0	19.0±0.5	9.0	0.80	100
	20.0	21.0±0.5	10.0	0.80	100
	22.0	23.0±0.5	11.0	0.80	100
1	25.0	26.0±0.5	12.5	0.90	50
	28.0	29.0±0.5	14.0	0.90	50
1-1/4	30.0	31.5±1.0	15.0	0.95	50
	35.0	36.5±1.0	17.5	1.00	50
1-1/2	40.0	41.5±1.0	20.0	1.00	50
	45.0	46.5±1.0	22.5	1.00	25
2	50.0	⩾50	25.0	1.00	25
	60.0	⩾60	31.0	1.30	25
	70.0	⩾70	36.0	1.30	25
3	80.0	⩾80	41.0	1.46	25
	90.0	⩾90	46.0	1.46	25
4	100.0	⩾100	51.0	1.46	25
5	120.0	⩾120	61.0	1.56	25
6	150.0	⩾150	76.0	1.56	25
7	180.0	⩾180	91.0	1.56	25

Technical Data

Technical Data

Property	Test Method	Typical Performance
Tensile strength(MPa)	ASTM D 2671	⩾10.4
Ultimate elongation(%)	ASTM D 2671	⩾200
Tensile strength after heat aged (Mpa)	158°CX168h	⩾7.3
Ultimate elongation after heat aged (%)	158°CX168h	⩾100
Longitudinal change(%)	ASTM D 2671	-5%~+5%
Flammability	ASTM D 2671 C method	VW-1
Dielectric strength (kV/mm)	ASTM D 149	⩾15
Volume resistivity (Ω·cm)	ASTM D 876	$\geqslant 10^{14}$

POLYOLEFIN

RSFR-HCB(H) | Halogen-Free Ultra-Thin-Wall Heat Shrink Tubing

Ultra-thin-wall, flexible, halogen-free heat shrink tubing.



Features & operating conditions

- Ultra thin wall
- Flexible
- Halogen free
- Flame retardant
- low smoke generation if burning
- Continuous operating Temperature:-55°C to 125°C
- Full recovery temperature:110°C
- RoHS and Sony compliant

Dimensions

Dimensions

Size		As Supplied	After Recovery		Standard Package
Inch	mm	Internal Diameter mm	Internal Diameter mm	Wall Thickness mm	Spool Length M/spool
1/16	1.0	1.4±0.2	0.65	0.20	200
	1.5	1.9±0.2	0.85	0.20	200
3/32	2.0	2.4±0.2	1.00	0.22	200
	2.5	2.9±0.2	1.30	0.25	200
1/8	3.0	3.4±0.2	1.50	0.28	200
	3.5	3.9±0.2	1.80	0.28	200
	4.0	4.4±0.2	2.00	0.30	200
3/16	4.5	4.9±0.2	2.30	0.30	100
	5.0	5.5±0.2	2.5	0.32	100
1/4	6.0	6.5±0.2	3.0	0.32	100
5/16	7.0	7.5±0.3	3.5	0.32	100
	8.0	8.5±0.3	4.0	0.32	100
3/8	9.0	9.5±0.3	4.5	0.35	100
	10.0	10.5±0.3	5.0	0.35	100
	11.0	11.5±0.3	5.5	0.40	100
1/2	12.0	12.5±0.3	6.0	0.40	100
	13.0	13.5±0.3	6.5	0.40	100
	14.0	14.5±0.3	7.0	0.40	100
5/8	15.0	15.5±0.4	7.5	0.40	100
	16.0	16.5±0.4	8.0	0.40	100
	17.0	17.5±0.4	8.5	0.40	100
3/4	18.0	18.5±0.4	9.0	0.42	100
	20.0	20.5±0.5	10.0	0.45	100
	22.0	22.5±0.5	11.0	0.45	100
1	25.0	25.5±0.5	12.5	0.45	50

Technical Data

Technical Data

Property	Test Method	Typical Performance
Tensile strength(MPa)	ASTM D 2671	⩾10.4
Ultimate elongation(%)	ASTM D 2671	⩾200
Tensile strength after heat aged (Mpa)	158°CX168h	⩾7.3
Ultimate elongation after heat aged (%)	158°CX168h	⩾100
Longitudinal change(%)	ASTM D 2671	-5%~+5%
Flammability	ASTM D 2671 C method	VW-1
Dielectric strength (kV/mm)	ASTM D 149	⩾15
Volume resistivity (Ω·cm)	ASTM D 876	$\geqslant 10^{14}$

POLYOLEFIN

RSFR-H | General-Purpose Heat Shrink Tubing

General-purpose heat shrink tubing with mechanical and electrical insulation properties.



Features & operating conditions

- Flexible
- Flame retardant
- Continuous operating temperature:-55°C~125°C
- Full recovery temperature:≥125°C
- RoHS compliant

RSFR-H | General-Purpose Heat Shrink Tubing

Dimensions

Dimensions

Size		As Supplied	After Recovery		Standard Package
Inch	mm	Internal Diameter mm	Internal Diameter mm	Wall Thickness mm	Spool Length M/spool
3/64	0.8	1.1±0.2	0.50	0.22	200
1/16	1.0	1.5±0.2	0.65	0.28	200
	1.5	2.0±0.2	0.85	0.32	200
3/32	2.0	2.5±0.2	1.00	0.35	200
	2.5	3.0±0.2	1.30	0.38	200
1/8	3.0	3.5±0.2	1.50	0.40	200
	3.5	4.0±0.2	1.80	0.42	200
	4.0	4.5±0.2	2.00	0.45	200
3/16	4.5	5.0±0.2	2.30	0.50	200
	5.0	5.5±0.2	2.5	0.55	100
1/4	6.0	6.5±0.2	3.0	0.55	100
5/16	7.0	7.5±0.3	3.5	0.55	100
	8.0	8.5±0.3	4.0	0.60	100
3/8	9.0	9.5±0.3	4.5	0.60	100
	10.0	10.5±0.3	5.0	0.60	100
	11.0	11.5±0.3	5.5	0.60	100
1/2	12.0	12.5±0.3	6.0	0.60	100
	13.0	13.5±0.3	6.5	0.65	100
	14.0	14.5±0.3	7.0	0.65	100
5/8	15.0	15.5±0.4	7.5	0.70	100
	16.0	16.5±0.4	8.0	0.70	100
	17.0	17.5±0.4	8.5	0.70	100
3/4	18.0	19.0±0.5	9.0	0.80	100
	20.0	21.0±0.5	10.0	0.80	100
	22.0	23.0±0.5	11.0	0.80	100
1	25.0	26.0±0.5	12.5	0.90	50
	28.0	29.0±0.5	14.0	0.90	50
1-1/4	30.0	31.5±1.0	15.0	0.95	50
1-1/2	35.0	36.5±1.0	17.5	1.00	50
	40.0	41.5±1.0	20.0	1.00	50
	45.0	46.5±1.0	22.5	1.00	25
2	50.0	≥50	25.0	1.00	25
	60.0	≥60	31.0	1.30	25
	70.0	≥70	36.0	1.30	25
3	80.0	≥80	41.0	1.46	25
	90.0	≥90	46.0	1.46	25
4	100.0	≥100	51.0	1.46	25
5	120.0	≥120	61	1.56	25
6	150.0	≥150	76	1.56	25
7	180.0	≥180	91	1.56	25

Technical Data

Property	Test Method	Typical Performance
Tensile strength(MPa)	ASTM D 2671	≥10.4
Ultimate elongation(%)	ASTM D 2671	≥200
Tensile strength after heat aged(Mpa)	158°CX168h	≥7.3
Ultimate elongation after heat aged (%)	158°CX168h	≥100
Longitudinal change(%)	ASTM D 2671	-5%~+5%
Flammability	ASTM D 2671 C method	VW-1
Voltage withstand	UL 224, 2500V, 60s	No breakdown
Dielectric strength (kV/mm)	ASTM D 149	≥15
Volume resistivity (Ω·cm)	ASTM D 876	$\geqslant 10^{14}$

POLYOLEFIN

RSFR-H(3X) | General-Purpose Heat Shrink Tubing - 3:1

General-purpose heat shrink tubing with a high shrink ratio and ultra-thin flexible wall.



Features & operating conditions

- Flexible
- Flame retardant
- Ultra thin wall
- Continuous operating temperature:-55°C~125°C
- Full recovery temperature:≥125°C
- RoHS compliant

Dimensions

Dimensions

Size		As Supplied	After Recovery		Standard Package
Inch	mm	Internal Diameter mm	Internal Diameter mm	Wall Thickness mm	Spool Length M/spool
1/16	1.5	1.6±0.1	≤0.50	0.45±0.10	200
1/8	3.0	3.2±0.1	≤1.00	0.55±0.10	200
3/16	4.5	4.7±0.1	≤1.50	0.60±0.10	200
1/4	6.0	6.2±0.1	≤2.00	0.65±0.10	100
3/8	9.0	9.3±0.2	≤3.00	0.75±0.15	100
1/2	12.0	12.3±0.2	≤4.00	0.75±0.15	100
5/8	15.0	15.3±0.2	≤5.00	0.80±0.15	100
3/4	18.0	18.3±0.2	≤6.00	0.85±0.15	100
1	24.0	24.4±0.3	≤8.00	1.00±0.20	50
1-1/4	30.0	30.4±0.3	≤10.0	1.15±0.20	50
1-1/2	39.0	39.6±0.5	≤13.0	1.50±0.20	50
2	50.0	50.6±0.5	≤16.0	2.50±0.20	25
	60.0	61.5±1.0	≤20.0	2.60±0.20	25
	70.0	71.5±1.0	≤23.0	2.60±0.20	25
3	80.0	81.5±1.0	≤26.0	2.60±0.20	25
	90.0	91.5±1.0	≤30.0	2.60±0.20	25
4	100.0	101.5±1.0	≤33.0	2.60±0.20	25

RSFR-H(3X) | General-Purpose Heat Shrink Tubing - 3:1

Technical Data

Technical Data

Property	Test Method	Typical Performance
Tensile strength(MPa)	ASTM D 2671	⩾10.4
Ultimate elongation(%)	ASTM D 2671	⩾200
Tensile strength after heat aged(Mpa)	158°CX168h	⩾7.3
Ultimate elongation after heat aged (%)	158°CX168h	⩾100
Longitudinal change(%)	ASTM D 2671	-5%~+5%
Flammability	ASTM D 2671 C method	VW-1
Voltage withstand	UL 224, 2500V, 60s	No breakdown
Dielectric strength (kV/mm)	ASTM D 149	⩾15
Volume resistivity (Ω·cm)	ASTM D 876	$\geqslant 10^{14}$

POLYOLEFIN

RSFR-HCB | Flexible Ultra-Thin-Wall Heat Shrink Tubing

Very flexible ultra-thin-wall heat shrink tubing.



Features & operating conditions

- Ultra thin wall
- Very flexible
- Flame retardant
- Continuous operating Temperature:-55°C to 125°C
- Full recovery temperature:≥110°C
- RoHS compliant

Dimensions

Dimensions

Size		As Supplied	After Recovery		Standard Package
Inch	mm	Internal Diameter mm	Internal Diameter mm	Wall Thickness mm	Spool Length M/spool
1/16	1.0	1.4±0.2	0.65	0.20	200
	1.5	1.9±0.2	0.85	0.20	200
3/32	2.0	2.4±0.2	1.00	0.22	200
	2.5	2.9±0.2	1.30	0.25	200
1/8	3.0	3.4±0.2	1.50	0.28	200
	3.5	3.9±0.2	1.80	0.28	200
	4.0	4.4±0.2	2.00	0.30	200
3/16	4.5	4.9±0.2	2.30	0.30	200
	5.0	5.5±0.2	2.5	0.32	100
1/4	6.0	6.5±0.2	3.0	0.32	100
5/16	7.0	7.5±0.3	3.5	0.32	100
	8.0	8.5±0.3	4.0	0.32	100
3/8	9.0	9.5±0.3	4.5	0.35	100
	10.0	10.5±0.3	5.0	0.35	100
	11.0	11.5±0.3	5.5	0.40	100
1/2	12.0	12.5±0.3	6.0	0.40	100
	13.0	13.5±0.3	6.5	0.40	100
	14.0	14.5±0.3	7.0	0.40	100
5/8	15.0	15.5±0.4	7.5	0.40	100
	16.0	16.5±0.4	8.0	0.40	100
	17.0	17.5±0.4	8.5	0.40	100
3/4	18.0	18.5±0.4	9.0	0.42	100
	20.0	20.5±0.5	10.0	0.45	100
	22.0	22.5±0.5	11.0	0.45	100
1	25.0	25.5±0.5	12.5	0.45	50

Technical Data

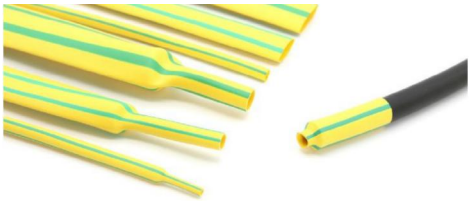
Technical Data

Property	Test Method	Typical Performance
Tensile strength(MPa)	ASTM D 2671	⩾10.4
Ultimate elongation(%)	ASTM D 2671	⩾200
Tensile strength after heat aged (Mpa)	158°CX168h	⩾7.3
Ultimate elongation after heat aged (%)	158°CX168h	⩾100
Longitudinal change(%)	ASTM D 2671	-5%~+5%
Flammability	ASTM D 2671 C method	VW-1
Dielectric strength (kV/mm)	ASTM D 149	⩾15
Volume resistivity (Ω·cm)	ASTM D 876	$\geqslant 10^{14}$

POLYOLEFIN

RSFR-(2X,3X)YG | Yellow / Green Heat Shrink Tubing

Flexible flame-retardant polyolefin heat shrink tubing with yellow and green stripes for electrical grounding identification.



Features & operating conditions

- Striped color combination designates international electrical grounding
- Flame retardant
- Flexible
- Resists common fluids and solvents
- Continuous operating temperature:-55°C-125°C
- Shrink Temperature:90°C

RSFR-(2X,3X)YG | Yellow / Green Heat Shrink Tubing

Dimensions

Dimensions

RSFR-(2X)YG

Size (mm)	Expanded	After Recovery		ROUND/FLAT	Standard Package M/Spool
	Internal Diameter Min(mm)	Internal Diameter Max(mm)	Wall Thickness mm		
1.0	1.5±0.3	0.7	0.28±0.10	Round	200
1.5	2.0±0.3	0.9	0.30±0.10	Round	200
2.0	2.5±0.3	1.0	0.35±0.10	Round	200
2.5	3.0±0.3	1.3	0.36±0.10	Round	200
3.0	3.5±0.4	1.5	0.38±0.10	Round	200
3.5	4.0±0.4	1.8	0.40±0.10	Round	200
4.0	4.5±0.4	2.0	0.45±0.10	Round	200
4.5	5.0±0.4	2.3	0.45±0.10	Round	100
5.0	5.5±0.4	2.5	0.45±0.10	Round	100
6.0	6.5±0.4	3.0	0.50±0.10	Round	100
7.0	7.5±0.4	3.5	0.50±0.10	Flat	100
8.0	8.5±0.5	4.0	0.55±0.10	Flat	100
9.0	9.5±0.5	4.5	0.55±0.10	Flat	100
10.0	10.5±0.5	5.0	0.55±0.10	Flat	100
11.0	11.5±0.5	5.5	0.60±0.10	Flat	100
12.0	12.5±0.5	6.0	0.60±0.10	Flat	100
13.0	13.5±0.5	6.5	0.60±0.10	Flat	100
14.0	14.5±0.5	7.0	0.65±0.10	Flat	100
15.0	15.5±0.6	7.5	0.70±0.10	Flat	100
16.0	17.0±0.6	8.0	0.70±0.10	Flat	100
17.0	17.5±0.6	8.5	0.70±0.10	Flat	100
18.0	19.0±0.7	9.0	0.70±0.15	Flat	100
20.0	22.0±0.7	10.0	0.75±0.15	Flat	100
22.0	24.0±0.7	11.0	0.80±0.15	Flat	100
25.0	26.0±0.7	12.5	0.90±0.15	Flat	50
28.0	29.0±0.7	14.0	0.90±0.15	Flat	50
30.0	31.5±0.7	15.0	0.95±0.15	Flat	50
35.0	36.5±0.7	17.5	0.95±0.15	Flat	50
40.0	41.5±0.7	20.0	1.00±0.20	Flat	50
45.0	46.0±0.7	22.5	1.00±0.20	Flat	25
50.0	51.0±0.7	25.0	1.00±0.20	Flat	25
60.0	≥60.0	30.0	1.10±0.20	Flat	25
70.0	≥70.0	35.0	1.20±0.20	Flat	25
80.0	≥80.0	40.0	1.30±0.20	Flat	25
90.0	≥90.0	45.0	1.50±0.20	Flat	25
100.0	≥100.0	50.0	1.65±0.20	Flat	25
120.0	≥120.0	60.0	1.70±0.20	Flat	15
150.0	≥150.0	75.0	1.70±0.20	Flat	15
180.0	≥180.0	90.0	1.75±0.20	Flat	15

RSFR-(3X)YG

Size (mm)	Expanded	After Recovery		Round/Flat	Standard Package M/Spool
	Internal D iameter Min(mm)	Internal Diameter Max(mm)	Wall Thickness mm		
3.2	3.2	1.0	0.55±0.15	Round	200
4.8	4.8	1.5	0.60±0.15	Round	100
6.4	6.4	2.0	0.65±0.15	Round	100
9.5	9.5	3.0	0.75±0.15	Flat	50
12.7	12.7	4.0	0.75±0.20	Flat	50
19.1	19.1	6.0	0.85±0.20	Flat	50
25.4	25.4	8.0	1.00±0.20	Flat	50
39	39	13.0	1.50±0.20	Flat	50

Technical Data

Property	Test Method	Stantard	Typical Performance
Tensile strength(MPa)	ASTM D2671	≥10.4	11.5
Elongation(%)	ASTM D2671	≥300	450
Tensile strength after aging (MPa)	UL224 158°CX168hr	≥7.3	8.5
Elongation after aging(%)	Ul224 158°CX168hr	≥200	350
Dieletric strength(kV/mm)	IEC 60243	≥15	17.5
Volume resistivity(Ω.cm)	ASTM D876	≥1X10^{14}	2.5X10^{14}

POLYOLEFIN

RSFR-135G(2X) | 135°C Heat Shrink Tubing - 2:1

Flame-retardant heat shrink tubing for a wide range of applications requiring service up to 135°C.



Features & operating conditions

- Flexible
- Suitable for various applications
- Continuous Operating Temperature:-55°C to 135°C
- Full recovery temperature:120°C
- RoHS compliant
- Meet SAE-AMS-DTL -23053/5 Class 1 and 3

Dimensions

Dimensions

Size		As Supplied	After Recovery		Standard Package
Inch	mm	Internal Diameter mm	Internal Diameter mm	Wall Thickness mm	Spool Length M/spool
3/64	1.0	≥1.20	≤0.60	0.41±0.10	200
1/16	1.5	≥1.60	≤0.80	0.43±0.10	200
3/32	2.5	≥2.40	≤1.20	0.51±0.10	200
1/8	3.0	≥3.20	≤1.60	0.51±0.10	200
3/16	4.5	≥4.80	≤2.40	0.51±0.10	100
1/4	6.0	≥6.40	≤3.20	0.64±0.10	100
3/8	9.0	≥9.50	≤4.80	0.64±0.10	100
1/2	12	≥12.7	≤6.40	0.64±0.10	100
3/4	18	≥19.1	≤9.50	0.76±0.15	100
1	25	≥25.4	≤12.7	0.89±0.15	50
5/4	32	≥32	≤15.9	0.89±0.15	50
3/2	38	≥38	≤19.1	1.00±0.15	50
2	50	≥51	≤25.4	1.15±0.15	25
3	75	≥76	≤38.1	1.27±0.20	25
4	100	≥102	≤50.8	1.40±0.20	25
5	120	≥125	≤63.5	1.40±0.25	25

RSFR-135G(2X) | 135°C Heat Shrink Tubing - 2:1

Technical Data

Technical Data

Property	Test Method	Typical Performance
Tensile strength(MPa)	ASTM D 2671	⩾10.4
Ultimate elongation(%)	ASTM D 2671	⩾200
Tensile strength after heat aged (Mpa)	175°CX168h	⩾7.3
Ultimate elongation after heat aged (%)	175°CX168h	⩾100
Longitudinal change(%)	ASTM D 2671	-5%~+5%
Flammability	ASTM D 2671 C method	VW-1
Voltage withstand	UL 224,2500V,60s	No breakdown
Heat shock	UL 224,250°C×4h	No cracks,flowing or dripping
Dielectric strength (kV/mm)	ASTM D 149	⩾15
Volume resistivity (Ω·cm)	ASTM D 876	$\geqslant 10^{14}$

POLYOLEFIN

RSFR-135G(3X) | 135°C Heat Shrink Tubing - 3:1

Flexible ultra-thin-wall heat shrink tubing for service up to 135°C.



Features & operating conditions

- Ultra thin wall
- Very flexible
- Flame retardant
- Continuous Operating Temperature:-55°Cto135°C
- Full recovery temperature:≥120°C
- RoHS compliant
- Meet SAE-AMS-DTL -23053/5 Class 1 and 3

Dimensions

Dimensions

Size		As Supplied	After Recovery		Standard Package
Inch	mm	Internal Diameter Min(mm)	Internal Diameter Max(mm)	Wall Thickness Nom(mm)	Spool Length M/spool
1/16	1.5	≥1.5	≤0.5	0.45±0.10	200
1/8	3.0	≥3.0	≤1.0	0.55±0.10	200
3/16	4.5	≥4.5	≤1.5	0.60±0.10	100
1/4	6.0	≥6.0	≤2.0	0.65±0.10	100
3/8	9.0	≥9.0	≤3.0	0.75±0.15	100
1/2	12.0	≥12.0	≤4.0	0.75±0.15	100
5/8	15.0	≥15.0	≤5.0	0.80±0.15	100
3/4	18.0	≥18.0	≤6.0	0.85±0.15	100
1	24.0	≥24.0	≤8.0	1.00±0.20	50
1-1/4	30.0	≥30.0	≤10.0	1.15±0.20	50
1-1/2	39.0	≥39.0	≤13.0	1.50±0.20	50
2	50.0	≥50.0	≤16.0	2.50±0.20	25
	60.0	≥60.0	≤20.0	2.60±0.20	25
	70.0	≥70.0	≤23.0	2.60±0.20	25
3	80.0	≥80.0	≤26.0	2.60±0.20	25
	90.0	≥90.0	≤30.0	2.60±0.20	25
4	100	≥100.0	≤33.0	2.60±0.20	25

RSFR-135G(3X) | 135°C Heat Shrink Tubing - 3:1

Technical Data

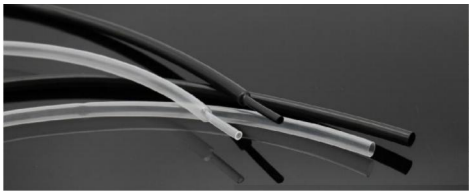
Technical Data

Property	Test Method	Typical Performance
Tensile strength(MPa)	ASTM D 2671	⩾10.4
Ultimate elongation(%)	ASTM D 2671	⩾200
Tensile strength after heat aged (Mpa)	175°CX168h	⩾7.3
Ultimate elongation after heat aged (%)	175°CX168h	⩾100
Longitudinal change(%)	ASTM D 2671	-5%~+5%
Flammability	ASTM D 2671 C method	VW-1
Voltage withstand	UL 224,2500V,60s	No breakdown
Heat shock	UL 224,250°C × 4h	No cracks,flowing or dripping
Dielectric strength (kV/mm)	ASTM D 149	⩾15
Volume resistivity (Ω·cm)	ASTM D 876	$\geqslant 10^{14}$

POLYOLEFIN

RSFR-105 | Halogen-Free Non-Self-Extinguishing Tubing

Flexible, economical, halogen-free heat shrink tubing with non-self-extinguishing characteristics.



Features & operating conditions

- Flexible
- Halogen free
- Temperature:-55°C to 105°C
- Shrink temperature:≥105°C
- RoHS and Sony compliant

Dimension

Dimension

Size		As Supplied	After Recovery		Standard Package
Inch	mm	Internal Diameter Min(mm)	Internal Diameter Max(mm)	Wall Thickness Nom(mm)	M/spool
3/64	0.6	0.9±0.2	0.40	0.22	200
	0.8	1.1±0.2	0.50	0.22	200
1/16	1.0	1.5±0.2	0.65	0.28	200
	1.5	2.0±0.2	0.85	0.32	200
3/32	2.0	2.5±0.2	1.00	0.35	200
	2.5	3.0±0.2	1.30	0.38	200
1/8	3.0	3.5±0.2	1.50	0.40	200
	3.5	4.0±0.2	1.80	0.42	200
	4.0	4.5±0.2	2.00	0.50	200
3/16	4.5	5.0±0.2	2.30	0.55	200
	5.0	5.5±0.2	2.5	0.55	100
1/4	6.0	6.5±0.2	3.0	0.55	100
5/16	7.0	7.5±0.3	3.5	0.60	100
	8.0	8.5±0.3	4.0	0.60	100
3/8	9.0	9.5±0.3	4.5	0.60	100
	10.0	10.5±0.3	5.0	0.60	100
	11	11.5±0.3	5.5	0.60	100
1/ 2	12	12.5±0.3	6.0	0.65	100
	13	13.5±0.3	6.5	0.65	100
	14	14.5±0.3	7.0	0.70	100
5/8	15	15.5±0.4	7.5	0.70	100
	16	16.5±0.4	8.0	0.70	100
	17	17.5±0.4	8.5	0.80	100
3/4	18	19.0±0.5	9.0	0.80	100
	20	21.0±0.5	10.0	0.80	100
	22	23.0±0.5	11.0	0.90	100
1	25	26.0±0.5	12.5	0.90	50
	28	29.0±0.5	14.0	0.95	50
1-1/4	30	31.5±1.0	15.0	1.00	50
	35	36.5±1.0	17.5	1.00	50
1-1/2	40	41.5±1.0	20.0	1.00	50
	45	46.0±1.0	22.5	1.00	25
	50	⩾50	25.0	1.00	25

Technical Data

Technical Data

Property	Test Method	Typical Performance
Tensile strength (MPa)	ASTM D 2671	⩾10.4
Ultimate elongation (%)	ASTM D 2671	⩾200
Voltage withstand	2500V,60s	No breakdown
Volume resistivity (Ω·cm)	ASTM D 876	$\geqslant 10^{14}$

POLYOLEFIN

RSFR-HT | 150°C Flame-Retardant Heat Shrink Tubing

Flame-retardant heat shrink tubing for service up to 150°C.



Features & operating conditions

- 2:1 shrink ratio
- Flame retardant
- Good resistance to common fluids and solvents
- ULapproved
- Continuous operating temperature:-55°C ~150°C
- Full recovery temperature:≥135°C
- RoHS compliant

Dimensions

Dimensions

Size		As Supplied	After Recovery		Standard Package
Inch	mm	Internal Diameter mm	Internal Diameter mm	Wall Thickness mm	Spool Length M/spool
3/64	1.0	≥1.20	≤0.60	0.41±0.10	200
1/16	1.5	≥1.60	≤0.80	0.43±0.10	200
3/32	2.5	≥2.40	≤1.20	0.51±0.10	200
1/8	3.0	≥3.20	≤1.60	0.51±0.10	200
3/16	4.5	≥4.80	≤2.40	0.51±0.10	100
1/4	6.0	≥6.40	≤3.20	0.64±0.10	100
3/8	9.0	≥9.50	≤4.80	0.64±0.10	100
1/2	12	≥12.7	≤6.40	0.64±0.10	100
3/4	18	≥19.1	≤9.50	0.76±0.15	100
1	25	≥25.4	≤12.7	0.89±0.15	50
5/4	32	≥32	≤15.9	0.89±0.15	50
3/2	38	≥38	≤19.1	1.00±0.15	50
2	50	≥51	≤25.4	1.15±0.15	25
3	75	≥76	≤38.1	1.27±0.20	25
4	100	≥102	≤50.8	1.40±0.20	25
5	120	≥125	≤63.5	1.40±0.25	25

RSFR-HT | 150°C Flame-Retardant Heat Shrink Tubing

Technical Data

Technical Data

Property	Test Method	Typical Performance
Tensile strength(MPa)	ASTM D2671	⩾10.4
Ultimate elongation(%)	ASTM D2671	⩾200
Tensile strength after heat aged(Mpa)	180°CX168h	⩾7.3
Ultimate elongation after heat aged (%)	180°CX168h	⩾100
Corrosion	UI224	Pass
Flammability	ASTM D 2671C method	VW-1
Voltage withstand	2500V, 60s	No breakdown
Heat shock(%)	250°CX4h	No cracks, flowing or dripping
Cold blend	-30°CX1h	No cracks
Dielectric strength (kv/mm)	ASTM D 149	⩾15
Volume resistivity (Ω·cm)	ASTM D 876	$\geqslant 10^{14}$
Water absorption(%)	UL 224	⩽0.5

Non-Shrinkable Irradiated Polyolefin Tubing

POLYOLEFIN

Non-Shrinkable Irradiated Polyolefin Tubing

Flexible irradiated polyolefin insulation tubing with flame-retardant characteristics. This product is non-shrinkable.



Features & operating conditions

- Flexible
- Flame retardant
- Operating temperature:-55°C~+125°C
- RoHS compliant.

Dimensions

Dimensions

Size(AWG)	Internal Diameter(mm)	Wall Thickness(mm)	Standard Package (M/Spool)
AWG18	1.00±0.10	0.40±0.06	200
AWG16	1.30±0.10	0.40±0.06	200
AWG14	1.65±0.10	0.40±0.06	200
AWG12	2.10±0.15	0.40±0.06	200
AWG10	2.60±0.15	0.50±0.08	200
AWG8	3.30±0.15	0.50±0.08	200
AWG6	4.10±0.20	0.50±0.08	100
AWG4	5.20±0.20	0.50±0.08	100
AWG2	6.50±0.20	0.50±0.08	100
AWG0	8.30±0.30	0.50±0.08	100
3/8〃	9.50±0.40	0.50±0.08	100
7/16〃	11.10±0.40	0.50±0.08	100
1/2〃	12.70±0.40	0.50±0.08	100

Technical Data

Technical Data

Property	Test Method	Typical Performance
Tensile strength(MPa)	ASTM D 2671	⩾10.4
Ultimate elongation(%)	ASTM D 2671	⩾200
Water absorption (%)	ASTM D 570	⩽0.5
Dielectric strength (kv/mm)	ASTM D 149	⩾15
Volume resistivity (Ω·cm)	ASTM D 876	$\geqslant 10^{14}$

POLYOLEFIN

WMPG | Heat Shrink Busbar Insulation Tubing

Cross-linked polyolefin heat shrink tubing for busbar insulation in switchgear and substations. Full 1 kV, 10 kV, 20 kV and 35 kV dimensional series are retained.



Features & operating conditions

- Manufactured from cross-linked polyolefin
- Used to offer insulation protection for busbar in switchgear and substation
- Protects against short circuit and electrical leakage cause by small animals
- Reduces busbar clearance requirements
- RoHS compliant
- Shrink temperature: start at 70°C, and fully recovered at 125°C
- Color: yellow, red, green, blue, black

Dimensions

Dimensions

1kV WMPG Series

Product No.	Busbar Width (square)/mm	As Supplied/mm		After Recovered/mm		Standard Package (m/roll)
		ID (Min)	Wall Thickness	ID (Max)	Wall Thickness	
1kV WMPG 30	30	31.5±1.0	0.50±0.15	≤15	0.95±0.15	50
1kV WMPG 35	35	36.5±1.5	0.50±0.15	≤18	1.00±0.15	50
1kV WMPG 40	40	41.5±1.5	0.55±0.15	≤20	1.00±0.15	25
1kV WMPG 45	45	41.5±1.5	0.55±0.15	≤23	1.00±0.15	25
1kV WMPG 50	50	51.0±2.0	0.55±0.15	≤25	1.00±0.15	25
1kV WMPG 60	60	60.0±3.0	0.60±0.20	≤30	1.30±0.20	25
1kV WMPG 65*	65	65.0±3.0	0.60±0.20	≤33	1.30±0.20	25
1kV WMPG 70	70	70.0±3.0	0.65±0.20	≤35	1.30±0.20	25
1kV WMPG 75*	75	75.0±3.0	0.65±0.20	≤38	1.30±0.20	25
1kV WMPG 80	80/100	80.0±3.0	0.65±0.20	≤40	1.46±0.20	25
1kV WMPG 85*	80/100	85.0±3.0	0.65±0.20	≤43	1.46±0.20	25
1kV WMPG 90	100	90.0±4.0	0.65±0.20	≤45	1.46±0.20	25
1kV WMPG 100	100/120	100.0±4.0	0.65±0.20	≤50	1.46±0.20	25
1kV WMPG 120	150	120.0±4.0	0.65±0.20	≤60	1.46±0.20	25
1kV WMPG 150	180	150.0±4.0	0.65±0.20	≤75	1.46±0.20	25
1kV WMPG 180	MAX	180.0±4.0	0.65±0.20	≤90	1.46±0.20	25
1kV WMPG 210*	MAX	210.0±4.0	0.65±0.20	≤105	1.46±0.20	25
1kV WMPG 230*	MAX	230.0±4.0	0.65±0.20	≤115	1.46±0.20	25
1kV WMPG 250*	MAX	250.0±5.0	0.65±0.20	≤125	1.46±0.20	25
1kV WMPG 300*	MAX	300.0±5.0	0.65±0.20	≤150	1.46±0.20	25

10kV WMPG Series

Product No.	Busbar Width (square/circular) /mm	As Supplied/mm		After Recovered/mm		Standard Package (m/roll)
		ID (Min)	Wall Thickness	ID (Max)	Wall Thickness	
10kV WMPG 15/8	15/12	15.0±0.8	1.20±0.30	≤8	2.10±0.30	25
10kV WMPG 20/10	20/15	20.0±0.8	1.20±0.30	≤10	2.10±0.30	25
10kV WMPG 25/12	25/18	25.0±0.8	1.20±0.30	≤12.5	2.10±0.30	25
10kV WMPG 30/15	32/20	30.0±0.8	1.20±0.30	≤15	2.10±0.30	25
10kV WMPG 40/20	40/30	40.0±1.0	1.20±0.30	≤20	2.30±0.30	25
10kV WMPG 50/25	50/35	50.0±3.0	1.20±0.30	≤25	2.30±0.30	25
10kV WMPG 60/30	60/45	60.0±3.0	1.20±0.30	≤30	2.30±0.30	25
10kV WMPG 65/33*	65/45	65.0±3.0	1.20±0.30	≤33	2.30±0.30	25
10kV WMPG 70/35	70/50	70.0±3.0	1.20±0.30	≤35	2.30±0.30	25
10kV WMPG 75/38*	75/50	75.0±3.0	1.20±0.30	≤38	2.30±0.30	25
10kV WMPG 80/40	80/55	80.0±3.0	1.20±0.30	≤40	2.30±0.30	25
10kV WMPG 85/43*	80/65	85.0±3.0	1.20±0.30	≤43	2.40±0.30	25
10kV WMPG 100/50	100/75	100.0±4.0	1.20±0.30	≤50	2.40±0.30	25
10kV WMPG 120/60	120/85	120.0±4.0	1.20±0.30	≤60	2.40±0.30	25
10kV WMPG 150/75	150/105	150.0±4.0	1.20±0.30	≤75	2.40±0.30	25
10kV WMPG 180/90	180/120	180.0±5.0	1.20±0.30	≤90	2.40±0.30	25
10kV WMPG 210/105*	210/140	210.0±5.0	1.20±0.40	≤105	2.40±0.30	20
10kV WMPG 230/115*	230/150	230.0±5.0	1.20±0.40	≤115	2.40±0.30	20
10kV WMPG 250/125*	250/180	250.0±5.0	1.20±0.40	≤125	2.40±0.30	20
10kV WMPG 300/150*	300/210	300.0±5.0	1.20±0.40	≤150	2.40±0.30	15

WMPG | Heat Shrink Busbar Insulation Tubing

20kV WMPG Series

20kV WMPG Series

Product No.	Busbar Width (square/circular) /mm	As Supplied/mm		After Recovered/mm		Standard Package (m/roll)
		ID (Min)	Wall Thickness	ID (Max)	Wall Thickness	
20kV WMPG 15/8	15/12	15.0±0.8	1.30±0.30	≤8	2.50±0.20	25
20kV WMPG 20/10	20/15	20.0±0.8	1.30±0.30	≤10	2.50±0.20	25
20kV WMPG 25/13	25/18	25.0±0.8	1.30±0.30	≤13	2.50±0.20	25
20kV WMPG 30/15	32/20	30.0±0.8	1.30±0.30	≤15	2.50±0.20	25
20kV WMPG 40/20	40/30	40.0±1.0	1.40±0.40	≤20	2.80±0.30	25
20kV WMPG 50/25	50/35	50.0±2.0	1.40±0.40	≤25	2.80±0.30	25
20kV WMPG 60/30	60/45	60.0±3.0	1.40±0.40	≤30	2.80±0.30	25
20kV WMPG 65/33*	65/45	65.0±3.0	1.40±0.40	≤33	2.80±0.30	25
20kV WMPG 70/35	70/50	70.0±3.0	1.40±0.40	≤35	2.80±0.30	25
20kV WMPG 75/38	75/50	75.0±3.0	1.40±0.40	≤38	2.80±0.30	25
20kV WMPG 80/40	80/55	80.0±3.0	1.40±0.40	≤40	2.80±0.30	25
20kV WMPG 85/43*	80/65	85.0±3.0	1.40±0.40	≤43	2.80±0.30	25
20kV WMPG 100/50	100/75	100.0±4.0	1.40±0.40	≤50	2.80±0.30	25
20kV WMPG 120/60	120/85	120.0±4.0	1.40±0.40	≤60	2.80±0.30	25
20kV WMPG 150/75	150/105	150.0±4.0	1.40±0.40	≤75	2.80±0.30	25
20kV WMPG 180/90	180/120	180.0±5.0	1.40±0.40	≤90	2.80±0.30	25
20kV WMPG 210/105*	210/40	210.0±5.0	1.40±0.40	≤105	2.80±0.30	20
20kV WMPG 230/115*	230/150	230.0±5.0	1.40±0.40	≤115	2.80±0.30	20

35kV WMPG Series

Product No.	Busbar Width (square)/mm	As Supplied/mm		After Recovered/mm		Standard Package (m/roll)
		ID (Min)	Wall Thickness	ID (Max)	Wall Thickness	
35kV WMPG 30/15	30	30.0±1.0	1.90±0.50	≤15	4.00±0.30	15
35kV WMPG 35/18	30/40	35.0±1.0	1.90±0.50	≤18	4.00±0.30	15
35kV WMPG 40/20	40	40.0±1.0	1.90±0.50	≤20	4.00±0.30	15
35kV WMPG 50/25	50	50.0±2.0	1.90±0.50	≤25	4.00±0.30	15
35kV WMPG 60/30	60	60.0±3.0	1.90±0.50	≤30	4.00±0.30	15
35kV WMPG 65/33*	60/70	65.0±3.0	1.90±0.50	≤33	4.00±0.30	15
35kV WMPG 70/35	70	70.0±3.0	1.90±0.50	≤35	4.00±0.30	15
35kV WMPG 75/38*	70/80	75.0±3.0	1.90±0.50	≤38	4.00±0.30	15
35kV WMPG 80/40	80/100	80.0±4.0	1.90±0.50	≤40	4.00±0.30	15
35kV WMPG 100/50	100/120	100.0±4.0	1.90±0.50	≤50	4.00±0.30	15
35kV WMPG 120/60	150	120.0±4.0	1.90±0.50	≤60	4.00±0.30	15
35kV WMPG 150/75	180	150.0±4.0	1.90±0.50	≤75	4.00±0.30	15
35kV WMPG 180/90*	MAX.	180.0±5.0	1.90±0.50	≤90	4.00±0.30	15
35kV WMPG 210/105*	MAX.	210.0±5.0	1.90±0.50	≤105	4.00±0.30	15
35kV WMPG 230/115*	MAX.	230.0±5.0	1.90±0.50	≤115	4.00±0.30	15
35kV WMPG 250/125*	MAX.	250.0±5.0	1.90±0.50	≤125	4.00±0.30	15
35kV WMPG 300/150*	MAX.	300.0±5.0	1.90±0.50	≤150	4.00±0.30	15

Note: Size with * are not standard stock items.

WMPG | Heat Shrink Busbar Insulation Tubing

Property

Technical Data

Property	Test Method	Standard Value
Tensile Strength	GB/T 1040	⩾8MPa
Elongation at Break	GB/T 1040	⩾300%
Tensile Strength after Aging	GB/T 1040, GB/T 7141	⩾6.4MPa (130℃,168 hrs)
Elongation at Break after Aging	GB/T 1040, GB/T 7141	⩾100% (130℃,168 hrs)
Hardness (Shore A)	ISO 868	⩽90
Dielectric Strength	IEC 60243	⩾25kV/mm
Volume Resistivity	IEC 60093	≥1×10^{14}Ω·cm
Dielectric Constant	IEC 60250	⩽3.0
Longitudinal Shrinkage	ASTM-D-2671	⩽10%
Eccentricity	ASTM-D-2671	⩽30%(10kV); ⩽50%(35kV)
Water Absorption	ISO 62	⩽0.5%
Flammability (Oxygen Index)	ISO 4589	⩾28

POLYOLEFIN

RSFRNH-BTM | Medium-Voltage Busbar Insulation Tubing

Radiation-cross-linked halogen-free polyolefin busbar tubing with resistance to tracking and arcing, for medium-voltage busbars, cable terminations and joints from 1 kV to 24 kV.



Features & operating conditions

- Flame Retardant
- Reduces bus bar clearance requirements
- Protect against accidental flashover
- Anti-track
- Halogen free
- Tested to IEC60684 standards for medium voltage switch-gear applications to above 20KV
- Continuous Operating Temperature: -40 °C to 110°C, can be used in 175°C
- Shrink Temperature:120°C

Property

Technical Data

Physical

Property	Test Method	Standard Performance	Typical Performance
Tensile strength	IEC 60684	≥8Mpa	10.5 Mpa
Elongation	IEC 60684	≥400%	550%
Heat Aging tensile strength	150°C×168h	≥5Mpa	9.5 Mpa
Heat Aging elongation	150°C×168h	≥200%	450%
Heat shock	225°C×4h	no cracking or flowing	no cracking or flowing
Flammability	IEC 60684	Passed	Passed
Low temperature Flexibility	-40°C×4h	no cracking	no cracking

Electrical

Property	Test Method	Standard Performance	Typical Performance
Dielectric Strength	IEC 60684	≥20KV/mm	23kv/mm
Volume Resistivity	IEC 60684	$\geqslant 1\times10^{13}\Omega\cdot cm$	$2\times10^{14}\Omega\cdot cm$
Tracking(2.5kv,60min)	IEC 60684	no cracking	no cracking

RSFRNH-BTM | Medium-Voltage Busbar Insulation Tubing

As supplied/mm

Selection Table

Normal size (mm)	As supplied/mm	After recovered/mm		Standard length m/Roll
	Inside diameter (Min)	Inside diameter(Max)	Wall thickness (Min)	
Φ20/6	20	6	2.2±0.3	25
Φ28/9	28	9	2.6±0.3	25
Φ33/10	33	10	2.8±0.3	25
Φ40/12	40	12	2.8±0.3	25
Φ45/14	45	14	3.0±0.3	25
Φ55/16	55	16	3.0±0.3	25
Φ65/19	65	19	3.0±0.3	25
Φ75/22	75	22	3.0±0.3	25
Φ85/25	85	25	3.2±0.3	25
Φ95/30	95	30	3.2±0.3	25
Φ115/34	115	34	3.3±0.3	25
Φ130/36	130	36	3.3±0.3	25
Φ160/50	160	50	3.3±0.3	25
Φ180/56	180	56	3.3±0.3	25

06

Silicone & Elastomer Products

Silicone, fluoroelastomer, EPDM and other flexible constructions for thermal, fluid and mechanical protection. Product-specific temperatures and recovery conditions are shown with each series.



7 product and selection entries

ELASTOMER

RSFR-DR | Diesel-Resistant Elastomeric Heat Shrink Tubing

Diesel-resistant elastomeric tubing for cable, harness and brake-line protection in transportation and military applications exposed to diesel, oils, hydraulic fluids and chemicals.



Features & operating conditions

- 2:1 shrink ratio
- Long term resistance to diesel, hydraulic fluids and chemicals
- Flexible
- Flame retardant
- High abrasion and cut resistance
- Continuous operating temperature:-75°C-150°C
- Full recovery temperature:130°C
- Meets 23053/16

Dimensions

Size		Expanded	Recovered		Standard Package	Round/Flat
Inch	mm	Internal Diameter (mm)	Internal Diameter (mm)	Wall Thickness (mm)		
1/8	3.2	3.2	1.6	0.76±0.15	200m/spool	Round
3/16	4.8	4.8	2.4	0.84±0.15	100m/spool	Round
1/4	6.4	6.4	3.2	0.89±0.15	100m/spool	Round
3/8	9.5	9.5	4.8	1.02±0.20	50m/spool	Round
1/ 2	12.7	12.7	6.4	1.22±0.20	25m/spool	Round
3/4	19.0	19.0	9.5	1.45±0.28	25m/spool	Round
1	25.4	25.4	12.7	1.78±0.28	25m/spool	Round
1-1/ 2	38.1	38.1	19.0	2.41±0.41	25m/spool	Round
2	50.8	50.8	25.4	2.79±0.41	25m/spool	Round
3	76.0	76.0	38.0	3.18±0.50	1.00m/pc	Flat

Note: 3:1 shrink ratio is available upon request

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	≥10.4	11.5
Elongation(%)	ASTM D2671	≥250	350
Tensile Strength after aging (MPa)	150°C X168hr	≥8.0	8.5
Elongation after aging(%)	150°C X168hr	≥200	300
Dieletric strength(kV/mm)	IEC 60243	≥11.9	15
Flammability	ASTM D2671 B	Pass	Pass

Fluoroelastomer Heat Shrink Tubing

FLUOROELASTOMER

Fluoroelastomer Heat Shrink Tubing

Fluoroelastomer Heat Shrink Tubing. Thin-wall fluoroelastomer tubing for automotive, aerospace, military and industrial electronics exposed to heat and fluids. The separately specified VT200 model is included in this family.



Features & operating conditions

- 2:1 shrink ratio
- High withstand to corrosive fluids in extreme temperatures
- Flame retardant
- Very flexible
- Suitable for stamping
- Continuous operating temperature:-55°C-200°C
- Full recovery temperature:175°C
- Meets 23053/13

Dimensions

Size		Expanded	Recovered		Standard Package M/Spool	Round/Flat
Inch	mm	Internal Diameter (mm)	Internal Diameter (mm)	Wall Thickness (mm)		
3/32	2.4	2.4	1.2	0.70±0.20	200	Round
1/8	3.2	3.2	1.6	0.75±0.20	200	Round
3/16	4.8	4.8	2.4	0.89±0.20	100	Round
1/4	6.4	6.4	3.2	0.89±0.20	100	Round
3/8	9.5	9.5	4.8	0.89±0.20	50	Flat
1/ 2	12.7	12.7	6.4	0.89±0.20	25	Flat
3/4	19.0	19.0	9.5	1.07±0.30	25	Flat
1	25.4	25.4	12.7	1.25±0.30	25	Flat
1-1/ 2	38.1	38.1	19.0	1.40±0.30	25	Flat
2	50.8	51.0	25.4	1.65±0.30	15	Flat

Note: 3:1 shrink ratio is available upon request

Separate model specifications are retained below. Use the named model and its dimensional table when ordering.

Fluoroelastomer Heat Shrink Tubing

Technical Data

Property	Test Method	Standard	Typical Performance
Tensile Strength(MPa)	ASTM D2671	⩾8.5	10.0
Elongation(%)	ASTM D2671	⩾250	300
Tensile Strength after aging (MPa)	UL224 158℃X168hr	⩾7.3	8.5
Elongation after aging(%)	UL224 158℃X168hr	⩾200	250
Dieletric strength(kV/mm)	IEC 60243	⩾15	17.5
Volume resistivity(Ω.cm)	IEC 60093	⩾$1X10^{9}$	$2.5X10^{9}$
Flammability	UI224 VW-1	Pass	Pass

FLUOROELASTOMER

VT200 (2X) | Fluoroelastomer Heat Shrink Tubing

Radiation-modified fluororubber and polymer elastomer tubing for prolonged high-temperature service, with resistance to diesel, aviation fuel and hot fluids. Used to protect cable terminations and branch joints in vehicles, rail and marine equipment.



Features & operating conditions

- Oil and solvent resistant.
- Highly flame retardant, soft and elastic.
- Operating temperature: -55°C to 200°C.
- Shrink ratio: 2:1.
- Environmental standard: RoHS.
- Standard color: black.

VT200 (2X) - Technical properties

Item	Typical value	Test method
Tensile Strength	8.2MPa	ASTM D 638
Elongation at break	≥250%	ASTM D 638
Elongation at break after thermal aging	≥200%	ASTM D 638
Flammability	Out in 15 seconds	ASTM D 2671
Longitudinal shrinkage	≤10%	ASTM D 2671
Heat shock	No cracks, no dripping	ASTM D 2671
Breakdown strength	7.9kV/mm	ASTM D 2671
Volume resistivity	$\geq 10^9 \Omega.cm$	ASTM D 876

Fluoroelastomer Heat Shrink Tubing | VT200 (2X)

VT200 (2X) - Dimensions

Type	Supplied I.D. (mm)	Full recovered size(mm)		Standard package (M/Roll)
		d	w	
Φ2.4	≥2.4	≤1.2	0.51±0.08	200
Φ3.2	≥3.2	≤1.6	0.76±0.13	100
Φ4.8	≥4.8	≤2.4	0.89±0.18	100
Φ6.4	≥6.4	≤3.2	0.89±0.18	50
Φ7.9	≥7.9	≤4.0	0.89±0.18	50
Φ9.5	≥9.5	≤4.8	0.89±0.18	50
Φ12.7	≥12.7	≤6.4	0.89±0.18	50
Φ19.1	≥19.1	≤9.5	1.07±0.21	30
Φ22.2	≥22.2	≤11.2	1.15±0.25	30
Φ25.4	≥25.4	≤12.7	1.25±0.30	30
Φ38.1	≥38.1	≤19.1	1.40±0.38	30
Φ50.8	≥50.8	≤25.4	1.65±0.43	25

SILICONE

SRG-N/W | Silicone Rubber / Fiberglass Braided Sleeving

Silicone rubber and fiberglass braided insulation for household appliances, lighting, machinery and electronic instruments.



Features & operating conditions

- Two types: Inner fiberglass outside braided silicone rubber(SRG-N) Inner silicone rubber outside fiberglass braided(SRG-W)
- Operating temperature:-55°C-200°C
- RoHS compliant
- Good flexibility, arc resistance, corona resistance
- Standard color: white (Other colors upon request)

≥0.37

Size (mm)	Allowance (mm)	Average Wall Thickness Min (mm)					Packing standard M/Spool
		1200V	1500V	2500V	4000V	7000V	
0.5	+0.3,-0.1	≥0. 20	≥0. 23	≥0. 25	≥0. 35	≥0. 37	200/100
1.0	+0.3,-0.1	≥0. 20	≥0. 23	≥0. 25	≥0. 35	≥0. 37	200/100
1.5	+0.3,-0.1	≥0. 20	≥0. 23	≥0. 25	≥0. 35	≥0. 37	200/100
2.0	+0.3,-0.1	≥0. 20	≥0. 23	≥0. 25	≥0. 35	≥0. 37	100
2.5	+0.3,-0.1	≥0. 20	≥0. 23	≥0. 25	≥0. 35	≥0. 37	100
3.0	+0.3,-0.1	≥0. 23	≥0. 25	≥0. 27	≥0. 37	≥0. 40	100
3.5	+0.3,-0.1	≥0. 23	≥0. 25	≥0. 27	≥0. 37	≥0. 40	100
4.0	+0.3,-0.1	≥0. 23	≥0. 25	≥0. 27	≥0. 37	≥0. 40	100
4.5	+0.3,-0.1	≥0. 23	≥0. 25	≥0. 27	≥0. 37	≥0. 40	100
5.0	+0.3,-0.1	≥0. 25	≥0. 30	≥0. 32	≥0. 40	≥0. 45	100
6.0	+0.3,-0.1	≥0. 25	≥0. 30	≥0. 32	≥0. 40	≥0. 45	100
7.0	+0.3,-0.1	≥0. 25	≥0. 30	≥0. 32	≥0. 40	≥0. 45	50
8.0	+0.3,-0.1	≥0. 25	≥0. 30	≥0. 32	≥0. 40	≥0. 45	50
9.0	+0.3,-0.1	≥0. 25	≥0. 30	≥0. 32	≥0. 40	≥0. 45	50
10.0	+0.3,-0.1	≥0. 38	≥0. 40	≥0. 42	≥0. 45	≥0. 50	50
12.0	+1.0,-1.0	≥0. 38	≥0. 40	≥0. 42	≥0. 45	≥0. 50	50/25
13.0	+1.0,-1.0	≥0. 38	≥0. 40	≥0. 42	≥0. 45	≥0. 50	50/25
14.0	+1.0,-1.0	≥0. 38	≥0. 40	≥0. 42	≥0. 45	≥0. 50	50/25
18.0	+1.0,-1.0	≥0. 38	≥0. 40	≥0. 42	≥0. 45	≥0. 50	25
20.0	+1.0,-1.0	≥0. 40	≥0. 40	≥0. 42	≥0. 45	≥0. 50	25
25.0	+1.0,-1.0	≥0. 40	≥0. 45	≥0. 47	≥0. 50	≥0. 55	25
30.0	+1.0,-1.0	≥0. 40	≥0. 45	≥0. 47	≥0. 50	≥0. 55	25
35.0	+1.0,-1.0	≥0. 40	≥0. 45	≥0. 47	≥0. 50	≥0. 55	25
40.0	+1.0,-1.0	≥0. 40	≥0. 45	≥0. 47	≥0. 50	≥0. 55	25

SRG-N/W | Silicone Rubber / Fiberglass Braided Sleeving

Packingstandard

Size (mm)	Allowance (mm)	Average Wall Thickness Min (mm)	Packingstandard M/Spool
		7000V	
1.0	+0.2,-0.1	⩾0. 60	100
1.5	+0.3,-0.2	⩾0. 60	100
2.0	+0.3,-0.2	⩾0. 60	100
2.5	+0.3,-0.2	⩾0. 60	100
3.0	+0.3,-0.2	⩾0. 80	100
3.5	+0.3,-0.2	⩾0. 80	100
4.0	+0.4,-0.2	⩾0. 80	100
4.5	+0.3,-0.2	⩾0. 80	100
5.0	+0.4,-0.2	⩾0. 80	100
6.0	+0.4,-0.2	⩾1. 00	100
7.0	+0.5,-0.3	⩾1. 00	50
8.0	+0.5,-0.3	⩾1. 00	50
9.0	+0.5,-0.3	⩾1. 00	50
10.0	+1. 0,-0.5	⩾1. 00	50

EPDM

WEPDM | Flexible EPDM Heat Shrink Tubing

Flexible EPDM heat shrink tubing for jacketing and protecting cables, pipes, connectors, solder joints, terminals and electronic assemblies.



Features & operating conditions

- 2:1 shrink ratio
- Environmental friendly
- Outstanding low and high-temperature
- Higher shrink ratio than heat shrinkable tubes
- Resists acids and alkalis
- Resists chemical solvent
- Resists ultraviolet light and weather aging
- Resists ozone
- Minimum shrink temperature:100°C
- Minimum full recovery temperature: 135°C
- Continuous operating temperature:-45°C-125°C
- Standard color: Black

Dimensions

Size	Expanded	After Recovery		Standard Package
mm	Internal Diameter Min(mm)	Internal Diameter Max(mm)	Wall Thickness mm	M/Spool
6.0	6.5	3	0.80±0.10	50
8.0	8.5	4	0.90±0.10	50
10	10.0	5	1.20±0.10	50
12	12.0	6	1.20±0.10	20
16	16.0	8	1.50±0.15	20
20	20.0	10	1.50±0.15	20
30	30.0	15	1.80±0.15	20
40	40.0	20	2.00±0.15	20
50	50.0	25	2.00±0.20	10
60	60.0	30	2.00±0.30	10
70	70.0	35	2.00±0.30	10

WEPDM | Flexible EPDM Heat Shrink Tubing

Technical Data

Property	Test Method	Typical Performance
Tensile Strength(MPa)	GB/T 528	⩾14
Elongation(%)	GB/T 528	⩾400
Dieletric strength(kV/mm)	ASTM D 149	⩾12
Volume resistivity(Ω.cm)	ASTM D 257	$\geqslant 2X10^{13}$

CHLORINATED POLYOLEFIN

WRSLD | Flexible Chlorinated Polyolefin Heat Shrink Tubing

Flexible cross-linked chlorinated polyolefin tubing for insulation, strain relief and abrasion protection of harnesses and wire bundles exposed to fluids and solvents. The source calls this a neoprene tube; its stated construction is chlorinated polyolefin.



Features & operating conditions

- Made of cross linked chlorinated polyolefin
- Resistant to most fluids and solvents, including aviation and ground-vehicle fuels, lubricating oil, and hydraulic fluids
- Good flexibility at low temperature
- Resistant to abrasion and physical abuse while providing flexibility and strain relief
- Performance meets requirements of SAE-AMS-DTL-23053/1.
- Widely used for insulation, strain relief, and abrasion protection on cable harnesses and wire bundles in the military and aerospace industries. Especially suitable for applications requiring exposure to fluids and solvents at elevated temperatures.
- RoHS compliant
- Operation temperature: -45°C to 105°C
- Shrink temperature: start at 90°C, and fully recovered at 130°C
- Standard color: Black.

Dimensions

Dimensions

Product No.	As Supplied/mm	After Recovered/mm	
	Inner diamter	Inner diamter	Wall thickness **
WRSLD-3.2/1.5	≥3.2	≤1.5	0.7±0.2
WRSLD-4.8/2.5	≥4.8	≤2.5	0.8±0.2
WRSLD-6.4/3.4	≥6.4	≤3.5	0.9±0.2
WRSLD-9.5/5.4	≥9.5	≤5.4	1.0±0.2
WRSLD-12.7/7.1	≥12.7	≤7.1	1.2±0.2
WRSLD-15.8/8.7	≥15.8	≤8.7	1.3±0.3
WRSLD-19.1/10.5	≥19.1	≤10.5	1.4±0.3
WRSLD-22.2/12.5	≥22.2	≤12.5	1.7±0.3
WRSLD-25.4/14.5	≥25.4	≤14.5	1.8±0.3
WRSLD-31.8/18.0	≥31.8	≤18.0	2.2±0.3
WRSLD-38.1/21.5	≥38.1	≤21.5	2.4±0.3

**Wall thickness will be less when shrinkage is restricted.

Technical Data

Technical Data

Property	Test Method	Typical Performance
Tensile strength(MPa)	ASTM D 412	⩾10.3
Elongation at Break (%)	ASTM D 412	⩾225%
Tensile stress at 200% elongation (MPa)	ASTM D 412	⩽10.3
Tensile Strength After Aging (120°C,168 hrs) (%)	SAE-AMS-DTL-23053	⩾8.3
Elongation at Break after Aging (120°C,168 hrs) (%)	SAE-AMS-DTL-23053	⩾175%
Dielectric Strength (kV/mm)	ASTM D 2671	⩾11.8
Volume resistivity (Ω·cm)	ASTM D 876	≥1×10^{11}
Flammability(Self extinguishing 15 seconds; 3 inches)	ASTM D2671, Procedure A	Pass
Fungus resistance	ASTM G 21	No growth
Low temperature flexibility	-70°C,4 hrs	No cracking

SILICONE

SILICONE-DUCT | Double-Layer Silicone Fiberglass Duct

Flexible duct for hot and cold air, plastic granule dryers, extraction systems, furnace and welding-gas exhaust, engines, aircraft and military equipment.



Features & operating conditions

- High-temperature resistance and flame-retardant construction.
- Silicone-coated fiberglass cloth wall.
- Internal steel-wire spiral with external fiber cord.
- Operating temperature: -70°C to 260°C.

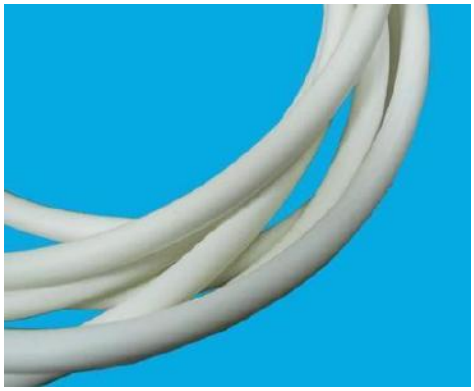
Dimensions and operating data

Nominal size	OD (mm)	Wall (mm)	Min. bending radius	Suggested working pressure (bar)	Suggested negative pressure (bar)	Length (m)
25	29	0.8	43	2.7	0.7	4
32	36	0.8	54	2.7	0.64	4
38	43	0.8	64	2.6	0.6	4
51	56	0.8	84	2.5	0.51	4
63	68	0.8	102	2.3	0.46	4
76	81	0.8	121	2.1	0.42	4
83	88	0.8	132	2	0.4	4
89	94	0.8	141	2	0.38	4
102	107	0.8	160	1.9	0.35	4
114	120	0.8	180	1.6	0.29	4
127	133	0.8	199	1.5	0.26	4
152	158	0.8	237	1.3	0.18	4
165	172	0.8	258	1.2	0.15	4
178	184	0.8	276	1	0.13	4
203	209	0.8	313	0.8	0.1	4
254	260	0.8	390	0.6	0.08	4
305	311	0.8	466	0.5	0.07	4

SILICONE

SIL200 (1.7X) | Flame-Retardant Silicone Rubber Heat Shrink Tubing

Radiation-modified silicone rubber and polymer elastomer tubing for prolonged high-temperature service. It protects cable terminations and branch joints from solvents, chemicals and mechanical damage in vehicles, rail, marine and electrical equipment.



Features & operating conditions

- Acid, alkali, corona and mold resistance.
- Soft and elastic.
- Shrink temperature: 90°C to 170°C.
- Operating temperature: -50°C to 200°C.
- Shrink ratio: 1.7:1.
- Environmental standard: RoHS.
- Standard colors: black, grey and rust red; custom colors available.

SIL200 (1.7X) - Technical properties

Item	Typical data	Test standard
Tensile Strength	4.0MPa	GB/T 528
Elongation at Break	200%	GB/T 528
Tearing strength	14kN/m	GB/T 529
Volume resistivity	≥$2*10^{14}$Ω.cm	ASTM D 876
Dielectric strength	20KV/mm	GB/T 1408
Flame retardant rating	VW-1	UL 224

SIL200 (1.7X) | Flame-Retardant Silicone Rubber Heat Shrink Tubing

SIL200 (1.7X) - Dimensions

Type	Supplied I.D. (mm)	Full recovered size(mm)		Standard packing (m/roll)
		d	w	
Φ0.8	≥0.8	0.5±0.1	0.7±0.15	200
Φ1.0	≥1.0	0.6±0.1	0.7±0.15	200
Φ1.5	≥1.5	0.9±0.2	0.7±0.15	200
Φ2.0	≥2.0	1.2±0.2	0.7±0.15	200
Φ2.5	≥2.5	1.5±0.2	0.7±0.15	200
Φ3.0	≥3.0	1.85±0.2	0.8±0.15	100
Φ3.5	≥3.5	2.2±0.2	0.8±0.15	100
Φ4.0	≥4.0	2.5±0.2	0.8±0.15	100
Φ4.5	≥4.5	2.8±0.2	0.8±0.15	100
Φ5.0	≥5.0	3.1±0.2	0.8±0.15	100
Φ5.5	≥5.5	3.4±0.2	0.8±0.15	100
Φ6.0	≥6.0	3.75±0.2	0.8±0.15	100
Φ6.5	≥6.5	4.0±0.3	0.8±0.15	100
Φ7.0	≥7.0	4.35±0.3	0.8±0.15	100
Φ7.5	≥7.5	4.7±0.3	0.8±0.15	100
Φ8.0	≥8.0	5.0±0.3	1.0±0.2	100
Φ8.5	≥8.5	5.3±0.3	1.0±0.2	100
Φ9.0	≥9.0	5.6±0.3	1.0±0.2	100
Φ9.5	≥9.5	5.9±0.4	1.0±0.2	100
Φ10	≥10.0	6.2±0.5	1.7±0.3	100
Φ11	≥11.0	6.9±0.5	1.7±0.3	100
Φ12	≥12.0	7.5±0.5	1.7±0.3	100
Φ13	≥13.0	8.1±0.5	1.7±0.3	50
Φ14	≥14.0	8.7±0.5	1.7±0.3	50
Φ15	≥15.0	9.3±0.5	1.7±0.3	50

Custom sizes and packaging are available on request.

SIL200 (1.7X) - Dimensions (continued)

Φ16	≥16.0	10.0±0.5	1.7±0.3	50
Φ17	≥17.0	10.6±0.5	1.7±0.3	50
Φ18	≥18.0	11.2±0.5	1.7±0.3	50
Φ19	≥19.0	11.8±0.5	1.7±0.3	50
Φ20	≥20.0	12.5±1.0	1.7±0.3	50
Φ21	≥21.0	13.1±1.0	1.7±0.3	50
Φ22	≥22.0	13.7±1.0	1.7±0.3	50
Φ23	≥23.0	14.3±1.0	1.7±0.3	50
Φ24	≥24.0	15.0±1.0	1.7±0.3	50
Φ25	≥25.0	15.6±1.0	2.0±0.3	50
Φ26	≥26.0	16.2±1.5	2.0±0.3	1
Φ27	≥27.0	16.8±1.5	2.0±0.3	1
Φ28	≥28.0	17.5±1.5	2.0±0.3	1
Φ29	≥29.0	18.1±1.5	2.0±0.3	1
Φ30	≥30.0	18.7±1.5	2.0±0.3	1
Φ35	≥35	21.8±1.5	2.0±0.3	1
Φ40	≥40	23.5±2.0	2.0±0.3	1
Φ50	≥47	29.5±3	2.0±0.3	1
Φ60	≥57	35.5±3	2.5±0.4	1
Φ70	≥67	41.2±3	2.5±0.4	1
Φ80	≥77	47±5	2.5±0.4	1
Φ90	≥87	53±5	2.5±0.4	1
Φ100	≥97	59±5	2.5±0.4	1
Φ110	≥107	64.7±5	2.5±0.4	1
Φ120	≥117	70.5±5	2.5±0.4	1
Φ130	≥117	76.4±5	2.5±0.4	1
Φ140	≥117	82.3±5	2.5±0.4	1
Φ150	≥117	88.2±5	2.5±0.4	1
Φ160	≥117	94±8	2.5±0.4	1
Φ170	≥117	100±8	2.5±0.4	1
Φ180	≥117	105±8	2.5±0.4	1
Φ190	≥117	111±8	2.5±0.4	1
Φ200	≥117	118±10	2.5±0.4	1
Φ210	≥117	123±10	2.5±0.4	1

07

Identification & Protective Sleeving

Identification sleeves, cable tags, print consumables and software, together with braided and specialty protection products for organized cable assemblies.



10 product and selection entries

PET

WPET | Expandable Braided Sleeving

Expandable PET braid for protecting bundled wires, wiring harnesses and hoses.



Features & operating conditions

- Good flexibility, easy to bend
- Excellent abrasion resistance
- Convenient installation
- Continuous operating temperature:-50°C-150°C
- Fusing point: 240°C ±10°C
- Flame retardant rating: Self-extinguish
- Color: Black or upon request

WPET | Expandable Braided Sleeving

Dimensions

N0.	Specification	Application range (mm)	Number	Packing(m/roll)
1	1*0.20mm*24	1~5	1000	3±1
2	1*0.25mm*24	1~5	1000	3±1
3	1*0.20mm*32	1~6	1000	3±1
4	1*0.25mm*32	1~6	1000	5±2
5	1*0.20mm*40	1~8	1000	3±1
6	1*0.25mm*40	2~8	1000	4±2
7	1*0.20mm*48	2~10	1000	5±2
8	1*0.25mm*48	3~12	1000	6±2
9	1*0.20mm*56	3~12	1000	6±2
10	3*0.20mm*24	1~5	500	4±2
11	1*0.25mm*56	5~14	500	8±2
12	1*0.20mm*64	3~14	500	7±2
13	1*0.25mm*64	5~15	500	9±2
14	3*0.25mm*24	3~12	500	6±2
15	3*0.20mm*32	5~15	500	6±2
16	1*0.20mm*72	5~16	500	10±2
17	1*0.25mm*72	6~17	500	10±2
18	3*0.25mm*32	5~15	500	8±2
19	3*0.20mm*40	7~20	500	8±2
20	3*0.25mm*40	8~21	250	12±2
21	3*0.20mm*48	6~24	250	10±2
22	3*0.25mm*48	7~25	250	14±2
23	4*0.25mm*48	8~26	250	16±4
24	3*0.20mm*56	8~28	250	12±4
25	3*0.25mm*56	9~30	250	16±4
26	3*0.20mm*64	10~32	250	16±4
27	3*0.25mm*64	11~33	250	20±4
28	3*0.20mm*72	12~38	250	18±4
29	4*0.20mm*72	13~39	100	22±4
30	4*0.25mm*64	12~35	100	28±5
31	4*0.25mm*72	15~42	100	32±5
32	4*0.20mm*96	16~46	150	30±5
33	3*0.20mm*120	18~56	100	35±5
34	5*0.25mm*64	14~38	100	35±5
35	4*0.25mm*96	18~50	100	36±5
36	3*0.25mm*120	19~57	100	38±5
37	5*0.25mm*72	16~45	100	25±5
38	4*0.25mm*120	20~70	100	45±5
39	5*0.25mm*96	19~51	100	40±5
40	5*0.25mm*120	22~85	50	50±5
41	6*0.25mm*120	25~95	50	60±5
42	3*0.38mm*120	26~100	50	64±5
43	4*0.38mm*120	32~110	50	76±5

POLYOLEFIN

RSFR | Heat Shrink Identification Sleeves

Flattened heat shrink marker sleeves for wire and cable harness identification. Compatible printing systems provide durable marks resistant to abrasion, cleaning solvents and industrial fluids.



Features & operating conditions

• Source standards: SAE-AS 81531; MIL-STD-202F / Method 215J; UL 224; RoHS.

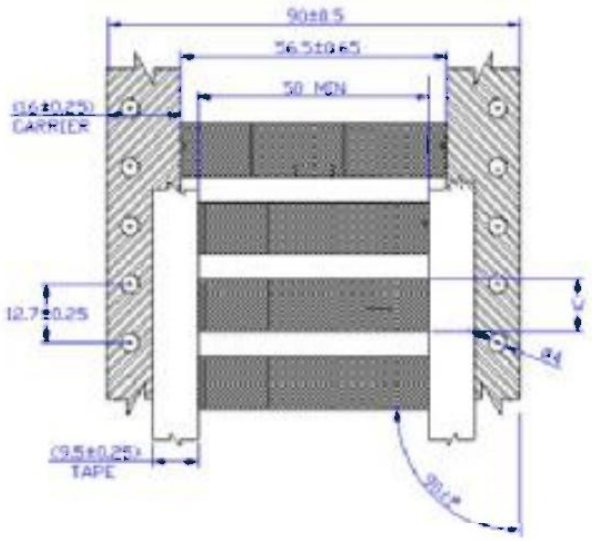
Materal

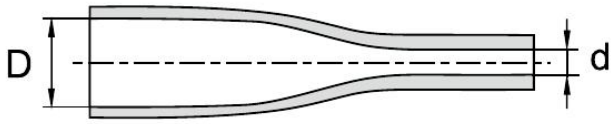
Material	The sleeving shall be fabricated from irradiated, thermally stabilized and flame retarded modified polyolefin compound containing no halogens or cadmium in the formulation.
Application range	commercial ,Industrial environment
Operating temperature range	-55~+125℃
Minimum recovery temperature	+125℃
Maximum storage temperature	+50℃
Shrink ratio	2:1, 3:1
Color	White, Yellow, other color is available if ordered
Printing mode	Single sided printing and Double sided printing formats available
Supplied mode	Either Continuous type or Ladder format type is available
Recommended Printers	Thermal transfer printer
Recommended Ribbons	N85 resin ribbon, Black, 100mm(width)*300m(length)

Physic performance

Property	Unit	Testing Requirement	Reported results
Tensile strength	MPa	10.3	14.3
Ultimate elongation	%	200	330
Low temperature flexibility 4 hours at -55±1□	-	No cracking	Pass(no cracking)
Dielectric strength	kV/mm	19.7	20
Volume Resistivity	Ω·cm	10^{14}	2.0×10^{14}
Corrosive effect	-	No corrosive	pass
Heat aging	-	168 hours at 158±2°C	Pass(no cracking, print is legible)
Print performance	Rubs	SAE-AS 81531	Pass(legible after 100 rubs)
	Strokes	MIL-STD-202F	Pass(legible after 100 Strokes)

Part Numbering System





RSFR-M-3X-4.8-50-2.0K-YOP2W

RSFR-M-3X-4.8-50-2.0K-Y 0 P2 W

- Package: W for WOLABLE painting package.O for OEM package
- Printing: PO/P1/P2 for printing/single-side printing/ double-side printing.
- Dash line: 0/1/2/3.....for not need/one line/two-line/three-line.....
- Color: Y for yellow, W for white and ten colors are available
- Standard pack: 2.5K/2K/1.5K/1K/0.5K/0.25K/for 2500/...../500 and 250 pieces
- Sleeve length: nominal length is 50mm(the total length is 56.5mm)
- Expanded ID: as supplid,nominal inside diameter
- Expansion ratio: 2X/3X refers to 2:1 or 3:1
- Standard wall thickness
- Product family:RSFR refers to UL 224

RSFR | Heat Shrink Identification Sleeves

Color code BL

Color code	BL	Br	R	Or	Y	G	Blu	V	Gr	W
Color	Black	Brown	Red	Orange	Yellow	Green	Blue	Violet	Grey	White

Note: Yellow and white are standard, other color is available if ordered.

Dimensions

Part Number	As Supplied (mm)			After Recovery(mm)	
	ID (D)	Flatten Width (W)	Double Wall Thickness	ID (d)	Single Wall Thickness
RSFR-M-2X-2.4-	2.79±0.20	5.0±0.3	0.48±0.10	≤1.18	0.49±0.06
RSFR-M-2X-3.2-	3.64±0.23	6.3±0.4	0.48±0.10	≤1.59	0.51±0.06
RSFR-M-2X-4.8-	5.26±0.25	8.9±0.4	0.49±0.10	≤2.36	0.54±0.06
RSFR-M-2X-6.4-	6.92±0.28	11.5±0.4	0.50±0.10	≤3.18	0.56±0.06
RSFR-M-2X-9.5-	10.2±0.32	16.7±0.5	0.51±0.11	≤4.75	0.59±0.06
RSFR-M-2X-12.7-	13.5±0.36	21.8±0.6	0.52±0.11	≤6.35	0.60±0.07
RSFR-M-2X-19-	20.1±0.40	32.2±0.6	0.53±0.11	≤9.53	0.62±0.07
RSFR-M-2X-25-	26.7±0.45	42.5±0.7	0.55±0.12	≤12.7	0.63±0.07
RSFR-M-2X-38-	39.8±0.51	63.2±0.8	0.57±0.12	≤19.1	0.64±0.07
RSFR-M-2X-51-	53.0±0.56	83.9±0.9	0.58±0.13	≤25.4	0.64±0.08

Shrink ratio-3X

Part Number	As Supplied (mm)			After Recovery(mm)	
	ID (D)	Flatten Width (W)	Double Wall Thickness	ID (d)	Single Wall Thickness
RSFR-M-3X-2.4-	2.79±0.20	5.0±0.3	0.47±0.10	≤0.79	0.57±0.06
RSFR-M-3X-3.2-	3.64±0.23	6.3±0.4	0.48±0.10	≤1.06	0.61±0.06
RSFR-M-3X-4.8-	5.26±0.25	8.9±0.4	0.49±0.10	≤1.59	0.67±0.06
RSFR-M-3X-6.4-	6.92±0.28	11.5±0.4	0.50±0.10	≤2.13	0.71±0.06
RSFR-M-3X-9.5-	10.2±0.32	16.7±0.5	0.52±0.11	≤3.18	0.77±0.06
RSFR-M-3X-12.7-	13.5±0.36	21.8±0.6	0.53±0.11	≤4.23	0.80±0.07
RSFR-M-3X-19-	20.1±0.40	32.2±0.6	0.55±0.11	≤6.35	0.84±0.07
RSFR-M-3X-25-	26.7±0.45	42.5±0.7	0.56±0.12	≤8.47	0.86±0.07
RSFR-M-3X-38-	39.8±0.51	63.2±0.8	0.57±0.12	≤12.9	0.89±0.07
RSFR-M-3X-51-	53.0±0.56	83.9±0.9	0.57±0.13	≤17.2	0.90±0.08

RSFR | Heat Shrink Identification Sleeves

Package Information

Ordering Size (RSFR-M-2X/3X)	Ladder Format Type	Continuous Type
	Small Box Packing (PCS/Box)	A-Paper reel Packing (m/reel)
Φ2.4	2500	50
Φ3.2	2000	100
Φ4.8	2000	100
Φ6.4	2000	100
Φ9.5	1000	100
Φ12.7	1000	100
Φ19	500	100
Φ25	500	100
Φ38	500	50
Φ51	250	50

PVDF

PSFR | High-Temperature Identification Sleeves

PVDF heat shrink marker sleeves for high-temperature wire and cable identification, including environments exposed to fuels, lubricants and cleaning solvents.



Features & operating conditions

• Source standards: AMS-DTL-23053/18; SAE-AS 81531; MIL-STD-202F / Method 215J; UL 224; RoHS.

Dimensions

Part Number	As Supplied (mm)	After Recovery(mm)	
	ID (D)	ID (d)	Single Wall Thickness
PSFR-2X-2.4-*	2.4	1.2	0.25±0.05
PSFR-2X-3.2-*	3.2	1.6	0.25±0.05
PSFR-2X-4.8-*	4.8	2.4	0.25±0.05
PSFR-2X-6.4-*	6.4	3.2	0.30±0.08
PSFR-2X-9.5-*	9.5	4.8	0.30±0.08
PSFR-2X-12.7-*	12.7	6.4	0.30±0.08
PSFR-2X-19.1-*	19.1	9.5	0.43±0.08
PSFR-2X-25.4-*	25.4	12.7	0.48±0.08
PSFR-2X-38.1-*	38.1	19.1	0.60±0.10

Package Information

Ordering Size (PSFR-M-2X)	Ladder Format Type	Continuous Type
	Small Box Packing (PCS/Box)	Paper reel Packing (m/reel)
Φ2.4	2500	50
Φ3.2	2000	100
Φ4.8	2000	100
Φ6.4	2000	100
Φ9.5	1000	100
Φ12.7	1000	100
Φ19	500	100
Φ25	500	100
Φ38	500	50

PSFR | High-Temperature Identification Sleeves

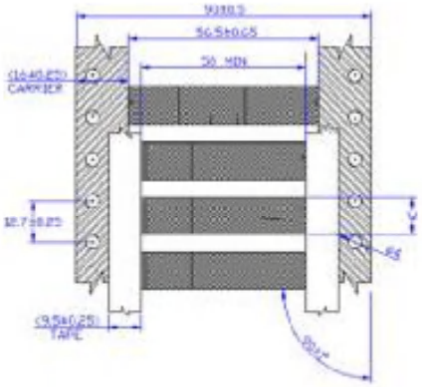
Part Numbering System

Part Numbering System

PSFR-M-2X-4.8-50-2.0K-Y 0 P2 W

- Package: W for WOLABLE painting package.O for OEM package
- Printing: PO/P1/P2 for printing/single-side printing/ double-side printing.
- Dash line: 0/1/2/3.....for not need/one line/two-line/three-line.....
- Color: Y for yellow, W for white and ten colors are available
- Standard pack: 2.5K/2K/1.5K/1K/0.5K/0.25K/for 2500/...../500 and 250 pieces
- Sleeve length: nominal length is 50mm(the total length is 56.5mm)
- Expanded ID: as supplid,nominal inside diameter
- Expansion ratio: 2X refers to 2:1
- Standard wall thickness
- Product family:PVDF





Color code	BL	Br	R	Or	Y	G	Blu	V	Gr	W
Color	Black	Brown	Red	Orange	Yellow	Green	Blue	Violet	Grey	White

Note: Yellow and white are standard, other color is available if ordered.

Features

Material	The sleeving shall be fabricated from irradiated, thermally stabilized and flame retarded modified PVDF
Application range	Aerospace, defense and mass transit industries.
Operating temperature range	-55~+225℃
Minimum recovery temperature	+150℃
Maximum storage temperature	+50℃
Shrink ratio	2:1
Color	White, Yellow, other color is available if ordered
Printing mode	Single sided printing and Double sided printing formats available
Supplied mode	Either Continuous type or Ladder format type is available
Recommended Printers	Thermal transfer printer
Recommended Ribbons	N95 resin ribbon, Black, 100mm(width)*300m(length)

POLYOLEFIN

HMS | Diesel-Resistant Identification Sleeves

Diesel-resistant marker sleeves for identifying wires and cables exposed to organic fluids, especially diesel oils, at elevated temperatures.



Features & operating conditions

• Source standards: AMS-DTL-23053/6 Class 1; NF F 00608 Categories A and H; SAE-AS 81531; MIL-STD-202F / Method 215J; RoHS.

Dimensions

Part Number	As Supplied (mm)			After Recovery(mm)	
	ID (D)	Flatten Width (W)	Double Wall Thickness	ID (d)	Single Wall Thickness
HMS-M-3X-2.4-	2.79±0.20	5.0±0.3	0.47±0.10	≤0.79	0.57±0.06
HMS-M-3X-3.2-	3.64±0.23	6.3±0.4	0.48±0.10	≤1.06	0.61±0.06
HMS-M-3X-4.8-	5.26±0.25	8.9±0.4	0.49±0.10	≤1.59	0.67±0.06
HMS-M-3X-6.4-	6.92±0.28	11.5±0.4	0.50±0.10	≤2.13	0.71±0.06
HMS-M-3X-9.5-	10.2±0.32	16.7±0.5	0.52±0.11	≤3.18	0.77±0.06
HMS-M-3X-12.7-	13.5±0.36	21.8±0.6	0.53±0.11	≤4.23	0.80±0.07
HMS-M-3X-19-	20.1±0.40	32.2±0.6	0.55±0.11	≤6.35	0.84±0.07
HMS-M-3X-25-	26.7±0.45	42.5±0.7	0.56±0.12	≤8.47	0.86±0.07
HMS-M-3X-38-	39.8±0.51	63.2±0.8	0.57±0.12	≤12.9	0.89±0.07

HMS | Diesel-Resistant Identification Sleeves

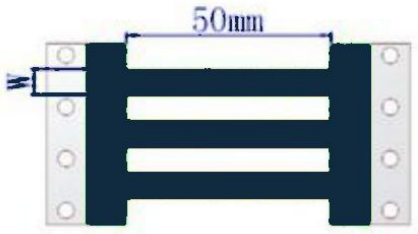
Package Information

Ordering Size (HMS-M-3X)	Ladder Format Type	Continuous Type	
	A&B-Small Box Packing (PCS/Box)	A-Paper reel Packing (m/reel)	B-Plastic reel Packing (m/reel)
Φ2.4	2500	50	25
Φ3.2	2000	100	25
Φ4.8	2000	100	25
Φ6.4	2000	100	25
Φ9.5	1000	100	25
Φ12.7	1000	100	25
Φ19	500	100	25
Φ25	500	100	25
Φ38	500	50	25

Part Numbering System

HMS-M-3X-4.8-50-2.0K-Y 0 P2 W

- Package: W for WOLABLE painting package.O for OEM package
- Printing: P0/P1/P2 for printing/single-side printing/ double-side printing
- Dash line: 0/1/2/3.....for not need/one line/two-line/three-line.....
- Color: Y for yellow, W for white and ten colors are available
- Standard pack: 2.5K/2K/1.5K/1K/0.5K/0.25K/for 2500/...../500 and 250 pieces
- Sleeve length: nominal length is 50mm(the total length is 56.5mm)
- Expanded ID: as supplid,nominal inside diameter
- Expansion ratio: 3X refers to 3:1
- Standard wall thickness
- Product family:HMS refer to AMS-DTL-23053/6





Color code	BL	Br	R	Or	Y	G	Blu	V	Gr	W
Color	Black	Brown	Red	Orange	Yellow	Green	Blue	Violet	Grey	White

Note: Yellow and white are standard, other color is available if ordered.

Features

Material	The sleeving shall be fabricated from irradiated, thermally stabilized and flame retarded modified polyolefin compound
Application range	Military industry; Aerospace & defense; Marine;
Operating temperature range	-55~+135°C
Minimum recovery temperature	+135°C
Maximum storage temperature	+50°C
Shrink ratio	3:1
Color	White, Yellow, other color is available if ordered
Printing mode	Single sided printing and Double sided printing formats available
Supplied mode	Either Continuous type or Ladder format type is available
Recommended Printers	Either Thermal transfer printer or Laser printer is OK.
Recommended Ribbons	N85 resin ribbon, Black, 100mm(width)*300m(length)

POLYOLEFIN

HNF | Halogen-Free Low-Smoke Identification Sleeves

Halogen-free heat shrink marker sleeves for wire and harness identification in enclosed spaces and applications requiring low smoke and low fire hazard.



Features & operating conditions

• Source standards: NF F16-101; DIN 5510-2; BS 6853; EN 45545-2; SAE-AS 81531; MIL-STD-202F / Method 215J; RoHS; FPA130 (source wording).

Dimensions

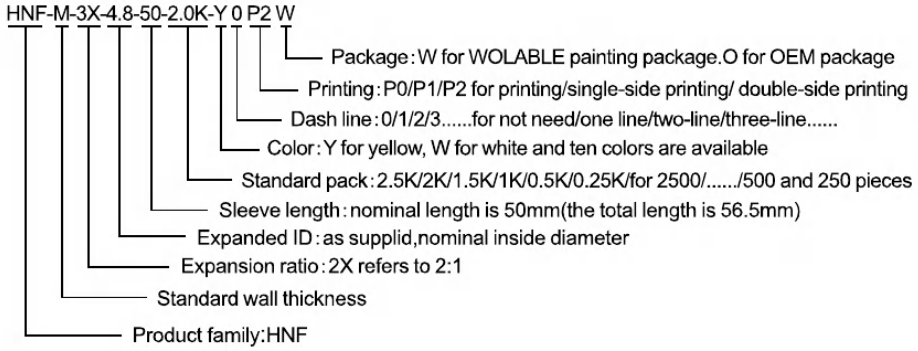
Part Number	As Supplied (mm)			After Recovery(mm)	
	ID (D)	Flatten Width (W)	Double Wall Thickness	ID (d)	Single Wall Thickness
HNF-M-2X-2.4-	2.79±0.20	5.0±0.3	0.48±0.10	≤1.18	0.49±0.06
HNF-M-2X-3.2-	3.64±0.23	6.3±0.4	0.48±0.10	≤1.59	0.51±0.06
HNF-M-2X-4.8-	5.26±0.25	8.9±0.4	0.49±0.10	≤2.36	0.54±0.06
HNF-M-2X-6.4-	6.92±0.28	11.5±0.4	0.50±0.10	≤3.18	0.56±0.06
HNF-M-2X-9.5-	10.2±0.32	16.7±0.5	0.51±0.11	≤4.75	0.59±0.06
HNF-M-2X-12.7-	13.5±0.36	21.8±0.6	0.52±0.11	≤6.35	0.60±0.07
HNF-M-2X-19-	20.1±0.40	32.2±0.6	0.53±0.11	≤9.53	0.62±0.07
HNF-M-2X-25-	26.7±0.45	42.5±0.7	0.55±0.12	≤12.7	0.63±0.07
HNF-M-2X-38-	39.8±0.51	63.2±0.8	0.57±0.12	≤19.1	0.64±0.07

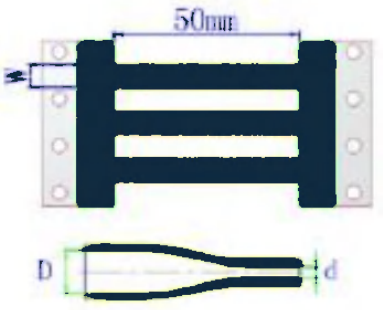
HNF | Halogen-Free Low-Smoke Identification Sleeves

Package Information

Ordering Size (HNF-M-2X)	Ladder Format Type	Continuous Type	
	A&B-Small Box Packing (PCS/Box)	A-Paper reel Packing (m/reel)	B-Plastic reel Packing (m/reel)
Φ2.4	2500	50	25
Φ3.2	2000	100	25
Φ4.8	2000	100	25
Φ6.4	2000	100	25
Φ9.5	1000	100	25
Φ12.7	1000	100	25
Φ19	500	100	25
Φ25	500	100	25
Φ38	500	50	25

Part Numbering System





Color code

Color code	BL	Br	R	Or	Y	G	Blu	V	Gr	W
Color	Black	Brown	Red	Orange	Yellow	Green	Blue	Violet	Grey	White

Note: Yellow and white are standard, other color is available if ordered.

Features

Material	The sleeving shall be fabricated from irradiated, thermally stabilized and flame retarded modified polyolefin compound containing no halogens or cadmium in the formulation.
Application range	Industrial environment ; Rail & mass transit; Aerospace & defense; Marine;
Operating temperature range	-55~+125℃
Minimum recovery temperature	+115℃
Maximum storage temperature	+40℃
Shrink ratio	2:1
Color	White, Yellow, other color is available if ordered
Printing mode	Single sided printing and Double sided printing formats available
Supplied mode	Either Continuous type or Ladder format type is available
Recommended Printers	Thermal transfer printer
Recommended Ribbons	N85 resin ribbon, Black, 100mm(width)*300m(length)

POLYURETHANE

PUR | Cable Identification Tags

Thermoplastic polyurethane cable tags that are halogen free, flame retardant, hydrolysis resistant and resistant to microorganisms. Source raw-material flammability classification: UL 94 V-0. Supplied on rolls for thermal transfer printing and attached using cable ties. Recommended ribbon: WO-80500BK; source printing references: SAE AS 81531 and MIL-STD-202F.



Specification and size

Order Code	Color	Pack size (pcs/coil)	Marker high (mm)	Marker length (mm)
PUR-M-4H-10-60-1K-W	White	1000	10	60
PUR-M-4H-15-75-1K-W	White	1000	15	75
PUR-M-4H-25-75-0.5K-W	White	500	25	75
PUR-M-4H-10-60-1K-BL	Black	1000	10	60
PUR-M-4H-15-75-1K-BL	Black	1000	15	75
PUR-M-4H-25-75-0.5K-BL	Black	500	25	75
PUR-M-4H-10-60-1K-Y	Yellow	1000	10	60
PUR-M-4H-15-75-1K-Y	Yellow	1000	15	75
PUR-M-4H-25-75-0.5K-Y	Yellow	500	25	75
PUR-M-4H-10-60-1K-R	Red	1000	10	60
PUR-M-4H-15-75-1K-R	Red	1000	15	75
PUR-M-4H-25-75-0.5K-R	Red	500	25	75

Physic Performance

Properties	Test Method	Typical value
Hardness	DIN 53505	58 Shore D
Density	DIN 53475	1.27g/cm^3
Tensile strength	DIN 53504	30MPa
Ultimate elongation	DIN 53504	400%
Stress at 20% elongation	DIN 53504	13MPa
Stress at 100% elongation	DIN 53504	19MPa
Stress at 300% elongation	DIN 53504	33MPa
Tear Strength	DIN 53515	110N/mm
Abrasion Loss	DIN 53516	30 mm^3
Compression set at room temperature	DIN EN ISO 815	30%
Compression set at 70°C	DIN EN ISO 815	45%
Notched impact strength (Charpy) +23°C	DIN EN ISO 179	50 kj/m^2

POLYOLEFIN

RSFR / AMS / HMS / HNF | Ladder-Format Cable Identification Tags

Cross-linked polyolefin ladder-format cable markers for large-diameter cables and bundles in rail, nuclear-power, aerospace and other demanding environments. Tags detach from the carrier and attach with cable ties. Thermal transfer printing with WO-80500BK ribbon is recommended for the source SAE AS 81531 and MIL-STD-202F printing requirements.



Specification and size

Order Code	Pack size (pcs/coil)	Marker high (mm)	Marker length (mm)
RSFR-4H-10.4-45-2K-W-B-P0-*	2000	10.4	45
RSFR-4H-10.4-53-2K-W-B-P0-*	2000	10.4	53
RSFR-4H-10.4-64-2K-W-B-P0-*	2000	10.4	64
RSFR-6H-10.4-76-2K-W-B-P0-*	2000	10.4	76
RSFR-6H-10.4-90-2K-W-B-P0-*	2000	10.4	90
RSFR-4H-12.0-102-2K-W-B-P0	2000	12.0	102
RSFR-4H-15.0-45-1.5K-W-B-P0	1500	15.0	45
RSFR-4H-15.0-53-1.5K-W-B-P0	1500	15.0	53
RSFR-4H-15.0-64-1.5K-W-B-P0	1500	15.0	64
RSFR-6H-15.0-76-1.5K-W-B-P0	1500	15.0	76
RSFR-6H-15.0-90-1.5K-W-B-P0	1500	15.0	90
RSFR-4H-20.3-45-1K-W-B-P0-*	1000	20.3	45
RSFR-4H-20.3-53-1K-W-B-P0-*	1000	20.3	53
RSFR-4H-20.3-64-1K-W-B-P0-*	1000	20.3	64
RSFR-6H-20.3-76-1K-W-B-P0-*	1000	20.3	76
RSFR-6H-20.3-90-1K-W-B-*-P0	1000	20.3	90
RSFR-4H-25.4-45-1K-W-B-*-P0	1000	25.4	45
RSFR-4H-25.4-53-1K-W-B-*-P0	1000	25.4	53
RSFR-4H-25.4-64-1K-W-B-*-P0	1000	25.4	64
RSFR-6H-25.4-76-1K-W-B-*-P0	1000	25.4	76
RSFR-6H-25.4-90-1K-W-B-*-P0	1000	25.4	90

Part Numbering System

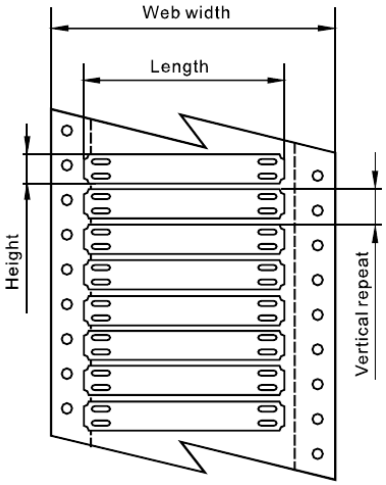
Part Numbering System

RSFR / AMS / HMS / HNF | Ladder-Format Cable Identification Tags

HMS-M-4H-10.4-38-2.OK-YAP2W

HMS-M-4H-10.4-38-2.0K-Y A P2 W

- Package: W for WOLABLE painting package.O for OEM package
- Printing: P0/P1/P2 for printing/single-side printing/ double-side printing
- Dash line: 0/1/2/3.....for not need/one line/two-line/three-line.....
- Color: Y for yellow, W for white and ten colors are available
- Standard pack: 2.5K/2K/1.5K/1K/0.5K/0.25K/for 2500/...../500 and 250 pieces
- Tag length: tag length is 38mm
- Tag height: tag height is 10.4mm
- Amount of holes:4H/6H refer to 4 holes and 6 holes
- Standard wall thickness
- Product family:HMS



Physic performance

Properties	AMS	HMS	HNF	RSFR	Test Method
Tensile strength (MPa)	⩾10.3	⩾13.8	⩾10.3	⩾10.3	ASTM D2671
Tensile strength after aging (MPa)	⩾6.9	⩾11.1	⩾6.9	⩾6.9	ASTM D2671
Ultimate elongation after aging(%)	⩾200	⩾200	⩾200	⩾200	ASTM D2671
Ultimate elongation(%)	⩾100	⩾100	⩾100	⩾100	ASTM D2671
Voltage withstand(V)	2500 V,60s,Pass	2500 V,60s,Pass	2500 V,60s,Pass	2500 V,60s,Pass	UI224
Dielectric strength (MV/m)	⩾19.7	⩾19.7	⩾19.7	⩾19.7	ASTM D2671
Volume resistivity(Ω • cm)	$\geqslant 10^{14}$	$\geqslant 10^{14}$	$\geqslant 10^{14}$	$\geqslant 10^{14}$	ASTM D2671
Water absorption(%)	⩽0.5	⩽0.5	⩽1.0	⩽1.0	ASTM D570
Corrosion	Pass	Pass	Pass	Pass	UL 224
Heat shock	No cracks , flowing or dripping	No cracks , flowing or dripping	No cracks , flowing or dripping	No cracks , flowing or dripping	UL 224
Low temperature flexibility	No cracks	No cracks	No cracks	No cracks	UL 224
Flammability	VW-1	VW-1	DIN5510-2 S3	60s self-extingish	UL 224□ DIN5510-2
Smoke density Ao	NG	NG	0.17	NG	BS6853
Index of toxic fume R	NG	NG	0.56	NG	BS6853

IDENTIFICATION ACCESSORIES

WO-80500BK | Thermal Transfer Resin Ribbon

WO-80500BK (N85) is a durable black resin thermal transfer ribbon for AMS-M, HMS-M, DIN-M and HNF-M sleeves, and RSFR / AMS / HMS / HNF cable marker tags. Use compatible printers for reliable, durable identification.





Characteristics

Characteristics

Manufacturer:

Supplier:	Supplier
The max storage temperature:	-5°C-40°C
Operating temperature:	5°C-35°C
The delivery temperature:	-5°C-45°C
Complied standards:	SAE AS 81531 and MIL-STD-202F/215J
Ribbon width:	100 mm ; 60mm; 40mm
Ribbon length:	300 m
Printable area:	100% full area
Internal diameter:	25mm
Outside diameter:	62mm
Ink:	Resin
Standard color:	Black
Ribbon wind direction:	Ink exterior

Recommended printers and materials

Properties	Typical value
Compatible printer:	WO-III,110-600DPI
	WO-III,110-300DPI
Compatible materials:	AMS, HMS, RSFR, HNF

IDENTIFICATION ACCESSORIES

WOLABEL-1/3 | Wire Marker and Label Printing Software

WOLABEL-1/3 wire-marker and label-printing software supports label design, printing and stored-data management. The source describes English and Chinese interfaces and single-user or three-user versions. Original legacy system requirements and ordering references are retained below.



Characteristics

Characteristics

WOLABEL software can save data to let user's repeat calling, edition. What is more, for the powerful design functions for label, this software not only can print commercial labels but also can print labels of cables and wires.

1. Design Label

1. Design Label

Self-defining function enable the users to set the sizes and styles of label as they will.

Insertion new label function enable the users to insert 1 to n pieces of labels between any ones.

Supports multi-line and parades editing.

Can set the sizes and styles of characters, with different to be edited and the length of characters can be set as users want.

Can insert logo or pictures.

2. Set Printing

Default auto and manual printing.

Can repute printing for any times.

Can print multi-line and parades in one time.

3. Data management

Easy to search and locate the saved labels, the user can edit them in the same time.

Can browse, display and edit a lot of labels on a same Interface.

The edited labels can be saved as a document then be called again.

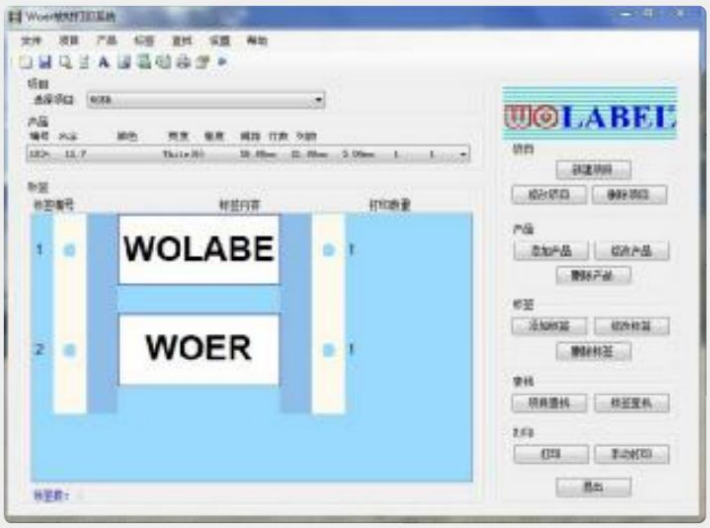
Can get one or several parades of labels and are export from or import into an Excel.

Can recall or print data for any times.

Auto array transposition for data in an Excel.

WOLABEL-1/3 | Wire Marker and Label Printing Software

WOLABEE



Computer Configuration

Processor:

Intel Pentium CPU, 400MHz minimum

Ram:

64Mb minimum.

Operation system:

Windows 95/ 98/ 2000/ Me / NT/ XP.

Hardware:

250 Mb minimum.

Software:

Office 2000 or higher version can support data importing and exporting.

Order Infor

Printing software:

WOLABEL-3/ENG (tri-users, English version)

WOLABEL-1/ ENG (single-user, English version)

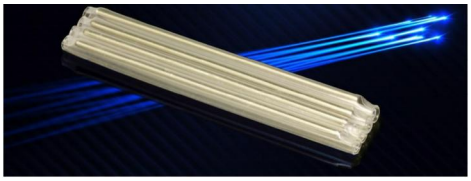
WOLABEL-3/CHN (tri-users, Chinese version)

WOLABEL-1/CHN (single--user, Chinese version)

COMPOSITE

WRSGX | Optical Fiber Fusion Splice Protection Sleeves

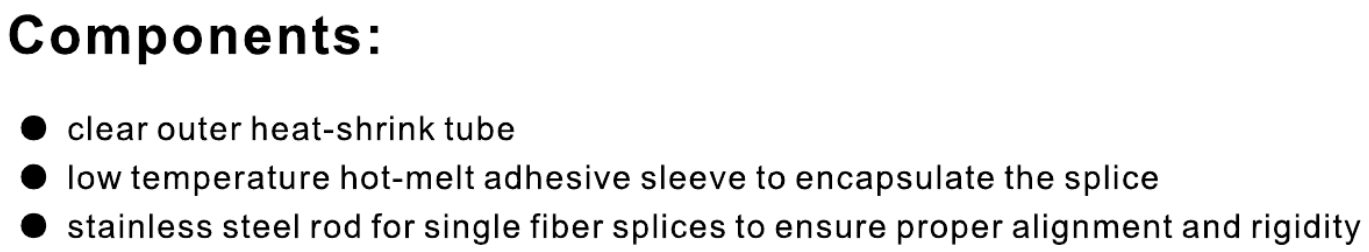
Protection sleeves for the bare-fiber portion of single-fiber fusion splices, providing mechanical support and environmental protection.



Features & operating conditions

- Excellent reinforcement of fusion splicing portion
- Reliable protection under any environmental conditions
- Fits into most splice holders
- Attenuation is almost zero, the signal transfer is more stable and faster
- Quick shrink-down time & easy installation, reducing damage risk to optical fiber.

Components:



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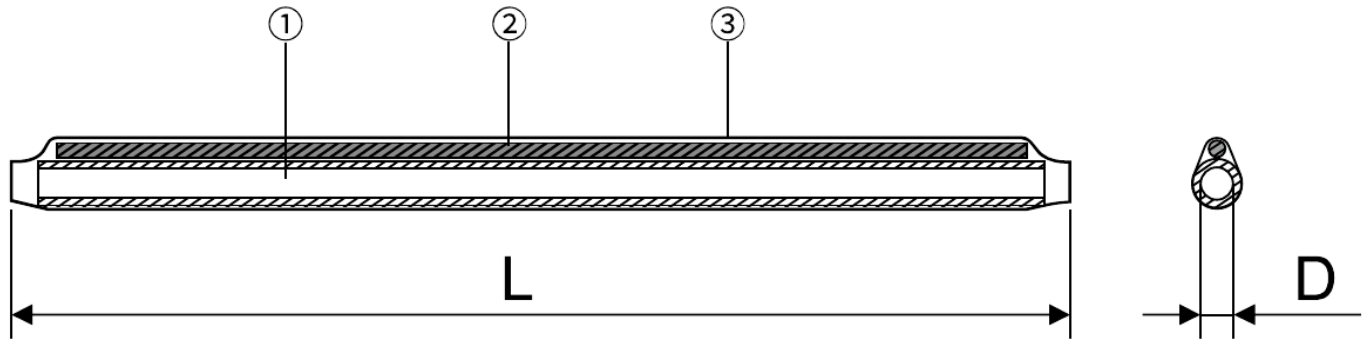
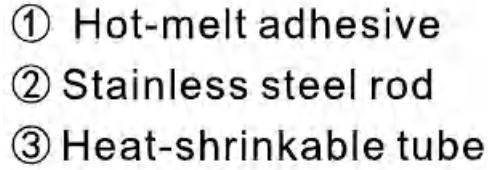


- **Hot-melt adhesive**



Dimensions

Dimensions

Type	Stainless steel		Hot-melt adhesive sleeve	After recovery	Total length
	O.D	Length	I.D. (D)	O.D	L
Small size	1.0	55	0.5	2.0	60
	1.0	50	0.5	2.0	55
	1.0	45	0.5	2.0	50
	1.0	40	0.5	2.0	45
	1.0	35	0.5	2.0	40
Normal size	1.2	55	1.3	2.5	60
	1.2	50	1.3	2.5	55
	1.2	45	1.3	2.5	50
	1.2	40	1.3	2.5	45
	1.2	35	1.3	2.5	40
Large size	1.5	55	1.5	3.0	60
	1.5	50	1.5	3.0	55
	1.5	45	1.5	3.0	50
	1.5	40	1.5	3.0	45
	1.5	35	1.5	3.0	40

08

PVC Hoses

Flexible hose constructions for fluid transfer, suction, spray, ventilation and general industrial service. Choose by reinforcement, dimensions and the stated operating conditions.



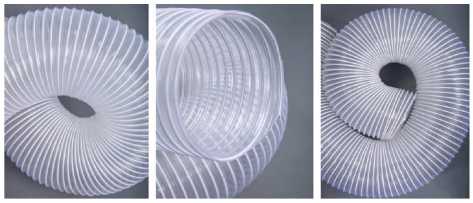


3 product and selection entries

PVC

PVC-VAC | Steel-Wire-Reinforced PVC Vacuum Hose

Flexible PVC hose for vacuum suction and discharge of powders and larger solids in industrial, electronic and pneumatic cleaning systems.



Features & operating conditions

- Transparent, smooth inner and outer walls allow visual flow monitoring.
- Resistant to low concentrations of acids and alkalis; elastic and resistant to aging.
- Soft PVC wall with flexible steel-wire reinforcement.
- Designed for vacuum applications; flame-retardant characteristics as stated in the source.
- Colors: grey, clear, black or custom.
- Operating temperature: -20°C to 70°C.

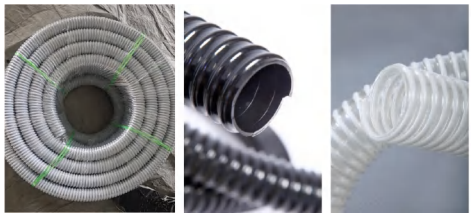
Dimensions and operating data

Nominal size	OD (mm)	Wall (mm)	Min. bending radius	Suggested working pressure (bar)	Suggested negative pressure (bar)	Length (m)
25.00	32.00	0.4/0.6	38.00	1.50	0.45	10 or 15 or20
32.00	38.00	0.4/0.6	46.00	1.50	0.43	10 or 15 or20
38.00	44.00	0.4/0.6	53.00	1.40	0.40	10 or 15 or20
40.00	48.00	0.4/0.6	55.00	1.40	0.40	10 or 15or20
51.00	56.00	0.4/0.6	67.00	1.30	0.30	10 or 15 or20
60.00	65.00	0.4/0.6	78.00	1.20	0.30	10 or15 or20
63.00	70.00	0.4/0.6	84.00	1.20	0.30	10 or 15or20
76.00	74.00	0.4/0.6	89.00	0.90	0.25	10 or 15 or20
80.00	88.00	0.4/0.6	106.00	0.90	0.25	10 or 15 or20
90.00	98.00	0.4/0.6	118.00	0.80	0.20	10 or 15or20
102.00	110.00	0.4/0.6	165.00	0.70	0.20	10 or 15 or20
127.00	136.00	0.4/0.6	202.00	0.60	0.15	10 or 15 or20
140.00	148.00	0.4/0.6	222.00	0.40	0.13	10 or 15 or20
152.00	160.00	0.4/0.6	240.00	0.30	0.10	10 or 15 or20
159.00	167.00	0.4/0.6	250.00	0.28	0.09	10 or 15 or20
178.00	186.00	0.4/0.6	279.00	0.28	0.08	10 or 15or20
203.00	211.00	0.4/0.6	308.00	0.23	0.06	10 or 15or20
254.00	263.00	0.4/0.6	394.00	0.20	0.07	10 or 15 or20
305.00	316.00	0.4/0.6	472.00	0.16	0.06	10 or 15 or20
406.00	418.00	0.4/0.6	627.00	0.08	0.02	10 or 15or20

PVC

PVC-REINFORCED | Rigid-Spiral-Reinforced PVC Hose

Reinforced PVC hose for vacuum suction and exhaust of powders and larger solids.



Features & operating conditions

- Transparent, smooth tube walls allow visual flow monitoring.
- Resistant to dilute acids and alkalis; elastic and resistant to aging.
- Soft PVC wall with rigid PVC spiral reinforcement.
- Lengths: 10 m, 15 m, 20 m and 30 m.
- Operating temperature: -20°C to 60°C.

Wall thickness is printed as 0.6-7 mm in the source table and is retained as supplied.

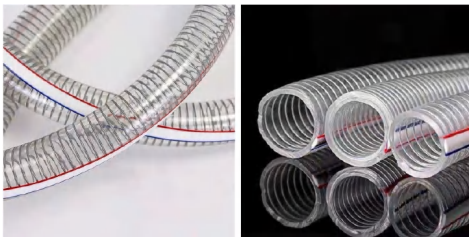
Dimensions and operating data

ID (mm)	OD (mm)	Wall (mm)	Overpressure (bar)	Vacuum (bar)	Length (m)
25	32	0.6-7	7.5	1.275	10/15/20/30
32	38	0.6-7	6	1.275	10/15/20/30
38	44	0.6-7	6	1.275	10/15/20/30
51	58	0.6-7	6	1.2	10/15/20/30
60	65	0.6-7	6	1.2	10/15/20/30
63	70	0.6-7	6	1.2	10/15/20/30
76	83	0.6-7	5.4	1.05	10/15/20/30
102	108	0.6-7	5.4	1.05	10/15/20/30
127	133	0.6-7	2.25	0.9	10/15/20/30
152	158	0.6-7	2.25	0.8	10/15/20/30
203	212	0.6-7	2	0.72	10/15/20/30
254	263	0.6-7	1.8	0.56	10/15/20/30
280	289	0.6-7	1.65	0.47	10/15/20/30
300	315	0.6-7	1.1	0.36	10/15/20/30

PVC

PVC-SPIRAL | PVC Spiral Steel-Wire Hose

Transparent steel-wire-reinforced PVC hose for transferring air, water, gas, oils and other liquids in industrial and agricultural applications.



Features & operating conditions

- Embedded steel-wire reinforcement, lightweight construction and small bending radius.
- Transparent walls allow visual flow monitoring.
- Weather resistant, flexible and resistant to freezing.
- Thick-walled construction for reliable transfer service.

Dimensions and operating data

Size (mm)	Color	Length (m)	Weight (kg)	Working pressure (MPa)	Burst pressure (MPa)
6x3	clear	100	12	1.2	3.6
8x3	clear	100	15	1.2	3.6
10x3	clear	100	18	1.2	3.6
12x3	clear	100	22	1.1	3.3
15x3.5	clear	100	31	1.1	3.3
19x3.5	clear	50	19	1.0	3.0
25x3.5	clear	50	24	0.9	2.7
32x4	clear	50	28	0.8	2.4
38x4	clear	50	40	0.7	2.1
40x4	clear	50	40.5	0.7	2.1
45x5	clear	50	62	0.6	1.8
48x5	clear	50	66.5	0.6	1.8
50x5.5	clear	50	57.5	0.6	1.8
60x7	clear	30	67	0.6	1.8
63x8	clear	30	86	0.6	1.8
64x7	clear	30	71	0.6	1.8
75x7.5	clear	30	87.5	0.5	1.5
76x5	clear	30	62	0.5	1.5
80x6	clear	30	75	0.5	1.5
89x8	clear	30	110	0.5	1.5
102x8	clear	30	123	0.4	1.2
110x6.5	clear	30	114	0.3	0.9
127x8	clear	30	145	0.4	0.9
133x8.5	clear	30	150	0.3	0.9

PVC-SPIRAL | PVC Spiral Steel-Wire Hose

Dimensions and operating data (continued)

Size (mm)	Color	Length (m)	Weight (kg)	Working pressure (MPa)	Burst pressure (MPa)
140x7	clear	30	149	0.3	0.9
152x8	clear	30	178	0.3	0.9
160x8	clear	30	209	0.3	0.9
180x9	clear	30	256	0.3	0.9
200x10	clear	30	330	0.3	0.9
220x2	clear	30	420	0.3	0.9
252x12	clear	30	478	0.2	0.6

09

Nylon & Industrial Hoses

Nylon and reinforced resin tubing, hydraulic and low-pressure hose ranges, pressure-test assemblies and flexible mandrels. Detailed dimensions, pressures and service conditions support product selection.



13 product and selection entries

PA NYLON

PA Nylon Tubing

Nylon pressure tubing for air, water, chemicals, lubricating oil, instrumentation, irrigation, fuel transfer, vacuum, air-conditioning and pneumatic / hydraulic systems.



Features & operating conditions

- Abrasion resistance
- Flexible and easy to install
- Smooth internal surface
- Low permeation
- Electrical insulation
- Dimensional stability

PA nylon tube sizes (mm)

ID	OD	Wall
3		
3	6	1.5
4	6	
4	8	2
5	8	1.5
8	10	
7.5	10	1.25
9	12	.5
1	14	1.5
13	16	1.5

Original source has several blank or poorly formed entries; numeric cells are reproduced without inference.

Temperature range: -40 to +120°C. New PA resin. PA6 / PA12 black or white inner-tube options.

Additional nylon dimensions (mm)

PA Nylon Tubing

OD × ID	Wall
5*3	
6*4	
6*3	1.5
8*4	
8*5	1.5
10*8	
0*7.5	1.25
12*9	1.5
4*11	1.5
16*13	1.5
6*12	
18*14	
22*18	2

PA6 / PA12, black or white inner-tube options. Incomplete source size entries are retained.

PA NYLON

Steel-Wire-Reinforced Nylon Resin Hose

Reinforced nylon resin hose for construction machinery, lifting, transport, metallurgy, mining, marine equipment, injection-moulding machinery and agricultural equipment.



Features & operating conditions

- High pressure capability
- Lower mass than comparable rubber hose
- Corrosion and temperature resistance
- Custom length, pressure and fittings

Core options listed: PA6 / PA12 in black or white. Dimensions follow the supplied selection table.

Steel-wire reinforced hose sizes and pressures

ID × OD (mm)	Pressure (MPa)
Φ41*8. 8	40
Φ4II*10. 5	70
	38
Φ6I*12	35
6II*13. 5	50
Φ8[*13	30
8II*15. 6	45
Φ10I*1	25
Φ10II*17. 5	40
13I*19. 5	20
中13II*24	30
Φ16I*23	17
中16II*24. 5	25
19I*26	15
Φ19II*27. 5	20
25I*33. 5	13
25II*35	20
Φ32T*41. 5	10
Φ32II	15

PA NYLON

Fibre-Reinforced Nylon Resin Hose

Fibre-reinforced nylon resin pressure hose with PA6 or PA12 inner-tube options in black or white.



Features & operating conditions

- Flexible reinforced construction
- Metric dimensions
- Multiple pressure classes

Fibre-reinforced hose sizes and pressures

ID × OD (mm)	Pressure (MPa)
Φ4I*8.6	30
Φ4II*10	50
	30
φ6I*1	28
Φ6II*12.5	35
Φ6I I*13.5	50
Φ8I*13	25
Φ8II*14.5	35
φ8II*16	50
Φ10I*15	20
Φ10II*16.5	30
中10III*18	45
Φ13I*19	15
φ13II*20.5	25
Φ13III*22	40
Φ16I*22.5	12
φ16TI*22.5	20
φ16III*26.5	35
19I*26.5	10
Φ11I*28	15
Φ19III*29.5	30
Φ25I*33.5	8
Φ25II*35.5	10
	25
Φ32II*44.5	8

Rows with missing dimension text are reproduced as supplied.

PA NYLON

Nylon Pressure-Test Hose Assemblies

Compact pressure-test hose assemblies for measuring pressure at hydraulic system test points and transmitting test fluids.



Features & operating conditions

- Lightweight
- Custom dimensions and colors
- Red, blue and green identification options
- 45-grade steel fittings

Application fields: electronics, chemical equipment, aerospace, automotive and petroleum.

Pressure-test hose rating

Inside diameter (mm)	Pressure (MPa)
Not legible in supplied table	63
3	30

The first ID appears only as Ø in the source; verify before ordering.

Hydraulic Hose Fittings

STEEL

Hydraulic Hose Fittings

Steel hose fittings and adapters, including threaded connectors, tees, elbows, unions and hose-end connections.



Features & operating conditions

- 45-grade steel construction as stated in source
- Custom configurations

No dimensional schedule is provided in the supplied catalogue.

ENGINEERING POLYMERS

Flexible Mandrels for Rubber Hose Production

Reusable flexible mandrels used in high-pressure rubber hose production as an alternative to traditional steel mandrels.



Features & operating conditions

- Smooth surface
- Uniform outside diameter
- Easy extraction
- Ageing and fatigue resistance
- Low dimensional change on bending

The supplier company introduction lists PP flexible mandrels; the product page does not assign a material grade.

Operating characteristics

Parameter	Value / description
Vulcanisation temperature	140-165°C; reusable
Hydraulic extraction pressure	12 MPa
Length shrinkage	<0.6%
Dimensional behaviour	Small modulus and outside-diameter changes; uniform OD supports hose-ID control

RUBBER

High-Pressure Rubber Hose

Reinforced hydraulic rubber hose for oil, lubricating oil and emulsions. The source provides working-pressure schedules under Q/PK, GB, ISO, DIN and SAE designations.



Features & operating conditions

- Single- and double-layer constructions
- Four- and six-layer constructions
- Spiral-reinforced variants

Single- and double-layer working pressure schedule

Nominal ID	Q/PK 1-layer	Q/PK 2-layer	GB 1-layer	GB 2-layer	ISO 1-layer	ISO 2-layer	DIN 1-layer	DIN 2-layer	SAE 100R1	SAE 100R2
5	21	60	21	35	21	35	22.5	41.5	20.7	34.5
6	20	60	10	35	10	35	22.5	40	19	34.5
8	17.5	40	17.5	30	17.5	30	21.5	35	17.2	29.3
10	16	40/53	16	28	16	28	18	33	15.5	27.6
13	14	30	14	25	14	25	16	27.5	13.8	24.1
16	12	21/34	10.5	20	10.5	20	13	25	10.3	19
19	10	18/34	9	16	9	16	10.5	21.5	8.6	15.5
22	9	16	8	14	8	14	10.5	21.5	7.8	13.8
25	8	14	7	14	7	14	8.8	16.5	6.9	13.5
32	6	11	4.4	11	4.4	11	6.3	12.5	4.3	11.2
38	5	10	3.5	9	3.5	9	5	9	3.4	8.6
51	4	8	2.6	8	2.6	8	4	8	2.6	7.8

Standards printed: Q/PK J02.01; GB3683; ISO1436; DIN20023; SAE. Working-pressure values reproduced as printed; pressure unit is not explicitly stated in this original table.

Four- and six-layer working pressure schedule

Nominal ID	Q/PK 4-layer	Q/PK 6-layer	Q/SXS 4-layer	Q/SXS 6-layer	SAE 100R9	SAE 100R10	SAE 100R11	SAE 100R12	SAE 100R13
5							86.2		
6		110	61.5	45		60.3	77.6		
10	7	77	52	44.5	31	51.7	68.6	27.6	
13	60	66	44	41.5	27.6	43.1	51.7	27.6	
16		61	40	35				27.6	
19	46	51	35	35	2.7	34.5	43.1	27.6	34.5
22	35	39	28	28	2.7	27.6	34.5	27.6	34.5
32	32	35	21	21	17.2	20.7	25.1	20.7	34.5
38	25	28	17.5	18.5	13.8	17.2	20.7	17.2	34.5
51	20	22	17.5	16.5	13.8	17.2	20.7	17.2	34.5

Standards printed: Q/PK J02.01; Q/SXSJOX.723; DIN20022; SAE. Working-pressure values reproduced as printed; pressure unit not explicitly stated.

Operating temperature: -40 to +100°C. Source table standard labels are preserved, including their original editions / spellings.

High-Pressure Rubber Hose

Spiral-reinforced high-pressure hose

ID × OD (mm)	Layers SP	Pressure	
6*16		180	
8*16		100	
8*16. 5		160	
10*19		80	
10*20		160	
2*21.		80	
2*24		150	
6*14	2	20	

Source does not state the pressure unit. Incomplete size entries are retained.

Natural Gas Hose

REINFORCED HOSE

Natural Gas Hose

High-pressure hose sizes listed specifically for natural gas service.



The source provides four size/pressure entries; material and standards are not specified.

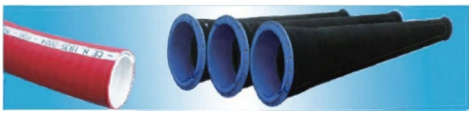
Natural gas hose dimensions and pressure

ID × OD (mm)	Pressure (MPa)
8*18	30
10*21	30
3*23. 5	30
25*39	30

RUBBER

Industrial Rubber Hoses

Low-pressure and general-purpose rubber hoses for machinery, chemical processing, petroleum, metallurgy, food processing and other industrial uses.



Features & operating conditions

- Water and air hoses
- Steam and oil hoses
- Food and chemical hoses
- Sandblast, oxygen and dredging hoses

Industrial hose range

Product	ID (mm)	Service conditions	Notes
Water hose	10-25	Domestic / industrial water below 60°C	
Compressed-air hose	6-25	-20 to +45°C; working pressure below 2.5 MPa	Industrial, mining and construction air service
Steam hose	6-76	Saturated steam or hot water below 170°C; steam 0.35 MPa; hot water 0.8 MPa	
Oil suction / discharge hose	6-152	Gasoline, engine oil, lubricating oil and mineral oils at ambient temperature; 0.5-1.2 MPa	External armour available
Food suction / discharge hose	16-152	Milk, wine, edible oils and liquid beverages; 0.5-0.8 MPa	
Acid / alkali hose	19-203	Dilute acids and alkalis at ambient temperature; 0.5-0.7 MPa	Concentrated acids: butyl-rubber inner layer and glass-fibre reinforcement options stated in source
Abrasion-resistant sandblast hose	19-76	Pneumatic sandblasting; 0.6 MPa	Cement-tanker hose can use similar construction
Radiator elbow hose	25-102	Locomotive radiator water transfer	
Nylon-cord oxygen hose	51-127	Flexible connection for pure-oxygen top-blown converters; 1.5 MPa; steel-wire-braided crimp version up to 8 MPa	Source describes vulcanised metal end flanges and asbestos outer protection; confirm currently supplied construction
Dredging suction / discharge hose	196-900	Dredged slurry; 0.4-0.5 MPa	Flanges and couplings to design
Void-forming hose	25, 32, 40	Bridge / highway construction; stated tensile load 1.5-2.30 kg per piece	Tear-resistant outer rubber

TPE / TPR

TPR-TPE | Thermoplastic Rubber Suction Hose

Flexible hose for dust, powder, fibers, fumes, hot and cold air, steam exhaust, blowers and compressors.



Features & operating conditions

- Resistant to strong acids, alkalis and chemicals.
- Steel-wire reinforcement can be grounded for static discharge.
- Approximate bending radius equals the outside diameter.
- TPE tube wall; flexible steel-wire spiral; stated wall thickness approximately 0.5 mm.
- Available lengths: 10 m and 15 m.
- Operating temperature: -40°C to 125°C.

The source description lists approximately 0.5 mm wall thickness; its dimensional table lists 0.60 mm. Both are retained.

Dimensions and operating data

Nominal size	OD (mm)	Wall (mm)	Min. bending radius	Suggested working pressure (bar)	Suggested negative pressure (bar)	Length (m)
26	32	0.60	38	0.55	0.35	10 or 15
32	39	0.60	46	0.50	0.32	10 or 15
38	45	0.60	54	0.45	0.30	10 or 15
40	47	0.60	68	0.45	0.30	10 or 15
51	58	0.60	70	0.43	0.20	10 or 15
60	68	0.60	82	0.40	0.15	10 or 15
63	79	0.60	86	0.40	0.15	10 or 15
70	79	0.60	96	0.35	0.12	10 or 15
76	85	0.60	102	0.32	0.10	10 or 15
82	91	0.60	109	0.30	0.10	10 or 15
90	99	0.60	119	0.25	0.08	10 or 15
102	111	0.60	166	0.23	0.06	10 or 15
115	124	0.60	186	0.20	0.05	10 or 15
127	136	0.60	204	0.18	0.04	10 or 15
140	149	0.60	223	0.16	0.04	10 or 15
152	161	0.60	242	0.15	0.04	10 or 15
159	168	0.60	262	0.13	0.03	10 or 15
178	188	0.60	282	0.12	0.03	10 or 15
203	212	0.60	318	0.10	0.02	10 or 15
254	283	0.60	396	0.08	0.02	10 or 15
305	314	0.60	471	0.06	0.01	10 or 15
406	415	0.60	622	0.04	0.01	10 or 15

POLYURETHANE

PU-ANTISTATIC | Oil-Resistant Anti-Static PU Hose

Polyurethane suction hose for abrasive dust, chips, fibers, powders and granules, as well as oil mist and welding fumes.



Features & operating conditions

- Chemical resistant; steel wire can be grounded to discharge static electricity.
- Approximate bending radius equals the outside diameter.
- Polyurethane wall approximately 0.4-0.6 mm thick; flexible steel-wire reinforcement.
- Lengths: 10 m or 15 m.
- Operating temperature: -40°C to 90°C.

Dimensions and operating data

Nominal size	OD (mm)	Wall (mm)	Min. bending radius	Suggested working pressure (bar)	Suggested negative pressure (bar)	Length (m)
25	32	0.60	38	1.60	0.45	10-15m
32	39	0.60	47	1.60	0.40	10-15m
38	45	0.60	54	1.60	0.40	10-15m
40	47	0.60	58	1.50	0.30	10-15m
51	58	0.60	69	1.40	0.35	10-15m
60	68	0.60	81	1.20	0.25	10-15m
63	71	0.60	85	1.20	0.25	10-15m
70	79	0.60	94	1.10	0.23	10-15m
76	85	0.60	102	1.00	0.23	10-15m
80	89	0.60	107	0.90	0.20	10-15m
82	91	0.60	109	0.90	0.20	10-15m
90	99	0.60	119	0.80	0.18	10-15m
102	111	0.60	168	0.75	0.15	10-15m
115	124	0.60	188	0.65	0.15	10-15m
120	129	0.60	193	0.65	0.15	10-15m
127	136	0.60	204	0.50	0.13	10-15m
140	149	0.60	223	0.40	0.13	10-15m
152	161	0.60	241	0.30	0.12	10-15m
159	168	0.60	252	0.25	0.12	10-15m
178	187	0.60	280	0.23	0.10	10-15m
203	212	0.60	318	0.22	0.09	10-15m
254	263	0.60	394	0.20	0.08	10-15m
305	314	0.60	471	0.15	0.06	10-15m

MULTI-MATERIAL

FLUID-PNEUMATIC | Fluid and Pneumatic Tubing

Flexible tubing for fluid transfer and pneumatic circuits, including electronics and semiconductor applications.



Features & operating conditions

- Materials listed in the source: FEP, TPU, PVC, PTFE and PFA.
- Clear tubing allows visual monitoring of media flow.
- Small bending radius for easy installation.
- Yellowing resistance grade 3 or higher, as stated in the source.
- Weather-resistant pigments provide bright, long-lasting colors.
- Online diameter control: tolerance within ±0.05 mm.
- Virgin materials for long service life under constant working pressure.

Dimensions and operating data

Model	OD (mm)	ID (mm)	Length (m)	Min. bending radius	Standard color	Working pressure (kgf/cm²)	Burst pressure (kgf/cm²)
0425-200	4.00	2.50	200	10	Clear, orange blue	12	38
0604-200	6.00	4.00	200	15	Clear, orange blue	12	31
0635-200	6.35	4.06	200	15	Clear, orange blue	12	31
0805-100	8.00	5.00	100	25	Clear, orange blue	10	32
0953-100	9.53	6.35	100	30	Clear, orange blue	10	31
1065-100	10.00	6.50	100	30	Clear, orange blue	10	31
1208-100	12.00	8.00	100	35	Clear, orange blue	10	30
1270-100	12.70	9.50	100	40	Clear, orange blue	9	25
1410-100	14.00	10.00	100	55	Clear, orange blue	8	20
1612-100	16.00	12.00	100	65	Clear, orange blue	6	17

POLYURETHANE

TPU-REINFORCED | Reinforced TPU Suction Hose

Flexible reinforced TPU hose for irrigation, industrial vacuum systems, abrasive solids, paper and textile fibers, and fluid-transfer equipment.



Features & operating conditions

- Lightweight, elastic, transparent, corrosion resistant and hydrolysis resistant.
- Small bending radius and resistance to negative pressure; retains flexibility at low temperatures.
- Polyurethane tube wall with rigid PVC or PC spiral, according to the construction listing.
- Nominal lengths: 10 m or 15 m; dimensional table also lists 10-30 m.
- Operating temperature: -30°C to 100°C.

Dimensions and operating data

ID (mm)	OD (mm)	Overpressure (bar)	Vacuum (bar)	Bending radius (mm)	Weight	Length
20	27	1,37	0,26	27	0,19	10-30
25	32	1,11	0,25	32	0,23	10-30
30	38	0,93	0,235	38	0,25	10-30
32	40	0,875	0,23	40	0,27	10-30
35	43	0,8	0,225	43	0,3	10-30
38	46	0,74	0,215	46	0,32	10-30
40	48	0,705	0,21	48	0,33	10-30
42	50	0,67	0,205	50	0,35	10-30
45	53	0,63	0,195	53	0,37	10-30
50	58	0,565	0,18	58	0,41	10-30
55	63	0,515	0,16	63	0,45	10-30
60	68	0,475	0,145	68	0,49	10-30
65	73	0,44	0,125	73	0,52	10-30
70	79	0,41	0,105	79	0,54	10-30
75	84	0,38	0,095	84	0,58	10-30
80	89	0,36	0,09	89	0,61	10-30
90	99	0,32	0,075	99	0,7	10-30
100	109	0,285	0,06	109	0,085	10-30
105	114	0,275	0,06	114	0,09	10-30
110	119	0,26	0,055	119	0,94	10-30
115	124	0,25	0,055	124	0,98	10-30
120	129	0,24	0,05	129	1,02	10-30
125	134	0,23	0,04	134	1,06	10-30
130	139	0,22	0,04	139	1,1	10-30

The source narrative also mentions a steel-wire skeleton; its construction listing specifies a rigid PVC or PC spiral. Confirm reinforcement when ordering.

Weight units are not specified in the source table.

TPU-REINFORCED | Reinforced TPU Suction Hose

Dimensions and operating data (continued)

ID (mm)	OD (mm)	Overpressure (bar)	Vacuum (bar)	Bending radius (mm)	Weight	Length
140	149	0,205	0,04	149	1,18	10-30
150	159	0,19	0,04	159	1,26	10-30
160	169	0,18	0,035	169	1,35	10-30
170	179	0,17	0,03	179	1,43	10-30
175	184	0,165	0,03	184	1,47	10-30
180	189	0,16	0,03	189	1,51	10-30
200	209	0,145	0,03	209	1,67	10-30
225	234	0,13	0,02	234	2,26	10-30
250	259	0,115	0,01	259	2,51	10-30
275	284	0,105	0,01	284	2,76	10-30
280	289	0,1	0,01	289	2,8	10-30
300	309	0,095	0,01	309	3	10-30
315	324	0,09	0,01	324	3,15	10-30
320	329	0,09	0,01	329	3,2	10-30
325	334	0,085	0,01	331	3,25	10-30
350	359	0,08	0,005	359	3,5	10-30
375	384	0,075	0,005	384	4,21	10-30
400	410	0,07	0,005	410	4,49	10-30
450	460	0,065	0,005	460	5,05	10-30
500	510	0,055	0,005	510	5,6	10-30

10

Military Cable Protection

A dedicated range of heat-shrink tubing, molded boots and breakouts, sealed connections, shielding and protective sleeving. Military-series products are shown separately from standard industrial products, with their own model-specific specifications.



41 product and selection entries

POLYOLEFIN

AMS | Military Identification Sleeves

Flame-retardant, radiation-cross-linked polyolefin marker sleeves for permanent identification of wires and cables in military, aerospace, defense and marine applications.



Features & operating conditions

• Source standards: AMS-DTL-23053/5 Class 1 and 3; SAE-AS 81531; MIL-STD-202F / Method 215J; UL 224; VW-1; RoHS.

Features

Material	The sleeving shall be fabricated from irradiated, thermally stabilized and flame retarded modified polyolefin compound
Application range	Military industry; Aerospace & defense; Marine;
Operating temperature range	-55~+135°C
Minimum recovery temperature	+135°C
Maximum storage temperature	+50°C
Shrink ratio	2:1, 3:1
Color	White, Yellow, other color is available if ordered
Printing mode	Single sided printing and Double sided printing formats available
Supplied mode	Either Continuous type or Ladder format type is available
Recommended Printers	Either Thermal transfer printer or Laser printer is OK.
Recommended Ribbons	WO-80500BK resin ribbon, Black

Dimensions

Part Number	As Supplied (mm)			After Recovery(mm)	
	ID (D)	Flatten Width (W)	Double Wall Thickness	ID (d)	Single Wall Thickness
AMS-M-2X-1.6-	2.00±0.20	3.7±0.3	0.48±0.10	≤0.79	0.45±0.06
AMS-M-2X-2.4-	2.79±0.20	5.0±0.3	0.48±0.10	≤1.18	0.49±0.06
AMS-M-2X-3.2-	3.64±0.23	6.3±0.4	0.48±0.10	≤1.59	0.51±0.06
AMS-M-2X-4.8-	5.26±0.25	8.9±0.4	0.49±0.10	≤2.36	0.54±0.06
AMS-M-2X-6.4-	6.92±0.28	11.5±0.4	0.50±0.10	≤3.18	0.56±0.06
AMS-M-2X-9.5-	10.2±0.32	16.7±0.5	0.51±0.11	≤4.75	0.59±0.06
AMS-M-2X-12.7-	13.5±0.36	21.8±0.6	0.52±0.11	≤6.35	0.60±0.07
AMS-M-2X-19-	20.1±0.40	32.2±0.6	0.53±0.11	≤9.53	0.62±0.07
AMS-M-2X-25-	26.7±0.45	42.5±0.7	0.55±0.12	≤12.7	0.63±0.07
AMS-M-2X-38-	39.8±0.51	63.2±0.8	0.57±0.12	≤19.1	0.64±0.07
AMS-M-2X-51-	53.0±0.56	83.9±0.9	0.58±0.13	≤25.4	0.64±0.08
AMS-M-2X-76-	79.4±0.56	125.3±1.0	0.59±0.13	≤38.1	0.64±0.09

Shrink ratio-3X

Part Number	As Supplied (mm)			After Recovery(mm)	
	ID (D)	Flatten Width (W)	Double Wall Thickness	ID (d)	Single Wall Thickness
AMS-M-3X-1.6-	2.00±0.20	3.7±0.3	0.47±0.10	≤0.53	0.52±0.06
AMS-M-3X-2.4-	2.79±0.20	5.0±0.3	0.47±0.10	≤0.79	0.57±0.06
AMS-M-3X-3.2-	3.64±0.23	6.3±0.4	0.48±0.10	≤1.06	0.61±0.06
AMS-M-3X-4.8-	5.26±0.25	8.9±0.4	0.49±0.10	≤1.59	0.67±0.06
AMS-M-3X-6.4-	6.92±0.28	11.5±0.4	0.50±0.10	≤2.13	0.71±0.06
AMS-M-3X-9.5-	10.2±0.32	16.7±0.5	0.52±0.11	≤3.18	0.77±0.06
AMS-M-3X-12.7-	13.5±0.36	21.8±0.6	0.53±0.11	≤4.23	0.80±0.07
AMS-M-3X-19-	20.1±0.40	32.2±0.6	0.55±0.11	≤6.35	0.84±0.07
AMS-M-3X-25-	26.7±0.45	42.5±0.7	0.565±0.12	≤8.47	0.86±0.07
AMS-M-3X-38-	39.8±0.51	63.2±0.8	0.57±0.12	≤12.9	0.89±0.07
AMS-M-3X-51-	53.0±0.56	83.9±0.9	0.57±0.12	≤17.2	0.90±0.08
AMS-M-3X-76-	79.4±0.56	125.3±1.0	0.57±0.13	≤25.8	0.92±0.09

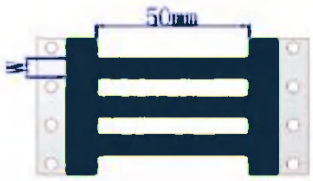
Package information

Ordering Size (AMS-M-2X/3X)	Ladder Format Type	Continuous Type	
	A&B-Small Box Packing (PCS/Box)	A-Paper reel Packing (m/reel)	B-Plastic reel Packing (m/reel)
Φ1.6	2500	50	25
Φ2.4	2500	50	25
Φ3.2	2000	100	25
Φ4.8	2000	100	25
Φ6.4	2000	100	25
Φ9.5	1000	100	25
Φ12.7	1000	100	25
Φ19	500	100	25
Φ25	500	100	25
Φ38	500	50	25
Φ51	250	50	25
Φ76	250	50	25

Part Numbering System

AMS-M-3X-4.8-50-2.0K-Y 0 P2 W

- Package: W for WOLABLE painting package.O for OEM package
- Printing: P0/P1/P2 for printing/single-side printing/ double-side printing
- Dash line: 0/1/2/3.....for not need/one line/two-line/three-line.....
- Color: Y for yellow, W for white and ten colors are available
- Standard pack: 2.5K/2K/1.5K/1K/0.5K/0.25K/for 2500/...../500 and 250 pieces
- Sleeve length: nominal length is 50mm(the total length is 56.5mm)
- Expanded ID: as supplid,nominal inside diameter
- Expansion ratio: 2X/3X refers to 2:1or 3:1
- Standard wall thickness
- Product family:AMS refer to AMS-DTL-23053/5





GENERAL-PURPOSE POLYOLEFIN

K135 | Flexible Flame-Retardant Polyolefin Heat Shrink Tubing

K135 is made from irradiation-crosslinked, high-quality polyolefin rated for continuous use up to 135°C. It insulates and protects cable connections, relieves stress at terminations and joints, and provides protective covering for wiring, solder joints and electronic components. It also supports metal rust and corrosion protection, identification and color coding.



Applications

Cable connections and terminations; wiring insulation and jacketing; solder joints and electronic components; resistor and capacitor insulation; metal corrosion protection. Identification and color coding.

Features & operating conditions

- 2:1 and 3:1 shrink ratios
- Flexible construction with high flame retardance
- Low-temperature recovery
- Excellent physical, chemical and electrical properties

Technical overview

Parameter	Specification
Material	Polyolefin
Shrink ratio	2:1 / 3:1
Operating temperature	-55 to +135 °C
Minimum full recovery temperature	110 °C
Shrink start temperature	70 °C

Ordering information

Standard colors: black (-0), white (-9), clear (-X), red (-2), blue (-6), yellow (-4) and green (-5). Custom colors: brown (-1), orange (-3), purple (-7) and gray (-8). Custom sizes are available on request. Specify model, size and color. Example: K135-3/8-0.

Reference specifications: AMS-DTL-23053/5; Q/(ZS)YL05-2019

K135 | Flexible Flame-Retardant Polyolefin Heat Shrink Tubing

Dimensions and size selection

Size	Expanded ID min. (mm)	Recovered ID max. (mm)	Recovered wall (mm)	Packaging (m/roll)
2:1(inch)				
3/64	1.2	0.6	0.40±0.08	200
1/16	1.6	0.8	0.43±0.08	200
3/32	2.4	1.2	0.51±0.08	200
1/8	3.2	1.6	0.51±0.08	200
3/16	4.8	2.4	0.51±0.08	100
1/4	6.4	3.2	0.64±0.08	100
3/8	9.6	4.8	0.64±0.08	100
1/2	12.7	6.4	0.64±0.08	100
3/4	19.1	9.5	0.76±0.08	100
1	25.4	12.7	0.89±0.12	50
1 1/4	31.8	15.9	1.02±0.15	50
1 1/2	38.1	19.0	1.02±0.15	50
2	50.8	25.4	1.14±0.16	50
3:1(mm)				
1.5/0.5	1.5	0.5	0.50±0.10	200
3/1	3.0	1.0	0.60±0.10	200
6/2	6.0	2.0	0.70±0.10	100
9/3	9.0	3.0	0.80±0.15	100
12/4	12.0	4.0	0.85±0.15	100
18/6	18.0	6.0	0.90±0.15	50
24/8	24.0	8.0	1.20±0.20	50
40/13	40.0	13.0	1.25±0.20	50

ADHESIVE-LINED TUBING

DWL-1 | Adhesive-Lined Dual-Wall Heat Shrink Tubing

DWL-1 is a flame-retardant, adhesive-lined dual-wall tubing rated to 135°C. It seals cable terminals, connectors and electronic components against water and moisture. High shrink ratios accommodate large diameter transitions and installation over connectors, including insulation repair without connector removal.



Applications

Aerospace, military equipment, electronics, automotive and communications cable assemblies.

Features & operating conditions

- 3:1 and 4:1 shrink ratios
- Hot-melt adhesive provides a moisture barrier and corrosion protection
- Bonds to plastic, rubber and metal
- Suitable for sealing and insulation repair

Technical overview

Parameter	Specification
Material	Adhesive-lined polyolefin
Shrink ratio	3:1 / 4:1
Operating temperature	-55 to +135 °C
Minimum full recovery temperature	110 °C
Shrink start temperature	80 °C

Ordering information

Standard colors: black (-0), white (-9), clear (-X), red (-2), blue (-6), yellow (-4) and green (-5). Custom colors: brown (-1), orange (-3), purple (-7) and gray (-8). Custom sizes are available on request. Specify model, size and color. Example: DWL-1-3/4-X.

Reference specifications: AMS-DTL-23053/4; Q/(ZS)YL04-2019

DWL-1 | Adhesive-Lined Dual-Wall Heat Shrink Tubing

Dimensions and size selection

Size	Expanded ID min. (mm)	Recovered ID max. (mm)	Recovered wall (mm)	Packaging (m/roll)
3:1(inch)				
1/8	3.0	1.0	1.00±0.28	1.2
3/16	4.8	1.6	1.00±0.28	1.2
1/4	6.0	2.0	1.00±0.28	1.2
3/8	9.0	3.0	1.40±0.28	1.2
1/2	12.0	4.0	1.78±0.38	1.2
3/4	19.0	6.0	2.25±0.55	1.2
1	25.0	8.0	2.54±0.55	1.2
1 1/2	39.0	13.0	2.54±0.55	1.2
4:1(mm)				
4/1	4.0	1.0	1.00±0.28	1.2
8/2	8.0	2.0	1.00±0.28	1.2
12/3	12.0	3.0	1.40±0.28	1.2
16/4	16.0	4.0	1.78±0.38	1.2
24/6	24.0	6.0	2.25±0.55	1.2
32/8	32.0	8.0	2.54±0.55	1.2
52/13	52.0	13.0	2.54±0.55	1.2

ADHESIVE-LINED TUBING

DWL-5 | Adhesive-Lined Medium-Wall Heat Shrink Tubing

DWL-5 is semi-rigid, adhesive-lined polyolefin tubing with a medium wall. It provides sealing, electrical insulation and moisture protection together with impact and abrasion resistance. Applications include cable joints, termination strain relief, telecommunications insulation and corrosion protection for metal pipes.



Applications

Cable joints and terminations; telecommunications cables; protective covering for metal pipes.

Features & operating conditions

- Shrink ratio of at least 3:1
- Water sealing and corrosion protection
- Flame-retardant construction
- RoHS compliance stated in the source catalog

Technical overview

Parameter	Specification
Material	Adhesive-lined polyolefin
Shrink ratio	≥3:1
Operating temperature	-55 to +110 °C
Minimum full recovery temperature	120 °C
Shrink start temperature	80 °C

Ordering information

Standard color: black (-0). Custom sizes available. Specify model, size and color. Example: DWL-5-33/8-0.

Reference specifications: Q/(ZS)YL09-2019

DWL-5 | Adhesive-Lined Medium-Wall Heat Shrink Tubing

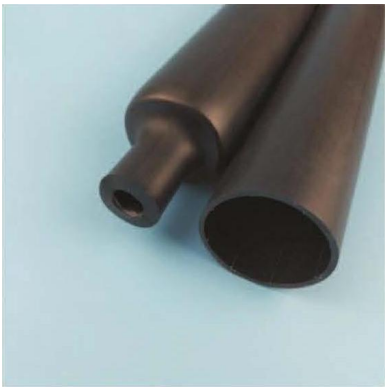
Dimensions and size selection

Size	Expanded ID min. (mm)	Recovered ID max. (mm)	Recovered wall (mm)	Packaging (m/roll)
8/2	8.0	2.0	1.7	1.2
12/3	12.0	3.0	2.0	1.2
16/5	16.0	5.0	2.2	1.2
19/5	19.0	5.0	2.5	1.2
22/6	22.0	6.0	2.5	1.2
28/6	28.0	6.0	2.5	1.2
33/8	33.0	8.0	2.5	1.2
40/12	40.0	12.0	2.5	1.2
44/14	44.0	14.0	2.7	1.2
55/16	55.0	16.0	2.8	1.2
65/19	65.0	19.0	3.0	1.2
75/22	75.0	22.0	3.0	1.2
85/25	85.0	25.0	3.0	1.2
95/25	95.0	25.0	3.0	1.2
115/34	115.0	34.0	3.0	1.2
180/58	180.0	58.0	3.5	1.2

ADHESIVE-LINED TUBING

DWL-6 | Adhesive-Lined Heavy-Wall Heat Shrink Tubing

DWL-6 is adhesive-lined polyolefin tubing with a heavy wall for applications requiring sealing, insulation, moisture exclusion and mechanical protection. It protects cable joints and terminations against impact and abrasion and can provide corrosion protection for metal pipes.



Applications

Cable connections, termination strain relief, wiring insulation, telecommunications and metal pipe protection.

Features & operating conditions

- Shrink ratio of at least 3:1
- Water sealing and corrosion protection
- Flame retardance and good mechanical properties
- RoHS compliance stated in the source catalog

Technical overview

Parameter	Specification
Material	Adhesive-lined polyolefin
Shrink ratio	≥3:1
Operating temperature	-55 to +110 °C
Minimum full recovery temperature	120 °C
Shrink start temperature	80 °C

Ordering information

Standard color: black (-0). Custom sizes available. Specify model, size and color. Example: DWL-6-22/6-0.

Reference specifications: Q/(ZS)YL10-2019

DWL-6 | Adhesive-Lined Heavy-Wall Heat Shrink Tubing

Dimensions and size selection

Size	Expanded ID min. (mm)	Recovered ID max. (mm)	Recovered wall (mm)	Packaging (m/roll)
9/3	9.0	3.0	1.8	1.2
13/4	13.0	4.0	2.4	1.2
22/6	22.0	6.0	2.7	1.2
33/8	33.0	8.0	3.2	1.2
38/10	38.0	10.0	3.5	1.2
40/12	40.0	12.0	4.1	1.2
45/12	45.0	12.0	4.1	1.2
55/16	55.0	16.0	4.1	1.2
75/22	75.0	22.0	4.1	1.2
85/25	85.0	25.0	4.3	1.2
95/30	95.0	30.0	4.3	1.2
105/30	105.0	30.0	4.3	1.2
130/36	130.0	36.0	4.3	1.2
160/50	160.0	50.0	4.3	1.2
180/50	180.0	50.0	4.3	1.2

WIRE & CABLE IDENTIFICATION

TM135 | Polyolefin Heat Shrink Wire Markers

TM135 is an irradiation-crosslinked, flexible and flame-retardant polyolefin marker sleeve for permanent wire and cable identification. Rated to 135°C, it combines physical, chemical and electrical performance with a printable surface for clear, durable markings.



Applications

Wire identification, cable marking and harness labeling.

Features & operating conditions

- 2:1 and 3:1 shrink ratios
- Flexible and flame-retardant
- Low-temperature recovery
- Direct printing with durable identification

Technical overview

Parameter	Specification
Material	Polyolefin
Shrink ratio	2:1 / 3:1
Operating temperature	-55 to +135 °C
Minimum full recovery temperature	110 °C
Shrink start temperature	70 °C

Ordering information

Standard colors: white (-9) and yellow (-4). Custom colors available. Specify model, size and color. Sheet example: TM135-3/16-2.0-9 (model / size / printable width / color). Slit sheet example: TM135-3/16-2.0-S1-4; S1 = one slit, S2 = two slits. Tubing example: TM135-3/16-9.

Reference specifications: AMS-DTL-23053/5; SAE AS81531; MIL-STD-202; Q/(ZS)YL02-2019

Dimensions and size selection

Size (inch)	Expanded ID min. (mm)	Recovered ID max. (mm)	Cable diameter (mm)
1/16	1.6	0.6	0.8-1.4
3/32	2.4	0.8	1.0-2.0
1/8	3.2	1.0	1.1-2.7
3/16	4.8	1.6	1.8-4.1
1/4	6.4	2.1	2.3-5.5
3/8	9.5	3.2	3.5-8.0
1/2	12.7	4.2	4.7-10.8
3/4	19.1	6.4	7.0-16.3
1	25.4	8.5	9.3-21.6
1 1/2	38.1	13.5	15.0-33.0
2	50.8	17.5	19.0-48.0

WIRE & CABLE IDENTIFICATION

HTM | High-Temperature Fluoropolymer Heat Shrink Markers

HTM is an irradiation-crosslinked fluoropolymer marker sleeve for permanent identification of high-temperature wires, cables and harnesses. It combines solvent and fluid resistance with flame retardance and stable thermal, electrical, physical, chemical and printing performance.



Applications

High-temperature wire and cable marking; permanent harness identification.

Features & operating conditions

- 2:1 shrink ratio
- High-temperature identification up to 200°C
- Solvent and fluid resistance
- Flame-retardant, printable construction

Technical overview

Parameter	Specification
Material	Fluoropolymer
Shrink ratio	2:1
Operating temperature	-55 to +200 °C
Minimum full recovery temperature	175 °C
Shrink start temperature	155 °C

Ordering information

Standard colors: white (-9) and yellow (-4). Custom colors available. Specify model, size and color. Sheet example: HTM-3/16-2.0-9 (model / size / printable width / color). Slit sheet example: HTM-3/16-2.0-S1-4; S1 = one slit, S2 = two slits. Tubing example: HTM-3/16-9.

Reference specifications: AMS-DTL-23053; SAE AS81531; MIL-STD-202; Q/(XS)YL08-2019

Dimensions and size selection

Size	Expanded ID min. (mm)	Recovered ID max. (mm)	Recovered wall (mm)	Cable diameter (mm)
3/32	2.4	1.2	0.38±0.08	1.4-2.0
1/8	3.2	1.6	0.38±0.08	1.8-2.8
3/16	4.8	2.4	0.38±0.08	2.5-4.5
1/4	6.4	3.2	0.38±0.08	3.5-6.0
3/8	9.6	4.8	0.38±0.08	5.0-9.0
1/2	12.7	6.4	0.38±0.08	7.0-12.0
3/4	19.1	9.5	0.38±0.08	10.0-18.0
1	25.4	12.7	0.43±0.10	13.0-23.0
1 1/2	38.1	19.1	0.43±0.10	21.0-33.0
2	50.8	25.4	0.58±0.10	28.0-48.0
3	75.0	35.0	0.75±0.18	40.0-70.0

ELASTOMER & SILICONE TUBING

DR150 | Oil-Resistant Elastomer Heat Shrink Tubing

DR150 is made from an irradiation-crosslinked, oil-resistant elastomer. It resists diesel, aviation fuel, fuel oil, hydraulic fluids and lubricants, providing flexible protection where cables face oil exposure and abrasion. It is suited to high-performance harness insulation and jacketing, including military applications.



Applications

Oil-exposed cable assemblies; high-performance harness insulation and jacketing.

Features & operating conditions

- 2:1 shrink ratio
- Flexible and flame-retardant
- Resistance to heat, oils and fuels
- Good abrasion resistance

Technical overview

Parameter	Specification
Material	Oil-resistant elastomer
Shrink ratio	2:1
Operating temperature	-65 to +150 °C
Minimum full recovery temperature	175 °C

Ordering information

Standard color: black (-0). Custom colors available. Specify model, size and color. Example: DR150-3/16-0.

Reference specifications: AMS-DTL-23053/16; Q/(ZS)YL06-2019

DR150 | Oil-Resistant Elastomer Heat Shrink Tubing

Dimensions and size selection

Size (inch)	Expanded ID min. (mm)	Recovered ID max. (mm)	Recovered wall (mm)	Packaging (m/roll)
1/16	1.6	0.85	0.40±0.08	100
3/32	2.4	1.2	0.51±0.08	100
1/8	3.2	1.6	0.76±0.15	100
3/16	4.8	2.4	0.84±0.15	100
1/4	6.4	3.2	0.89±0.15	100
3/8	9.5	4.8	1.02±0.20	50
1/2	12.7	6.4	1.22±0.20	50
5/8	16.0	9.0	1.32±0.38	30
3/4	19.1	9.5	1.45±0.28	30
1	25.4	12.7	1.78±0.28	30
1 1/4	32.0	18.0	2.20±0.50	30
1 1/2	38.1	19.0	2.41±0.41	30
2	50.8	25.4	2.79±0.41	25
3	76.2	38.1	3.18±0.50	25

ELASTOMER & SILICONE TUBING

VT200 | High-Performance Fluoroelastomer Heat Shrink Tubing

VT200 fluoroelastomer tubing withstands high and low temperatures, chemicals and solvents. It protects electrical and hydraulic systems in automotive, aircraft and marine engines and fuel tanks, and provides insulation and jacketing for harnesses and components in severe environments.



Applications

Engine and fuel-system wiring; electrical and hydraulic assemblies; demanding military harness applications.

Features & operating conditions

- 2:1 shrink ratio
- Continuous use up to 200°C
- Excellent abrasion, solvent and chemical resistance
- Flexible and flame-retardant

Technical overview

Parameter	Specification
Material	Fluoroelastomer
Shrink ratio	2:1
Operating temperature	-65 to +200 °C
Minimum full recovery temperature	175 °C
Shrink start temperature	150 °C

Ordering information

Standard color: black (-0). Custom colors available. Specify model, size and color. Example: VT200-3/8-0.

Reference specifications: AMS-DTL-23053/13; Q/(ZS)YL07-2019

VT200 | High-Performance Fluoroelastomer Heat Shrink Tubing

Dimensions and size selection

Size (inch)	Expanded ID min. (mm)	Recovered ID max. (mm)	Recovered wall (mm)	Packaging (m/roll)
3/32	2.4	1.2	0.60±0.10	200
1/8	3.2	1.6	0.76±0.13	200
3/16	4.8	2.4	0.89±0.18	100
1/4	6.4	3.2	0.89±0.18	100
3/8	9.5	4.8	0.89±0.18	50
1/2	12.7	6.4	0.89±0.18	30
3/4	19.1	9.5	1.07±0.21	30
1	25.4	12.7	1.25±0.38	30
1 1/2	38.1	19.0	1.40±0.38	30
2	50.8	25.4	1.65±0.43	30

ELASTOMER & SILICONE TUBING

GJ200 | Flexible Silicone Rubber Heat Shrink Tubing

GJ200 flexible silicone rubber heat shrink tubing is intended for demanding temperature, voltage and chemical environments. It provides abrasion-resistant insulation and mechanical protection for cable connections, terminations, solder joints and components, with applications in medical equipment, aerospace, military equipment, automotive systems and instruments.



Applications

Cable connections and terminations; wiring insulation and jacketing; solder joints and electronic components; resistor and capacitor insulation; metal corrosion protection.

Features & operating conditions

- 1.7:1 shrink ratio
- Continuous use up to 200°C
- Good mechanical and electrical insulation properties
- Solvent and chemical resistance

Technical overview

Parameter	Specification
Material	Silicone rubber
Shrink ratio	1.7:1
Operating temperature	-65 to +200 °C
Minimum full recovery temperature	175 °C
Shrink start temperature	120 °C

Ordering information

Standard color: black (-0). Custom colors: gray (-8), brown (-1), white (-9), red (-2), orange (-3), purple (-7), blue (-6), yellow (-4), green (-5). Custom sizes available. Specify model, size, color and wall type: S = thin; T = thick. Example: GJ200-12.0-0-S.

Reference specifications: Q/(ZS)YL11-2019

GJ200 | Flexible Silicone Rubber Heat Shrink Tubing

Dimensions and size selection

Size (mm)	Expanded ID (mm)	Recovered ID (mm)	Recovered wall Thin S (mm)	Recovered wall Thick T (mm)
31.0	1.1±0.2	0.58±0.05	0.7±0.1	1.1±0.1
2.0	2.1±0.2	1.17±0.05	0.7±0.1	1.1±0.1
3.0	3.1±0.2	1.76±0.05	0.7±0.1	1.1±0.1
4.0	4.1±0.2	2.35±0.05	0.7±0.1	1.1±0.1
5.0	5.1±0.2	2.95±0.05	0.7±0.1	1.1±0.1
6.0	6.1±0.2	3.53±0.05	0.8±0.1	1.2±0.1
7.0	7.1±0.2	4.12±0.05	0.8±0.1	1.2±0.1
8.0	8.1±0.2	4.75±0.05	0.8±0.1	1.2±0.1
9.0	9.1±0.2	5.30±0.05	0.9±0.1	1.3±0.1
10.0	10.2±0.3	5.89±0.05	0.9±0.1	1.3±0.1
12.0	12.2±0.3	7.10±0.05	1.0±0.1	1.4±0.1
14.0	14.2±0.3	8.24±0.05	1.2±0.1	1.6±0.1
16.0	16.2±0.3	9.50±0.05	1.3±0.1	1.8±0.1
18.0	18.2±0.3	10.6±0.05	1.3±0.1	2.0±0.1
20.0	20.3±0.5	11.8±0.05	1.6±0.1	2.0±0.1
22.0	22.3±0.5	13.0±0.05	1.6±0.1	2.2±0.1
24.0	24.3±0.5	14.2±0.05	1.6±0.1	2.2±0.1
26.0	26.3±0.5	15.3±0.05	1.8±0.1	2.5±0.1
28.0	28.3±0.5	16.5±0.05	1.8±0.1	2.5±0.1
30.0	30.3±0.5	17.7±0.05	1.8±0.1	2.5±0.1

FLUOROPOLYMER TUBING

KT175 | Semi-Rigid PVDF Heat Shrink Tubing

KT175 is a semi-rigid, thin-wall heat shrink tubing made from irradiation-crosslinked fluoropolymer (PVDF). It combines toughness and clarity with resistance to chemicals, solvents and abrasion. It is intended for insulation, strain relief and identification where elevated temperatures and mechanical demands occur.



Applications

Aerospace, radar and railway equipment; high-temperature insulation, strain relief and identification.

Features & operating conditions

- 2:1 shrink ratio
- High clarity and thin-wall construction
- Chemical, solvent and abrasion resistance
- Excellent physical and electrical properties

Technical overview

Parameter	Specification
Material	PVDF
Shrink ratio	2:1
Operating temperature	-55 to +175 °C
Minimum full recovery temperature	175 °C
Shrink start temperature	155 °C

Ordering information

Standard color: clear (-X). Custom colors available. Specify model, size and color. Example: KT175-3/32-X.

Reference specifications: AMS-DTL-23053/18; Q/(ZS)YL03-2019

KT175 | Semi-Rigid PVDF Heat Shrink Tubing

Dimensions and size selection

Size (inch)	Expanded ID min. (mm)	Recovered ID max. (mm)	Recovered wall (mm)	Packaging (m/piece)
3/64	1.2	0.6	0.25±0.05	1.2
1/16	1.6	0.8	0.25±0.05	1.2
3/32	2.4	1.2	0.25±0.05	1.2
1/8	3.2	1.6	0.25±0.05	1.2
3/16	4.8	2.4	0.25±0.05	1.2
1/4	6.4	3.2	0.30±0.08	1.2
3/8	9.5	4.8	0.30±0.08	1.2
1/2	12.7	6.4	0.30±0.08	1.2
3/4	19.1	9.5	0.43±0.08	1.2
1	25.4	12.7	0.48±0.08	1.2
1 1/4	31.8	15.9	0.51±0.08	1.2
1 1/2	38.1	19.1	0.51±0.08	1.2
2	50.8	25.4	0.58±0.08	1.2
3	75.0	35.0	0.75±0.15	1.2

FLUOROPOLYMER TUBING

FEP200 | FEP Heat Shrink Tubing

FEP200 is made from fluorinated ethylene propylene (FEP). It provides high-temperature resistance up to 200°C, corrosion resistance, electrical insulation and mechanical strength for instrumentation, electronics, aerospace and military communications equipment.



Applications

Precision instruments, electronics, aerospace and military communications.

Features & operating conditions

- 1.25:1 shrink ratio
- Continuous use up to 200°C
- Flame-retardant and highly transparent
- Excellent chemical resistance and electrical insulation

Technical overview

Parameter	Specification
Material	FEP
Shrink ratio	1.25:1
Operating temperature	-65 to +200 °C
Minimum full recovery temperature	200 °C

Ordering information

Standard color: clear (-X). Custom sizes available. Specify model, size and color. Example: FEP200-14.5-X.

Reference specifications: Q/(ZS)YL12-2019

Dimensions and size selection

Size (mm)	Expanded ID min. (mm)	Expanded wall min. (mm)	Recovered ID (mm)	Recovered wall min. (mm)	Packaging (m/piece)
7.0	7.0	0.15	5.7	0.25±0.03	1.0
11.5	11.5	0.30	9.3	0.37±0.05	1.0
14.5	14.5	0.30	11.7	0.37±0.05	1.0
19.0	19.0	0.30	15.3	0.37±0.05	1.0
24.0	24.0	0.40	19.3	0.50±0.10	1.0
28.0	28.0	0.40	22.5	0.50±0.10	1.0
35.0	35.0	0.40	28.1	0.50±0.10	1.0
44.0	44.0	0.40	36.1	0.50±0.10	1.0
54.0	54.0	0.40	43.3	0.50±0.10	1.0
66.0	66.0	0.40	52.9	0.50±0.10	1.0
78.0	78.0	0.40	62.5	0.50±0.10	1.0
90.0	90.0	0.40	72.1	0.50±0.10	1.0
103.0	103.0	0.40	82.5	0.50±0.10	1.0

FLUOROPOLYMER TUBING

PTFE260 | PTFE Heat Shrink Tubing

PTFE260 is made from polytetrafluoroethylene (PTFE) for high-temperature, corrosion-resistant insulation and mechanical protection. It can be used for cable joints, termination strain relief, wiring insulation, solder joints, electronic components, resistor and capacitor insulation, and metal corrosion protection.



Applications

Cable connections and terminations; wiring insulation and jacketing; solder joints and electronic components; resistor and capacitor insulation; metal corrosion protection.

Features & operating conditions

- 1.6:1 shrink ratio
- Continuous use up to 260°C
- Transparent, flexible and resistant to oil immersion
- Flame retardance, abrasion and chemical resistance

Technical overview

Parameter	Specification
Material	PTFE
Shrink ratio	1.6:1
Operating temperature	-65 to +260 °C
Minimum full recovery temperature	350 °C

Ordering information

Standard colors: clear (-X) and black (-0). Custom sizes available. Specify model, size and color. Example: PTFE260-6.0-X.

Reference specifications: Q/(ZS)YL13-2019

PTFE260 | PTFE Heat Shrink Tubing

Dimensions and size selection

Size (mm)	Expanded ID min. (mm)	Recovered ID max. (mm)	Packaging (m/piece)
1.5	1.52	1.00	1.2
2.0	1.93	1.20	1.2
2.5	2.36	1.60	1.2
3.0	3.05	2.00	1.2
4.0	3.81	2.40	1.2
5.0	4.85	3.00	1.2
6.0	6.10	3.60	1.2
7.5	7.67	4.60	1.2
9.5	9.40	5.60	1.2
11.0	10.90	7.00	1.2
12.0	11.90	8.70	1.2

PRODUCT RANGE

YL-MS | Molded Parts: Material & Ordering Guide

YL-MS molded parts seal cable assemblies and connectors and protect branch joints and transitions. They provide corrosion and mechanical protection, strain relief and electrical insulation for multi-outlet cables and angled routes in transportation, military and commercial applications. Preapplied adhesive options provide waterproof sealing. Available shapes include straight and right-angle boots, T and Y branches, two-, three- and four-leg breakouts and 30-degree Y branches.



Features & operating conditions

- Mechanical protection and strain relief
- Flame-retardant insulation
- Heat, solvent, oil and chemical resistance depending on material
- Adhesive options for environmental sealing
- Easy installation and a choice of material grades

Ordering information

Example: YL MS - 3 B/Y - 01 - 25/86 - 0. YL: legacy product-code prefix; brand: Yozonetech. MS: molded part. 3: number of openings (2, 3, etc.). B: series (A = standard; B = bulbous body; C = special; D = lipped; K = vented). Y: geometry (I = straight; Y = breakout; C = elbow). 01: size, increasing from small to large. 25: material code. 86: adhesive code (86 or 42). 0: black.

Reference specifications: Q/(ZS)YL14-2019

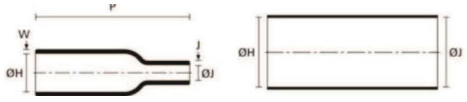
Material selection

Code	Material	Operating range (°C)	Install temp. (°C)	Characteristics
-4	Vibration-resistant flexible flame-retardant polyolefin	-55 to +135	150	Vibration resistance; extra flexibility; flame, abrasion and fluid resistance
-12	Modified fluoroelastomer	-75 to +200	220	Flexible; flame, high-temperature, oil and solvent resistance
-25	Semi-rigid oil-resistant elastomer	-55 to +150	175	Semi-rigid; flame, chemical, abrasion, fluid and heat resistance
-71	Semi-rigid modified polyolefin	-55 to +135	150	Semi-rigid; flame, fluid, heat and abrasion resistance
-100	Halogen-free flame-retardant polyolefin	-30 to +105	150	Halogen-free; flame-retardant; low smoke; environmentally friendly as described in the source

STRAIGHT BOOTS

MS-2A/I | Straight Lipless Heat Shrink Boot

MS-2A/I is a straight lipless heat shrink boot for protecting the transition between cables and connectors. Its molded shape provides mechanical protection and strain relief at the termination. The lipless design can be shrunk directly onto the accessory.



Applications

Mechanical protection and strain relief at cable and connector terminations.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 09
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

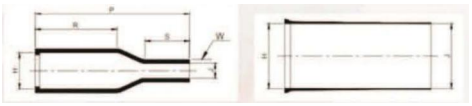
Dimensions (mm)

No.	Part number	Expanded (mm)				Recovered (mm)			
		Hmin		Jmin		Hmax	Jmax	W±20%	P±10%
		-4,-25,-71	-12,-100	-4,-25,-71	-12,-100				
1	MS-2A/I-01	16.5	16.5	16.5	11.9	7.9	3.8	1.27	25.4
2	MS-2A/I-02	24.6	22.6	24.6	17.8	9.9	5.3	1.52	38.1
3	MS-2A/I-03	28.4	26.2	28.4	20.3	14.2	6.6	1.78	51.3
4	MS-2A/I-04	31.0	31.0	31.0	25.4	17.8	7.4	1.78	66.8
5	MS-2A/I-05	36.1	36.1	36.1	26.2	21.9	8.6	1.78	73.7
6	MS-2A/I-06	42.7	42.7	42.7	27.2	27.4	9.4	2.03	99.1
7	MS-2A/I-07	51.8	48.3	51.8	48.3	35.3	16.0	3.30	130.0
8	MS-2A/I-08	66.0	66.0	66.0	54.1	43.7	19.6	3.81	161.3
9	MS-2A/I-09	86.4	86.4	86.4	71.4	57.2	26.9	4.06	212.6

STRAIGHT BOOTS

MS-2D/I | Straight Lipped Heat Shrink Boot

MS-2D/I is a straight lipped heat shrink boot for protecting the transition between cables and connectors. Its molded shape provides mechanical protection and strain relief at the termination. It is intended for circular connectors and can replace outer cable armor at the termination.



Applications

Mechanical protection and strain relief at cable and connector terminations.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 08
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

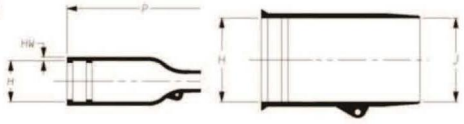
Dimensions (mm)

No.	Part number	Expanded (mm)			Recovered (mm)					
		Hmin	Jmin		Hmax	Jmax	W±20%	R±10%	S±10%	P±10%
			-4,-25,-71	-12,100						
1	MS-2D/I-01	24.0	24.0	12.4	9.5	5.0	1.6	22	15	42
2	MS-2D/I-02	30.0	30.0	14.7	14.0	6.0	1.78	30	18	55
3	MS-2D/I-03	31.0	31.0	16.0	17.1	7.0	1.8	35	22	67
4	MS-2D/I-04	36.0	36.0	18.5	20.2	8.4	2.0	40	23	75
5	MS-2D/I-05	43.0	43.0	22.0	26.0	9.0	2.0	62	24	100
6	MS-2D/I-06	55.0	55.0	35.3	33.0	15.0	2.4	75	30	130
7	MS-2D/I-07	66.0	66.0	45.7	42.2	18.0	2.6	100	40	165
8	MS-2D/I-08	80.0	80.0	57.1	57.5	25.0	2.6	100	50	170

STRAIGHT BOOTS

MS-2K/I | Multi-Lip Straight Heat Shrink Boot

MS-2K/I is a multi-lip straight heat shrink boot for protecting the transition between cables and connectors. Its molded shape provides mechanical protection and strain relief at the termination. The source describes a two- or three-lip connector interface. It can replace outer cable armor at the termination.



Applications

Mechanical protection and strain relief at cable and connector terminations.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 07
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

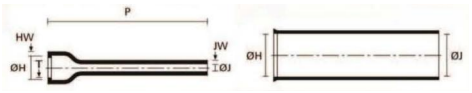
Dimensions (mm)

No.	Part number	Expanded (mm)				Recovered (mm)				
		Hmin		Jmin		Hmax	Jmax	HW±20%	JW±20%	P±10%
		-4,-12,-25,-71	-4,-25,-71	-12	-100					
1	MS-2K/I-01	24.0	24.0	13.0	14.0	10.4	5.6	1.6	0.41	38.0
2	MS-2K/I-02	30.0	30.0	14.0	15.0	14.2	5.9	1.8	0.81	55.0
3	MS-2K/I-03	31.0	31.0	16.0	18.0	18.0	7.1	1.8	0.81	67.0
4	MS-2K/I-04	36.0	36.0	19.0	21.0	22.4	8.4	2.0	0.81	80.0
5	MS-2K/I-05	43.0	43.0	22.0	25.0	28.2	9.9	2.2	0.81	99.0
6	MS-2K/I-06	60.0	60.0	35.0	39.0	35.1	15.7	3.3	1.02	130.0
7	MS-2K/I-07	66.0	66.0	38.0	42.0	44.5	16.8	3.8	1.63	170.0

STRAIGHT BOOTS

MS-2D/P1 | Long-Tail Straight Connector Boot

MS-2D/P1 is a long-tail straight connector boot for protecting the transition between cables and connectors. Its molded shape provides mechanical protection and strain relief at the termination. It is intended for circular connectors and can replace outer cable armor at the termination.



Applications

Mechanical protection and strain relief at cable and connector terminations.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 10
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

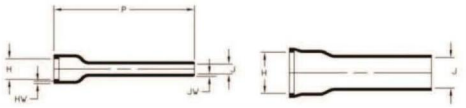
Dimensions (mm)

No.	Part number	Expanded (mm)			Recovered (mm)				
		Hmin	Jmin		Hmax	Jmax	HW±20%	JW±20%	P±10%
			-3,-4,-25	-12,-100					
1	MS-2D/P1-01	22.4	22.4	14.0	11.4	6.4	1.52	1.14	105.9
2	MS-2D/P1-02	25.7	25.7	16.0	15.0	7.4	1.52	1.14	121.2
3	MS-2D/P1-03	29.5	29.5	18.3	18.8	8.4	1.78	1.14	138.7
4	MS-2D/P1-04	34.0	34.0	21.3	22.9	9.7	1.78	1.14	159.5
5	MS-2D/P1-05	37.3	37.3	23.1	29.5	10.4	2.0	1.14	177.8
6	MS-2D/P1-06	43.7	43.7	27.2	34.0	12.2	2.0	1.14	203.2
7	MS-2D/P1-07	50.0	50.0	31.5	41.2	14.2	2.3	1.40	203.2
8	MS-2D/P1-08	62.7	62.7	39.1	47.0	17.5	2.5	1.40	203.2
9	MS-2D/P1-09	69.3	69.3	43.2	59.7	19.6	2.5	1.40	203.2
10	MS-2D/P1-10	81.8	81.8	51.1	67.1	22.9	2.5	1.40	203.2

STRAIGHT BOOTS

MS-2D/P2 | Long-Tail Receptacle Boot

MS-2D/P2 is a long-tail receptacle boot for protecting the transition between cables and connectors. Its molded shape provides mechanical protection and strain relief at the termination.



Applications

Mechanical protection and strain relief at cable and connector terminations.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 07
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

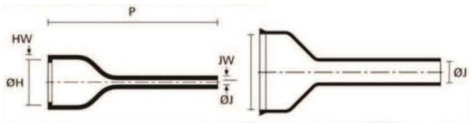
Dimensions (mm)

No.	Part number	Expanded (mm)		Recovered (mm)				
		Hmin	Jmin	Hmax	Jmax	HW±20%	JW±20%	P±10%
1	MS-2D/P2-01	23.9	17.3	9.9	6.6	1.5	1.5	105.9
2	MS-2D/P2-02	27.2	20.8	13.2	7.6	1.5	1.5	121.2
3	MS-2D/P2-03	31.0	24.4	18.5	8.9	1.8	1.5	138.7
4	MS-2D/P2-04	35.6	28.7	22.1	10.2	1.8	1.5	159.5
5	MS-2D/P2-05	38.9	31.5	28.2	10.9	1.8	1.5	177.8
6	MS-2D/P2-06	45.2	38.4	32.3	12.7	1.8	1.5	203.2
7	MS-2D/P2-07	51.6	45.5	41.1	15.0	1.8	1.8	203.2

STRAIGHT BOOTS

MS-2D/P3 | Flared Long-Tail Receptacle Boot

MS-2D/P3 is a flared long-tail receptacle boot for protecting the transition between cables and connectors. Its molded shape provides mechanical protection and strain relief at the termination.



Applications

Mechanical protection and strain relief at cable and connector terminations.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 04
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

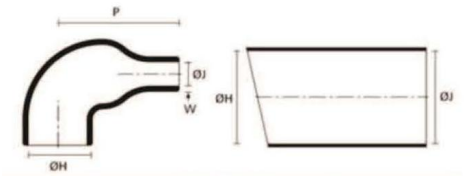
Dimensions (mm)

No.	Part number	Expanded (mm)			Recovered (mm)				
		Hmin	Jmin		Hmax	Jmax	HW±20%	JW±20%	P±10%
			-3,-4,-25	-12,-100					
1	MS-2D/P3-01	19.3	6.3	4.5	13.0	2.1	1.52	1.14	60.2
2	MS-2D/P3-02	26.1	7.6	5.5	19.1	2.6	1.78	1.14	74.2
3	MS-2D/P3-03	34.2	9.6	6.6	26.0	3.1	1.78	1.14	84.3
4	MS-2D/P3-04	43.6	11.4	7.8	34.1	3.6	1.78	1.14	99.6

RIGHT-ANGLE BOOTS

MS-2A/C | Right-Angle Lipless Heat Shrink Boot

MS-2A/C is a right-angle lipless heat shrink boot for protecting the transition between cables and connectors. Its molded shape provides mechanical protection and strain relief at the termination. The lipless design can be shrunk directly onto the accessory.



Applications

Mechanical protection and strain relief at cable and connector terminations.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 09
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

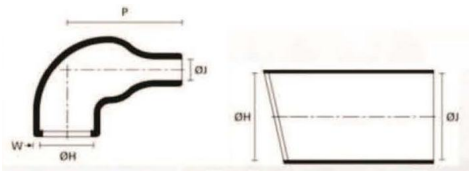
Dimensions (mm)

No.	Part number	Expanded (mm)				Recovered (mm)			
		Hmin	Jmin			Hmax	Jmax	W±20%	P±10%
			-4,-25,-71	-100	-12				
1	MS-2A/C-01	17.8	17.8	10.9	9.9	7.9	3.8	1.02	17.3
2	MS-2A/C-02	24.9	24.9	16.0	18.0	10.2	5.3	1.27	21.3
3	MS-2A/C-03	30.0	30.0	21.1	20.6	14.2	6.4	1.52	26.9
4	MS-2A/C-04	32.5	32.5	22.9	22.9	17.3	6.9	1.78	36.6
5	MS-2A/C-05	36.1	36.1	27.4	26.4	21.8	8.4	1.78	43.7
6	MS-2A/C-06	43.9	43.9	28.4	27.4	27.4	9.4	2.03	53.6
7	MS-2A/C-07	53.1	53.1	48.3	46.7	33.8	15.0	3.30	75.7
8	MS-2A/C-08	67.6	67.6	58.4	54.4	44.2	20.3	3.81	97.5
9	MS-2A/C-09	87.6	87.6	68.8	63.0	55.4	23.4	4.57	128.0

RIGHT-ANGLE BOOTS

MS-2D/C | Right-Angle Lipped Heat Shrink Boot

MS-2D/C is a right-angle lipped heat shrink boot for protecting the transition between cables and connectors. Its molded shape provides mechanical protection and strain relief at the termination. It is intended for circular connectors and is used with receptacles.



Applications

Mechanical protection and strain relief at cable and connector terminations.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 08
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

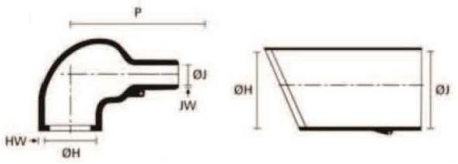
Dimensions (mm)

No.	Part number	Expanded (mm)				Recovered (mm)			
		Hmin	Jmin			Hmax	Jmax	W±20%	P±10%
			-4,-25,-71	-100	-12				
1	MS-2D/C-01	23.4	23.4	14.0	12.4	10.4	5.6	1.27	21.3
2	MS-2D/C-02	28.4	28.4	15.0	14.7	14.2	6.6	1.52	33.8
3	MS-2D/C-03	31.0	31.0	18.0	16.0	17.8	7.1	1.78	36.6
4	MS-2D/C-04	36.0	36.0	21.0	18.5	22.4	8.4	1.78	43.7
5	MS-2D/C-05	42.7	42.7	25.0	22.1	28.2	9.9	2.03	53.6
6	MS-2D/C-06	51.8	51.8	39.0	35.3	35.1	15.7	3.30	78.0
7	MS-2D/C-07	66.0	66.0	42.0	45.7	44.5	20.3	3.81	97.5
8	MS-2D/C-08	81.8	81.8	57.2	57.2	60.5	25.4	4.06	117.9

RIGHT-ANGLE BOOTS

MS-2K/C | Vented Right-Angle Heat Shrink Boot

MS-2K/C is a vented right-angle heat shrink boot for protecting the transition between cables and connectors. Its molded shape provides mechanical protection and strain relief at the termination.



Applications

Mechanical protection and strain relief at cable and connector terminations.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 07
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

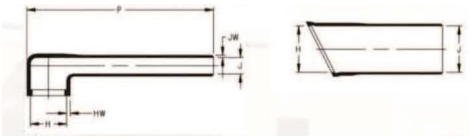
Dimensions (mm)

No.	Part number	Expanded (mm)					Recovered (mm)				
		Hmin		Jmin			Hmax	Jmax	HW±20%	JW±20%	P±10%
		-4,-25,-71	-100	-4,-25	-12	-100					
1	MS-2K/C-01	24.0	24.0	24.0	13.0	14.0	10.4	5.6	1.3	0.41	25.0
2	MS-2K/C-02	30.0	30.0	30.0	14.0	15.0	14.2	5.9	1.5	0.61	32.0
3	MS-2K/C-03	31.0	31.0	31.0	16.0	18.0	18.0	7.1	1.8	0.81	39.0
4	MS-2K/C-04	36.0	36.0	36.0	19.0	21.0	22.4	8.4	1.8	0.81	46.0
5	MS-2K/C-05	43.0	43.0	43.0	22.0	25.0	28.2	9.9	2.0	0.81	55.0
6	MS-2K/C-06	60.0	52.0	52.0	35.0	39.0	35.1	15.7	3.3	1.02	80.0
7	MS-2K/C-07	66.0	66.0	66.0	38.0	42.0	44.5	16.8	3.8	1.63	108.0

RIGHT-ANGLE BOOTS

MS-2D/L1 | Long-Tail Right-Angle Connector Boot

MS-2D/L1 is a long-tail right-angle connector boot for protecting the transition between cables and connectors. Its molded shape provides mechanical protection and strain relief at the termination. It is intended for circular connectors and can replace outer cable armor at the termination.



Applications

Mechanical protection and strain relief at cable and connector terminations.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 10
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

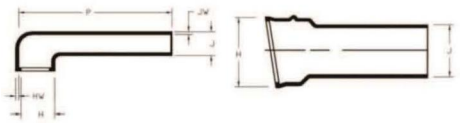
Dimensions (mm)

No.	Part number	Expanded (mm)			Recovered (mm)				
		Hmin	Jmin		Hmax	Jmax	HW±20%	JW±20%	P±10%
			-3,-4,-25	-12,-100					
1	MS-2D/L1-01	22.4	22.4	14.0	11.4	6.4	1.52	1.14	105.2
2	MS-2D/L1-02	25.7	25.7	16.0	15.0	7.4	1.52	1.14	124.0
3	MS-2D/L1-03	29.5	29.5	18.3	18.8	8.4	1.78	1.14	146.3
4	MS-2D/L1-04	34.0	34.0	21.3	22.9	9.7	1.78	1.14	172.2
5	MS-2D/L1-05	37.3	37.3	23.1	29.5	10.4	2.03	1.14	185.2
6	MS-2D/L1-06	43.7	43.7	27.2	34.0	12.2	2.03	1.14	231.6
7	MS-2D/L1-07	50.0	50.0	31.5	41.1	14.2	2.29	1.40	224.5
8	MS-2D/L1-08	62.7	62.7	39.1	47.0	17.5	2.54	1.40	227.3
9	MS-2D/L1-09	69.3	69.3	43.2	59.7	19.6	2.54	1.40	233.4
10	MS-2D/L1-10	81.8	81.8	51.1	67.1	22.9	2.54	1.40	237.0

RIGHT-ANGLE BOOTS

MS-2D/L2 | Long-Tail Right-Angle Cable Boot

MS-2D/L2 is a long-tail right-angle cable boot for protecting the transition between cables and connectors. Its molded shape provides mechanical protection and strain relief at the termination.



Applications

Mechanical protection and strain relief at cable and connector terminations.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 08
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

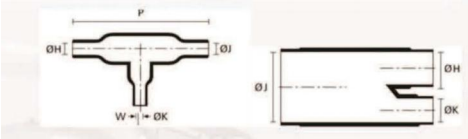
Dimensions (mm)

No.	Part number	Expanded (mm)		Recovered (mm)				
		Hmin	Jmin	Hmax	Jmax	HW±10%	JW±10%	P±10%
1	MS-2D/L2-01	23.9	17.3	9.9	6.6	1.52	1.52	105.2
2	MS-2D/L2-02	27.2	20.8	13.2	7.6	4.52	1.52	124.0
3	MS-2D/L2-03	31.0	24.4	18.5	8.9	1.78	1.52	146.3
4	MS-2D/L2-04	35.6	28.7	22.1	10.2	1.78	1.52	172.2
5	MS-2D/L2-05	38.9	31.5	28.2	10.9	1.78	1.52	185.2
6	MS-2D/L2-06	45.2	38.4	32.3	12.7	1.78	1.52	213.6
7	MS-2D/L2-07	51.6	44.5	41.1	15.0	1.78	1.78	224.5
8	MS-2D/L2-08	62.7	47.2	42.9	17.5	2.03	1.78	227.3

CABLE BREAKOUTS

MS-3B/T | T-Shaped Heat Shrink Breakout

MS-3B/T is a t-shaped heat shrink breakout for routing and protecting cable branches. Its molded geometry supports strain relief at the breakout and provides a protective transition between the main cable and its outgoing legs.



Applications

Mechanical protection and strain relief at wire harness and cable branches.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 05
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

Source identifiers differ: headline MS-3B/T1; table heading MS-3B/TB; table rows MS-3B/T2. Table row identifiers are retained.

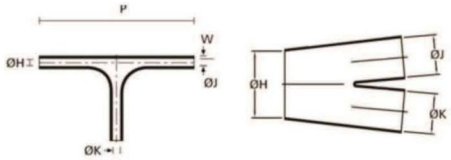
Dimensions (mm)

No.	Part number	Expanded (mm)			Recovered (mm)				
		Hmin	Jmin	Kmin	Hmax	Jmax	Kmax	W±30%	P±10%
1	MS-3B/T2-01	6.6	13.2	6.6	3.6	3.6	3.6	1.02	29.7
2	MS-3B/T2-02	13.2	26.4	13.2	6.9	6.9	6.9	1.52	58.7
3	MS-3B/T2-03	20.0	40.0	20.0	10.2	10.2	10.2	2.0	90.0
4	MS-3B/T2-04	26.9	53.8	26.9	13.5	13.5	13.5	2.29	120.1
5	MS-3B/T2-05	55.6	111.2	55.6	30.2	30.2	30.2	3.05	246.4

CABLE BREAKOUTS

MS-3A/T | Slim T-Shaped Heat Shrink Breakout

MS-3A/T is a slim t-shaped heat shrink breakout for routing and protecting cable branches. Its molded geometry supports strain relief at the breakout and provides a protective transition between the main cable and its outgoing legs.



Applications

Mechanical protection and strain relief at wire harness and cable branches.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 04
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

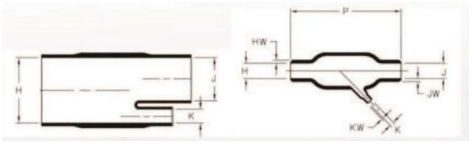
Dimensions (mm)

No.	Part number	Expanded (mm)			Recovered (mm)				
		Hmin	Jmin	Kmin	Hmax	Jmax	Kmax	W±30%	P±10%
1	MS-3A/T-01	19.8	13.2	13.2	6.6	6.6	6.6	1.02	80.8
2	MS-3A/T-02	34.3	22.9	22.9	11.4	11.4	11.4	1.27	120.4
3	MS-3A/T-03	60.2	40.1	40.1	20.1	20.1	20.1	1.52	175.8
4	MS-3A/T-04	83.3	54.9	54.9	33.3	33.3	33.3	1.78	242.3

CABLE BREAKOUTS

MS-3B/V1 | Angled Branch Heat Shrink Breakout

MS-3B/V1 is a angled branch heat shrink breakout for routing and protecting cable branches. Its molded geometry supports strain relief at the breakout and provides a protective transition between the main cable and its outgoing legs.



Applications

Mechanical protection and strain relief at wire harness and cable branches.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 05
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

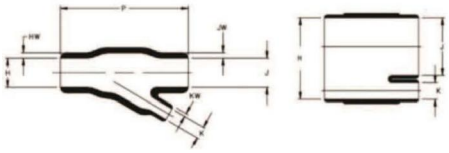
Dimensions (mm)

No.	Part number	Expanded (mm)			Recovered (mm)					
		Hmin	Jmin	Kmin	Hmax	Jmax	Kmax	HW&JW±20%	Kw±20%	P±10%
1	MS-3B/V1-01	13.2	13.2	6.6	6.9	6.9	3.6	1.52	1.02	49.3
2	MS-3B/V1-02	26.9	26.9	6.6	12.7	12.7	3.6	2.54	1.02	92.5
3	MS-3B/V1-03	26.9	26.9	13.2	13.7	13.7	6.1	2.54	1.52	144.8
4	MS-3B/V1-04	55.6	55.6	13.2	26.9	26.9	6.9	4.57	1.52	184.9
5	MS-3B/V1-05	55.6	55.6	26.9	26.9	26.9	13.7	4.57	2.54	203.5

CABLE BREAKOUTS

MS-3B/V2 | 30-Degree Y Heat Shrink Breakout

MS-3B/V2 is a 30-degree y heat shrink breakout for routing and protecting cable branches. Its molded geometry supports strain relief at the breakout and provides a protective transition between the main cable and its outgoing legs.



Applications

Mechanical protection and strain relief at wire harness and cable branches.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 03
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

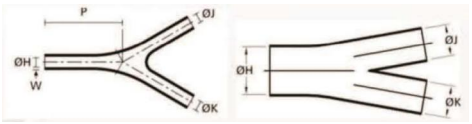
Dimensions (mm)

No.	Part number	Expanded (mm)			Recovered (mm)					
		Hmin	Jmin	Kmin	Hmax	Jmax	Kmax	HW&JW±20%	Kw±20%	P±10%
1	MS-3B/V2-01	30.5	30.5	20.3	15.7	15.7	10.7	2.54	1.78	82.6
2	MS-3B/V2-02	35.6	35.6	15.2	18.3	18.3	8.6	2.54	1.52	63.5
3	MS-3B/V2-03	35.6	35.6	10.2	18.8	18.3	5.3	2.79	1.52	61.0

CABLE BREAKOUTS

MS-3A/Y | Slim Y-Shaped Heat Shrink Breakout

MS-3A/Y is a slim y-shaped heat shrink breakout for routing and protecting cable branches. Its molded geometry supports strain relief at the breakout and provides a protective transition between the main cable and its outgoing legs.



Applications

Mechanical protection and strain relief at wire harness and cable branches.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 04
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

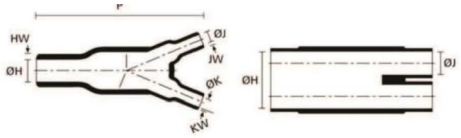
Dimensions (mm)

No.	Part number	Expanded (mm)			Recovered (mm)				
		Hmin	Jmin	Kmin	Hmax	Jmax	Kmax	W±10%	P±10%
1	MS-3A/Y-01	19.8	13.2	13.2	6.6	6.6	6.6	1.0	40.6
2	MS-3A/Y-02	34.3	22.9	22.9	11.4	11.4	11.4	1.3	63.0
3	MS-3A/Y-03	60.2	40.1	40.1	20.1	20.1	20.1	1.5	94.7
4	MS-3A/Y-04	83.3	54.9	54.9	33.3	33.3	33.3	1.8	133.9

CABLE BREAKOUTS

MS-3B/Y | Y-Shaped Heat Shrink Breakout

MS-3B/Y is a y-shaped heat shrink breakout for routing and protecting cable branches. Its molded geometry supports strain relief at the breakout and provides a protective transition between the main cable and its outgoing legs.



Applications

Mechanical protection and strain relief at wire harness and cable branches.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 04
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

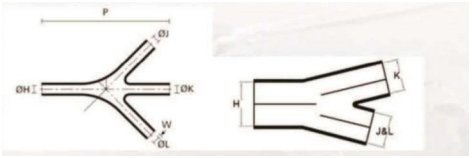
Dimensions (mm)

No.	Part number	Expanded (mm)			Recovered (mm)					
		Hmin	Jmin	Kmin	Hmax	Jmax	Kmax	HW±20%	JW&KW±20%	P±10%
1	MS-3B/Y-01	13.2	6.6	6.6	6.1	3.3	3.3	1.52	1.02	45.2
2	MS-3B/Y-02	26.9	26.9	13.2	12.4	6.1	6.1	2.54	1.52	85.1
3	MS-3B/Y-03	38.6	38.6	26.9	18.0	12.4	12.4	3.05	2.54	135.2
4	MS-3B/Y-04	55.6	26.9	26.9	25.9	12.7	12.7	4.57	2.54	158.3

CABLE BREAKOUTS

MS-4A/E | Slim Three-Leg Heat Shrink Breakout

MS-4A/E is a slim three-leg heat shrink breakout for routing and protecting cable branches. Its molded geometry supports strain relief at the breakout and provides a protective transition between the main cable and its outgoing legs.



Applications

Mechanical protection and strain relief at wire harness and cable branches.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 04
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

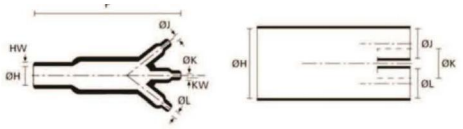
Dimensions (mm)

No.	Part number	Expanded (mm)		Recovered (mm)			
		Hmin	J,K&Lmin	Hmax	J,K&Lmax	W±20%	P±10%
1	MS-4A/E-01	19.8	13.2	6.6	6.6	1.0	85.9
2	MS-4A/E-02	34.3	20.6	11.4	11.4	1.3	135.6
3	MS-4A/E-03	60.2	36.1	20.1	20.1	1.5	207.3
4	MS-4A/E-04	99.8	54.9	33.3	33.3	1.8	207.2

CABLE BREAKOUTS

MS-4B/E | Three-Leg Heat Shrink Breakout

MS-4B/E is a three-leg heat shrink breakout for routing and protecting cable branches. Its molded geometry supports strain relief at the breakout and provides a protective transition between the main cable and its outgoing legs.



Applications

Mechanical protection and strain relief at wire harness and cable branches.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 05
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

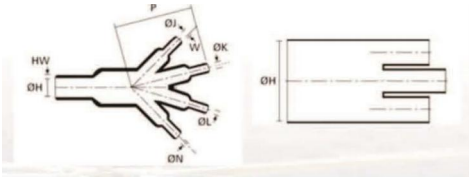
Dimensions (mm)

No.	Part number	Expanded (mm)		Recovered (mm)				
		Hmin	J,K&Lmin	Hmax	J,K&Lmax	HW±20%	KW±20%	P±10%
1	MS-4B/E-01	13.2	6.6	6.6	3.6	1.52	1.02	46.2
2	MS-4B/E-02	26.9	13.2	13.2	6.9	2.54	1.52	93.2
3	MS-4B/E-03	38.6	19.3	18.8	9.7	3.05	1.78	135.1
4	MS-4B/E-04	55.6	26.9	25.4	12.4	4.57	3.05	192.0
5	MS-4B/E-05	91.4	45.7	54.6	27.4	7.11	4.57	390.4

CABLE BREAKOUTS

MS-5B/W | Four-Leg Heat Shrink Breakout

MS-5B/W is a four-leg heat shrink breakout for routing and protecting cable branches. Its molded geometry supports strain relief at the breakout and provides a protective transition between the main cable and its outgoing legs.



Applications

Mechanical protection and strain relief at wire harness and cable branches.

Features & operating conditions

- Molded geometry for the selected cable route
- Mechanical protection and strain relief
- Choice of material grades for different operating environments
- Adhesive options for environmental sealing

Technical overview

Parameter	Specification
Size variants	01 to 06
Dimensions	See drawing and expanded/recovered size table
Color	Black (-0)
Material selection	-4 / -12 / -25 / -71 / -100; see material guide

Ordering information

Specify shape, size variant, material code, adhesive code and color. Match the expanded openings and recovered dimensions to the cable and connector. See the molded parts material and ordering guide.

Material codes: -4, -12, -25, -71 and -100. Standard color: black (-0). Refer to the material guide for temperature ratings and installation conditions.

Reference specifications: Q/(ZS)YL14-2019

Dimensions (mm)

No.	Part number	Expanded (mm)		Recovered (mm)				
		Hmin	J,K,L&Nmin	Hmax	J,K,L&Nman	HW±20%	W±10%	P±10%
1	MS-5B/W-01	13.2	6.6	6.9	3.4	1.52	1.02	24.1
2	MS-5B/W-02	19.3	9.4	9.7	5.3	1.78	1.02	35.6
3	MS-5B/W-03	19.3	13.2	9.7	6.9	1.78	1.52	49.3
4	MS-5B/W-04	26.9	13.2	13.0	6.9	2.54	1.52	49.3
5	MS-5B/W-05	38.6	19.3	18.5	9.7	3.05	1.78	71.9
6	MS-5B/W-06	55.6	26.9	26.7	13.0	4.57	2.54	101.6

SEALED CRIMP SPLICES

YL-HTE | Environmentally Sealed Heat Shrink Crimp Splices

YL-HTE splices combine tin- or nickel-plated copper crimp terminals with separate transparent heat shrink sealing sleeves. Designed for reliable wire connections in demanding environments, they offer compact size, low weight and straightforward installation for aerospace and other electrical assemblies.



Applications

Aerospace wiring and environmentally sealed electrical wire connections.

Features & operating conditions

- Compact, lightweight and easy to install
- Insulation with immersion, solvent and corrosion resistance
- Flame-retardant sealing sleeves
- Joint tensile strength and conductivity described as comparable to the connected wire

Technical overview

Parameter	Specification
Operating temperature	-55 to +150 °C
Conductor range	AWG 26-12 across available assemblies
Conductor material	Tin- or nickel-plated copper terminal

Conductor cross-sectional area

AWG	Strands	Area (mm^2)
28	7	0.09
26	19	0.15
24	19	0.24
22	19	0.38
20	19	0.61
18	19	0.95
16	19	1.21
14	19	1.92
12	19	2.94

Copper crimp terminal dimensions (mm)

Part no.	Color	A	B	C	D	E max.	AWG
YL-HTE-11	Red	1.14-1.33	1.91-2.03	12.45-12.95	5.72-6.22	0.40	26-20
YL-HTE-12	Blue	1.61-1.77	2.55-2.71	14.35-14.86	6.60-7.11	0.50	20-16

YL-HTE | Environmentally Sealed Heat Shrink Crimp Splices

Part no.	Color	A	B	C	D	E max.	AWG
YL-HTE-13	Yellow	2.46-2.65	3.72-3.92	14.35-14.86	6.60-7.11	1.30	18-12
YL-HTE-24	Red	1.14-1.33	1.91-2.03	12.45-12.95	5.72-6.22	0.40	26-20
YL-HTE-25	Blue	1.61-1.77	2.55-2.71	14.35-14.86	6.60-7.11	0.50	20-16
YL-HTE-26	Yellow	2.46-2.65	3.72-3.92	14.35-14.86	6.60-7.11	1.30	18-12

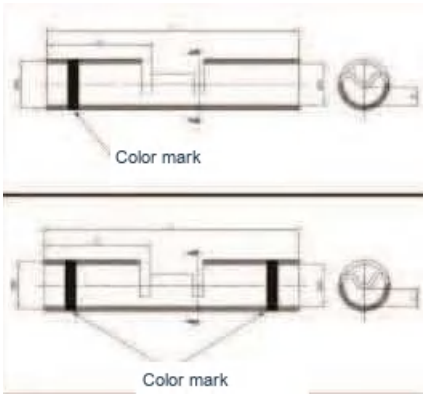
Sealing sleeves (one end clear)

Part no.	Seal color	L max. (mm)	A ID min. (mm)
YL-HTE-661	Red	29.2	2.16
YL-HTE-662	Blue	29.2	2.79
YL-HTE-663	Yellow	29.2	4.32

Splice assembly selection

Tin-plated assembly	Nickel-plated assembly	Color	Sleeve	Tin / nickel crimp	Area mm^2 (AWG)	Seal ID, both ends (mm)	Max. wires per end
YL-HTE-801	YL-THE-901	Red	YL-HTE-661	11 / 24	0.15-0.75 (26-20)	2.16	2
YL-HTE-802	YL-THE-902	Blue	YL-HTE-662	12 / 25	0.39-1.34 (20-16)	2.79	2
YL-HTE-803	YL-THE-903	Yellow	YL-HTE-663	13 / 26	0.95-3.37 (18-12)	4.32	2

Terminal and sleeve dimension drawings



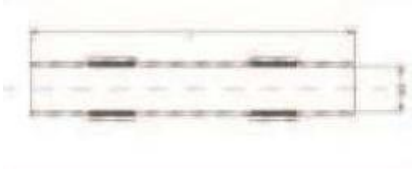
Ordering information

Select conductor area, wire count, terminal finish and seal sleeve. Use the component combinations in the selection table. Supply wire gauge, insulation diameter and quantity for a quotation.

Reference specifications: SAE AS81824; Q/(ZS)YL15-2019

The source also states that soldering and sealing are completed in one operation. This wording conflicts with its crimp-terminal construction and requires confirmation. Nickel assembly codes YL-THE-901/902/903 are reproduced as printed.

Sealing sleeve drawing



SHIELD TERMINATION SLEEVES

YL-SSR | Shield Termination Solder Sleeves

YL-SSR solder sleeves provide ground terminations for shielded cables. A transparent Kynar heat shrink jacket allows visual inspection while providing insulation and strain relief. Preformed solder supports a controlled termination process, with optional preinstalled ground leads for easier installation.



Applications

Grounding and termination of shielded cable assemblies.

Features & operating conditions

- Transparent jacket for visual inspection
- Controlled solder quantity
- Insulation and strain relief
- Optional preinstalled ground wire

Technical overview

Parameter	Specification
Operating temperature	-55 to +150 °C
Jacket	Transparent Kynar heat shrink

Ordering information

Select the sleeve using cable jacket diameter and shield diameter. Specify the model, required ground lead and quantity.

Reference specifications: SAE AS83519/2; Q/(ZS)YL16-2019

Solder sleeve dimensions (mm)

Part no.	A ±2	B min.	C min.	Jacket dia. max.	Shield dia. min.
YL-SSR-01	16.5	1.9	2.7	2.7	0.9
YL-SSR-02	16.5	2.7	3.7	3.7	1.4
YL-SSR-03	16.5	4.3	5	5	2.1
YL-SSR-04	19	6	6.5	6.5	3.3
YL-SSR-05	19	7	7.6	7.6	4.3

EMI SHIELDING SLEEVING

AWC-1 | Lightweight EMI Shielding Braid

AWC-1 is a high-performance braided sleeve made from special copper wire. It combines flame retardance, halogen-free construction, flexibility and low weight with electromagnetic shielding for industrial and electronic cables. The source describes lower finished-assembly weight than conventional tinned copper braid.



Applications

Industrial and electronic equipment; communications equipment; medical electronics; military cable protection and shielding.

Features & operating conditions

- Lightweight and flexible
- Good tensile strength
- Easy to install and cut with scissors
- Resistance to almost all oil-based products as described in the source

Technical overview

Parameter	Specification
Material	Special copper-wire braid
Temperature options	-50 to +150 °C or -65 to +240 °C; variant to be confirmed

Ordering information

Select the model from the diameter range and recommended cable outer diameter in the table. Specify required length, packaging and quantity.

The source lists UL 94 flame retardance or non-combustibility, and melting points of 240°C or 1000°C, without assigning these alternatives to specific variants. Confirm the required construction and supporting data before use.

Dimensions and ordering sizes

Part no.	Layflat width (mm)	Delivered dia. (mm)	Min. dia. (mm)	Max. dia. (mm)	Max. mass (g/m)	Recommended OD (mm)	Pack (m)
AWC-1-01	1.5	1.0	1.0	2.0	2.1	1.0	100
AWC-1-02	2.0	1.5	2.0	4.0	3.2	2.0	100
AWC-1-05	7.0	4.2	3.0	6.0	14.5	5.0	100
AWC-1-08	6.7	4.0	6.0	10.0	22.5	8.0	100
AWC-1-10	10.0	7.0	10.0	16.0	26.8	13.0	100
AWC-1-16	16.0	10.0	16.0	24.0	41.6	20.0	50
AWC-1-22	22.0	15.0	24.0	30.0	53.5	27.0	50
AWC-1-28	28.0	19.0	30.0	40.0	71.0	38.0	50
AWC-1-32	32.0	22.0	40.0	50.0	84.0	45.0	50
AWC-1-40	40.0	26.0	50.0	60.0	93.5	55.0	50

EMI SHIELDING SLEEVING

AWC-2 | Tinned Copper EMI Shielding Braid

AWC-2 tinned copper braid provides a smooth, corrosion-resistant protective sleeve. It shields and protects wire and cable assemblies and is also described for improving hose pressure and temperature resistance, service life and overall cost performance.



Applications

Machinery, chemical processing, metallurgy and construction; shielding and protection of cables and hoses.

Features & operating conditions

- Corrosion-resistant tinned copper construction
- High tensile and pressure resistance
- Easy installation and scissor cutting
- Resistance to engine oil, brake fluid and sulfur dioxide

Technical overview

Parameter	Specification
Material	Tinned copper braid
Operating temperature	-60 to +200 °C

Ordering information

Select the model from the diameter range and recommended cable outer diameter in the table. Specify required length, packaging and quantity.

Dimensions and ordering sizes

Part no.	Layflat width (mm)	Delivered dia. (mm)	Min. dia. (mm)	Max. dia. (mm)	Max. mass (g/m)	Recommended OD (mm)	Pack (m)
AWC-2-01	1.8	1.2	1.0	2.0	3.77	1.5	200
AWC-2-03	4.5	3.0	2.0	4.0	6.28	3.0	200
AWC-2-05	7.0	4.5	3.0	6.0	16.96	5.0	100
AWC-2-08	12.0	8.0	6.0	10.0	33.93	8.0	100
AWC-2-13	20.0	13.0	10.0	16.0	60.32	13.0	100
AWC-2-20	30.0	20.0	16.0	24.0	135.7	20.0	50
AWC-2-25	40.0	27.0	24.0	30.0	152.7	27.0	50
AWC-2-35	52.0	35.0	30.0	40.0	204.3	35.0	50
AWC-2-45	70.0	47.0	40.0	55.0	271.4	47.0	50
AWC-2-55	85.0	57.0	55.0	60.0	339.3	57.0	50

EXPANDABLE ARAMID SLEEVING

YL-EBS | Expandable Meta-Aramid Braided Sleeving

YL-EBS is a thin-wall braided sleeve made from meta-aramid fiber. Its expandable construction covers a range of harness diameters and can pass over connectors. Flexibility, expandability and flame resistance help protect wires and cables against flame, elevated temperature and mechanical abrasion in demanding environments.



Applications

Military, marine and aviation cable and harness protection.

Features & operating conditions

- Lightweight and flame-retardant
- 2:1 expansion ratio
- Excellent abrasion protection
- Water and oil resistance
- Open braid helps avoid accumulation of water, heat and moisture

Technical overview

Parameter	Specification
Material	Meta-aramid fiber
Operating temperature	-55 to +240 °C
Expansion ratio	2:1

Ordering information

Select the model from the diameter range and recommended cable outer diameter in the table. Specify required length, packaging and quantity.

The source references gamma- and X-ray shielding; no attenuation test data is supplied.

Dimensions and ordering sizes

Part no.	Layflat width (mm)	Delivered dia. (mm)	Min. dia. (mm)	Max. dia. (mm)	Max. mass (g/m)	Recommended OD (mm)	Pack (m)
YL-EBS-02	2.0	1.3	1.0	2.0	3.0	2.0	100
YL-EBS-04	4.5	2.8	2.0	4.0	4.0	4.0	100
YL-EBS-06	6.0	3.8	4.0	8.0	8.5	6.0	100
YL-EBS-08	9.0	5.8	6.0	12.0	11.5	8.0	100
YL-EBS-10	12.0	7.5	8.0	16.0	14.0	10.0	100
YL-EBS-16	16.0	10.2	10.0	20.0	17.5	15.0	50
YL-EBS-20	20.0	12.5	12.0	24.0	22.0	20.0	50
YL-EBS-25	25.0	16.0	15.0	30.0	32.5	25.0	50
YL-EBS-30	30.0	19.0	20.0	40.0	39.5	30.0	50
YL-EBS-35	35.0	23.0	25.0	50.0	59.5	35.0	50

SELF-CLOSING CABLE WRAPS

SW-1 | PPS / Aramid Self-Closing Cable Wrap

SW-1 is a self-closing protective wrap precision-braided from PPS monofilament and aramid fiber. Its split construction supports installation, reinstallation and maintenance of cable bundles in rail vehicles and commercial or military aircraft.



Applications

Rail vehicles; commercial and military aircraft; serviceable cable harness protection.

Features & operating conditions

- Self-extinguishing construction
- Good abrasion resistance
- Easy installation, removal and maintenance
- Water and oil resistance
- Resistance to scratches and cuts

Technical overview

Parameter	Specification
Material	PPS monofilament and aramid fiber
Operating temperature	-60 to +200 °C
Wall thickness	0.78 ±0.1 mm

Ordering information

Select the model from the diameter range and recommended cable outer diameter in the table. Specify required length, packaging and quantity.

Reference specifications: EN 6049-006

Dimensions and ordering sizes

Part no.	Nominal ID (mm)	Overlap (%)	Wall (mm)	Max. mass (g/m)	Recommended OD (mm)	Pack (m)
SW-1-05	5.0	18~36%	0.78±0.1	13.0	1~5	150
SW-1-08	8.0	18~36%	0.78±0.1	18.0	5~8	100
SW-1-13	13.0	18~36%	0.78±0.1	26.0	8~13	50
SW-1-16	16.0	18~36%	0.78±0.1	33.0	13~16	25
SW-1-19	19.0	19~30%	0.78±0.1	38.0	16~19	25
SW-1-25	25.0	19~30%	0.78±0.1	47.0	19~25	25
SW-1-32	32.0	19~30%	0.78±0.1	65.0	25~32	25
SW-1-40	40.0	19~30%	0.78±0.1	90.0	32~40	25

SELF-CLOSING CABLE WRAPS

SW-2 | High-Temperature PEEK / Aramid Self-Closing Cable Wrap

SW-2 is a high-temperature self-closing cable wrap precision-braided from PEEK monofilament and aramid fiber. It offers accessible protection for cable assemblies in rail vehicles and commercial or military aircraft, with continuous temperature capability up to 260°C.



Applications

High-temperature harness protection in rail vehicles and commercial or military aircraft.

Features & operating conditions

- Self-extinguishing and flame-retardant
- Good abrasion resistance
- Easy installation, removal and maintenance
- Water and oil resistance
- Resistance to scratches and cuts
- Dust-free and recyclable as described in the source

Technical overview

Parameter	Specification
Material	PEEK monofilament and aramid fiber
Operating temperature	-55 to +260 °C
Wall thickness	0.78 ±0.1 mm

Ordering information

Select the model from the diameter range and recommended cable outer diameter in the table. Specify required length, packaging and quantity.

Reference specifications: EN 6049-007

Dimensions and ordering sizes

Part no.	Nominal ID (mm)	Overlap (%)	Wall (mm)	Max. mass (g/m)	Recommended OD (mm)	Pack (m)
SW-2-05	5.0	18~36%	0.78±0.1	20.0	1~5	150
SW-2-08	8.0	18~36%	0.78±0.1	27.0	5~8	100
SW-2-13	13.0	18~36%	0.78±0.1	39.0	8~13	50
SW-2-19	19.0	19~30%	0.78±0.1	60.0	16~19	25
SW-2-25	25.0	19~30%	0.78±0.1	73.0	19~25	25
SW-2-32	32.0	19~30%	0.78±0.1	93.0	25~32	25
SW-2-40	40.0	19~30%	0.78±0.1	116.0	32~40	25

YOZONETECH

Specify your next project.

Share the required material, dimensions, operating environment and quantity. Include any drawing, test standard or documentation requirement so that the product and specification can be matched to your application.

Tangshan Yuzhong Technology Co., Ltd.

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Technical selection notes

Model-specific tables retain the data, tolerances and test references stated in the supplied product documents. Similar product names do not imply interchangeable materials or identical ratings. Separate series and Military products retain their own specifications.

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