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EXTRUSION TUBING

THERMOSLEEVE | USA
YOUR TUBING SPECIALIST

Part Number CB-HFT600

Header CB-HFT600 Commercial Grade Polyolefin Heat Shrink Tubing

Description Thermosleeve-USA CB-HFT600 is our most popular series of heat shrink tubing and an excellent choice for many general and commercial applications. Economically priced, CB-HFT600 is very flexible, halogen free, flame retardant tubing made from a special blend of cross-linked polyolefin. Typical applications include strain relief of wire connectors; identifies or color codes wire and terminals; electrically insulates components, terminals and wire splices. CB-HFT600 is resistant to common fluids and solvents and has a shrink temperature rating of 90 degrees C (194 degrees F).

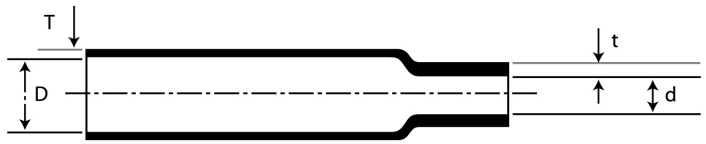
Agency Approval & Compliance UL, CUL, RoHS, Halogen Free, Flame Retardant, FMark, UL224, REACH, VW1

Application CB-HFT600 heat shrink tubing is free of Pb, Cd, Hg, Cr+6, PBB and PBDE.CB-HFT and can be used in any enclosed area where a flame-retardant, halogen-free environment is required, such as metro, skyscrapers, mass transit vehicles and ships.

Shrink Ratio and Operating Temperature CB-HFT600 has a 2:1 shrink ratio and when fully recovered, the 2:1 material will shrink to one half (50%) of its original supplied diameter.

CB-HFT600 has a continuous operating temperature rating of -55 degrees C (-67 degrees F) and 125 degrees C (257 degrees F).

Standard Sizes and Dimension



Size (mm)	Size (inch)	As Supplied (mm)		After Recovery (mm)	
		Inside Diameter (D)	Wall thickness (T)	Inside Diameter (d)	Wall thickness (t)
Φ1.0	3/64″	1.5+0.2/-0.1	0.18±0.05	≤0.60	0.36±0.08
Φ1.5	1/16″	2.1+0.2/-0.1	0.18±0.05	≤0.80	0.36±0.08
Φ2.0	3/32″	2.5+0.2/-0.1	0.20±0.05	≤1.00	0.42±0.08
Φ3.0	1/8″	3.5+0.2/-0.1	0.22±0.05	≤1.50	0.46±0.08
Φ4.5	3/16″	5.0+0.2/-0.1	0.23±0.05	≤2.25	0.46±0.08
Φ6.0	1/4″	6.5+0.2/-0.1	0.25±0.05	≤3.00	0.55±0.10
Φ8.0	5/16″	8.5+0.2/-0.1	0.28±0.06	≤4.00	0.58±0.10
Φ9.0	3/8″	9.5+0.2/-0.1	0.28±0.06	≤4.50	0.58±0.10
Φ13	1/2″	13.5+0.3/-0.1	0.28±0.06	≤6.50	0.58±0.10
Φ16	5/8″	16.5+0.3/-0.1	0.28±0.06	≤8.00	0.58±0.10
Φ20	3/4″	20.6+0.5/-0.2	0.32±0.08	≤10.0	0.68±0.10
Φ25	1″	25.6+0.7/-0.2	0.40±0.10	≤12.5	0.78±0.12

Φ30	1 1/4″	30.6+0.7/-0.2	0.40±0.10	≤15.0	0.82±0.12
Φ40	1 1/2″	41.0±0.5	0.50±0.12	≤20.0	1.00±0.15
Φ50	2″	51.0±0.5	0.55±0.15	≤25.0	1.10±0.15
Φ80	3″	81.0±1.0	0.60±0.15	≤40.0	1.25±0.20
Φ100	4″	101.0±1.0	0.60±0.15	≤50.0	1.25±0.20

Typical Properties

Item	Specifications
Shrink Temperature (°C)	120-150
Temperature Range (°C)	125
Radial Shrinking Ratio (%)	≥50
Longitudinal Change (%)	≤5
Tensile Strength (MPa)	≥10.4
Ultimate Elongation (%)	≥200
Aging in Circulating-air Oven	158.0±1.0°C, 168hrs
Tensile Strength (MPa) - After Aging	≥7.3
Ultimate Elongation (%) - After Aging	≥100
Dielectric Voltage Withstand (V)	600
Volume Resistivity (Ω.cm)	$\geq 10^{14}$
Dielectric Voltage (V) AC	AC2500V-60S, No breakdown
Dielectric Strength (kV/mm)	≤15
Flammability	VW-1
Concentricity (%)	≥65
Heat Shock	4 hr@250.0 ±1.0°C, No cracking
Cold Shock	1 hr@-30.0 ±1.0°C, No cracking
Copper Corrosion	24Hr@95%±5, 2°C, No cracking or fading

Availability Four-foot lengths, One hundred foot mini reels, master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number CB-HFT3X

Header CB-HFT3X Commercial Grade Polyolefin Heat Shrink Tubing

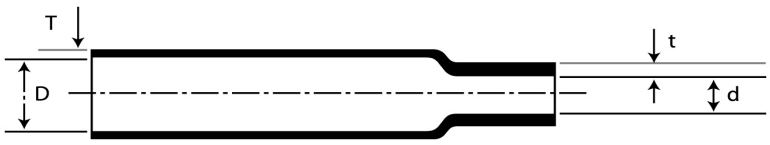
Description Thermosleeve-USA's CB-HFT3X higher shrink ratio accommodates irregular shapes and a wide range of bundle diameters. CB-HFT3X is a very flexible, halogen free, flame-retardant polyolefin tubing used in many general and commercial applications. Typical usages include strain relief of wire connectors; identifies or color codes wire and terminals; electrically insulates components, terminals and wire splices. CB-HFT3X is resistant to common fluids and solvents, CB-HFT3X has a shrink temperature rating of 90 degrees C (194 degrees F).

Agency Approval & Compliance UL, CUL, ROHS, Halogen free, Flame Retardant, FMark, UL224, REACH, VW1

Application CB-HFT3X heat shrink tubing is free of Pb, Cd, Hg,Cr+6, PBB and PBDE.CB-HFT can be used in any enclosed area where a flame-retardant, halogen-free environment is required, such as metro, skyscrapers, mass transit vehicles and ships.

Shrink Ratio and Operating Temperature CB-HFT3X has a 3:1 shrink ratio and when fully recovered, the 3:1 material will shrink to one third (33%) of its original supplied diameter. CB-HFT3X has a continuous operating temperature rating of -55 degrees C (-67 degrees F) and 125 degrees C (257 degrees F)

Standard Sizes and Dimension



Size (inch)	Size (mm)	As Supplied (mm)		After Recovery (mm)	
		Min. Inside Diameter (D)	Nominal Wall-thickness (T)	Max. Inside Diameter (d)	Wall-thickness (t)
1/16"	Φ1.5/0.5	1.5	0.18	0.5	0.40±0.10
3/32"	Φ2.4/0.8	2.4	0.2	0.8	0.48±0.06
1/8"	Φ3.0/1.0	3	0.2	1	0.55±0.12
3/16"	Φ4.5/1.5	4.5	0.2	1.5	0.55±0.12
1/4"	Φ6.0/2.0	6	0.22	2	0.60±0.12
3/8"	Φ9.0/3.0	9	0.25	3	0.70±0.15
1/2"	Φ12.0/4.0	12	0.25	4	0.70±0.15
5/8"	Φ15.0/5.0	15	0.25	5	0.70±0.15
11/16"	Φ18.0/6.0	18	0.3	6	0.80±0.15
3/4"	Φ20.0/6.7	20	0.3	6.7	0.80±0.15
1"	Φ24.0/8.0	24	0.36	8	1.00±0.15
1-3/16"	Φ30.0/10.0	30	0.36	10	1.00±0.15
1-1/4"	Φ31.8/10.5	31.8	0.36	10.5	1.00±0.15
1-1/2"	Φ39.0/13.0	39	0.45	13	1.25±0.20

Typical Properties

Item	Specifications
Shrink Temperature (°C)	100 ~ 140
Temperature Range (°C)	125
Radial Shrinking Ratio (%)	3:1
Longitudinal Change (%)	≤15
Tensile Strength (MPa)	≥10.4
Ultimate Elongation (%)	≥200
Aging in Circulating-air Oven	158.0±1.0°C, 168hrs
Tensile Strength (MPa) - After Aging	≥7.3
Ultimate Elongation (%) - After Aging	≥100
Dielectric Voltage Withstand (V)	600
Volume Resistivity (Ω.cm)	$\geq 10^{14}$
Dielectric Voltage (V) AC	
Dielectric Strength (kV/mm)	≥15
Flammability	VW-1
Concentricity (%)	≥65

Availability Four-foot lengths, master reels and cut pieces

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YOUR TUBING SPECIALIST

Part Number CB-HFT4X

Header CB-HFT4X Over Expanded Commercial Grade Polyolefin Heat Shrink Tubing

Description Thermosleeve-USA CB-HFT4X is an excellent choice for many special applications where an over expanded material is required. CB-HFT4X is flexible, halogen free, flame retardant tubing manufactured from a special blend of cross-linked polyolefin and is recommended for applications including cable repair or when insulation is required for assemblies that have oversized components or connectors. CB-HFT4X higher shrink ratios accommodate irregular shapes and a wide range of bundle diameters without a large degree of longitudinal change. Resistant to common fluids and solvents, CB-HFT4X has a shrink temperature rating of 90 degrees C (194 degrees F).

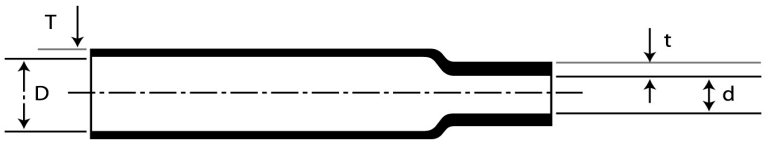
Agency Approval & Compliance

Application CB-HFT4X heat shrink tubing is free of Pb, Cd, Hg,Cr+6, PBB and PBDE.CB-HFT can be used in any enclosed area where a flame-retardant, halogen-free environment is required, such as metro, skyscrapers, mass transit vehicles and ships.

Shrink Ratio and Operating Temperature CB-HFT4X has a 4:1 shrink ratio and when fully recovered, the 4:1 material will shrink to one third (25%) of its original supplied diameter.

CB-HFT4X has a continuous operating temperature rating of -55 degrees C (-67 degrees F) and 125 degrees C (257 degrees F)

Standard Sizes and Dimension



Specifications

Size (inch)	Size (mm)	As Supplied (mm)		After Recovery (mm)	
		Min. Inside Diameter (D)	Nominal Wall-thickness (T)	Max. Inside Diameter (d)	Wall-thickness (t)
5/16"	Φ8.0/2.0	8.5±0.5	0.30±0.15	2	0.95±0.15
3/8"	Φ10.0/2.5	10.5±0.5	0.30±0.15	2.5	1.00±0.15
1/2"	Φ12.0/3.0	12.5±0.5	0.30±0.15	3	1.00±0.15
5/8"	Φ16.0/4.0	16.5±0.5	0.30±0.15	4	1.00±0.15
11/16"	Φ18.0/4.5	18.5±0.5	0.30±0.15	4.5	1.00±0.15
3/4"	Φ20.0/5.0	20.5±0.5	0.30±0.15	5	1.00±0.15
1"	Φ25.0/6.25	25.5±0.5	0.40±0.20	6.25	1.40±0.20

Typical Properties

Item	Specifications
Shrink Temperature (°C)	100 ~ 140
Temperature Range (°C)	125
Radial Shrinking Ratio (%)	4:1
Longitudinal Change (%)	≤15
Tensile Strength (MPa)	≥10.4
Ultimate Elongation (%)	≥200
Aging in Circulating-air Oven	158.0±1.0°C, 168hrs
Tensile Strength (MPa) - After Aging	≥7.3
Ultimate Elongation (%) - After Aging	≥100
Dielectric Voltage Withstand (V)	600
Volume Resistivity (Ω.cm)	$\geq 10^{14}$
Dielectric Strength (kV/mm)	≥15
Flammability	VW-1
Concentricity (%)	≥65

Availability Four-foot lengths, master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number CB-HFT300

Header CB-HFT300 Thin Wall Low Shrink Temperature Polyolefin Heat Shrink Tubing

Description Thermosleeve-USA CB-HFT300 is highly flexible, halogen free and flame retardant making it an excellent choice when a low temperature heat shrink tubing is required. CB-HFT300 is suitable as an insulating jacket for sensitive or delicate components where the introduction of excess heat may cause damage. Due to its low temperature requirements, CB-HFT300 reduces install time and offers an exceptional fast recovery. CB-HFT300 is resistant to common fluids and solvents with a shrink temperature rating of 90 degrees C (194 degrees F) ~ 125 degrees C.

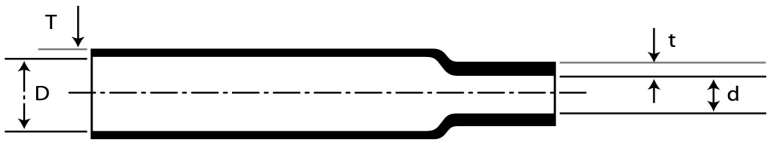
Agency Approval & Compliance UL, CUL, ROHS, Halogen free, Flame Retardant, FMark, UL224, REACH, VW1

Application CB-HFT300 heat shrink tubing is free of Pb, Cd, Hg, Cr+6, PBB and PBDE.CB-HFT can be used in any enclosed area where a flame-retardant, halogen-free environment is required, such as metro, skyscrapers, mass transit vehicles and ships.

Shrink Ratio and Operating Temperature CB-HFT300 has a 2:1 shrink ratio and when fully recovered, the 2:1 material will shrink to one half (50%) of its original supplied diameter.

CB-HFT300 has a continuous operating temperature rating of -55 degrees C (-67 degrees F) and 125 degrees C (257 degrees F)

Standard Sizes and Dimension



Size (mm)	Size(inch)	As Supplied (mm)		After Recovery (mm)		Length (mt/roll)
		Inside Diameter (D)	Wall-thickness (T)	Inside Diameter (d)	Wall-thickness (t)	
Φ0.6		0.8+0.2/-0.1	0.12±0.05	≤0.40	0.25±0.06	400
Φ0.7		0.9+0.2/-0.1	0.13±0.05	≤0.45	0.25±0.06	400
Φ0.8		1.2+0.2/-0.1	0.13±0.05	≤0.4	0.25±0.06	400
Φ1.0-Φ1.3	3/64"	1.3+0.2/-0.1	0.13±0.05	≤0.6	0.25±0.06	200
Φ1.0-Φ1.6	3/64"	1.6+0.2/-0.1	0.13±0.05	≤0.6	0.25±0.06	200
Φ1.5	1/16"	2.0+0.2/-0.1	0.13±0.05	≤0.8	0.25±0.06	200
Φ2.0	3/32"	2.4+0.2/-0.1	0.13±0.05	≤1.0	0.25±0.06	200
Φ2.5		3.0+0.2/-0.1	0.13±0.05	≤1.25	0.28±0.06	200
Φ3.0	1/8"	3.5+0.2/-0.1	0.13±0.05	≤1.5	0.30±0.06	200
Φ3.5		4.0+0.2/-0.1	0.15±0.05	≤1.75	0.30±0.06	200
Φ4.0		4.5+0.2/-0.1	0.15±0.05	≤2.0	0.30±0.06	200
Φ4.5	3/16"	5.0+0.2/-0.1	0.15±0.05	≤2.25	0.30±0.06	200

Φ5.0		5.5+0.2/-0.1	0.15±0.05	≤2.5	0.30±0.06	100
Φ5.5		6.0+0.2/-0.1	0.15±0.05	≤2.75	0.30±0.06	100
Φ6.0	1/4″	6.5+0.2/-0.1	0.15±0.05	≤3.0	0.30±0.06	100
Φ6.5		7.0+0.3/-0.1	0.15±0.05	≤3.25	0.30±0.06	100
Φ7.0		7.5+0.3/-0.1	0.15±0.05	≤3.5	0.32±0.06	100
Φ8.0		8.5+0.3/-0.1	0.15±0.05	≤4.0	0.32±0.06	100
Φ9.0	3/8″	9.5+0.3/-0.1	0.16±0.05	≤4.5	0.34±0.06	100
Φ10		10.5+0.3/-0.1	0.16±0.05	≤5.0	0.34±0.06	100
Φ11		11.5+0.3/-0.1	0.16±0.05	≤5.5	0.34±0.06	100
Φ12	1/2″	12.5+0.3/-0.1	0.16±0.05	≤6.0	0.34±0.06	100
Φ13		13.5+0.3/-0.1	0.16±0.05	≤6.5	0.34±0.06	100
Φ14		14.5+0.3/-0.1	0.16±0.05	≤7.0	0.34±0.06	100
Φ15		15.5+0.6/-0.1	0.16±0.05	≤7.5	0.34±0.06	100
Φ16	5/8″	16.5+0.6/-0.1	0.18±0.05	≤8.0	0.38±0.08	100
Φ17		17.5+0.6/-0.1	0.18±0.05	≤8.5	0.38±0.08	100
Φ18		18.7±0.4	0.18±0.05	≤9.0	0.38±0.08	100
Φ20		21.0±0.5	0.20±0.05	≤10.0	0.42±0.08	100
Φ22	7/8″	23.0±0.5	0.20±0.05	≤11.0	0.42±0.08	100
Φ25	1″	26.0±0.5	0.20±0.05	≤12.5	0.42±0.08	50
Φ30		31.0±0.5	0.25±0.08	≤15.0	0.48±0.08	50
Φ35		36.0±1.0	0.25±0.08	≤17.5	0.48±0.08	25

Typical Properties

Item	Specifications
Shrink Temperature (°C)	90-125
Temperature Range (°C)	125
Radial Shrinking Ratio (%)	≥50
Longitudinal Change (%)	≤5
Tensile Strength (MPa)	≥10.4
Ultimate Elongation (%)	≥200
Aging in Circulating-air Oven	158.0±1.0°C, 168hrs
Tensile Strength (MPa) - After Aging	≥7.3
Ultimate Elongation (%) - After Aging	≥100

Dielectric Voltage Withstand (V)	300
Volume Resistivity (Ω.cm)	$\geq 10^{14}$
Dielectric Strength (kV/mm)	≤15
Flammability	VW-1
Concentricity (%)	≥65

Availability Four-foot lengths, master reels and cut pieces

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Part Number CB-HFTYG

Header CB-HFTYG Yellow-Green Polyolefin Heat Shrink

Description Thermosleeve USA CB-HFTYG, is a flexible, flame-retardant polyolefin heat-shrinkable tubing. The typical electrical applications include insulating light duty harnesses, identifying and marking grounding cables and connectors. CB-HFTYG has a minimum shrink temperature rating of 90 degrees C (194 degrees F).

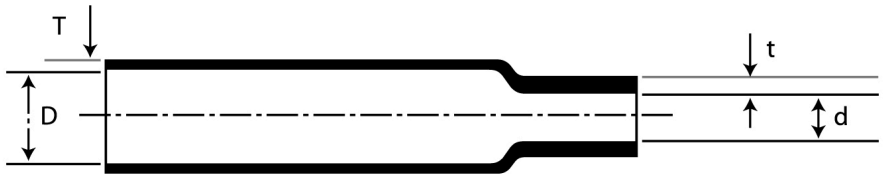
Agency Approval & Compliance UL, CUL, ROHS, Halogen free, Flame Retardant, F Mark, UL224, REACH, VW1

Application CB-HFTYG is used primarily for ground wire identification and has a green stripe printed on the yellow outer jacket signifying the standard electrical marking for ground or earth. CB-HFTYG is resistant to common fluids and solvents.

Shrink Ratio and Operating Temperature CB-HFTYG has a 2:1 shrink ratio and when fully recovered, the 2:1 material will shrink to one half (50%) of its original supplied diameter. The tubing's wall thickness will also change proportionally to the degree of recovery.

Operating temperature range is from -55 degree C to 125 degrees C (-67 degrees F to 257 degrees F)

Standard Sizes and Dimension



Size	As Supplied (mm)		After Recovery (mm)	
	Inside Diameter (D)	Wall-thickness (T)	Inside Diameter (d)	Wall-thickness (t)
Φ0.7	1.0+0.2/-0.1	0.18±0.05	≤0.45	0.32±0.08
Φ0.8	1.2+0.2/-0.1	0.18±0.05	≤0.45	0.34±0.08
Φ1.0	1.5+0.2/-0.1	0.18±0.05	≤0.60	0.36±0.08
Φ1.5	2.1+0.2/-0.1	0.18±0.05	≤0.80	0.36±0.08
Φ2.0	2.5+0.2/-0.1	0.20±0.05	≤1.00	0.42±0.08
Φ2.5	3.0+0.2/-0.1	0.22±0.05	≤1.25	0.46±0.08
Φ3.0	3.5+0.2/-0.1	0.22±0.05	≤1.50	0.46±0.08
Φ3.5	4.0+0.2/-0.1	0.22±0.05	≤1.75	0.46±0.08
Φ4.0	4.6+0.2/-0.1	0.22±0.05	≤2.00	0.46±0.08
Φ4.5	5.0+0.2/-0.1	0.23±0.05	≤2.25	0.46±0.08
Φ5.0	5.5+0.2/-0.1	0.25±0.05	≤2.50	0.50±0.08
Φ5.5	6.0+0.2/-0.1	0.25±0.05	≤2.75	0.50±0.08
Φ6.0	6.5+0.2/-0.1	0.25±0.05	≤3.00	0.55±0.10

Φ6.5	6.9+0.2/-0.1	0.25±0.05	≤3.25	0.55±0.10
Φ7.0	7.5+0.2/-0.1	0.25±0.05	≤3.50	0.55±0.10
Φ8.0	8.5+0.2/-0.1	0.28±0.06	≤4.00	0.58±0.10
Φ9.0	9.5+0.2/-0.1	0.28±0.06	≤4.50	0.58±0.10
Φ10	10.5+0.3/-0.1	0.28±0.06	≤5.00	0.58±0.10
Φ11	11.5+0.3/-0.1	0.28±0.06	≤5.50	0.58±0.10
Φ12	12.5+0.3/-0.1	0.28±0.06	≤6.00	0.58±0.10
Φ13	13.5+0.3/-0.1	0.28±0.06	≤6.50	0.58±0.10
Φ14	14.5+0.3/-0.1	0.28±0.06	≤7.00	0.58±0.10
Φ15	15.5+0.3/-0.1	0.28±0.06	≤7.50	0.58±0.10
Φ16	16.5+0.3/-0.1	0.28±0.06	≤8.00	0.58±0.10
Φ17	17.5+0.3/-0.1	0.28±0.06	≤8.50	0.58±0.10
Φ18	18.5+0.3/-0.1	0.32±0.08	≤9.00	0.68±0.10
Φ20	20.6+0.5/-0.2	0.32±0.08	≤10.0	0.68±0.10
Φ22	22.6+0.7/-0.2	0.35±0.08	≤11.0	0.72±0.12
Φ25	25.6+0.7/-0.2	0.40±0.10	≤12.5	0.78±0.12
Φ28	28.6+0.7/-0.2	0.40±0.10	≤14.0	0.78±0.12
Φ30	30.6+0.7/-0.2	0.40±0.10	≤15.0	0.82±0.12
Φ35	35.6+0.7/-0.2	0.45±0.10	≤17.5	0.92±0.12
Φ40	41.0±0.5	0.50±0.12	≤20.0	1.00±0.15
Φ45	46.0±0.5	0.50±0.12	≤22.5	1.00±0.15
Φ50	51.0±0.5	0.55±0.15	≤25.0	1.10±0.15
Φ55	55.5±1.0	0.55±0.15	≤27.5	1.10±0.15
Φ60	60.5±1.0	0.60±0.15	≤30.0	1.25±0.20
Φ70	71.0±1.0	0.60±0.15	≤35.0	1.25±0.20
Φ80	81.0±1.0	0.60±0.15	≤40.0	1.25±0.20
Φ90	91.0±1.0	0.60±0.15	≤45.0	1.25±0.20
Φ100	101.0±1.0	0.60±0.15	≤50.0	1.25±0.20

Sizes in Inches

Size	As Supplied (inch)		After Recovery (inch)	
	Inside Diameter (D)	Wall-thickness (T)	Inside Diameter (d)	Wall-thickness (t)
3/64	1.2	0.18±0.05	≤0.6	0.30±0.05
1/16	1.6	0.18±0.05	≤0.8	0.32±0.05
3/32	2.4	0.18±0.05	≤1.00	0.35±0.05
1/8	3.2	0.20±0.05	≤1.5	0.38±0.05
3/16	4.8	0.23±0.05	≤2.0	0.45±0.05
1/4	6.4	0.25±0.05	≤3.0	0.50±0.05
3/8	9.5	0.30±0.08	≤4.5	0.60±0.08
1/2	12.7	0.30±0.08	≤6.0	0.60±0.08
3/4	19.1	0.40±0.12	≤10.0	0.75±0.12
1	25.4	0.45±0.12	≤12.5	0.90±0.12
1–1/4	31.8	0.45±0.12	≤15.0	0.90±0.12
1–1/2	38.1	0.50±0.15	≤21	1.00±0.30
2	50.8	0.50±0.15	≤27	1.00±0.30
3	≥80	0.70±0.30	≤40.0	1.45±0.25
4	≥100	0.70±0.30	≤50.0	1.45±0.25

Typical Properties

Item	Specifications
Shrink Temperature (°C)	120-150
Temperature Range (°C)	125
Radial Shrinking Ratio (%)	≥50
Longitudinal Change (%)	≤5
Tensile Strength (MPa)	≥10.4
Ultimate Elongation (%)	≥200
Aging in Circulating-air Oven	158.0±1.0°C, 168hrs
Tensile Strength (MPa) - After Aging	≥7.3
Ultimate Elongation (%) - After Aging	≥100
Dielectric Voltage Withstand (V)	600
Volume Resistivity (Ω.cm)	≥10^{14}sup>

Dielectric Voltage (V) AC	AC2500V-60S, No breakdown
Dielectric Strength (kV/mm)	≤15
Flammability	VW-1
Concentricity (%)	≥65
Heat Shock	4 hr@250.0 ±1.0ºC, No cracking
Cold Shock	1 hr@-30.0 ±1.0ºC, No cracking
Copper Corrosion	24Hr@95%±5, 2ºC, No cracking or fading
Dielectric Strength (@1min, AC2500V)	

Availability Four-foot lengths, master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number CB-HFTLS

Header CB-HFTLS Low Shrink Temperature Polyolefin Heat Shrink Tubing

Description Thermosleeve USA CB-HFTLS is highly flexible, halogen free and flame retardant making it an excellent choice when a low temperature heat shrink tubing is required. CB-HFTLS is suitable as an insulating jacket for sensitive or delicate components where the introduction of excess heat may cause damage. Due to its low temperature requirements, CB-HFTLS reduces install time and offers an exceptional fast recovery. CB-HFTLS is resistant to common fluids and solvents with a shrink temperature rating starting as low as of 55 degrees C and completing at 90 degrees C (131 -194 degrees F).

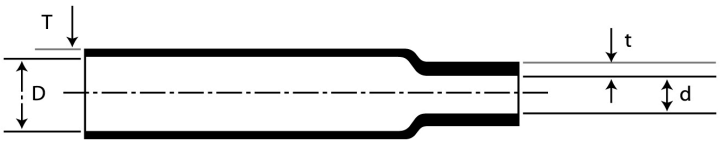
Agency Approval & Compliance UL, CUL, ROHS, Halogen free, Flame Retardant, FMark, UL224, REACH, VW1

Application CB-HFTLS heat shrink tubing is free of Pb, Cd, Hg, Cr+6, PBB and PBDE. CB-HFT can be used in any enclosed area where a flame-retardant, halogen-free environment is required, such as metro, skyscrapers, mass transit vehicles and ships.

Shrink Ratio and Operating Temperature CB-HFTLS has a 2:1 shrink ratio and when fully recovered, the 2:1 material will shrink to one half (50%) of its original supplied diameter.

CB-HFTLS has a continuous operating temperature rating of -55 degrees C (-67 degrees F) and 125 degrees C (257 degrees F)

Standard Sizes and Dimension



Specifications

Size	As Supplied (mm)		After Recovery (mm)	
	Inside Diameter (D)	Wall-thickness (T)	Inside Diameter (d)	Wall-thickness (t)
φ0.8	1.3±0.2	0.15±0.05	≤0.45	0.28±0.05
φ1.0	1.5±0.2	0.18±0.05	≤0.6	0.30±0.05
φ1.5	2.0±0.2	0.18±0.05	≤0.8	0.32±0.05
φ2.0	2.5±0.2	0.18±0.05	≤1.00	0.35±0.05
φ2.5	3.0±0.2	0.20±0.05	≤1.25	0.38±0.05
φ3.0	3.5±0.3	0.20±0.05	≤1.5	0.38±0.05
φ3.5	4.0±0.3	0.20±0.05	≤1.75	0.38±0.05
φ4.0	4.5±0.3	0.23±0.05	≤2.0	0.45±0.05
φ4.5	4.8±0.3	0.23±0.05	≤2.25	0.45±0.05
φ5.0	5.5±0.3	0.23±0.05	≤2.5	0.45±0.05
φ6.0	6.5±0.4	0.25±0.05	≤3.0	0.50±0.05
φ6.5	7.0±0.4	0.25±0.05	≤3.0	0.52±0.05

φ7.0	7.5±0.4	0.30±0.08	≤3.5	0.60±0.05
φ8.0	8.5±0.3	0.30±0.08	≤4.0	0.60±0.08
φ9.0	9.5±0.4	0.30±0.08	≤4.5	0.60±0.08
φ10	10.5±0.5	0.30±0.08	≤5.0	0.60±0.08
φ11	11.5±0.5	0.30±0.08	≤5.5	0.60±0.08
φ12	12.5±0.5	0.30±0.08	≤6.0	0.60±0.08
φ13	13.5±0.5	0.36±0.12	≤6.5	0.65±0.12
φ14	14.5±0.5	0.36±0.12	≤7.0	0.65±0.12
φ15	15.5±0.5	0.36±0.12	≤7.5	0.65±0.12
φ16	16.5±0.5	0.36±0.12	≤8.0	0.70±0.12
φ17	17.5±0.5	0.36±0.12	≤8.5	0.70±0.12
φ18	18.7±0.5	0.40±0.15	≤9.0	0.75±0.12
φ20	20.6±0.6	0.40±0.15	≤10.0	0.80±0.12
φ22	22.7±0.6	0.40±0.15	≤11.0	0.80±0.12
φ25	25.5±0.7	0.45±0.15	≤12.5	0.90±0.12
φ28	29.2±0.7	045±0.15	≤14.0	0.90±0.12
φ30	31.0±0.7	0.45±0.15	≤15.0	0.90±0.12
φ35	≥35	0.50±0.15	≤19	1.00±0.30
φ40	≥40	0.50±0.15	≤21	1.00±0.30
φ50	≥50	0.50±0.15	≤27	1.00±0.30
φ55	≥55	0.50±0.15	≤28	1.00±0.30
φ60	≥60	0.50±0.15	≤31	1.00±0.30
φ70	≥70	0.70±0.30	≤35.0	1.45±0.25
φ80	≥80	0.70±0.30	≤40.0	1.45±0.25
φ90	≥90	0.70±0.30	≤45.0	1.45±0.25
φ100	≥100	0.70±0.30	≤50.0	1.45±0.25

Inches

Size	As Supplied (mm)		After Recovery (mm)	
	Inside Diameter (D)	Wall-thickness (T)	Inside Diameter (d)	Wall-thickness (t)
3/64	1.2	0.18±0.05	≤0.6	0.30±0.05
1/16	1.6	0.18±0.05	≤0.8	0.32±0.05

3/32	2.4	0.18±0.05	≤1.00	0.35±0.05
1/8	3.2	0.20±0.05	≤1.5	0.38±0.05
3/16	4.8	0.23±0.05	≤2.0	0.45±0.05
1/4	6.4	0.25±0.05	≤3.0	0.50±0.05
3/8	9.5	0.30±0.08	≤4.5	0.60±0.08
1/2	12.7	0.30±0.08	≤6.0	0.60±0.08
3/4	19.1	0.40±0.12	≤10.0	0.75±0.12
1	25.4	0.45±0.12	≤12.5	0.90±0.12
1–1/4	31.8	0.45±0.12	≤15.0	0.90±0.12
1–1/2	38.1	0.50±0.15	≤21	1.00±0.30
2	50.8	0.50±0.15	≤27	1.00±0.30
3	≥80	0.70±0.30	≤40.0	1.45±0.25
4	≥100	0.70±0.30	≤50.0	1.45±0.25

Other sizes are available upon special order.

Typical Properties

Item	Specifications
Shrink Temperature (°C)	90
Temperature Range (°C)	-55 ~ 125
Radial Shrinking Ratio (%)	≥50
Longitudinal Change (%)	≤5
Tensile Strength (MPa)	≥10.4
Ultimate Elongation (%)	≥200
Aging in Circulating-Air Oven	158.0±1.0°C, 168hrs
Tensile Strength (MPa) - After Aging	≥7.3
Ultimate Elongation (%) - After Aging	≥100
Dielectric Voltage Withstand (V)	
Volume Resistivity (Ω.cm)	$\geq 10^{14}$
Dielectric Voltage (V) AC	
Dielectric Strength (kV/mm)	≥15
Flammability	VW-1
Concentricity (%)	≥70
Heat Shock	

Cold Shock	
Radial Shrinkage	
Copper Corrosion	

Availability Master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number MTTAG

Header MTTAG Low Fire Hazard Marker Tags

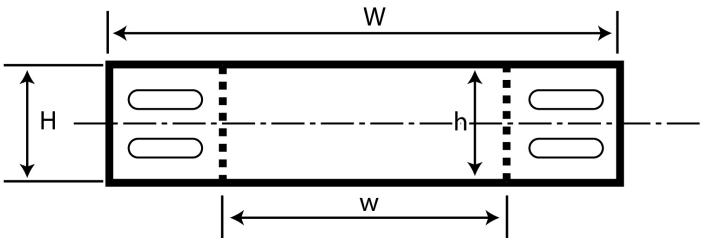
Description MTTAG is made from zero halogen, radiation cross-linked and UV stabilized polyolefin that provide low smoke and low toxicity properties. Primarily used for cable and wire-bundle identification where limited fire hazards characteristics are required. MTTAG marker tag material has excellent printing properties, remaining legible under aggressive exposure to elements such as cleaning solvents, fuel and oils. Meets ASM-DTL-23053/5 class 1 requirements as well as SAE AS811531 4.6.2 and MIL-STD-202 specs.

Agency Approval & Compliance UL, CUL, RoHS, SAE, MIL Spec, Flame Retardant, REACH, VW1

Application Primarily used for cable and wire-bundle identification where limited fire hazards characteristics are required. MTTAG marker tag material has excellent printing properties, remaining legible under aggressive exposure to elements such as cleaning solvents, fuel and oils. Meets ASM-DTL-23053/5 class 1 requirements as well as SAE AS811531 4.6.2 and MIL-STD-202 specs.

Shrink Ratio and Operating Temperature Operating temperature range -40ºC to 125 ºC

Size



Sizes:					
Size	Marker dimensions (W*H)		Printable area (w*h)		Pack size (pcs)
mm	mm	Inches	mm	Inches	Track
45	45.0*10.4	1.8*0.4	25.0*10.4	1.0*0.4	1000
70	70.0*20.3	2.75*0.8	50.0*20.3	2.0*0.8	500

Typical Properties

Item	Specifications
Temperature Range (°C)	-40~125
Tensile Strength (MPa)	≥10.3
Ultimate Elongation (%)	≥200
Aging in Circulating-air Oven	175.0±2.0°C, 168hrs
Tensile Strength (MPa) - After Aging	≥6.9

Ultimate Elongation (%) - After Aging	≥100
Volume Resistivity (Ω.cm)	≥1014
ASTM D2671 Average burn time is <1minute UL224 VW-2	ASTM D2671 Average burn time is <1minute UL224 VW-1
Heat Shock	250±3°C/4h
Low Temperature Flexibility	—25±1°C/4h
Fluid Resistance	SAE-AMS-DTL-23053.4.6.11 No Damage
Print Endurance	SAE AS81531.4.6.2 Legible after 50 Rubs
Color Stability	175.0±2.0°C/24h Pass

Availability 500 (75mm) & 1000 (45mm) piece tracks

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number CB-MTHX

Header CB-MTHX3X MIL Spec Heat Shrink Marker Sleeve

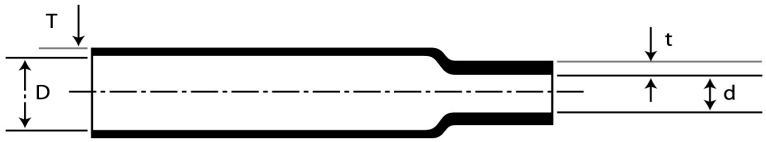
Description CB-MTHX is used to identify wire and cable, tools, hoses and equipment in operating environments where temperatures range from -55°C to 135°C. It can withstand abrasion and exposure to cleaning solvents and other industrial fluids. Sleeves are flame-retardant and can be used for electrical insulation. This tubing can be custom printed with words and symbols on both sides by thermal transfer equipment and all markings are permanent after printing. Available in a 3:1 shrink ratio and in many different sizes and shapes. Certificate: UL, CUL, Sony Green Partner Standard: UL224, AMS-DTL-23053/5, SAE-AS81531, MIL-STD-202 Standard color: flat white and yellow.

Agency Approval & Compliance UL, CUL, RoHS, MIL Spec, Flame Retardant, UL224, REACH, VW1

Application CB-MTHX wire markers are designed to meet wire identification needs of commercial and industrial customers.

Shrink Ratio and Operating Temperature 3:1, -55°C~135°C

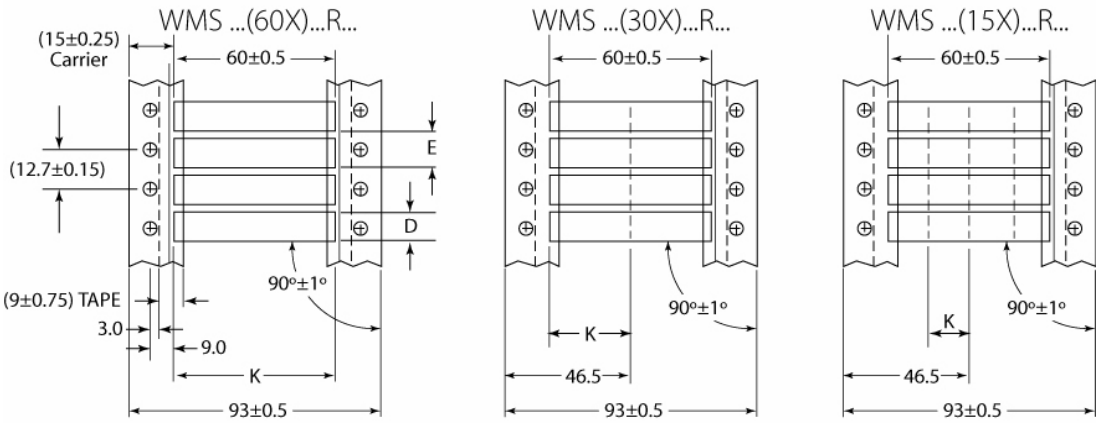
Size



Size CB-MTHX 3X (continuous & card type)

Size (Inch)	Size (mm)	As Supplied			After Recovery	
		Inside Diameter (D)	Wall thickness (T)	Outside Diameter Flat	Wall Thickness (t)	Inside Diameter (d)
3/32	Φ2.4	≥2.4	0.20±0.05	5.2±0.4	0.40±0.10	≤0.79
1/8	Φ3.2	≥3.2	0.20±0.05	6.8±0.4	0.40±0.10	≤1.07
3/16	Φ4.8	≥4.8	0.20±0.05	9.2±0.5	0.40±0.10	≤1.57
1/4	Φ6.4	≥6.4	0.20±0.05	11.6±0.5	0.40±0.10	≤2.11
3/8	Φ9.5	≥9.5	0.20±0.05	16.5±0.5	0.40±0.10	≤3.18
1/2	Φ12.7	≥12.7	0.20±0.05	21.7±0.5	0.40±0.10	≤4.22
3/4	Φ19.1	≥19.1	0.30±0.06	32.4±0.8	0.60±0.15	≤6.35
1	Φ25.4	≥25.4	0.30±0.06	42.2±0.8	0.60±0.15	≤8.46
1-1/2	Φ38.1	≥38.1	0.30±0.06	62.5±0.8	0.60±0.15	≤12.7
2	Φ50.8	≥50.8	0.30±0.06	81.5±0.8	0.60±0.15	≤16.9

CARD TYPE (See Dimensions & Standards table below)



Pre-score Dimensions & Standards (CARD TYPE)

Size	Tube Spacing mm (E)	Tube Length (K) – Full (mm)	Tube Length (K) – Half (mm)	Tube Length (K) – Quarter (mm)
Φ2.4（2X、3X）	11.0±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ3.2（2X、3X）	11.0±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ4.8（2X、3X）	13.6±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ6.4（2X、3X）	16.6±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ9.5（2X、3X）	21.6±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ12.7（2X、3X）	26.8±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ19.1（2X、3X）	38.2±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ25.4（2X、3X）	47.7±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ38.1（2X、3X）	69.0±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ50.8（2X、3X）	87.7±0.5	60.0±0.5	30.0±0.5	15.00±0.25

Typical Properties

Item	Specifications
Operating Temperature Range (°C)	—55~135
Tensile Strength (Mpa)	≥10.3
Ultimate Elongation (%)	≥200
Low Temperature Flexibility	—55±1°C/4h no cracking

Heat Shock		250±3°C/4h no cracking, flowing or dropping
Aging in Circulating-air Oven		175.0±2.0°C, 168hrs
After Aging	Tensile Strength (Mpa)	≥6.9
	Ultimate Elongation (%)	≥100
Color Stability		175.0±2.0°C/24h Pass
Volume Resistivity (Ω.cm)		$\geq 10^{14}$
Flammability		ASTM D2671 UL224 Average burn time is <1 minute VW-1
Fluid Resistance		SAE-AMS-DTL-23053.4.6.11 No Damage
Print Endurance		SAE AS81531.4.6.2 Legible after 50 Rubs

Availability Master spools, ladder reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number CB-MTTM

Header CB-MTTM 3X Heat Shrink Marker Sleeve, Halogen Free

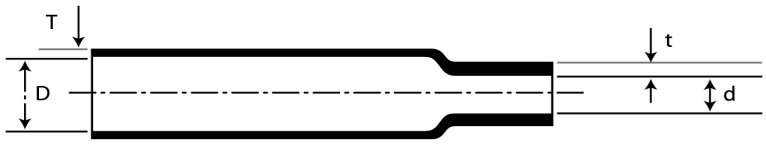
Description CB-MTTM is used to identify wire and cable, tools, hoses and equipment in operating environments where temperatures range from -55°C to 135°C. It can withstand abrasion and exposure to cleaning solvents and other industrial fluids. Sleeves are flame-retardant and can be used for electrical insulation. This tubing can be custom printed with words and symbols on both sides by thermal transfer equipment and all markings are permanent after printing. Available in a 3:1 shrink ratio and in many different sizes and shapes. Certificate: UL, CUL, Sony Green Partner Standard: UL224. Standard color: flat white and yellow.

Agency Approval & Compliance UL, cUL, RoHS, Halogen Free, Flame Retardant, UL224, REACH, VW1

Application CB-MTTM wire markers are designed to meet wire identification needs of commercial and industrial customers.

Shrink Ratio and Operating Temperature 3:1, -55°C~135°C

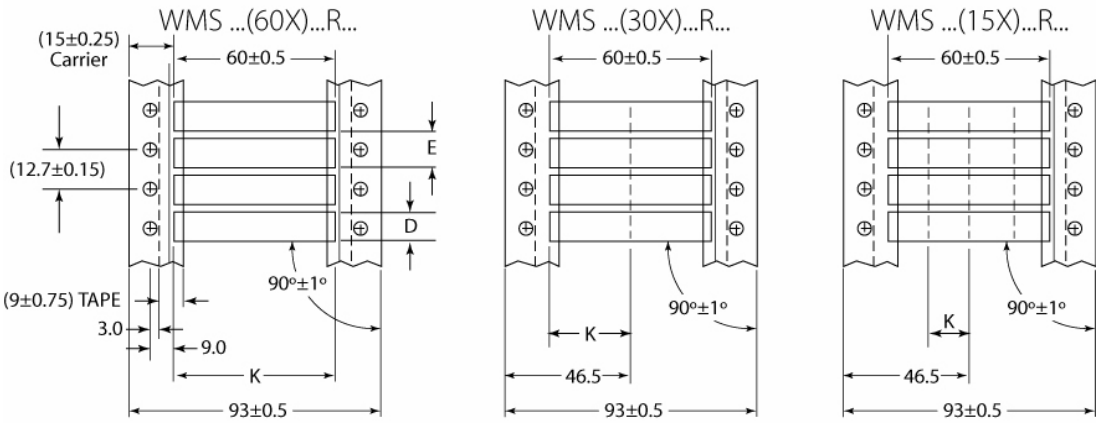
Size



Size CB-MTTM 3X (continuous & card type)

Size (Inch)	Size (mm)	As Supplied			After Recovery	
		Inside Diameter (D)	Wall thickness (T)	Outside Diameter Flat	Wall Thickness (t)	Inside Diameter (d)
3/32	Φ2.4	≥2.4	0.20±0.05	4.9±0.5	0.40±0.10	≤0.79
1/8	Φ3.2	≥3.2	0.20±0.05	6.1±0.5	0.40±0.10	≤1.07
3/16	Φ4.8	≥4.8	0.20±0.05	8.4±0.5	0.40±0.10	≤1.57
1/4	Φ6.4	≥6.4	0.20±0.05	11.2±0.8	0.40±0.10	≤2.11
3/8	Φ9.5	≥9.5	0.20±0.05	16.8±0.8	0.40±0.10	≤3.18
1/2	Φ12.7	≥12.7	0.20±0.05	21.8±1.0	0.40±0.10	≤4.22
3/4	Φ19.1	≥19.1	0.30±0.06	33.4±1.0	0.60±0.15	≤6.35
1	Φ25.4	≥25.4	0.30±0.06	42.4±1.5	0.60±0.15	≤8.46
1-1/2	Φ38.1	≥38.1	0.30±0.06	63.7±1.5	0.60±0.15	≤12.7
2	Φ50.8	≥50.8	0.30±0.06	82.2±1.5	0.60±0.15	≤16.9

CARD TYPE (See Dimensions & Standards table below)



Pre-score Dimensions & Standards (CARD TYPE)				
Size	**Tube Spacing mm (E)**	**Tube Length (K) – Full (mm)**	**Tube Length (K) – Half (mm)**	**Tube Length (K) – Quarter (mm)**
Φ2.4（2X、3X）	11.0±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ3.2（2X、3X）	11.0±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ4.8（2X、3X）	13.6±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ6.4（2X、3X）	16.6±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ9.5（2X、3X）	21.6±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ12.7（2X、3X）	26.8±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ19.1（2X、3X）	38.2±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ25.4（2X、3X）	47.7±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ38.1（2X、3X）	69.0±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ50.8（2X、3X）	87.7±0.5	60.0±0.5	30.0±0.5	15.00±0.25

Specifications

Item	Specifications
Physical performance	
Shrink Temperature (°C)	90°C~150°C
Temperature Range (°C)	-55°C~135°C
Tensile Strength (MPa)	≥10.3Mpa
Ultimate Elongation (%)	≥200%

Flexibility （-55°C, 4hrs）	No cracking
Heat shock	No cracking, dripping, flowing
Radial Shrinking Ratio	3:1
Print performance	
UL 224	50 Rubber erasure, identification
MIL-M-81531-4.6.2	50 Rubber erasure, identification
MIL-STD-202 method 215K	30 Rubber erasures, Isopropyl Alcohol/Mineral Spirits
	30 Rubber erasures, Terpene Defluxer
	30 Rubber erasures, H_2O/PGME Monoethanolamine
Electrical performance	
Aging in Circulating-air Oven	No breakdown
Dielectric Strength (kV/mm)	≥19.7KV/mm
Dielectric Voltage (V) AC	
Volume Resistivity (Ω.cm)	≥1014Ω·cm
Flammability as per AMS-DTL-23053	VW-1
Fluid resistance (23°C， 24hrs)	Print identified
Tensile strength (M Pa)	≥6.5MPa
Ultimate elongation ratio (%)	≥100%
MIL-M-81531-4.6.2	20 rubber erasure, identification

Availability Master spools, ladder reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number CB-MTTM-MIL-S

Header CB-MTTM-MIL-S 3X MIL Spec Heat Shrink Marker Sleeve

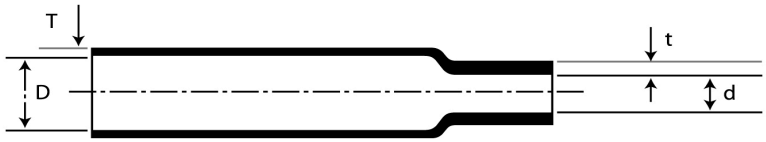
Description CB-MTTM-MIL-S is used to identify wire and cable, tools, hoses and equipment in operating environments where temperatures range from -55°C to 135°C. It can withstand abrasion and exposure to cleaning solvents and other industrial fluids. Sleeves are flame-retardant and can be used for electrical insulation. This tubing can be custom printed with words and symbols on both sides by thermal transfer equipment and all markings are permanent after printing. Available in a 3:1 shrink ratio and in many different sizes and shapes. Certificate: UL, CUL, Sony Green Partner Standard: UL224, AMS-DTL-23053/5, SAE-AS81531, MIL-STD-202 Standard color: flat white and yellow.

Agency Approval & Compliance UL, CUL, RoHS, MIL Spec, Flame Retardant, UL224, REACH, VW1

Application CB-MTTM-MIL-S wire markers are designed to meet wire identification needs of commercial and industrial customers.

Shrink Ratio and Operating Temperature 3:1, -55°C~135°C

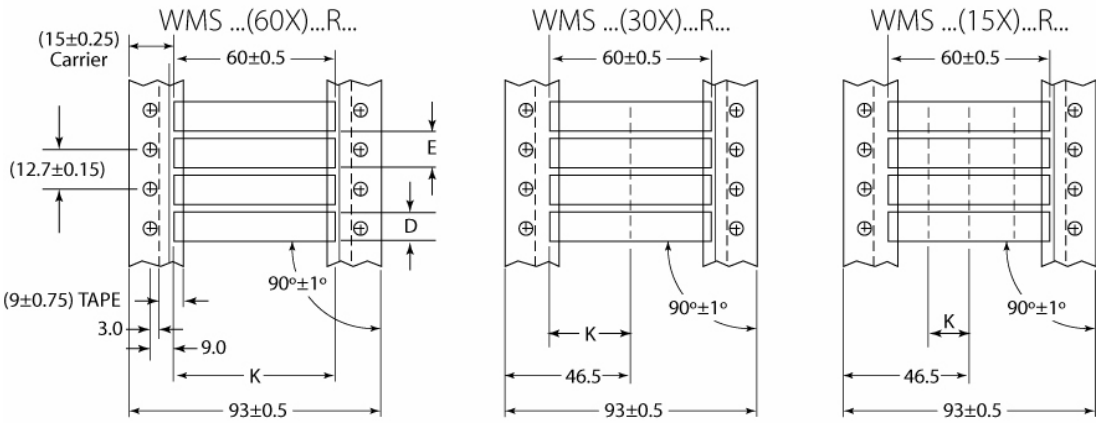
Size



Size CB-MTTM-MIL-S 3X (continuous & card type)

Size (Inch)	Size (mm)	As Supplied			After Recovery	
		Inside Diameter (D)	Wall thickness (T)	Outside Diameter Flat	Wall Thickness (t)	Inside Diameter (d)
3/32	Φ2.4	≥2.4	0.20±0.05	4.9±0.5	0.40±0.10	≤0.79
1/8	Φ3.2	≥3.2	0.20±0.05	6.1±0.5	0.40±0.10	≤1.07
3/16	Φ4.8	≥4.8	0.20±0.05	8.4±0.5	0.40±0.10	≤1.57
1/4	Φ6.4	≥6.4	0.20±0.05	11.2±0.8	0.40±0.10	≤2.11
3/8	Φ9.5	≥9.5	0.20±0.05	16.8±0.8	0.40±0.10	≤3.18
1/2	Φ12.7	≥12.7	0.20±0.05	21.8±1.0	0.40±0.10	≤4.22
3/4	Φ19.1	≥19.1	0.30±0.06	33.4±1.0	0.60±0.15	≤6.35
1	Φ25.4	≥25.4	0.30±0.06	42.4±1.5	0.60±0.15	≤8.46
1-1/2	Φ38.1	≥38.1	0.30±0.06	63.7±1.5	0.60±0.15	≤12.7
2	Φ50.8	≥50.8	0.30±0.06	82.2±1.5	0.60±0.15	≤16.9

CARD TYPE (See Dimensions & Standards table below)



Pre-score Dimensions & Standards (CARD TYPE)

Size	Tube Spacing mm (E)	Tube Length (K) – Full (mm)	Tube Length (K) – Half (mm)	Tube Length (K) – Quarter (mm)
Φ2.4（2X、3X）	11.0±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ3.2（2X、3X）	11.0±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ4.8（2X、3X）	13.6±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ6.4（2X、3X）	16.6±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ9.5（2X、3X）	21.6±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ12.7（2X、3X）	26.8±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ19.1（2X、3X）	38.2±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ25.4（2X、3X）	47.7±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ38.1（2X、3X）	69.0±0.5	60.0±0.5	30.0±0.5	15.00±0.25
Φ50.8（2X、3X）	87.7±0.5	60.0±0.5	30.0±0.5	15.00±0.25

Typical Properties

Item	Specifications
Physical performance	
Shrink Temperature (°C)	90°C~150°C
Temperature Range (°C)	-55°C~135°C
Tensile Strength (MPa)	≥10.3Mpa
Ultimate Elongation (%)	≥200%

Flexibility （-55°C, 4hrs）	No cracking
Heat shock	No cracking, dripping, flowing
Cold Shock	
Radial Shrinking Ratio	3:1
Longitudinal Change (%)	
Print performance	
UL 224	50 Rubber erasure, identification
MIL-M-81531-4.6.2	50 Rubber erasure, identification
MIL-STD-202	30 Rubber erasure, identification
Electrical performance	
Aging in Circulating-air Oven	
Dielectric Strength (kV/mm)	≥19.7KV/mm
Dielectric Voltage (V) AC	
Volume Resistivity (Ω.cm)	$\geq 10^{14}\Omega \cdot cm$
Flammability as per AMS-DTL-23053	Average burn time is <1
Fluid resistance (23°C， 24hrs)	Print identified
Tensile strength (M Pa)	≥6.5MPa
Ultimate elongation ratio (%)	≥100%
MIL-M-81531-4.6.2	20 rubber erasure, identification
Concentricity (%)	

Availability Master spools, ladder reels and cut pieces

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THERMOSLEEVE | USA
YOUR TUBING SPECIALIST

Part Number CB-HFT1000

Header CB-HFT1000 Military Spec Cross-linked Polyolefin Heat Shrink Tubing

Description Thermosleeve-USA CB-HFT1000 is our premium grade series of heat shrink tubing and is also an excellent choice for many general and commercial applications. CB-HFT1000 offers outstanding all round performance, is very flexible flame retardant tubing made from a special blend of cross-linked polyolefin. CB-HFT1000 has a minimum shrink temperature rating of 100 degrees C (212 degrees F), offers superior chemical resistant properties and out performs many general-purpose polyolefin tubing.

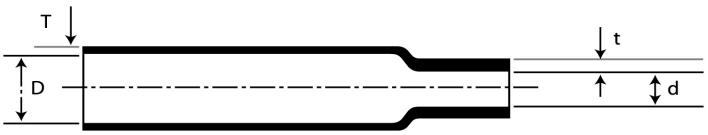
Agency Approval & Compliance UL, CUL, ROHS, Halogen Free, MIL, Flame Retardant, FMark, UL224, REACH, VW1

Application CB-HFT1000 heat shrink tubing is widely used to provide insulation and strain relief cover to both wire terminations and electrical connectors. Other general applications include wire marking coding and general insulation for light harness assemblies.

Shrink Ratio and Operating Temperature CB-HFT1000 is available with either a 2:1 or 3:1 shrink ratio. When fully recovered, the 2:1 material will shrink to one half (50%) of its original supplied diameter and the 3:1 material will shrink to one third (33%) of its original supplied diameter. The tubing's wall thickness will also change proportionally to the degree of recovery.

CB-HFT1000 has a continuous operating temperature rating of -55 degrees C (-67 degrees F) and 125 degrees C (257 degrees F)

Standard Sizes and Dimension



Size 2X					
Size (inch)	Size (mm)	As Supplied (mm)		After Recovery (mm)	
		Min. Inside Diameter (D)	Nominal Wall-thickness (T)	Max. Inside Diameter (d)	Wall-thickness (t)
3/64	1.2	1.5±0.3	0.21±0.08	0.6	0.41±0.08
1/16"	1.6	2.0±0.3	0.21±0.08	0.8	0.43±0.08
3/32	2.4	2.7±0.3	0.25±0.08	1.2	0.51±0.08
1/8"	3.2	3.5±0.3	0.25±0.08	1.6	0.51±0.08
3/16"	4.8	5.1±0.4	0.25±0.08	2.4	0.51±0.08
1/4"	6.4	6.8±0.4	0.32±0.10	3.2	0.64±0.08
3/8"	9.5	9.9±0.4	0.35±0.10	4.8	0.64±0.08
1/2"	12.7	13.2±0.4	0.33±0.10	6.4	0.64±0.08
3/4"	19.1	19.7±0.8	0.38±0.12	9.5	0.76±0.12
1"	25.4	26.0±1.0	0.45±0.15	12.7	0.90±0.15
1-1/2"	38.1	40.0±1.0	0.52±0.20	19.1	1.02±0.20

2"	50.8	51±1.0	0.57±0.20	25.4	1.14±0.20
3"	76.2	77.2±2.0	0.63±0.20	38.1	1.27±0.20
4"	100	102.5±2.0	0.70±0.20	50.8	1.4±0.23

Size 3X					
1"	25.4	25.4±1.0	0.20±0.05	8.5	0.64±0.08
2"	50.8	50.8±1.0	0.30±0.06	17.0	1.10±0.08

Typical Properties

Item	Specifications
Shrink Temperature (°C)	100°C - 140°C
Temperature Range (°C)	125
Radial Shrinking Ratio (%)	≥50
Longitudinal Change (%)	-55 ~ +5
Tensile Strength (MPa)	≥10.4MPa
Ultimate Elongation (%)	200
Aging in Circulating-air Oven	175±2.0 °C, 168Hrs
Tensile Strength (MPa) - After Aging	6.9MPa
Volume Resistivity (Ω.cm)	1012
Dielectric Strength (kV/mm)	15.8kv/mm
Concentricity (%)	≥50
Heat Shock	No cracks, flowing or dripping
Copper Corrosion	No corrosion

Availability Four-foot lengths, master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number CB-HRT

Header CB-HRT Semi-rigid Polyolefin Heat Shrink Tubing

Description Thermosleeve-USA CB-HRT is a semi-rigid, heat shrinkable, tubing with excellent insulation and superior abrasion resistance properties. Resistant to many types of acids, alkalis and solvents, CB-HRT has a shrink temperature rating of 120 degrees C (248 degrees F) and is ideally suited when strain relief or physical protection to components is a concern.

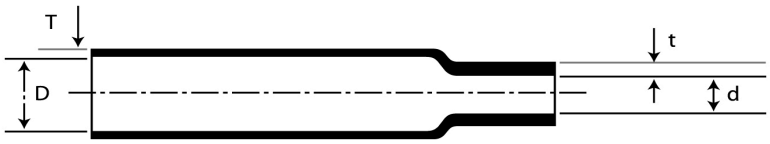
Agency Approval & Compliance UL, CUL, RoHS, Halogen free, Flame Retardant, FMark, UL224, REACH, VW1

Application CB-HRT heat shrink tubing can be utilized with automatic feed equipment or where exceptional strain relief is required including industrial, military and commercial applications.

Shrink Ratio and Operating Temperature CB-HRT has a 2:1 shrink ratio and when fully recovered, the 2:1 material will shrink to one half (50%) of its original supplied diameter.

CB-HRT has a continuous operating temperature rating of -55 degrees C (-67 degrees F) and 150 degrees C (302 degrees F)

Standard Sizes and Dimension



Size (mm)	Size (inch)	As Supplied (mm)		After Recovery (mm)		Packaging Length (mt/roll)
		Inside Diameter (D)	Wall-thickness (T)	Inside Diameter (d)	Wall-thickness (t)	
Φ0.8		1.3±0.2	0.18±0.08	≤0.45	0.33±0.06	200
Φ1.0	3/64Z″	1.5±0.2	0.18±0.05	≤0.6	0.36±0.06	200
Φ1.5	1/16″	2.0±0.2	0.20±0.08	≤0.8	0.40±0.08	200
Φ2.0	3/32″	2.5±0.2	0.20±0.08	≤1.00	0.42±0.08	200
Φ2.5		3.0±0.2	0.22±0.08	≤1.25	0.42±0.08	200
Φ3.0	1/8″	3.5±0.3	0.25±0.10	≤1.5	0.46±0.08	200
Φ3.5		4.0±0.3	0.25±0.10	≤1.75	0.46±0.08	200
Φ4.0		4.5±0.3	0.25±0.10	≤2.0	0.48±0.08	200
Φ4.5	3/16″	5.0±0.3	0.25±0.10	≤2.25	0.50±0.10	100
Φ5.0		5.5±0.4	0.25±0.10	≤2.5	0.50±0.10	100
Φ6.0	1/4″	6.5±0.4	0.28±0.12	≤3.0	0.56±0.10	100
Φ6.5		7.0±0.4	0.28±0.12	≤3.25	0.56±0.10	100
Φ7.0		7.5±0.4	0.30±0.12	≤3.5	0.58±0.10	100
Φ8.0		8.5±0.5	0.30±0.12	≤4.0	0.60±0.10	100

Φ9.0	3/8″	9.5±0.5	0.30±0.12	≤4.5	0.60±0.10	100
Φ10		10.5±0.5	0.30±0.12	≤5.0	0.60±0.10	100
Φ11		11.5±0.5	0.30±0.12	≤5.5	0.60±0.10	100
Φ12		12.5±0.5	0.30±0.12	≤6.0	0.60±0.10	100
Φ13	1/2″	13.5±0.5	0.36±0.12	≤6.5	0.65±0.12	100
Φ14		14.5±0.5	0.36±0.12	≤7.0	0.65±0.12	100
Φ15		15.5±0.5	0.36±0.12	≤7.5	0.65±0.12	100
Φ16	5/8″	16.5±0.5	0.36±0.12	≤8.0	0.65±0.12	100
Φ17		17.5±0.5	0.36±0.12	≤8.5	0.65±0.12	100
Φ18		18.7±0.6	0.40±0.15	≤9.0	0.70±0.12	100
Φ20	3/4″	20.7±0.6	0.40±0.15	≤10.0	0.75±0.15	100
Φ22	7/8″	22.7±0.6	0.40±0.15	≤11.0	0.80±0.15	100
Φ25	1″	25.7±0.7	0.40±0.15	≤12.5	0.90±0.15	50
Φ28		29.0±0.7	0.45±0.20	≤14.0	0.95±0.20	50
Φ30	1 1/4″	31.0±0.7	0.45±0.20	≤15.0	0.95±0.20	50
Φ35		36.0±1.0	0.50±0.22	≤17.5	1.00±0.20	25
Φ40		41.0±1.0	0.55±0.25	≤20.0	1.10±0.25	25
Φ45		46.0±1.0	0.55±0.25	≤22.5	1.10±0.25	25
Φ50		51.5±1.5	0.60±0.25	≤26.0	1.20±0.25	25
Φ55		≥55	0.60±0.25	≤28.0	1.20±0.25	25
Φ60		≥60	0.60±0.25	≤30.0	1.20±0.25	25

Other sizes are available upon special order.

Typical Properties

Item	Specifications
Shrink Temperature (°C)	120 - 150
Temperature Range (°C)	150°C
Radial Shrinking Ratio (%)	≥50%
Longitudinal Change (%)	≤5%
Tensile Strength (MPa)	≥10.4mpa
Ultimate Elongation (%)	≥200%
Aging in Circulating-air Oven	180.0±1.0°C, 168hrs
Tensile Strength (MPa) - After Aging	≥7.3
Ultimate Elongation (%) - After Aging	≥100%

Volume Resistivity (Ω.cm)	≥1014
Dielectric Strength (kV/mm)	≥15
Concentricity (%)	≥65%
Copper Corrosion	No corrosion

Availability Four-foot lengths, master reels and cut pieces

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YOUR TUBING SPECIALIST

Part Number CB-PET

Header CB-PET 2x PET Heat-Shrinkable Film

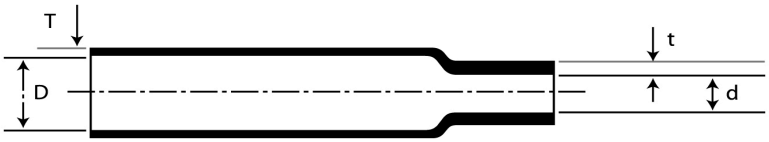
Description CB-PET is flexible, halogen-free, environmentally friendly tubing that provides protection up to 125ºC. CB-PET is UL 224 and RoHS compliant and comes in a variety of colors and sizes.

Agency Approval & Compliance ROHS, Halogen Free, Flame Retardant, REACH, UL94V-0

Application CB-PET is widely used in packaging applications like batteries, coil windings, capacitors and fluorescent light bulb encapsulation and as a protective sleeving in wirnf for cars, computers optical fiber cables and speaker wire.

Shrink Ratio and Operating Temperature CB-PET is available in a 2:1 shrink ratio. When fully recovered, the 2:1 material will shrink to one half (50%) of its original supplied diameter. The tubing's wall thickness will also change proportionally to the degree of recovery. Operating temperature range is from -40 degree C to 130 degrees C (-40 degrees F to 266 degrees F) and the minimum shrink temperature is 100 degree C (212 degrees F)

Standard Sizes and Dimension



Size	Width (mm)	Thickness (mm)	Shrink Ratio (%)	Longitudinal ratio (%)	Longitudinal ratio (180±2) °C ×15 min
Φ3	5.5±0.2	0.08±0.02	48±4	8±3	12±3
φ4	7.1±0.2	0.08±0.02	48±4	8±3	12±3
φ5	9.10±0.2	0.08±0.02	48±4	8±3	12±3
φ6	10.6±0.2	0.08±0.02	48±4	8±3	12±3
φ6.3	11.0±0.2	0.08±0.02	48±4	8±3	12±3
φ8	14.0±0.2	0.09±1.0	48±4	8±3	12±3
φ10	17.0±0.2	0.09±1.0	48±4	8±3	12±3
φ12	20.4±0.3	0.10±0.02	48±4	8±3	12±3
φ12.5	21.5±0.3	0.10±0.02	48±4	8±3	12±3
φ13	22.0±0.3	0.10±0.02	48±4	8±3	12±3
φ13.5	22.6±0.3	0.10±0.02	48±4	8±3	12±3
φ14.5	24.2±0.3	0.10±0.02	48±4	8±3	12±3
φ16	26.7±0.3	0.11±0.02	48±4	8±3	12±3
φ18	29.8±0.3	0.11±0.02	48±4	8±3	12±3
φ20	32.9±0.3	0.11±0.02	48±4	8±3	12±3
φ22	36.3±0.3	0.11±0.02	48±4	8±3	12±3

φ25	41.3±0.3	0.12±0.03	48±4	8±3	12±3
φ30	49.0±0.3	0.12±0.03	48±4	8±3	12±3
φ35	56.6±0.3	0.12±0.03	48±4	12±3	12±3
Φ40	65.0±0.3	0.12±0.03	45±5	12±3	12±3
Φ42	68.5±0.3	0.12±0.03	45±5	12±3	12±3
Φ45	72.0±0.3	0.12±0.03	45±5	12±3	12±3
Φ48	77.6±1.0	0.12±0.03	45±5	12±3	12±3
Φ50	84.0±1.0	0.12±0.03	45±5	12±3	12±3
Φ52	88.5±1.0	0.12±0.03	45±5	12±3	12±3
Φ60	96.0±1.0	0.12±0.03	45±5	12±3	12±3
Φ63.5	105.0±1.0	0.12±0.03	45±5	12±3	12±3

Specifications

Item	Specifications
Appearance	No Pollution
Appearance (No-melting material) mm^2	≤0.7
Bend (280mm)	At or above size 8.0mm < 3.0 At or under size 10.0mm < 3.5
Shrink Temperature (°C)	100 (212°F)
Temperature Range (°C)	-40°C — +130°C
Gravity (Kg/L	1.3-1.4
Tensile Strength (N/m2)	$5.0*10^7$---$10.0*10^7$
Ultimate Elongation (%)	200---350
Tensile Strength (M/mm)	100-300
Absorption (water) %	< 2.0%
Dielectric Strength (kV/mm)	> 80
Surface Resistivity (Ω)	> 10^9
Volume Resistivity (Ω.cm)	> 10^{14}
Operating Temperature Range (°C)	-40°C + 130°C

Availability hundred-foot reels

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YOUR TUBING SPECIALIST

Part Number CYG-ZHP

Header CYG-ZHP Phosphorous-Free Single Wall Heat Shrink Tubing

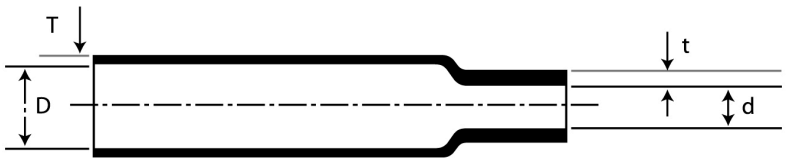
Description CYG-ZHP is a phosphorous-free version of our CB-HFT600 which is also free of Pb,Cd, Hg,Cr+6, PBB and PBDE. CYG-ZHP can be used in any enclosed area where a flame-retardant, halogen-free environment is required. This 2X heat shrink tubing complies with EU requirements and has the same RoHS and REACH compliance as the CB-HFT 600.

Agency Approval & Compliance UL, CUL, RoHS, Halogen Free, Flame Retardant, FMark, UL224, REACH, VW1

Application CYG-ZHP can be used in any enclosed area where a flame-retardant, halogen-free environment is required.

Shrink Ratio and Operating Temperature

Size



Size (mm)	As Supplied (mm)		After Recovery (mm)		Package Length (Mt/Roll)
	Inside Diameter (D)	Wall thickness (T)	Inside Diameter (d)	Wall thickness (t)	
Φ0.7	1.0+0.2/-0.1	0.18±0.05	≤0.45	0.32±0.08	400
Φ0.8	1.2+0.2/-0.1	0.18±0.05	≤0.45	0.34±0.08	300
Φ1.0	1.5+0.2/-0.1	0.18±0.05	≤0.60	0.36±0.08	200
Φ1.5	2.1+0.2/-0.1	0.18±0.05	≤0.80	0.36±0.08	200
Φ2.0	2.5+0.2/-0.1	0.20±0.05	≤1.00	0.42±0.08	200
Φ2.5	3.0+0.2/-0.1	0.22±0.05	≤1.25	0.46±0.08	200
Φ3.0	3.5+0.2/-0.1	0.22±0.05	≤1.50	0.46±0.08	200
Φ3.5	4.0+0.2/-0.1	0.22±0.05	≤1.75	0.46±0.08	200
Φ4.0	4.6+0.2/-0.1	0.22±0.05	≤2.00	0.46±0.08	200
Φ4.5	5.0+0.2/-0.1	0.23±0.05	≤2.25	0.46±0.08	100
Φ5.0	5.5+0.2/-0.1	0.25±0.05	≤2.50	0.50±0.08	100
Φ5.5	6.0+0.2/-0.1	0.25±0.05	≤2.75	0.50±0.08	100
Φ6.0	6.5+0.2/-0.1	0.25±0.05	≤3.00	0.55±0.10	100
Φ6.5	6.9+0.2/-0.1	0.25±0.05	≤3.25	0.55±0.10	100
Φ7.0	7.5+0.2/-0.1	0.25±0.05	≤3.50	0.55±0.10	100
Φ8.0	8.5+0.2/-0.1	0.28±0.06	≤4.00	0.58±0.10	100
Φ9.0	9.5+0.2/-0.1	0.28±0.06	≤4.50	0.58±0.10	100

Φ10	10.5+0.3/-0.1	0.28±0.06	≤5.00	0.58±0.10	100
Φ11	11.5+0.3/-0.1	0.28±0.06	≤5.50	0.58±0.10	100
Φ12	12.5+0.3/-0.1	0.28±0.06	≤6.00	0.58±0.10	100
Φ13	13.5+0.3/-0.1	0.28±0.06	≤6.50	0.58±0.10	100
Φ14	14.5+0.3/-0.1	0.28±0.06	≤7.00	0.58±0.10	100
Φ15	15.5+0.3/-0.1	0.28±0.06	≤7.50	0.58±0.10	100
Φ16	16.5+0.3/-0.1	0.28±0.06	≤8.00	0.58±0.10	100
Φ17	17.5+0.3/-0.1	0.28±0.06	≤8.50	0.58±0.10	100
Φ18	18.5+0.3/-0.1	0.32±0.08	≤9.00	0.68±0.10	100
Φ20	20.6+0.5/-0.2	0.32±0.08	≤10.0	0.68±0.10	100
Φ22	22.6+0.7/-0.2	0.35±0.08	≤11.0	0.72±0.12	100
Φ25	25.6+0.7/-0.2	0.40±0.10	≤12.5	0.78±0.12	50
Φ28	28.6+0.7/-0.2	0.40±0.10	≤14.0	0.78±0.12	50
Φ30	30.6+0.7/-0.2	0.40±0.10	≤15.0	0.82±0.12	50
Φ35	35.6+0.7/-0.2	0.45±0.10	≤17.5	0.92±0.12	25
Φ40	41.0±0.5	0.50±0.12	≤20.0	1.00±0.15	25
Φ45	46.0±0.5	0.50±0.12	≤22.5	1.00±0.15	25
Φ50	51.0±0.5	0.55±0.15	≤25.0	1.10±0.15	25
Φ55	55.5±1.0	0.55±0.15	≤27.5	1.10±0.15	25
Φ60	60.5±1.0	0.60±0.15	≤30.0	1.25±0.20	25
Φ70	71.0±1.0	0.60±0.15	≤35.0	1.25±0.20	25
Φ80	81.0±1.0	0.60±0.15	≤40.0	1.25±0.20	25

Typical Properties

Item	Specifications
Shrink Temperature (°C)	120-150
Temperature Range (°C)	125
Radial Shrinking Ratio (%)	≥50
Longitudinal Change (%)	≤5
Tensile Strength (MPa)	≥10.4
Ultimate Elongation (%)	≥200
Aging in Circulating-air Oven	158.0±1.0°C, 168hrs
Tensile Strength (MPa) - After Aging	≥7.3

Item	Specifications
Ultimate Elongation (%) - After Aging	≥100
Dielectric Voltage Withstand (V)	600
Volume Resistivity (Ω.cm)	$\geq 10^{14}$
Dielectric Voltage (V) AC	≥AC 2500V-60S, no breakdown
Dielectric Strength (kV/mm)	≥15.0
Flammability	VW-1
Concentricity (%)	≥65
Heat Shock	4 hours at 250.0 ± 1.0 °C, No cracking
Heat Shock	4 hours at 250.0 ± 1.0 °C, No cracking
Cold Bend	1 hour at –30 ± 1.0 °C, No cracking
(Copper Corrosion)	24 hours at (95±5)%, 2°C, No cracking, No fade

Availability Four-foot lengths, One hundred foot mini reels, master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number CB-SRT-H

Header CB-SRT-H Silicone Dioxide Flame-Retardant Heat Shrinkable Tubing

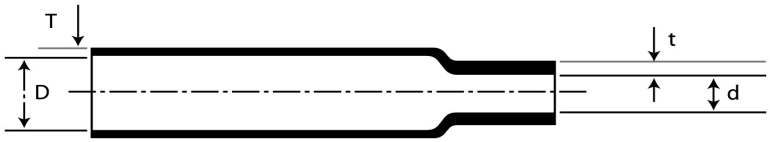
Description CB-SRT-H is silicone 1.75 & 2:1 heat shrink tubing ideally suited for many automotive, appliance, electrical/electronic, and aerospace custom rubber requirements.

Agency Approval & Compliance UL, CUL, RoHS, Halogen Free, Flame Retardant, REACH, VW-1

Application CB-SRT-H silicone heat shrink tubing is used where high resistance to both high and low temperature extremes are involved.

Temperature Rating -50°C~200°C

Standard Sizes and Dimension



1.7X Shrink Ratio

Size	As supplied (mm)		After recovery (mm)		As Supplied	
	ID (D)	WT (T)	ID (d)	WT (t)	UOM/Mt	Mt/Box
Φ1.0	1.4±0.4	0.5±0.2	0.5±0.1	0.65±0.1	200	1200
Φ2.0	2.3±0.3	0.5±0.2	1.2±0.2	0.7±0.1		
Φ3.0	3.3±0.3	0.5±0.2	1.85±0.2	.75±0.1		
Φ4.0	4.5±0.5	0.5±0.2	2.5±0.2	.75±0.1		
Φ5.0	5.5±0.3	0.5±0.2	3.1±0.2	.75±0.2		
Φ6.0	6.5±0.5	0.5±0.2	3.75±0.2	0.8±0.1	100	600
Φ7.0	7.5±0.5	0.5±0.2	4.35±0.2	0.8±0.1		
Φ8.0	8.5±0.5	0.5±0.2	5.0±0.2	0.8±0.1		
Φ9.0	9.5±0.5	0.5±0.2	5.6±0.2	0.8±0.1		
Φ10	10.5±.5	1.0±0.2	7.5±0.3	1.6±0.2		
Φ12	12±1.0	0.75±0.1	6.0±0.2	1.5±0.2	50	300
Φ15	15.5±0.5	1.0±0.1	9.3±0.3	1.7±0.2		
Φ16	16.5±0.5	1.0±0.2	10.0±0.3	1.7±0.2		
Φ18	18.5±1.0	1.0±0.2	11.25±0.6	1.7±0.2		

Φ20	20.5±0.5	1.0±0.2	12.5±0.6	1.7±0.2		
Φ22	23±1.0	1.0±0.2	15.6±0.8	1.7±0.2	25	150
Φ25	26±1.0	1.0±0.1	14±0.4	2.0±0.3		
Φ35	36±1.0	1.0±0.3	21.8±1.0	1.7±0.2	1	50
Φ40	42±1.0	1.0±0.3	23.5±2.0	1.7±0.2		50
Φ50	53±3.0	1.0±0.3	29.5±3.0	1.7±0.2		40
Φ60	63±2.0	1.5±0.3	35.5±3.0	2.5±0.35		
Φ70	73±3.0	1.5±0.3	41.2±3.0	2.5±0.35		30
Φ80	85±5.0	1.5±0.4	47±5.0	2.5±0.35		
Φ90	95±5.0	1.5±0.4	53±5.0	2.5±0.35		20
Φ110	110±5.0	1.5±0.4	64.7±5.0	2.5±0.5		

2X Shrink Ratio

Size	As supplied (mm)		After recovery (mm)		As Supplied	
	ID (D)	WT (T)	ID (d)	WT (t)	UOM/Mt	Mt/Box
Φ1.0	1.3±0.3	0.5±0.2	0.6±0.1	0.6±0.1	200	1200
Φ2.0	2.4±0.4	0.5±0.2	1.2±0.2	0.7±0.1		
Φ3.0	3.5±0.5	0.5±0.2	1.5±0.2	.8±0.1		
Φ4.0	4.5±0.5	0.5±0.2	2.1±0.2	.75±0.1		
Φ5.0	5.5±0.5	0.5±0.2	2.6±0.2	.85±0.1		
Φ6.0	6.5±0.5	0.5±0.2	3.2±0.2	0.85±0.1	100	600
Φ7.0	7.5±0.5	0.5±0.2	3.7±0.3	0.85±0.1		
Φ8.0	8.5±0.5	0.5±0.2	4.3±0.3	0.9±0.1		
Φ9.0	9.5±0.5	0.5±0.2	4.8±0.2	0.9±0.1		
Φ10	10.5±.5	1.0±0.2	5.3±0.3	1.8±0.2	50	300
Φ12	12.5±0.	1.0±0.2	6.4±0.3	1.85±0.2		
Φ15	15.5±0.	1.0±0.2	8.0±0.3	1.9±0.2		
Φ16	16.5±0.	1.0±0.2	8.5±0.4	1.95±0.2		
Φ18	19±1.0	1.0±0.2	9.5±0.4	1.95±0.2		
Φ20	21±1.0	1.0±0.2	10.5±0.5	1.95±0.2		
Φ25	26±1.5	1.0±0.1	14.0±0.4	2.0±0.3		100
Φ35	36±1.5	1.0±0.3	18.0±1.0	2.0±0.2		50
Φ40	42±1.0	1.0±0.3	20.5±1.0	2.0±0.2		50

Φ50	53±3.0	1.0±0.3	25.5±1.0	2.0±0.2	1	40
Φ60	63±2.0	1.5±0.3	32.0±2.0	3.0±0.5		
Φ70	73±3.0	1.5±0.3	38.0±3.0	3.0±0.5		30
Φ80	85±5.0	1.5±0.4	45.0±4.0	3.0±0.5		
Φ90	95±5.0	1.5±0.4	50.0±4.0	3.0±0.5		20
Φ11	110±5.	1.5±0.4	60.0±5.0	3.0±0.5		

Typical Properties

Specification Type	CB-SRT-H
Temperature Range (°C)	150
Dielectric Voltage Withstand (V)	600
Tensile Strength MPa (Kg/cm²)	≥3.45
Elongation	≥100
Peel Strength kN/m (Kg f/cm)	≥14.5 (15)
Resistant Volume Ω•m(Ω•cm)	≥2X10¹²(2X10¹⁴)
Dielectric Strength KV/mm	≥25
Dielectric Constant (ε) 50Hz	3.2
Dielectric Loss Tangent Angle 50Hz	0.001
Flammability UL-224	VW-1
Operation Temperature (°C)	-50~+200
Longitudinal Shrink Ratio (%)	≤10%
Shrink Temperature (°C)	≥90

Availability Master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number CB-SRT-N

Header CB-SRT-N Silicone Dioxide Shrinkable Tubing

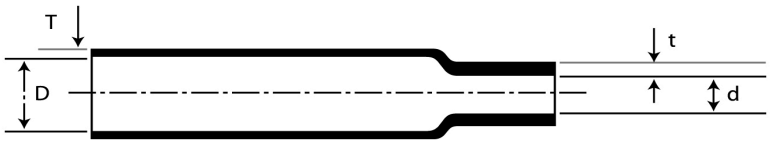
Description CB-SRT-N is silicone 1.75 & 2:1 heat shrink tubing ideally suited for many automotive, appliance, electrical/electronic, and aerospace custom rubber requirements.

Agency Approval & Compliance UL, CUL, RoHS, Halogen Free, REACH

Application CB-SRT-N silicone heat shrink tubing is used where high resistance to both high and low temperature extremes are involved.

Temperature Rating -50°C~200°C

Standard Sizes and Dimension



1.7X Shrink Ratio

Size	As supplied (mm)		After recovery (mm)		As Supplied	
	ID (D)	WT (T)	ID (d)	WT (t)	UOM/Mt	Mt/Box
Φ1.0	1.4±0.4	0.5±0.2	0.5±0.1	0.65±0.1	200	1200
Φ2.0	2.3±0.3	0.5±0.2	1.2±0.2	0.7±0.1		
Φ3.0	3.3±0.3	0.5±0.2	1.85±0.2	.75±0.1		
Φ4.0	4.5±0.5	0.5±0.2	2.5±0.2	.75±0.1		
Φ5.0	5.5±0.3	0.5±0.2	3.1±0.2	.75±0.2		
Φ6.0	6.5±0.5	0.5±0.2	3.75±0.2	0.8±0.1	100	600
Φ7.0	7.5±0.5	0.5±0.2	4.35±0.2	0.8±0.1		
Φ8.0	8.5±0.5	0.5±0.2	5.0±0.2	0.8±0.1		
Φ9.0	9.5±0.5	0.5±0.2	5.6±0.2	0.8±0.1		
Φ10	10.5±.5	1.0±0.2	7.5±0.3	1.6±0.2		
Φ12	12±1.0	0.75±0.1	6.0±0.2	1.5±0.2	50	300
Φ15	15.5±0.5	1.0±0.1	9.3±0.3	1.7±0.2		
Φ16	16.5±0.5	1.0±0.2	10.0±0.3	1.7±0.2		

Φ18	18.5±1.0	1.0±0.2	11.25±0.6	1.7±0.2		
Φ20	20.5±0.5	1.0±0.2	12.5±0.6	1.7±0.2		
Φ22	23±1.0	1.0±0.2	15.6±0.8	1.7±0.2	25	150
Φ25	26±1.0	1.0±0.1	14±0.4	2.0±0.3		
Φ35	36±1.0	1.0±0.3	21.8±1.0	1.7±0.2	1	50
Φ40	42±1.0	1.0±0.3	23.5±2.0	1.7±0.2	1	50
Φ50	53±3.0	1.0±0.3	29.5±3.0	1.7±0.2		40
Φ60	63±2.0	1.5±0.3	35.5±3.0	2.5±0.35		
Φ70	73±3.0	1.5±0.3	41.2±3.0	2.5±0.35		30
Φ80	85±5.0	1.5±0.4	47±5.0	2.5±0.35		
Φ90	95±5.0	1.5±0.4	53±5.0	2.5±0.35		20
Φ110	110±5.0	1.5±0.4	64.7±5.0	2.5±0.5		

2X Shrink Ratio

Size	As supplied (mm)		After recovery (mm)		As Supplied	
	ID (D)	WT (T)	ID (d)	WT (t)	UOM/Mt	Mt/Box
Φ1.0	1.3±0.3	0.5±0.2	0.6±0.1	0.6±0.1	200	1200
Φ2.0	2.4±0.4	0.5±0.2	1.2±0.2	0.7±0.1		
Φ3.0	3.5±0.5	0.5±0.2	1.5±0.2	.8±0.1		
Φ4.0	4.5±0.5	0.5±0.2	2.1±0.2	.75±0.1		
Φ5.0	5.5±0.5	0.5±0.2	2.6±0.2	.85±0.1		
Φ6.0	6.5±0.5	0.5±0.2	3.2±0.2	0.85±0.	100	600
Φ7.0	7.5±0.5	0.5±0.2	3.7±0.3	0.85±0.		
Φ8.0	8.5±0.5	0.5±0.2	4.3±0.3	0.9±0.1		
Φ9.0	9.5±0.5	0.5±0.2	4.8±0.2	0.9±0.1		
Φ10	10.5±.5	1.0±0.2	5.3±0.3	1.8±0.2	50	300
Φ12	12.5±0.	1.0±0.2	6.4±0.3	1.85±0.		
Φ15	15.5±0.	1.0±0.2	8.0±0.3	1.9±0.2		
Φ16	16.5±0.	1.0±0.2	8.5±0.4	1.95±0.		
Φ18	19±1.0	1.0±0.2	9.5±0.4	1.95±0.		
Φ20	21±1.0	1.0±0.2	10.5±0.5	1.95±0.		
Φ25	26±1.5	1.0±0.1	14.0±0.4	2.0±0.3		100
Φ35	36±1.5	1.0±0.3	18.0±1.0	2.0±0.2		50

Φ40	42±1.0	1.0±0.3	20.5±1.0	2.0±0.2	1	50
Φ50	53±3.0	1.0±0.3	25.5±1.0	2.0±0.2		40
Φ60	63±2.0	1.5±0.3	32.0±2.0	3.0±0.5		
Φ70	73±3.0	1.5±0.3	38.0±3.0	3.0±0.5		30
Φ80	85±5.0	1.5±0.4	45.0±4.0	3.0±0.5		
Φ90	95±5.0	1.5±0.4	50.0±4.0	3.0±0.5		20
Φ11	110±5.	1.5±0.4	60.0±5.0	3.0±0.5		

Typical Properties

Specification Type	CB-SRT-N
Temperature Range (°C)	150
Dielectric Voltage Withstand (V)	600
Tensile Strength MPa (Kg/cm^2)	≥3.45
Elongation	≥100
Peel Strength kN/m (Kg f/cm)	≥14.5 (15)
Resistant Volume Ω•m(Ω•cm)	≥2X10^{12}(2X10^{14})
Dielectric Strength KV/mm	≥25
Dielectric Constant (ε) 50Hz	3.2
Dielectric Loss Tangent Angle 50Hz	0.001
Flammability UL-224	–
Operation Temperature (°C)	-50~+200
Longitudinal Shrink Ratio (%)	≤10%
Shrink Temperature (°C)	≥90

Availability Master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number DWT2X/3X/4X

Header DWT2X/3X/4X Adhesive-Lined Dual Wall Heat Shrink

Description DWT is adhesive-lined, flexible, halogen free and flame-retardant polyolefin heat-shrinkable dual wall tubing. This tubing has good mechanical strength, which can protect from fluids, moisture and corrosion. DWT is used in a wide variety of electrical applications, including back end connector sealing, breakouts, and connector-to-cable transitions. A high expansion ratio makes it possible to repair most damaged cable jackets without removing connectors. The product is UL recognized and the file No is E180908.

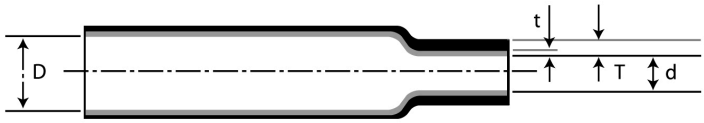
Agency Approval & Compliance UL, CUL, ROHS, Halogen Free, Flame Retardant, F Mark, UL224, REACH, VW1

Application DWT series of tubing can be used in a variety of applications where environmental issues are a concern. The adhesive lining provides an excellent barrier to moisture and is good choice of material for repairing cables, covering components and other electronic/electrical connections in harsh weather conditions.

Shrink Ratio and Operating Temperature DWT series is available in 2:1, 3:1 and 4:1 shrink ratios. When fully recovered, the 2:1 material will shrink to one half (50%) of its original supplied diameter, the 3:1 material will shrink to one third (33.3%) of its original supplied diameter and the 4X material will shrink to one quarter (25%) of its original supplied diameter. The tubing's wall thickness will also change proportionally to the degree of recovery.

Operating temperature range is from -55 degree C to 125 degrees C (-67 degrees F to 257 degrees F) and the minimum shrink temperature is 110 degree C (230 degrees F)

Standard Sizes and Dimension



DWT (2X)					
Size	As Supplied		After Recovery		
(Inch)	Min ID (mm)	Nominal Wall (mm)	Max ID (mm)	Total Wall (mm)	Nominal Adhesive Wall (mm)
3/64"	1.2	0.3	0.6	0.45±0.12	0.2
1/16"	1.6	0.3	0.8	0.45±0.12	0.2
3/32"	2.4	0.35	1.2	0.55±0.12	0.3
1/8"	3.2	0.4	1.6	0.60±0.15	0.3
3/16"	4.8	0.4	2.4	0.75±0.15	0.35
1/4"	6.4	0.4	3.2	0.75±0.15	0.35
3/8"	9.5	0.4	4.8	0.80±0.20	0.35
1/2"	12.7	0.4	6.4	0.80±0.20	0.35
3/4"	19.1	0.5	9.5	0.95±0.28	0.4
1"	25.4	0.5	12.7	1.15±0.28	0.45

1-1/2"	38.1	0.65	19	1.25±0.41	0.45
2"	50.8	0.73	25.4	1.40±0.41	0.5

DWT (3X)

Size	As Supplied		After Recovery		
(Inch)	Min ID (mm)	Nominal Wall (mm)	Max ID (mm)	Total Wall (mm)	Nominal Adhesive Wall (mm)
3/32	2.8±0.4	0.40±0.15	1	0.85±0.25	0.35±0.10
1/8	3.6±0.4	0.40±0.15	1	0.85±0.25	0.35±0.10
3/16	5.1±0.4	0.40±0.15	1.5	1.05±0.25	0.45±0.10
1/4	6.9±0.5	0.45±0.15	2	1.10±0.25	0.45±0.10
5/16	8.4±0.5	0.55±0.20	2.5	1.45±0.25	0.45±0.10
3/8	9.9±0.5	0.60±0.20	3	1.45±0.25	0.45±0.10
1/2	13.3±0.6	0.60±0.20	4	1.50±0.35	0.45±0.15
5/8	16.4±0.7	0.65±0.25	5	1.70±0.40	0.45±0.15
3/4	19.7±0.7	0.75±0.25	6	2.00±0.45	0.65±0.20
1	25.9±0.7	0.75±0.25	8.4	2.00±0.55	0.65±0.20
1-1/4	31.0±1.0	0.80±0.30	10	2.20±0.55	0.75±0.20
1-1/2	41.0±1.0	0.85±0.35	13.7	2.50±0.55	1.00±0.25
2	51.0±1.0	0.85±0.35	16.5	2.50±0.55	1.00±0.25

DWT (4X)

Size	As Supplied		After Recovery		
(Inch)	Min ID (mm)	Nominal Wall (mm)	Max ID (mm)	Total Wall (mm)	Nominal Adhesive Wall (mm)
3/16"	4	0.4	1	1.00±0.28	0.5
1/4"	6	0.4	1.5	1.00±0.28	0.5
5/16"	8	0.4	2	1.10±0.28	0.5
3/8"	9.5	0.45	2.5	1.20±0.28	0.55
1/2"	12	0.5	3	1.40±0.28	0.61
5/8"	16	0.6	4	1.78±0.38	0.76
3/4"	19	0.6	4.8	2.00±0.55	0.76
1"	24	0.75	6	2.25±0.55	0.76

1-1/4"	32	0.8	8	2.54±0.55	1.02
1-1/2"	38.1	0.8	9.5	2.54±0.55	1.02
2"	52	0.8	13	2.60±0.55	1.02

Specifications

Item	Specifications
Shrink Temperature (°C)	110
Operating Temperature Range (°C)	-55—125
Tensile Strength (Mpa)	≥10.4
Dielectric Voltage Withstand (v)	600
Ultimate Elongation (%)	≥200
Radial shrinking ratio (%)	≥50; ≥33.3; ≥25
Longitudinal Change (%)	≤15
Aging in Circulating-air Oven	158.0±1.0°C, 168hrs
After aging - Tensile Strength (Mpa)	≥7.3
After aging - Ultimate Elongation (%)	≥100
Dielectric Strength kV/mm	≥15.0
Volume Resistivity (Ω cm)	$\geq 10^{13}$
Flammability	VW-1
Water Absorption (%)	Less than 0.4%
Fluid Resistance	Excellent
(Copper Corrosion)	
Softening Point (°C)	85±5°C
Peel Strength (N/25mm)	>80

Availability Four-foot lengths, master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number DWT1000

Header DWT1000 Mil Spec Adhesive Lined Dual Wall Heat Shrink

Description Thermosleeve-USA DWT1000 is an adhesive-lined, cross-linked polyolefin heat-shrinkable tubing with great flexibility and is flame-retardant. The typical electrical applications include repairing damaged cables, sealing connectors and components, covering wire bundles and harness breakouts.

When heated to 110 degree C (230 degrees F), DWT1000 will rapidly shrink and the adhesive will flow freely around the substrate. The adhesive will bond to a variety of materials including metals, plastics and rubbers. Once cooled, the adhesive will solidify, remain flexible and provide an excellent barrier against moisture.

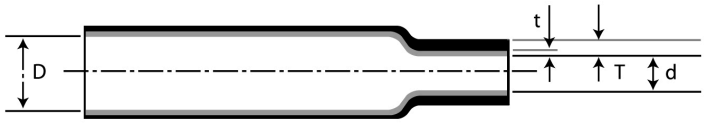
Agency Approval & Compliance UL, CUL, ROHS, Halogen Free, MIL, UL224, REACH, VW1

Application DWT1000 can be used in a variety of applications where environmental issues are a concern. The adhesive lining provides an excellent barrier to moisture and is good choice of material for repairing cables, covering components and other electronic/electrical connections in harsh weather conditions.

Shrink Ratio and Operating Temperature DWT1000 is available in both 2:1 and 3:1 shrink ratio. When fully recovered, the 2:1 material will shrink to one half (50%) of its original supplied diameter and the 3:1 material will shrink to one third of its original supplied diameter. The tubing's wall thickness will also change proportionally to the degree of recovery.

Operating temperature range is from -55 degree C to 135 degrees C (-67 degrees F to 275 degrees F) and the minimum shrink temperature is 110 degree C (230 degrees F)

Standard Sizes and Dimension



Sizes					
2:1					
Size (mm)	**Size (inch)**	**Min as Supplied (D)**	**Max. after recovery (d)**	**Total Wall (T)**	**Adhesive wall (t)**
3.2	1/8"	3.2	1.6	0.60±0.15	0.3
4.7	3/16"	4.8	2.4	0.75±0.15	0.35
6.4	1/4"	6.4	3.2	0.75±0.15	0.35
9.5	3/8"	9.5	4.8	0.80±0.20	0.35
12.7	1/2"	12.7	6.4	0.80±0.20	0.35
19.1	3/4"	19.1	9.5	0.95±0.28	0.4
25.4	1"	25.4	12.7	1.15±0.28	0.45
3:1					

Size (mm)	Size (inch)	Min as Supplied (D)	Max. after recovery (d)	Total Wall (T)	Adhesive wall (t)
3.2	1/8"	3.2	1	0.85±0.28	0.35
4.7	3/16"	4.8	1.5	1.05±0.28	0.45
6.4	1/4"	6.4	2	1.10±0.28	0.45
9.5	3/8"	9.5	3	1.45±0.28	0.45
12.7	1/2"	12.7	4	1.50±0.38	0.45
19.1	3/4"	19.1	6	2.00±0.55	0.65
25.4	1"	25.4	8	2.20±0.55	0.65
38.1	1-1/2"	38.1	13	2.54±0.55	1

Specifications

Item	Specification
Shrink Temperature (°C)	110 –150°C
Temperature Range (°C)	-55°C–+135°C
Radial Shrinking Ratio (%)	≥50; ≥33.3
Tensile Strength (MPa)	≥10.4 MPa
Ultimate Elongation (%)	≥200%
Aging in Circulating-air Oven	158.0±1.0°C, 168 hrs
Tensile Strength (MPa) - After Aging	≥7.3
Ultimate Elongation (%) - After Aging	≥100
Volume Resistivity (Ω.cm)	$\geq 1\times10^{12}$
Dielectric Strength (kV/mm)	≥19.7kv/mm
Heat Shock	No cracking, dripping, flowing
Cold Shock	No cracking
2% scan modulus	≤172MPa
Water Absorption (%)	Less than 1.0%
Oil Resistance	24±3°C， 24hrs
Fluid Resistance	Excellent

Availability Four-foot lengths, master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number DWT2000

Header DWT2000 Mil Spec Adhesive Lined Dual Wall Heat Shrink

Description Thermosleeve-USA's DWT2000 is an adhesive-lined, semi rigid, flame-retardant cross-linked polyolefin heat-shrinkable tubing specifically designed to meet automotive industry requirements. The typical electrical applications include repairing damaged cables, sealing connectors and components, covering wire bundles and harness breakouts.

When heated to a minimum of 100 degree C (212 degrees F), DWT2000 will begin to shrink and the adhesive will flow freely around the substrate. The adhesive will bond to a variety of materials including metals, plastics and rubbers. Once cooled, the adhesive will solidify, remain flexible and provide an excellent barrier against moisture.

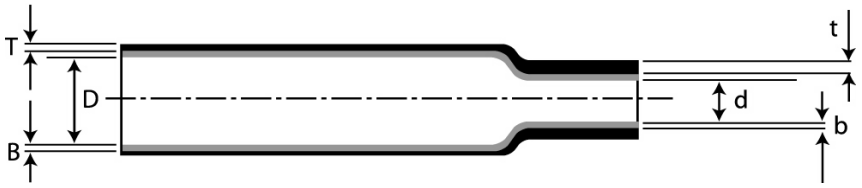
Agency Approval & Compliance ROHS, REACH, VW1

Application Specifically designed to meet the demanding requirements of OEM automakers, DWT2000 can also be used in a variety of applications where environmental issues are a concern. DWT2000 can effectively protect metal pipes and fuel lines against any kind of damage caused by friction and corrosion, improving vehicle safety. The adhesive lining provides an excellent barrier to moisture and is good choice of material for repairing cables, covering components and other electronic/electrical connections where harsh weather conditions are present or are a concern.

Shrink Ratio and Operating Temperature DWT2000 has a shrink ratio of 2:1. When fully recovered, the 2:1 material will shrink to fifty percent (50%) of its original supplied diameter. The tubing's wall thickness will also change proportionally to the degree of recovery.

Operating temperature range is from -40 degree C to 125 degrees C (-40 degrees F to 257 degrees F)

Standard Sizes and Dimension



Size (IN)		As Supplied		After Recovery		
(mm)	(inch)	Inside Diameter (D)	Total Wall Thickness (T+B)	Pipe Size (d)	Total Wall Thickness (t+b)	Adhesive Wall-thickness (b)
Φ6.0 (1.5X)	1/4"	6.5±0.5	0.75±0.15	4.76	1.00±0.10	0.05+0.05
Φ8.0 (1.5X)	5/16"	8.5±0.5	0.75±0.15	6.35	1.00±0.10	0.05+0.05
Φ10.0 (1.5X)	3/8"	10.5±0.5	0.75±0.15	8.00	1.00±0.10	0.05+0.05
Φ12.5 (1.5X)	1/2"	13.0±0.5	0.75±0.15	10.00	1.00±0.10	0.05+0.05
Φ14.0 (4X)	9/16"	14.5±0.5	0.35±0.15	4.85	1.00±0.10	0.05+0.05

Standard color: black, other colors are also available. Please refer the pipe diameters to make the order.

Specifications

Items	Specifications

Shrink Temperature (°C)	110°C ~ 150°C
Temperature Range (°C)	-40°C ~ 125°C
Radial Shrinking Ratio (%)	≥66
Tensile Strength (MPa)	12MPa
Ultimate Elongation (%)	400
Aging in Circulating-air Oven (175.0±2℃, 168hrs	No cracking, dripping, flowing
Tensile Strength (MPa) - After Aging	≥12
Ultimate Elongation (%) - After Aging	≥270
Dielectric Strength -After Aging	≥15.8kv/mm ± 1.0 °C
Eccentricity	20%
Deformation Resistance	50%(min)
Drop impact resistance	No cracking
Cold resistance (-35°C 1hr)	No cracking
Stress cracking resistance (50°C 24 hrs)	No cracking
Fluid resistance	No cracking after 72 hrs at 25°C
	Sulfuric acid (1.28 S.G.), no cracking
	Sodium hydroxide (0.1N), no cracking
	Automotive Brake fluid, no cracking
	Unleaded gasoline, no cracking

Availability Four-foot lengths, master reels and cut pieces

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Part Number DWT3000

Header DWT3000 Mil Spec Adhesive Lined Dual Wall Heat Shrink

Description Thermosleeve-USA DWT3000 is an adhesive-lined, semi rigid, flame-retardant cross-linked polyolefin heat-shrinkable tubing specifically designed to meet automotive industry requirements. The typical electrical applications include repairing damaged cables, sealing connectors and components, covering wire bundles and harness breakouts.

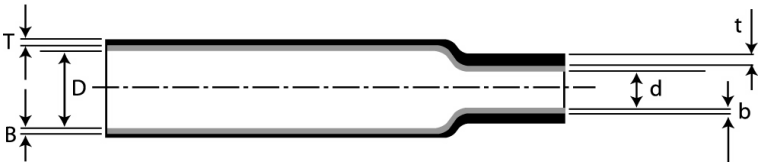
When heated to a minimum of 110 degree C (230 degrees F), DWT3000 will begin to shrink and the adhesive will flow freely around the substrate. The adhesive will bond to a variety of materials including metals, plastics and rubbers. Once cooled, the adhesive will solidify, remain flexible and provide an excellent barrier against moisture.

Agency Approval & Compliance UL, CUL, ROHS, MIL Spec, Flame Retardant, UL224, REACH, VW1

Application Specifically designed to meet the demanding requirements of OEM automakers, DWT3000 can also be used in a variety of applications where environmental issues are a concern. The adhesive lining provides an excellent barrier to moisture and is good choice of material for repairing cables, covering components and other electronic/electrical connections where harsh weather conditions are present or are a concern.

Shrink Ratio and Operating Temperature DWT3000 has a minimum shrink ratio of 4:1. When fully recovered, the 4:1 material will shrink to twenty five percent (25%) of its original supplied diameter. The tubing's wall thickness will also change proportionally to the degree of recovery.

Operating temperature range is from -40 degree C to 135 degrees C (-40 degrees F to 275 degrees F)



Size

Size (Inches)	Size (mm)	As supplied (mm)		After recovery (mm)		
		Inside diameter (D)	Wall Thickness (T+B)	Inside diameter (d)	Wall Thickness (T)	Min. Adhesive wall (t)
7/32"	5.72	6.2±0.4	0.55±0.25	1.27	1.30±0.30	0.6
19/64"	7.44	8.0±0.5	0.58±0.25	1.65	1.52±0.30	0.75
7/16"	10.85	11.5±0.6	0.7-±0.25	2.41	1.90±0.40	1.05
11/16"	17.78	19.0±0.8	0.88-±0.25	4.45	2.40±0.50	1.37

Specifications

Item	Specification
Temperature Range (°C)	-55°C-135°C
Shrink Temperature (°C)	110°C-150°C

Longitudinal Change (%)	0~10%
Tensile Strength (M Pa)	≥10.3
Ultimate Elongation (%)	≥250
Secant Modulus at 2% (expanded)* (M Pa)	≥137
Heat Shock 4 hours at 250°C (437)	No cracking
Dynamic Cut Through (Kg)	≥13.6kg
Volume Resistivity (ohm-cm)	1.0×10^{12}
Flammability	Self-extinguishing within 30 seconds
Fluid Resistance	Excellent

Availability Four-foot lengths, master reels and cut pieces

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Part Number DWT4000

Header DWT4000 Mil Spec Adhesive Lined Dual Wall Heat Shrink

Description Thermosleeve USA DWT4000 is a clear adhesive-lined, semi rigid, flame-retardant cross-linked polyolefin heat-shrinkable tubing. Typical electrical applications include repairing damaged cables, sealing connectors and components and covering wire bundles where see through inspection is required.

When heated to a minimum of 110 degree C (230 degrees F), DWT4000 will begin to shrink and the adhesive will flow freely around the substrate. The adhesive will bond to a variety of materials including metals, plastics and rubbers. Once cooled, the adhesive will solidify and provide an excellent barrier against moisture.

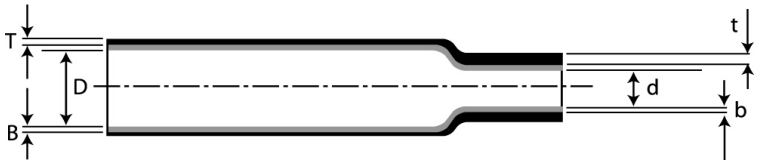
Agency Approval & Compliance RoHS, MIL, REACH, VW1

Application DWT4000 can be used in a variety of applications where environmental issues are a concern. The adhesive lining provides an excellent barrier against moisture and is good choice of material for repairing cables, covering components and other electronic/electrical connections. The translucent properties of the tubing allow for easy see-through inspection.

Shrink Ratio and Operating Temperature DWT4000 has a minimum shrink ratio of 4:1. When fully recovered, the 4:1 material will shrink to twenty five percent (25%) of its original supplied diameter. The tubing's wall thickness will also change proportionally to the degree of recovery.

Operating temperature range is from -40 degree C to 130 degrees C (-40 degrees F to 266 degrees F)

Standard Sizes and Dimension



Size					
As Supplied (D)		After recovery (mm)			
Size (in)	Size (mm)	Inside Diameter (D)	Wall-thickness (t)	Adhesive Wall (b)	Total Wall (t+b)
7/32"	5.72	1.27	0.64	0.56	1.2
19/64"	7.44	1.65	0.76	0.76	1.52
7/16"	10.85	2.41	0.89	1.02	1.91
11/16"	17.78	4.45	1.04	1.37	2.41

Specifications

Item	Specifications
Shrink Temperature (°C)	110°C - 150°C

Temperature Range (°C)	40°C - 130°C
Radial Shrinking Ratio (%)	≥25
Longitudinal Change (%)	0 to -10%
Tensile Strength (MPa)	≥10.3
Ultimate Elongation (%)	≥200%
Volume Resistivity (Ω.cm)	≥1.0 x 10^{12}
Dielectric Strength (kV/mm) jacket only	≥350
Flammability	VW-1
Concentricity (%)	≥65
Heat Shock	No Cracking
Water Absorption ASTM D 570	≤1.0 %

Availability Four-foot lengths, master reels and cut pieces

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Part Number DWTFR

Header DWTFR Adhesive Lined Semi Rigid Polyolefin Heat Shrink Tubing

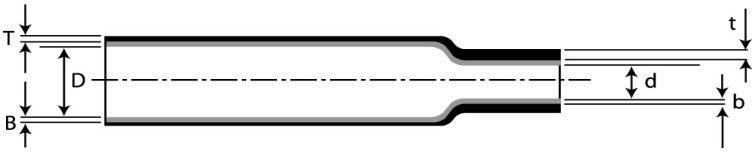
Description Thermosleeve-USA DWTFR with adhesive liner is a semi-rigid, flame retardant polyolefin heat shrink tubing with good mechanical strength, sealing oil-resistance and insulation properties. Mechanically tough, DWTFR tubing provides good electrical insulation and has high resistance to impact and abrasion. When heated, the internal adhesive flows to form a positive seal creating an excellent barrier against moisture. Specially designed for reliable performance, DWTFR tubing is manufactured to cover a broader range of applications in fewer sizes *due to its bigger* shrink ratios. DWTFR has a minimum shrink temperature rating of 110 degrees C (230 degrees F).

Agency Approval & Compliance ROHS, Flame Retardant, REACH, VW1

Application DWTFR heat shrink tubing with adhesive liner is designed to seal and protect components and electrical splices from moisture and corrosion. Widely used to provide insulation and strain relief cover to both wire terminations and electrical connectors, DWTFR tubing is a tough material commonly used for both automotive and harsh environment applications. DWTFR tubing shrinks quickly, requires no special skills and is easy to use. The adhesive liner bonds to a wide variety of materials including plastics, rubbers and metals.

Shrink Ratio and Operating Temperature DWTFR has a 4:1 shrink ratio and when fully recovered, the 4:1 material will shrink to one fourth (25%) of its original supplied diameter. DWTFR has a continuous operating temperature rating of -40 degrees C (-40 degrees F) and 125 degrees C (257 degrees F)

Standard Sizes and Dimension



Size (Inches)	As Supplied		Wall after recovery		
	ID (mm) (D)	Nominal Wall Thickness (T)	ID (mm) (d)	Total wall (t+b)	Nominal Adhesive Wall (b)
13/64	5.2	0.55	≥1.20	1.65±0.2	0.95±0.05
5/16"	≥ 7.6	0.60	≤1.60	1.85±0.2	1.15±0.06
3/8"	≥ 9.0	0.60	≤2.10	1.9±0.3	1.10±0.06
7/16"	≥ 11.6	0.75	≤2.30	2.30±0.3	1.35±0.07
11/16"	≥ 17.8	0.83	≤4.45	2.70±0.3	1.50±0.08

Typical Properties

Item	Specification
Shrink Temperature (°C)	110 –150°C
Temperature Range (°C)	-40°C–+125°C
Longitudinal Change (%)	≤10

Tensile Strength (MPa)	≥10.4 MPa
Ultimate Elongation (%)	≥200
Volume Resistivity (Ω.cm)	$\geq 10^{12}$
Flammability	VW-1
Heat Shock	No cracking
Cold Shock	No cracking
(Copper Corrosion)	No Corrosion

Availability Four-foot lengths and cut pieces

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Part Number DWTRX

Header DWTRX 4X Mil Spec Clear Low Temp Adhesive-Lined Dual Wall

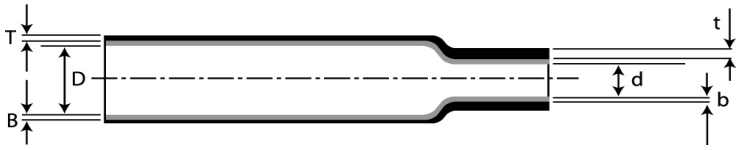
Description Thermosleeve USA's DWTRX is a clear, semi-rigid heat shrinkable tubing with adhesive liner that provides excellent resistance to impact and abrasion. DWTRX's outer jacket offers excellent sealing, oil resistance, insulation and mechanical strength properties. DWTRX tubing is manufactured to cover a broader range of applications in fewer sizes *due to its bigger* shrink ratios. DWTRX has a minimum shrink temperature rating of 110 degrees C (230 degrees F).

Agency Approval & Compliance UL, CUL, ROHS, Flame Retardant, REACH, VW1

Application DWTRX heat shrink tubing offers excellent clarity and provides an easy solution for inspection of substrates that may require visual inspection.

Shrink Ratio and Operating Temperature DWTRX has a 4:1 shrink ratio and when fully recovered, the 4:1 material will shrink to one fourth (25%) of its original supplied diameter. DWTRX has a continuous operating temperature rating of -40 degrees C (-40 degrees F) and 125 degrees C (257 degrees F)

Standard Sizes and Dimension



Size	As Supplied (mm)	After Recovery (mm)		
	Min. Inside Diameter	Max. Inside Diameter	Total Wall	Adhesive Wall
5.7	≥5.7	≤1.27	1.50+/-0.30	0.7
8.0	≥8.0	≤1.65	1.80+/-0.30	0.7
10.8	≥10.8	≤2.40	2.20+/-0.50	1.2
17.8	≥17.0	≤4.45	2.40+/-0.50	1.2

Typical Properties

Items	Test Methods	Specifications
Operating Temperature Range	Company Standard	-40-125℃
Shrink Temperature	ASTM D2671	110℃
Tensile Strength	ASTM D638	≥10.4MPa
Elongation at Break	ASTM D638	≥200%
Cold Shock	ASTM D745,-40+/-2	No Cracking
Dielectric Strength	ASTM D2671	≥19.7kV/mm
Volume Resistance	ASTM D876	$\geq 10^{13}\Omega$.cm

Tensile Strength after aging	ASTM D638	≥7.4MPa
Elongation at Break after aging	ASTM D638	≥100%
Dielectric Strength after aging	ASTM D2671	≥15.8kV/mm
Softening point of meltable liner	Company Standard	110+/-5℃
Peel Strength of meltable liner	ASTM D2671	>80N/25mm

Availability Four-foot lengths and cut pieces

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Part Number DWTRO

Header DWTRO Semi-Rigid Dual Wall Heat Shrink Tubing Adhesive -Lined

Description Thermosleeve-USA DWTRO is a semi rigid flame retardant dual wall heat shrink tubing with excellent sealing, oil resistance, insulation and mechanical strength properties. DWTRO simultaneously seals and protects and at the same time offers excellent electrical insulation. DWTRO has a tough outer jacket that provides superior strain relief and mechanical protection against abrasion, cut through and flexing. DWTRO over-expanded sizes allow for easy placement over tapered objects and there are only five sizes to cover the diameter range from 5.7mm to 17mm. DWTRO has a minimum shrink temperature rating of 110 degrees C (230 degrees F).

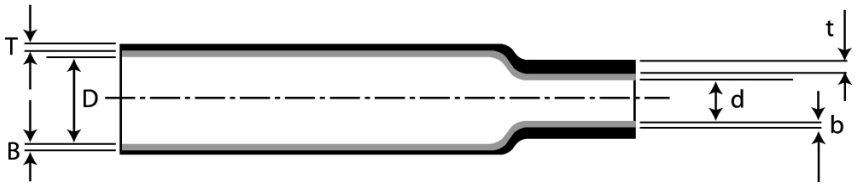
Agency Approval & Compliance UL, CUL, ROHS, Flame Retardant, REACH, VW1

Application DWTRO heat shrink tubing is well suited and is widely used for special auto bundling of wires and harnesses.

Shrink Ratio and Operating Temperature DWTRO has a shrink ratio in excess of 4:1. When fully recovered, the 4:1 material will shrink more than 75 percent (75%) of its original supplied diameter.

DWTRO has a continuous operating temperature rating of -40 degrees C (-40 degrees F) and 125 degrees C (257 degrees F)

Standard Sizes and Dimension



Size (mm)	As Supplied		After Recovery		
	Min ID (mm) (D)	Nominal Wall (mm) (T)	Max ID (mm) (d)	Total Wall (mm) (t+b)	Nominal Adhesive Wall (mm) (b)
5.7	≥6.40	0.57	1.25	1.55 ± 0.30	0.88±0.05
7.4	≥7.70	0.60	1.60	1.70 ± 0.30	0.90±0.05
9.02	≥9.50	0.60	2.10	1.90±0.30	1.10±0.06
11.00	≥12.0	0.83	2.30	2.60 ± 0.50	1.45±0.07
14.00	≥14.0	0.76	2.40	2.50 ± 0.50	1.40±0.07
18.30	≥18.30	0.85	4.35	2.60 ± 0.50	1.50±0.08

Typical Properties

Item	Specifications
Shrink Temperature (°C)	110°C
Operating Temperature Range (°C)	-40°C—+125°C
Tensile Strength (Mpa)	≥10.4
Ultimate Elongation (%)	≥200
Radial shrinking ratio (%)	≥25
Longitudinal Change (%)	±10
Aging in Circulating-air Oven	158.0±1.0°C, 168hrs
After aging - Tensile Strength (Mpa)	≥7.3
After aging - Ultimate Elongation (%)	≥100
Volume Resistivity (Ω.cm)	$\geq 10^{12}$
Sealing	$>1 \times 10^{8}$

Availability Four-foot lengths and cut pieces

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Part Number DWT-ZHP

Header DWT-ZHP Phosphorous-Free Dual Wall Heat Shrink Tubing

Description DWT-ZHP is a phosphorous-free version of our DWT-(2X/3X/4X) dual wall heat shrink tubing. This dual wall heat shrink tubing comes in 2X/3X/4X versions but with the elimination of the red phosphor to comply with EU requirements, it also has the same RoHS and REACH compliance.

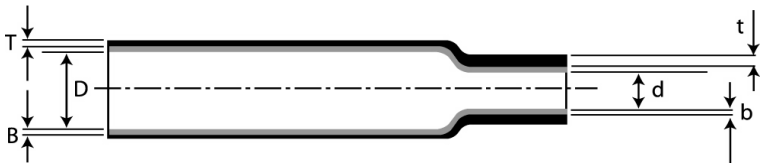
Agency Approval & Compliance UL, CUL, ROHS, Halogen Free, Flame Retardant, F Mark, UL224, REACH, VW1

Application DWT-ZHP series of tubing can be used in a variety of applications where environmental issues are a concern. The adhesive lining provides an excellent barrier to moisture and is good choice of material for repairing cables, covering components and other electronic/electrical connections in harsh weather conditions.

Shrink Ratio and Operating Temperature DWT-ZHP series is available in 2:1, 3:1 and 4:1 shrink ratios. When fully recovered, the 2:1 material will shrink to one half (50%) of its original supplied diameter, the 3:1 material will shrink to one third (33.3%) of its original supplied diameter and the 4X material will shrink to one quarter (25%) of its original supplied diameter. The tubing's wall thickness will also change proportionally to the degree of recovery.

Operating temperature range is from -55 degree C to 125 degrees C (-67 degrees F to 257 degrees F) and the minimum shrink temperature is 120 degree C (230 degrees F)

Size



DWT-ZHP (2X)

Size (mm)	As Supplied		After Recovery		
	Min ID (mm) (D)	Nominal Wall (mm) (T+B)	Max ID (mm) (d)	Total Wall (mm) (t+b)	Nominal Adhesive Wall (mm) (b)
Φ1.2	1.2	0.30±0.10	0.6	0.45±0.12	0.2
Φ1.6	1.6	0.30±0.10	0.8	0.45±0.12	0.2
Φ2.4	2.4	0.35±0.10	1.2	0.55±0.12	0.3
Φ3.2	3.2	0.40±0.15	1.6	0.60±0.15	0.3
Φ4.8	4.8	0.40±0.15	2.4	0.75±0.15	0.35
Φ6.4	6.4	0.40±0.15	3.2	0.75±0.15	0.35
Φ9.5	9.5	0.40±0.15	4.8	0.80±0.20	0.35
Φ12.7	12.7	0.40±0.15	6.4	0.80±0.20	0.35
Φ19.1	19.1	0.50±0.20	9.5	0.95±0.28	0.4
Φ25.4	25.4	0.50±0.20	12.7	1.15±0.28	0.45

Φ38.1	38.1	0.65±0.25	19	1.25±0.41	0.45
Φ50.8	50.8	0.73±0.30	25.4	1.40±0.41	0.5

DWT-ZHP (3X)

Size	As Supplied		After Recovery		
	Min ID (mm) (D)	Nominal Wall (mm) (T+B)	Max ID (mm) (d)	Total Wall (mm) (t+b)	Nominal Adhesive Wall (mm) (b)
Φ2.4	2.4	0.40±0.15	1	0.85±0.25	0.35±0.10
Φ3.2	3.2	0.40±0.15	1	0.85±0.25	0.35±0.10
Φ4.7	4.7	0.40±0.15	1.5	1.05±0.25	0.45±0.10
Φ6.4	6.4	0.45±0.15	2	1.10±0.25	0.45±0.10
Φ7.9	7.9	0.55±0.20	2.5	1.45±0.25	0.45±0.10
Φ9.5	9.5	0.60±0.20	3	1.45±0.25	0.45±0.10
Φ12.7	12.7	0.60±0.20	4	1.50±0.35	0.45±0.15
Φ15.7	15.7	0.65±0.25	5	1.70±0.40	0.45±0.15
Φ19.1	19.1	0.75±0.25	6	2.00±0.45	0.65±0.20
Φ25.4	25.4	0.75±0.25	8.4	2.00±0.55	0.65±0.20
Φ30.0	30	0.80±0.30	10	2.20±0.55	0.75±0.20
Φ40.0	40	0.85±0.35	13.7	2.50±0.55	1.00±0.25
Φ50.0	50	0.85±0.35	16.5	2.50±0.55	1.00±0.25

DWT-ZHP (4X)

Size	As Supplied		After Recovery		
	Min ID (mm) (D)	Nominal Wall (mm) (T+B)	Max ID (mm) (d)	Total Wall (mm) (t+b)	Nominal Adhesive Wall (mm) (b)
Φ4.0	4	0.40±0.20	1	1.00±0.28	0.5
Φ8.0	8	0.40±0.20	2	1.10±0.28	0.5
Φ12	12	0.50±0.20	3	1.40±0.28	0.61
Φ16	16	0.60±0.30	4	1.78±0.38	0.76
Φ19.1	19.1	0.60±0.30	4.8	2.00±0.55	0.76
Φ24	24	0.75±0.40	6	2.25±0.55	0.76
Φ32	32	0.80±0.40	8	2.54±0.55	1.02
Φ38.1	38.1	0.80±0.40	9.5	2.54±0.55	1.02

Typical Properties

Item	Specifications
Shrink Temperature (°C)	120-150
Temperature Range (°C)	125
Radial Shrinking Ratio (%)	≥50
Longitudinal Change (%)	≤5
Tensile Strength (MPa)	≥10.4
Ultimate Elongation (%)	≥200
Aging in Circulating-air Oven	158.0±1.0°C, 168hrs
Tensile Strength (MPa) - After Aging	≥7.3
Ultimate Elongation (%) - After Aging	≥100
Dielectric Voltage Withstand (V)	
Volume Resistivity (Ω.cm)	$\geq 10^{14}$
Dielectric Voltage (V) AC	
Dielectric Strength (kV/mm)	≥15.0
Flammability	VW-1
Concentricity (%)	≥65
sHeat Shock	
Cold Shock	
Water Absorption (%)	Less than 0.4%
Fluid Resistance	Excellent
(Copper Corrosion)	24 hours at （95±5)%, 2°C, No cracking, No fade
Softening Point (°C)	120±5°C
Tissue Strength (N/25mm)	>80

Availability Available in black and color as special order. Four-foot lengths, master reels and cut pieces

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THERMOSLEEVE | USA
YOUR TUBING SPECIALIST

Part Number DWT-MWT

Header DWT-MWT Medium Wall Polyolefin Heat Shrink Tubing

Description Thermosleeve-USA DWT-MWT medium wall heat shrink tubing provides good electrical insulation and has high resistance to impact and abrasion. Especially designed for reliable performance, DWT-MWT tubing is manufactured to cover a broader range of applications in fewer sizes *due to its bigger* shrink ratios. DWT-MWT has a minimum shrink temperature rating of 120 degrees C (248 degrees F). DWT-MWT is also available with adhesive liner…see Thermosleeve part number DWT-MWTA

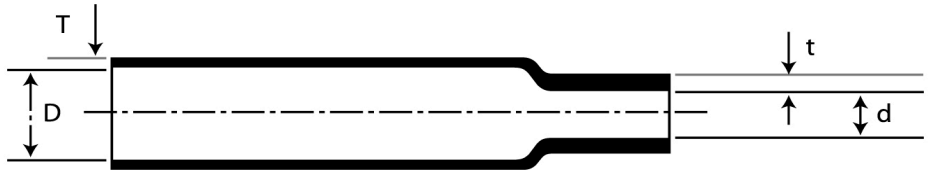
Agency Approval & Compliance ROHS, Halogen free, SAE, Flame Retardant, UL224, REACH

Application DWT-MWT heat shrink tubing is widely used to provide insulation and strain relief cover to both wire terminations and electrical connectors. DWT-MWT shrinks quickly, requires no special skills and is easy to use.

Shrink Ratio and Operating Temperature DWT-MWT shrink ratios range between 3:1 and 4:1…please consult the Thermosleeve website for specific sizes and shrink ratios. The tubing's wall thickness will also change proportionally to the degree of recovery.

DWT-MWT has a continuous operating temperature rating of -55 degrees C (-67 degrees F) and 110 degrees C (230 degrees F)

Standard Sizes and Dimension



Size		As Supplied (mm)		After Recovery (mm)	
(mm)	(inch)	Inside Diameter (D)	Wall-thickness (T)	Inside Diameter (d)	Wall-thickness (t)
Φ8	5/16"	8		2.0	1.7
Φ9		9		3.0	1.9
Φ10	3/8"	10		3.0	1.9
Φ12	1/2"	12		3.0	2.0
Φ13		13		4.0	2.0
Φ16	5/8"	16		5.0	2.2
Φ19	3/4"	19		5.0	2.2
Φ22		22		6.0	2.5
Φ28	1 1/8"	28		6.0	2.5
Φ33	1 1/4"	33		8.0	2.7
Φ40	1-9/16"	40		12.0	2.7
Φ45	1-3/4"	45		12.0	2.7

Φ55	2-3/16"	55		16.0	2.8
Φ60		60		19.0	2.8
Φ65	2 1/2″	65		19.0	2.8
Φ70		70		22.0	3.0
Φ75	3″	75		22.0	3.0
Φ80		80		22.0	3.0
Φ85	3 1/2″	85		25.0	3.0
Φ95	4″	95		25.0	3.0
Φ115	4 1/2″	115		34.0	3.2
Φ140	5 1/2″	140		42.0	3.3
Φ160	6 3/8″	160		50.0	3.3
Φ180	7″	175		58.0	3.3
Φ205	8″	205		65.0	3.3

Typical Properties

Item	Specifications
Shrink Temperature (°C)	120°C
Temperature Range (°C)	-55 ~ 110
Longitudinal Change (%)	0-5%
Tensile Strength (MPa)	≥14MPa
Ultimate Elongation (%)	≥400%
Tensile Strength (MPa) - After Aging	13
Ultimate Elongation (%) - After Aging	≥380%
Volume Resistivity (Ω.cm)	$\geq 10^{14}$Ω·cm
Dielectric Strength (kV/mm)	≥21kV/mm
Concentricity (%)	70

Availability Four-foot lengths and cut pieces

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THERMOSLEEVE | USA
YOUR TUBING SPECIALIST

Part Number DWT-MWTA

Header DWT-MWTA Medium Wall Polyolefin Heat Shrink Tubing With Adhesive Liner

Description Thermosleeve-USA DWT-MWTA medium wall heat shrink tubing with adhesive liner provides good electrical insulation and has high resistance to impact and abrasion. When heated, the internal adhesive flows to forma a positive seal creating an excellent barrier against moisture. Especially designed for reliable performance, DWT-MWTA tubing is manufactured to cover a broader range of applications in fewer sizes *due to its bigger* shrink ratios. DWT-MWTA has a minimum shrink temperature rating of 120 degrees C (248 degrees F). DWT-MWTA is also available without adhesive liners…see Thermosleeve part number MWT

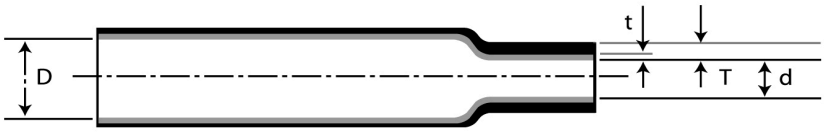
Agency Approval & Compliance ROHS, Halogen free, SAE, Flame Retardant, UL224, REACH

Application DWT-MWTA heat shrink tubing with adhesive liner is designed to seal and protect components and electrical splices from moisture and corrosion. Widely used to provide insulation and strain relief cover to both wire terminations and electrical connectors, the adhesive liner bonds to a wide variety of materials including plastics, rubbers and metals. DWT-MWTA shrinks quickly, requires no special skills and is easy to use.

Shrink Ratio and Operating Temperature DWT-MWTA shrink ratios range between 3:1 and 4:1…please consult the Thermosleeve website for specific sizes and shrink ratios. The tubing's wall thickness will also change proportionally to the degree of recovery.

DWT-MWTA has a continuous operating temperature rating of -55 degrees C (-67 degrees F) and 110 degrees C (230 degrees F)

Standard Sizes and Dimension



Size		As supplied (mm)	After Recovery (mm)		Packing Length (Mt/roll)
(mm)	(inch)	Inside Diameter (D)	Inside Diameter (d)	Wall Thickness (t)	
Φ8	5/16"	≥8.0	≤2.0	≥1.7	1.00、1.22
Φ9		≥9.0	≤3.0	≥1.9	1.00、1.22
Φ10	3/8"	≥10.0	≤3.0	≥1.9	1.00、1.22
Φ12	1/2"	≥12.0	≤3.0	≥2.0	1.00、1.22
Φ13		≥13.0	≤4.0	≥2.0	1.00、1.22
Φ16	5/8"	≥16.0	≤5.0	≥2.2	1.00、1.22
Φ19	3/4"	≥19.0	≤5.0	≥2.2	1.00、1.22
Φ22		≥22.0	≤6.0	≥2.5	1.00、1.22
Φ28	1 1/8"	≥28.0	≤6.0	≥2.5	1.00、1.22

Φ33	1 1/4″	≥33.0	≤8.0	≥2.5	1.00、1.22
Φ40	1-9/16″	≥40.0	≤12.0	≥2.7	1.00、1.22
Φ45	1-3/4"	≥45.0	≤12.0	≥2.7	1.00、1.22
Φ55	2-3/16"	≥55.0	≤16.0	≥2.8	1.00、1.22
Φ60		≥60.0	≤19.0	≥2.8	1.00、1.22
Φ65	2 1/2″	≥65.0	≤19.0	≥2.8	1.00、1.22
Φ70		≥70.0	≤22.0	≥3.0	1.00、1.22
Φ75	3″	≥75.0	≤22.0	≥3.0	1.00、1.22
Φ80		≥80.0	≤22.0	≥3.0	1.00、1.22
Φ85	3 1/2″	≥85.0	≤25.0	≥3.0	1.00、1.22
Φ95	4″	≥95.0	≤25.0	≥3.0	1.00、1.22
Φ115	4 1/2″	≥115.0	≤34.0	≥3.2	1.00、1.22
Φ140	5 1/2″	≥140.0	≤42.0	≥3.3	1.00、1.22
Φ160	6 3/8″	≥160.0	≤50.0	≥3.3	1.00、1.22
Φ180	7″	≥180.0	≤58.0	≥3.3	1.00、1.22
Φ205	8″	≥205.0	≤65.0	≥3.3	1.00、1.22

Typical Properties

Item	Specifications
Shrink Temperature (°C)	120°C
Temperature Range (°C)	-55°C-110°C
Longitudinal Change (%)	5%
Tensile Strength (MPa)	14MPa
Ultimate Elongation (%)	400%
Tensile Strength (MPa) - After Aging	13MPa
Ultimate Elongation (%) - After Aging	≥380%
Dielectric Voltage Withstand (kV/mm)	21
Volume Resistivity (Ω.cm)	$1X10^{14}$Ω.cm

Dielectric Strength (kV/mm)	21kV/mm
Concentricity (%)	70
Cracking Resistance	No Cracking
Cold blend(-55°C/4hrs)	No cracking
Copper corrosion	No corrosion
Water Absorption	0.15%
Softening Point	85
Peel Strength	8
Antibacterial Property	Pass

Availability Four-foot lengths and cut pieces

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THERMOSLEEVE | USA
YOUR TUBING SPECIALIST

Part Number DWT-HWT

Header DWT-HWT Heavy Wall Polyolefin Heat Shrink Tubing

Description Thermosleeve-USA DWT-HWT heavy wall heat shrink tubing provides good electrical insulation and offers rugged resistance to impact and abrasion. Especially designed for reliable performance, DWT-HWT tubing is manufactured to cover a broader range of applications in fewer sizes *due to its bigger* shrink ratios. DWT-HWT has a minimum shrink temperature rating of 120 degrees C (248 degrees F). DWT-HWT is also available with adhesive liner….see Thermosleeve part number DWT-HWTA

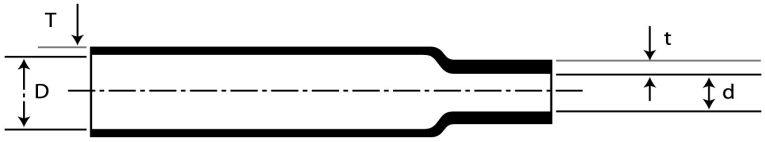
Agency Approval & Compliance ROHS, Halogen free, SAE, Flame Retardant, UL224, REACH

Application DWT-HWT heat shrink tubing is widely used to provide insulation and strain relief cover to both wire terminations and electrical connectors. DWT-HWT shrinks quickly, requires no special skills and is easy to use.

Shrink Ratio and Operating Temperature DWT-HWT shrink ratios range between 3:1 and 4:1…please consult the Thermosleeve website for specific sizes and shrink ratios. The tubing's wall thickness will also change proportionally to the degree of recovery.

DWT-HWT has a continuous operating temperature rating of -55 degrees C (-67 degrees F) and 110 degrees C (230 degrees F)

Standard Sizes and Dimension



Size	As Supplied (mm)		After Recovery (mm)		Length (mt/roll)
	Inside Diameter (D)	Wall-thickness (T)	Inside Diameter (d)	Wall-thickness (t)	
Φ9	≥9.0		≤3.0	≥2.0	1.00、1.22
Φ13	≥13.0		≤4.0	≥2.4	1.00、1.22
Φ16	≥16.0		≤5.0	≥2.5	1.00、1.22
Φ19	≥19.0		≤5.0	≥2.5	1.00、1.22
Φ22	≥22.0		≤6.0	≥2.7	1.00、1.22
Φ33	≥33.0		≤8.0	≥3.2	1.00、1.22
Φ40	≥40.0		≤12.0	≥4.0	1.00、1.22
Φ45	≥45.0		≤12.0	≥4.0	1.00、1.22
Φ55	≥55.0		≤16.0	≥4.0	1.00、1.22
Φ65	≥65.0		≤19.0	≥4.0	1.00、1.22
Φ75	≥75.0		≤22.0	≥4.0	1.00、1.22

Φ80	≥80.0		≤22.0	≥4.0	1.00、1.22
Φ85	≥85.0		≤25.0	≥4.2	1.00、1.22
Φ95	≥95.0		≤30.0	≥4.2	1.00、1.22
Φ105	≥105.0		≤30.0	≥4.2	1.00、1.22
Φ115	≥115.0		≤34.0	≥4.2	1.00、1.22
Φ130	≥130.0		≤36.0	≥4.2	1.00、1.22
Φ140	≥140.0		≤37.0	≥4.2	1.00、1.22
Φ160	≥160.0		≤50.0	≥4.2	1.00、1.22
Φ180	≥180.0		≤50.0	≥4.2	1.00、1.22
Φ200	≥200.0		≤60.0	≥4.2	1.00、1.22

Typical Properties

Property	Specification
Shrink Temperature (ºC)	120ºC
Operating Temperature (ºC)	-55 ~ 110ºC
Tensile strength	14.5 MPa
Ultimate Elongation (%)	≥450
Tensile Strength (MPa) - After Aging	13.5
Ultimate Elongation (%) - After Aging	400
Volume Resistivity	1014
Concentricity	70
Longitudinal shrinkage	5
Dielectric strength	≥21kV/mm
Cracking Resistance	No cracking

Availability Four-foot lengths and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number DWT-HWTA

Header DWT-HWTA Heavy Wall Polyolefin Heat Shrink Tubing With Adhesive Liner

Description Thermosleeve-USA DWT-HWTA heavy wall heat shrink tubing with adhesive liner provides exceptional reliability and offers rugged resistance to impact and abrasion. DWT-HWTA tubing protects against the most extreme weather conditions and is resistant to acids and alkalis. When heated, the internal adhesive flows to forma a positive seal creating an excellent barrier against moisture. Especially designed for reliable performance, DWT-HWTA tubing is manufactured to cover a broader range of applications in fewer sizes *due to its bigger* shrink ratios. DWT-HWTA has a minimum shrink temperature rating of 120 degrees C (248 degrees F). DWT-HWTA is also available without adhesive liner…see Thermosleeve part number HWT

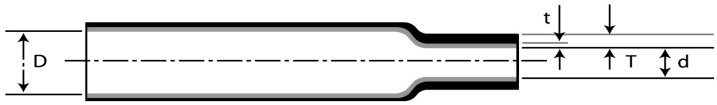
Agency Approval & Compliance ROHS, Halogen free, SAE, Flame Retardant, UL224, REACH

Application DWT-HWTA heat shrink tubing with adhesive liner is designed to seal and protect components and electrical splices from moisture and corrosion. Widely used to provide insulation and strain relief cover to both wire terminations and electrical connectors, the adhesive liner bonds to a wide variety of materials including plastics, rubbers and metals. DWT-HWTA shrinks quickly, requires no special skills and is easy to use.

Shrink Ratio and Operating Temperature DWT-HWTA shrink ratios range between 3:1 and 4:1…please consult the Thermosleeve website for specific sizes and shrink ratios. The tubing's wall thickness will also change proportionally to the degree of recovery.

DWT-HWTA has a continuous operating temperature rating of -55 degrees C (-67 degrees F) and 110 degrees C (230 degrees F)

Standard Sizes and Dimension



Size	As Supplied (mm)		After Recovery (mm)	
	Inside Diameter (D)	Wall-thickness (T)	Inside Diameter (d)	Wall-thickness (t)
Φ9	≥9.0		≤3.0	≥2.0
Φ13	≥13.0		≤4.0	≥2.4
Φ16	≥16.0		≤5.0	≥2.5
Φ19	≥19.0		≤5.0	≥2.5
Φ22	≥22.0		≤6.0	≥2.7
Φ33	≥33.0		≤8.0	≥3.2
Φ40	≥40.0		≤12.0	≥4.0
Φ45	≥45.0		≤12.0	≥4.0
Φ55	≥55.0		≤16.0	≥4.0

Φ65	≥65.0		≤19.0	≥4.0
Φ75	≥75.0		≤22.0	≥4.0
Φ80	≥80.0		≤22.0	≥4.0
Φ85	≥85.0		≤25.0	≥4.2
Φ95	≥95.0		≤30.0	≥4.2
Φ105	≥105.0		≤30.0	≥4.2
Φ115	≥115.0		≤34.0	≥4.2
Φ130	≥130.0		≤36.0	≥4.2
Φ140	≥140.0		≤37.0	≥4.2
Φ160	≥160.0		≤50.0	≥4.2
Φ180	≥180.0		≤50.0	≥4.2
Φ200	≥200.0		≤60.0	≥4.2

Typical Properties

Property	Specification
Shrink Temperature (°C)	120°C
Operating Temperature (°C)	-55 ~ 110°C
Tensile strength	14.5 MPa
Ultimate Elongation (%)	≥450
Tensile Strength (MPa) - After Aging	13.5
Ultimate Elongation (%) - After Aging	400
Volume Resistivity	10^{14}
Concentricity	70
Longitudinal shrinkage	5
Dielectric strength	≥21kV/mm
Cracking Resistance	No cracking

Adhesive	
Water absorptivity	0.15%
Softening Point	85°C
Peel Strength (N/25mm)	8
Copper stability	Pass
Antibacterial Property	Pass

Availability Four-foot lengths and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number DWT-HWTA6X

Header DWT-HWTA6X Adhesive-Lined Dual Wall Heat Shrink

Description DWT-HWTA6X is a high shrink ratio, heavy wall irradiated polyolefin heat shrink tubing with an adhesive liner that provides excellent mechanical protection to cable joints and terminations. When heated to a minimum of 120 degree C (248 degrees F), DWT-HWTA6X will begin to shrink and the adhesive will flow freely around the substrate. The adhesive will bond to a variety of materials including metals, plastics and rubbers. Once cooled, the adhesive will solidify and provide an excellent barrier against moisture.

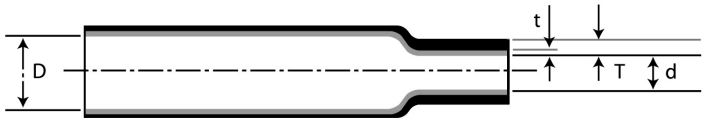
Agency Approval & Compliance ROHS, SAE, Halogen Free, Flame Retardant, UL224, REACH

Application DWT-HWTA6X series of tubing can be used in a variety of applications where extreme differences in size exist between cables, connectors and components. DWT-HWTA6X high shrink ratios allows for a close fit on a wide variety of irregular shapes and configurations

Shrink Ratio and Operating Temperature DWT-HWTA6X has a 6:1 shrink ratio. When fully recovered, the 6:1 material will shrink to sixteen percent (16%) of its original supplied diameter. The tubing's wall thickness will also change proportionally to the degree of recovery.

Operating temperature range is from -55 degree C to 110 degrees C (-67 degrees F to 230 degrees F) and the minimum shrink temperature is 120 degree C (248 degrees F)

Standard Sizes and Dimension



Size (inches)	Size (mm)	As supplied	Recovered		Shape/ Style	Std Length (mm)
		(D) Inside Dia. (mm, Min.)	(d) Inside Dia. (mm, Max.)	(T) Wall thickness (mm, Min.)		
3/4"	19.0/3.2	19	3.2	3.2	O	1000-1220
1-3/8"	33.0/5.5	33	5.5	3.4	O	1000-1220
1-3/4"	44.4/7.7	44.4	7.4	3.6	O	1000-1220
2"	50.8/8.3	50.8	8.3	4.3	O	1000-1220
2-3/4"	69.8/11.7	69.8	11.7	4.7	O	1000-1220
3-1/2"	88.9/17.1	88.9	17.1	4.7	O	1000-1220
4-3/4"	119.4/22.9	119.4	22.9	4.7	O	1000-1220

Technical Data

Property	Test Method	Typical Data
Operating Temperature	IEC 216	-55ºC - 110ºC
Tensile strength	ASTM D2671	≥14.2MPa

Elongation at break	ASTM D2671	≥450%
Elongation at break after aging	ASTM D2671/150°C, 168hrs	≥400%
Longitudinal shrinkage	UL224	5%
Dielectric strength	IEC243	≥21kV/mm
Volume Resistivity	IEC93	$\geq 10^{14}\Omega \cdot cm$
Concentricity	ASTM D2671	70
Adhesive		
Water absorptivity	ISO 62	≤0.15%
Softening Point	ASTM-E28	85°C
Peel Strength （PE）	DIN 30672	8N/cm
Copper stability	ASTM D2671	Pass
Resistance to fungus and decay	ISO 846	Pass

Availability Four-foot lengths, and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number BBT (1K-10K)

Header BBT Heat-Shrinkable Bus Bar Tubing

Description Thermosleeve-USA BBT (1kV/10kV) is a well insulated and track-resistant, heat-shrinkable polyolefin used to protect rectangular, square and round bus bars found in low or medium voltage switching equipment.

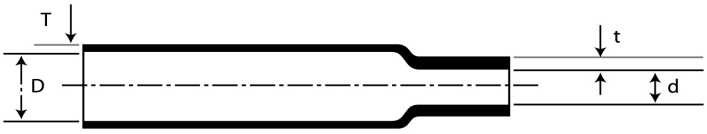
Agency Approval & Compliance ROHS, Halogen Free, Flame Retardant, REACH

Application Thermosleeve-USA BBT (1kV/10kV) is used to protect rectangular, square and round bus bars found in low or medium voltage switching equipment or for inline bolted connections of bus bars.

Shrink Ratio and Operating Temperature BBT (1kV/10kV) is available as a 2:1 material, shrinking to one half (50%) of its supplied size. The tubing's wall thickness also changes proportionally to the degree of recovery.

BBT (1kV/10kV) high temperature heat shrink has a shrink temperature range of 90 degrees C (194 degrees F) to 120 degrees C (248 degrees F) <note: the certification shows a operating temperature of 125ºC and a shrink temperature 0f 90 – 120ºC>

Standard Sizes and Dimension



BBT-1kV

Size (inches)	Size (mm)	As Supplied (mm)		After Recovery (mm)		Bus Bar Size	
		Inside Dia. (D)	Wall Thick. (T)	Inside Dia. (d)	Wall Thick. (t)	Rectangle (W)	Round (D)
51/64"	20/10	20±1.0	0.55±0.25	10	1.20±0.25	20	15
1-1/4"	30/15	31.5±1.0	0.55±0.25	15	1.20±0.25	30	20
1-9/16"	40/20	40.5±1.5	0.60±0.30	20	1.20±0.25	40	30
2"	50/25	50.5±2	0.60±0.30	25	1.20±0.25	50	35
2-3/8"	60/30	60±3	0.60±0.30	30	1.20±0.25	60	45
2-3/4"	70/35	70±3	0.60±0.30	32	1.20±0.25	70	50
3"	80/40	80±3	0.70±0.35	40	1.45±0.30	80	55
3-1/2"	90/45	90±4	0.70±0.35	43	1.45±0.30	90	65
4"	100/50	100±4	0.70±0.35	50	1.45±0.30	100	75
5"	120/60	120±4	0.70±0.35	60	1.45±0.30	120	85
6"	150/75	150±4	0.70±0.35	75	1.45±0.30	150	105

BBT-1kV Typical Properties

Item	Test Method	Specifications
Shrink Temperature (°C)		90~120°C
Operating Temperature Range (°C)		125°C
Tensile Strength (Mpa)	ASTM D2671	≥10Mpa
Elongation at break (%)	ASTM D2671	≥300
Aging in Circulating-air Oven	ASTM D2671	158.0±2.0°C, 168hrs
After Aging - Tensile Strength (Mpa)	ASTM D2671	≥7.3
After Aging - Ultimate Elongation (%)	ASTM D2671	≥200
Flexibility at -40°C, 4h	ASTM D2671	No cracking
Volume Resistance (Ω .cm)	ASTM D876	$\geq 10^{14}$
Dielectric Strength (kV/mm)	ASTM D2671	≥25
Heat shock	200°C±3°C, 4h	No cracking
Oxygen index	ASTM D2863	≥30
Water absorption	ASTM D570A	<0.5%

BBT-10kV

Size (inches)	Size (mm)	As Supplied (mm)		After Recovery (mm)		Cable Range (mm2)
		Inside Dia. (D)	Wall Thick. (T)	Inside Dia. (d)	Wall Thick. (t)	
3/4"	20/8	20±0.8	1.10±0.30	8	2.60±0.20	20
63/64″	25/10	25±0.8	1.10±0.30	10	2.60±0.20	30
1-1/4"	30/12	30±0.8	1.10±0.30	12	2.70±0.20	30
1-3/8″	35/14	35±0.8	1.10±0.30	14	2.70±0.20	
1-1/2"	40/15	40±1.0	1.10±0.30	15	2.90±0.30	40
1-49/64″	45/18	45±1.0	1.10±0.30	18	2.90±0.30	
2"	50/20	50±2.0	1.10±0.30	20	2.90±0.30	50
2-1/16″	54/24	54±3.0	1.10±0.30	24	2.90±0.30	
2-3/8"	60/24	60±3.0	1.10±0.30	24	2.90±0.30	60
2-1/2″	65/25	65±3.0	1.10±0.30	25	2.90±0.30	
2-61/64″	75/30	70±3.0	1.10±0.30	30	2.90±0.30	
3"	80/32	80±4.0	1.10±0.30	32	2.90±0.30	80/100
3-11/32″	85/35	85	1.10±0.30	35	2.90±0.30	
4"	100/40	100±4.0	1.10±0.30	40	2.90±0.30	100/120

5"	120/48	120±4.0	1.10±0.30	48	2.90±0.30	150
6"	150/60	150±4.0	1.10±0.30	60	2.90±0.30	200
7""	180/70	180±4.0	1.10±0.30	70	2.90±0.30	

BBT-10kV Typical Properties

Item	Test Method	Specifications
Shrink Temperature (°C)		90~120°C
Operating Temperature Range (°C)		125°C
Tensile Strength (Mpa)	ASTM D2671	≥10Mpa
Elongation at break (%)	ASTM D2671	≥450
Aging in Circulating-air Oven	ASTM D2671	158.0±2.0°C, 168hrs
After Aging - Tensile Strength (Mpa)	ASTM D2671	≥7.3
After Aging - Ultimate Elongation (%)	ASTM D2671	≥200
Flexibility at -40°C, 4h	ASTM D2671	No cracking
Volume Resistance (Ω .cm)	ASTM D876	$\geq 10^{14}$
Dielectric Strength (kV/mm)	ASTM D2671	≥25
Heat shock	200°C±3°C, 4h	No cracking
Oxygen index	ASTM D2863	≥30
Water absorption	ASTM D570A	<0.5%

Availability Four-foot lengths, master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number MPG (1KV)

Header MPG Heat-Shrinkable Bus Bar Tubing

Description Thermosleeve-USA MPG (1KV) is a flexible, low smoke, heavy wall, heat-shrinkable polyolefin used to protect rectangular, square and round bus bars found in low or medium voltage switching equipment. Available in various standard and custom colors.

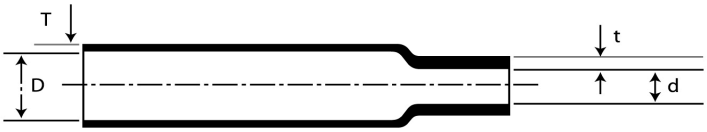
Agency Approval & Compliance ROHS, Halogen Free, Flame Retardant, REACH

Application Thermosleeve-USA MPG (1KV) is used to protect large equipment, Commercial Industries, Electrical, Bus bars, etc. Provides electrical insulation, protection of wire and cable bundles from corrosion and damage.

Shrink Ratio and Operating Temperature MPG (1KV) is available as a 2:1 material, shrinking to one half (50%) of its supplied size. The tubing's wall thickness also changes proportionally to the degree of recovery.

MPG (1KV) high temperature heat shrink has an operating temperature range of -55ºC to 125ºC and a shrink temperature 0f 90ºC – 120ºC.

Standard Sizes and Dimension



MPG-1kV

Size (inches)	Size (mm)	As Supplied (mm)		After Recovery (mm)		Bus Bar Size	
		Inside Dia. (D)	Wall Thick. (T)	Inside Dia. (d)	Wall Thick. (t)	Rectangle (W)	Round (D)
51/64"	20/10	20±1.0	0.55±0.25	10	1.20±0.25	20	15
1-1/4"	30/15	31.5±1.0	0.55±0.25	15	1.20±0.25	30	20
1-9/16"	40/20	40.5±1.5	0.60±0.30	20	1.20±0.25	40	30
2"	50/25	50.5±2	0.60±0.30	25	1.20±0.25	50	35
2-3/8"	60/30	60±3	0.60±0.30	30	1.20±0.25	60	45
2-3/4"	70/35	70±3	0.60±0.30	35	1.20±0.25	70	50
3"	80/40	80±3	0.70±0.35	40	1.45±0.30	80	55
3-1/2"	90/45	90±4	0.70±0.35	43	1.45±0.30	90	65
4"	100/50	100±4	0.70±0.35	50	1.45±0.30	100	75
5"	120/60	120±4	0.70±0.35	60	1.45±0.30	120	85
6"	150/75	150±4	0.70±0.35	75	1.45±0.30	150	105

MPG-1kV Typical Properties

Item	Specifications
Shrink Temperature (°C)	90~120°C
Operating Temperature Range (°C)	125°C
Longitudinal Shrink Ratio	±10%
Tensile Strength (Mpa)	≥10Mpa
Elongation at break (%)	≥300
Aging in Circulating-air Oven	158.0±2.0°C, 168hrs
After Aging - Tensile Strength (Mpa)	≥7.3
After Aging - Ultimate Elongation (%)	≥200
Volume Resistivity (Ω .cm)	$\geq 10^{14}$
Dielectric Strength (kV/mm)	≥25
Oxygen index	≥30
Water absorption	<0.5%

Availability Continuous reel reels, various colors

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number KYNAR

Header KYNAR Semi-Rigid PVDF Heat Shrink Tubing

Description Thermosleeve-USA KYNAR offers excellent chemical resistant properties and maintains its mechanical strength even at high temperatures. Fabricated from the "Polyvinylidene Fluoride" compound, KYNAR offers excellent resistance and cut through properties along with high dielectric strength. Kynar tubing is usually purchased in clear, which makes it a popular choice when selecting a rugged, high temperature, chemical resistant and transparent heat shrink material. KYNAR heat shrink tubing is flame retardant and has a minimum shrink temperature rating of 150 degrees C (302 degrees F) for KYNAR150 and 155 degrees C (311 degrees F) for KYNAR175.

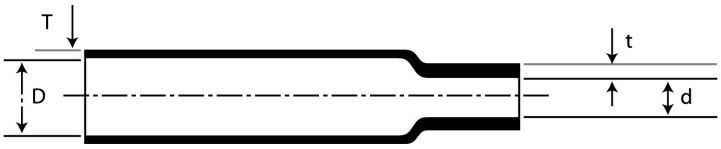
Agency Approval & Compliance UL, cUL, RoHS, Halogen-Free, MIL, Flame Retardant, UL224, REACH, VW1

Application KYNAR heat shrink tubing provides electrical insulation and strain relief of multipoint connectors and solder joints. Ideal for applications that require dense packing of components or visual inspection of covered components.

Shrink Ratio and Operating Temperature KYNAR has a 2:1 shrink ratio and when fully recovered, the 2:1 material will shrink to one half (50%) of its original supplied diameter.

KYNAR is available in two temperature ranges -55 degrees C (-67 degrees F) to 150 degrees C (302 degrees F) and -55 degrees C (-67 degrees F) to 175 degrees C (347 degrees F)

Standard Sizes and Dimension



Size (inch)	Min. inside diameter as Supplied (mm) (D)	Max. Inside Diameter after recovery (mm) (d)	Recovered Wall Thickness (mm) (t)
3/64	1.2	0.6	0.25 ± 0.05
1/16	1.6	0.8	0.25 ± 0.05
3/32	2.4	1.2	0.25 ± 0.05
1/8	3.2	1.6	0.25 ± 0.05
3/16	4.8	2.4	0.25 ± 0.05
1/4	6.4	3.2	0.33 ± 0.05
3/8	9.5	4.8	0.33 ± 0.05
1/2	12.7	6.4	0.33 ± 0.05
4/3	19.1	9.5	0.43 ± 0.08
1	25.4	12.7	0.48 ± 0.08
1 1/2	38.1	19.1	0.48 ± 0.08

Typical Properties

KYNAR (150 degree C)

Item	Specification
Shrink Temperature (°C)	150°C
Temperature Range (°C)	-55°C ~150°C
Radial Shrinking Ratio (%)	50
Longitudinal Change (%)	≥5
Tensile Strength (MPa)	≥24.5
Ultimate Elongation (%)	≥300
Aging in Circulating-air Oven	225 ±1.0, 168 Hrs
Ultimate Elongation (%) - After Aging	250
Dielectric Voltage Withstand (V)	600
Volume Resistivity (Ω.cm)	$\geq 10^{13}$
Dielectric Strength (kV/mm)	≥15.7
Flammability	Pass
Concentricity (%)	≥50
Heat Shock	No Cracking
Cold Shock	No Cracking
Specific Gravity	1.80

KYNAR (175 degree C)

Item	Specification
Shrink Temperature (°C)	175°C
Temperature Range (°C)	-55°C ~175°C
Radial Shrinking Ratio (%)	50
Longitudinal Change (%)	5
Tensile Strength (MPa)	≥30
Ultimate Elongation (%)	≥150
Aging in Circulating-air Oven	225 ±1.0, 168 Hrs
Ultimate Elongation (%) - After Aging	≥75
Dielectric Voltage Withstand (V)	600
Volume Resistivity (Ω.cm)	$\geq 10^{14}$
Dielectric Strength (kV/mm)	≥15.7

Flammability	VW1
Concentricity (%)	≥70

Availability Four-foot lengths, master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number FKM

Header FKM High Temperature Fluoroelastomer Heat Shrink Tubing

Description Thermosleeve USA FKM offers excellent chemical resistant properties and maintains its mechanical strength even at high temperatures. Manufactured using "Viton" Fluoroelastomer compound, FKM heat shrink tubing is flame retardant and has a minimum shrink temperature rating of 175 degrees C (347 degrees F).

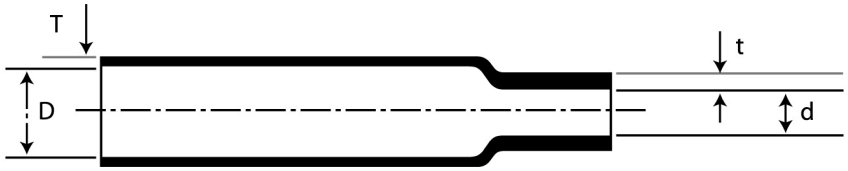
Agency Approval & Compliance UL, cUL, ROHS, Halogen free, SAE, MIL Spec, Flame Retardant, REACH, VW1

Application FKM is the perfect heat shrink tubing solution for protecting a wide assortment of wiring and component covers in a broad range of aircraft/aerospace applications. FKM tubing is also ideal for those applications involving electronic control systems and hydraulic fluid transport mechanisms. Superior in both its chemical resistance properties and its ability to perform in high continuous operating temperatures, this incredibly resilient tubing is also highly abrasive and cut-through resistant. FKM tubing can easily withstand any potential damage that could be caused by an array of fuels, lubricants, acids, and other exceedingly corrosive fluids at extreme temperatures.

Shrink Ratio and Operating Temperature FKM has a 2:1 shrink ratio and when fully recovered, the 2:1 material will shrink to one half (50%) of its original supplied diameter.

FKM operating temperature range -55 degrees C (-67 degrees F) to 200 degrees C (392 degrees F)

Standard Sizes and Dimension



FKM Fluoroelastomer Heat Shrink Tubing

Size (inch)	Inside Diameter (mm)		Recovered Wall (mm) (t)	Standard Length (m/ spool)
	Minimum Expanded as Supplied (D)	Maximum Recovered after Heating (d)		
1/8	3.2	1.6	0.76	50
3/16	4.8	2.4	0.84	50
1/4	6.4	3.2	0.89	50
3/8	9.5	4.8	1.02	50
1/2	12.7	6.4	1.22	30
3/4	19	9.5	1.45	30
1	25.4	12.7	1.78	30
1 1/2	38.1	19.1	2.41	1.22
2	50.8	25.4	2.79	1.22

FKM (TW) Fluoroelastomer Thin Wall Tubing

Size (inch)	Inside Diameter (mm)		Recovered Wall (mm) (t)	Standard Length (m/ spool)
	Minimum Expanded as Supplied (D)	Maximum Recovered after Heating (d)		
1/8	3.2	1.6	0.76	50
3/16	4.8	2.4	0.89	50
1/4	6.4	3.2	0.89	50
3/8	9.5	4.7	0.89	50
1/2	12.7	6.4	0.89	30
5/8	15.9	7.9	1.07	30
3/4	19.1	9.5	1.07	30
7/8	22.2	11.1	1.25	30
1	25.4	12.7	1.25	30
1 1/4	31.8	15.9	1.40	30
1 1/2	38.1	19.1	1.40	1.22
2	50.8	25.4	1.65	1.22

Specifications:

Item	Specification
Shrink Temperature (°C)	175
Temperature Range (°C)	-55 °C to + 200°C
Radial Shrinking Ratio (%)	20
Longitudinal Change (%)	≤10
Tensile Strength (MPa)	≥8.5
Ultimate Elongation (%)	≥250
Aging in Circulating-air Oven	250 ±1.0°C, 168 Hrs
Ultimate Elongation (%) - After Aging	≥200 MPa
Volume Resistivity (Ω.cm)	$\geq 10^9$
Dielectric Strength (kV/mm)	≥7.9
Flammability	VW1
Concentricity (%)	≥70
Heat Shock	No cracking or dripping
Cold Shock	No cracking or dripping

Property Comparison with heat shrinkable silicone rubber tubing

Item	FKM Fluoroelastomer Shrinkable tubing	Silicone rubber shrinkable tubing
Operating Temperature (°C)	-55°C~+200°C	-60°C~+200°C
Mechanics	Good	Poor
Acid and alkali resistance	Good	Poor
Oil resistance	Excellent	Normal
Flammability	Good Flame Retardancy	Poor Flame Retardancy
Abrasion resistance	Normal	Poor
Sealing	Good	Poor
Insulation	Normal	Good
Water proof	Good	Normal

Availability Four-foot lengths, master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number RSF

Header RSF Heat Shrinkable Braided Tubing

Description RSF is halogen free, braided cloth fiber heat shrink tubing that is flexible and flame-retardant that combines the protection of braided sleeving with the conforming and bundling abilities of heat shrink tubing. Its woven material provides protection from cuts and chafing, as well as temperature resistance and vibration and noise suppression. An excellent choice for automotive as well as industrial applications, this product protects, conforms and looks great. RSF has a shrink temperature rating of 110 degrees C (230 degrees F).

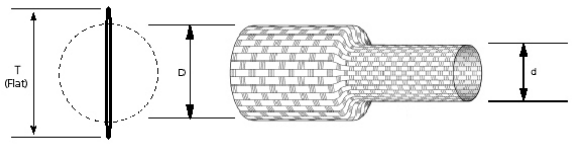
Agency Approval & Compliance RoHS, Halogen Free, Flame Retardant, REACH, VW1

Application RSF heat shrinkable braided tubing provides outstanding mechanical abrasion protection for components such as rubber hoses, plastic pipes and harness wiring bundles**.**

Shrink Ratio and Operating Temperature RSF has a 2:1 shrink ratio and when fully recovered, the 2:1 material will shrink to one half (50%) of its original supplied diameter.

RSF has a continuous operating temperature rating of -40 degrees C (-40 degrees F) and 125 degrees C (257 degrees F).

Standard Sizes and Dimension



Part No.	As Supplied			After Recovery
	Inside Diameter D (mm)	Inside Diameter D (inch)	Flat Width T (mm)	Inside Diameter d (mm)
CB-RSF-12/6-B	12	1/2"	≥18	≤6
CB-RSF-20/10-B	20	7/8"	≥30	≤10
CB-RSF-30/15-B	30	1-1/4"	≥47	≤15
CB-RSF-40/20-B	40	1-5/8"	≥60	≤20
CB-RSF-50/25-B	50	2"	≥78	≤25
CB-RSF-60/30-B	60	2-3/8"	≥93	≤30
CB-RSF-70/35-B	70	3"	≥108	≤35

Non-Standard Sizes

Part No.	As Supplied			After Recovery
	Inside Diameter D (mm)	Inside Diameter D (inch)	Flat Width T (mm)	Inside Diameter d (mm)
CB-RSF-25/12.5-B	25	1/2"	≥35	≤12.5

CB-RSF-35/17/5-B	35	7/8"	≥54	≤17.5
CB-RSF-80/40-B	80	1-1/4"	≥125	≤40

Basic Performance

Item	Specification
Shrink Temperature (°C)	110°C
Temperature Range (°C)	-40°C ~125°C
Radial Shrinking Ratio (%)	≥50
Longitudinal Change (%)	≤5
Tensile Strength (MPa)	≥10.4
Ultimate Elongation (%)	≥200
Aging in Circulating-air Oven	158 ±1.0, 168 Hrs
Ultimate Elongation (%) - After Aging	≥7.3
Dielectric Voltage Withstand (V)	600
Volume Resistivity (Ω.cm)	$\geq 10^{14}$
Dielectric Strength (kV/mm)	≥15
Flammability	VW1
Concentricity (%)	≥70
Heat Shock	4 hr@ 250.0±1.0°C, No cracking
Cold Shock	1 hr@ 30.0±1.0°C, No cracking
Copper Corrosion	24Hr@95%±5, 2°C, No cracking or fading

Availability cut pieces and master reels

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number PTFE

Header PTFE 1.8x High Temp Teflon Heat Shrink Tubing

Description Thermosleeve-USA PTFE tubing has superior chemical resistance and very low friction properties. It is designed to provide insulation and mechanical protection in severe chemical and thermal environments. PTFE heat shrink tubing has a high temperature tolerance range, high mechanical strength and extremely low friction properties. Used widely in the medical, aviation, aerospace, and scientific instrumentation industries.

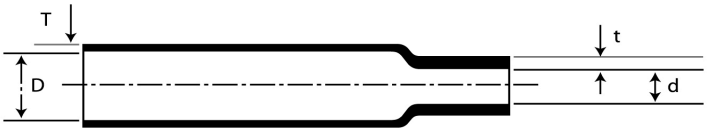
Agency Approval & Compliance ROHS, Halogen Free, SAE, MIL, Flame Retardant, VW1, REACH

Application PTFE is designed to provide insulation and mechanical protection in severe chemical and thermal environments. Used widely in the medical, aviation, aerospace, and scientific instrumentation industries.

Shrink Ratio and Operating Temperature PTFE is available as a 1.8:1 material, shrinking to 45% of its supplied size. The tubing's wall thickness also changes proportionally to the degree of recovery.

PTFE high temperature heat shrink has a continuous operating temperature range of -55 degrees C (-67 degrees F) to 260 degrees C (500 degrees F)

Standard Sizes and Dimension



Size (mm)	Size (inch)	Inside Dia. (mm)		Wall thickness (mm)
		As supplied (D)	After recovery (d)	After recovery (t)
0.5	1/64"	0.7±0.2	≤0.4	0.23
0.8	1/32"	0.8±0.2	≤0.45	0.23
1.0	3/64"	1.0±0.2	≤0.5	0.23
1.5	1/16"	1.5±0.2	≤0.9	0.25
2.0	5/64"	2.0±0.2	≤1.3	0.25
2.5	7/64"	2.5±0.2	≤1.5	0.30
3.0	1/8"	3.0±0.2	≤1.8	0.30
3.5	9/64"	3.5±0.2	≤2.0	0.30
4.0	5/32"	4.0±0.3	≤2.5	0.30
4.5	3/16"	4.5±0.3	≤2.8	0.30
5.0	13/64"	5.0±0.3	≤3.0	0.30
6.0	1/4"	6.0±0.3	≤3.8	0.38
7.0	9/32"	7.0±0.3	≤4.0	0.38

8.0	5/16"	8.0±0.3	≤4.8	0.38
9.0	3/8"	9.0±0.3	≤5.0	0.38
10.0	13/32"	10.0±0.3	≤6.0	0.38
12.0	1/2"	12.0±0.3	≤7.0	0.38

Typical Properties

Item	Test Method	Unit	Specifications
Shrink Temperature	—	ºC	327
Temperature Range	UL224	ºC	200
Operating temperature		°C	-55°C to~260°C
Tensile strength	ASTM D638	M Pa	24.5
Elongation at break	ASTM D638	%	350
Bending Modulus	ASTM D790	M Pa	490
Impact Strength	ASTM D256+23°C-54°C J/m		No break, 107
Hardness (shore)	ASTM D2240	Shore D	55
Coefficient of Dynamic Friction			0.1
Flammability	UL-224		VW-1
Dielectric Constant 10^3-10^6Hz	ASTM D150		2.1
Dielectric Dissipation Factor @ 10^6Hz	ASMT D150		0.0002
Arc Resistance (Stainless Steel Electrodes)	ASMT D495	S	>300
Volume Resistivity	ASTM D257	Ω /cm	$>10^{18}$
Weather Resistance	"Weather-o-meter" (2000h)		No crack
Fluid resistance	ASTM D543		Excellent
Chemical resistance	ASTM D543		Excellent

Availability Four-foot lengths, master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number DR

Header DR Diesel Resistant Elastomer Heat Shrink Tubing

Description Thermosleeve-USA DR is a flexible cross-linked Elastomer heat shrink tubing that provides long-term resistance against diesel, hydraulic fluids and chemicals. Manufactured from a cross-linked elastomeric material, DR heat shrink has been specially formulated to offer both cut and abrasion resistant properties. Ten sizes cover the diameter range from 1/8" (3.2mm) to 3" (76.2mm) and DR has a minimum shrink temperature rating of 175 degrees C (347 degrees F).

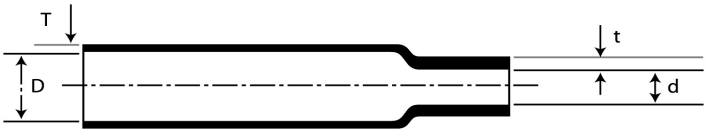
Agency Approval & Compliance ROHS, SAE, MIL, Flame Retardant, REACH, VW1

Application DR heat shrink tubing is well suited for protecting wire harnesses and cables where resistance to oil, diesel, hydraulic fluids and chemicals is essential. Common utilization includes transportation and military applications.

Shrink Ratio and Operating Temperature DR has a 2:1 shrink ratio. When fully recovered, the 2:1 material will shrink to fifty percent (50%) of its original supplied diameter.

DR has a continuous operating temperature rating of -65 degrees C (-85 degrees F) and 150 degrees C (302 degrees F)

Standard Sizes and Dimension



Sizes

Size (Inch)	As Supplied	After Recovery		Standard Packing
	Min ID mm (D)	Max ID mm (d)	Wall-thickness mm (t)	
1/8	3.20	1.60	0.75±0.15	50m
3/16	4.80	2.4	0.82±0.15	50m
1/4	6.40	3.2	0.90±0.15	50m
3/8	9.50	4.75	1.02±0.20	50m
1/2	12.7	6.35	1.22±0.20	30m
3/4	19.1	9.55	1.45±0.28	30m
1	25.4	12.7	1.78±0.28	30m
1-1/2	38.1	19.0	2.41±0.41	30m
2	50.8	25.1	2.79±0.41	1m
3	76.20	38.10	3.18±0.41	1m

Specifications

Item		Specifications
Shrink Temperature (°C)		175
Operating Temperature Range (°C)		—65~150
Tensile Strength (Mpa)		≥11.7
Elongation at Break (%)		≥250
Longitudinal Change		<10
Aging in Circulation-air oven		150℃, 168hrs
After Aging	Tensile Strength (Mpa)	≥10.3
	Elongation at Break (%)	≥200
Volume Resistance (Ω.cm)		$1.0x10^{11}$
Dielectric strength		≥11.9
Water Absorption		≤ 2
Elongation after Fluid Resistance		≥175
After Aging	Tensile Strength (Mpa)	≥10.4
	Elongation at Break (%)	≥200
	Dielectric strength	≥7.9

Availability Four-foot lengths, master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number DS406

Header DS 406 4X Heat Shrink Butt Connectors

Description Thermosleeve-USA DS 406 butt connectors are heat-shrinkable, polyolefin-insulated splices that provide one-step sealing for wire-to-wire splicing applications with an adhesive seal.

Characteristics With adhesive lining, DS406s protect splices from water condensation, salt, and corrosion • Provide strain relief • Protect against vibration in rugged environments • Completely insulate and protect electrical connections • More reliable than conventional splices

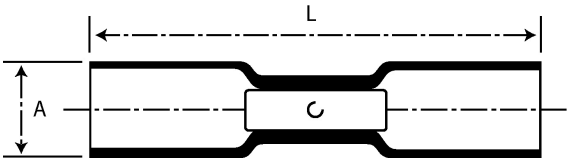
Agency Approval & Compliance ROHS, Halogen Free, REACH

Application For automotive/truck wiring repair and maintenance • Automotive accessories installation • Marine electronics and fleet maintenance • Commercial wiring in outdoor applications (pumps/pools/spas) • Appliances

Shrink Ratio and Operating Temperature DS 406 is available as a 4:1 material, shrinking to one quarter (25%) of its original supplied. The tubing's wall thickness will also change proportionally to the degree of recovery.

DS 406 heat shrink material has a continuous operating temperature range of -55 degrees C (-67 degrees F) to 125 degrees C (257 degrees F)

Standard Sizes and Dimension



Part No.	Butt Splice Dimensions		Color	AWG	mm²	Wire Dimensions	
	A Min.	L Nom.				Insulation O.D. (Min.)	Insulation O.D. (Min.)
DS406-001	3.68	31.75	Red	22-18	0.5–1.5	3.56	1.40
DS406-002	4.57	31.75	Blue	16-14	1.5–2.5	4.45	2.03
DS406-003	6.35	38.10	Yellow	12-10	3–6	6.22	2.79

Typical Properties

Item	Specification
Shrink Ratio	4:1
Operating Temperature Range (°C)	-55°C ~125°C
Cut-through Resistance	31 Kg
Flammability	Non-Flame Retardant
Wire Pullout After Crimping & Recovery	Red: 11.3Kg; Blue 22.7Kg; Yellow: 27.2 kg

Solvent Resistance	Isopropyl alcohol, trichloroethylene, gasoline, battery acid, diesel fuel, motor oil, antifreeze, brake fluid, 5% salt water
Dielectric Strength	2500VAC
Insulation Resistance	1000 megaohm at 100VDC

Selector Gude

Wire Size AWG	mm²	Part No.	Color
22-18	0.8-0.95	DS406-001	Red
16-14	1.2-2.5	DS406-002	Blue
12-10	3-6	DS406-003	Yellow

Availability Bulk and 25-piece bags

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number OFS

Header OFS Heat Shrinkable Optical Fiber Protector

Description Thermosleeve-USA OFS is made from specially designed cross-linked polyolefin with an adhesive liner. OFS heat shrinkable optical fiber splice connectors provide excellent strength and protection to optical fiber splices. RoHS compliant.

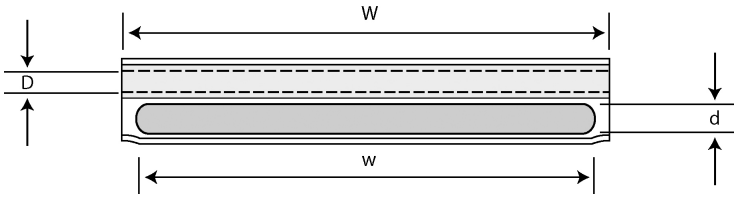
Agency Approval & Compliance ROHS, Halogen Free, REACH

Application Used for fiber optic mechanical splicing in Telecommunications and LAN networking applications.

Operating Temperature OFS has a 2:1 heat shrinkable sleeve that shrinks to one half (50%) of its original size. The tubing's wall thickness will also change proportionally to the degree of recovery.

OFS optical fiber splices have a continuous operating temperature range of -55 degrees C (-67 degrees F) to 105 degrees C (221 degrees F)

Standard Sizes and Dimension



Type	Length (W) (mm)	Hot Melt Tube (mm)		Stainless Steel (mm)		Packaging
		ID (D)	Length (W)	OD (d)	Length (w)	
Large Size						
OFS-60B	60±1.0	1.4±0.05	60±1.0	1.5±0.05	55±1.0	100pcs/bag
OFS-45B	45±1.0	1.4±0.05	45±1.0	1.5±0.05	40±1.0	100pcs/bag
OFS-40B	40±1.0	1.4±0.05	40±1.0	1.5±0.05	36±1.0	100pcs/bag
OFS-23B	23±1.0	1.4±0.05	23±1.0	1.5±0.05	18±1.0	100pcs/bag
Mid Size						
OFS-61M	61±1.0	1.3±0.05	61±1.0	1.2±0.05	55±1.0	100pcs/bag
OFS-60M	60±1.0	1.3±0.05	60±1.0	1.2±0.05	56±1.0	100pcs/bag
OFS-45M	45±1.0	1.3±0.05	45±1.0	1.2±0.05	40±1.0	100pcs/bag
OFS-40M	40±1.0	1.3±0.05	40±1.0	1.2±0.05	36±1.0	100pcs/bag
OFS-30M	30±1.0	1.3±0.05	30±1.0	1.2±0.05	26±1.0	100pcs/bag
OFS-25M	25±1.0	1.3±0.05	25±1.0	1.2±0.05	21±1.0	100pcs/bag

Small Size						
OFS-60S	60±1.0	0.5±0.05	60±1.0	1.0±0.05	56±1.0	100pcs/bag
OFS-40S	40±1.0	0.5±0.05	40±1.0	1.0±0.05	36±1.0	100pcs/bag
OFS-60SA	60±1.0	1.3±0.05	60±1.0	1.0±0.05	56±1.0	100pcs/bag
OFS-40SA	40±1.0	1.3±0.05	40±1.0	1.0±0.05	36±1.0	100pcs/bag
Micro Size						
OFS-40T	40±1.0	0.5±0.05	40±1.0	0.5±0.05	40±1.0	100pcs/bag
OFS-25T	25±0.5	0.5±0.05	25±0.5	0.5±0.05	25±0.5	100pcs/bag
OFS-18T	18±0.5	0.5±0.05	18±0.5	0.5±0.05	18±0.5	100pcs/bag
OFS-15T	15±0.5	0.5±0.05	15±0.5	0.5±0.05	15±0.5	100pcs/bag
OFS-10T	10±0.5	0.5±0.05	10±0.5	0.5±0.05	10±0.5	100pcs/bag

Typical Properties

Item	Test Method	Specifications
Shrink Temperature (°C)	—	≥90
Operating Temperature Range (°C)	—	—55~110
Tensile Strength (Mpa)	ASTMD2671	≥18
Ultimate Elongation (%)	ASTMD2671	700
Dielectric Strength (kV/mm)	IEC 243	20
Coefficient of electrical breakdown	IEC 243	2.5max
Longitudinal Shrink Ratio	ASTMD2671	≤+5

Availability Bulk and 100-piece bags

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number TSGEC

Header TSGEC Heat Shrink End Caps

Description Thermosleeve-USA TSGEC Heat Shrink End Caps come with spiral adhesive coating that effectively protects cable endings against oxidation, ozone, and UV-radiation. Our TSGEC easily fits into the cable ending.
Minimum fully shrink temperature: 120℃.

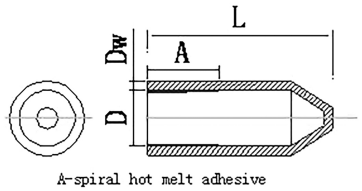
Agency Approval & Compliance ROHS, and REACH compliant

Application TSGEC GEC is recommended for applications both in open air and underground power distribution cables with PVC, lead or XLPE sheaths.

Shrink Ratio and Operating Temperature TSGEC is available as a 2:1 material, shrinking to one half (50%) of its supplied size and ≤10% along the axis. The tubing's wall thickness also changes proportionally to the degree of recovery.

Thermosleeve-USA TSGEC Heat Shrink End Caps has a minimum shrink temperature of 120°C (248°F)

Standard Sizes and Dimensions



Part Number	As supplied (mm)		After recovered (mm)			
	L*(±10%)	D*(Min.)	A*(±10%)	d*(±10%)	l*(±10%)	Dw*(±10%)
TSGEC 105 12/4	40	12	15	4	40	2.6
TSGEC 110 14/5	45	14	18	5	42	2.2
TSGEC 115 20/6	65	20	25	6	55	2.5
TSGEC 120 25/8.5	70	25	30	8.5	65	2.5
TSGEC 130 35/16	92	35	35	16	83	3.3
TSGEC 135 40/16	95	40	40	15	75	3.3
TSGEC 140 55/26	114	55	50	26	105	3.5
TSGEC 150 75/36	132	75	55	36	115	4.2
TSGEC 160 100/52	153	100	70	52	130	5
TSGEC 170 120/60	155	120	70	60	150	5
TSGEC 180 145/60	160	145	70	60	150	5
TSGEC 190 160/82	160	160	70	82	133	4.5
TSGEC 200 200/90	170	200	70	90	145	4.5

D* = Inner diameter as supplied d* = Inner diameter after fully recovered	w* = Wall thickness after fully recovered A* = Length of adhesive L* = Length of end cap

Technical Properties

Test Items	Test Method	Test Requirement
Tensile strength	ASTMD2671	12MPa min
Ultimate Elongation	ASTMD2671	200% min
Volume Resistivity	IEC 93	$10^{14}\Omega$.cm min
Dielectric Strength	IEC 60243	12kN/mm (1.0mm)
Water Absorption	ISO 62	0.5% max.
Heat Shock @ 225°C/4Hrs	ASTMD2671	No cracking, dropping
Density	ASTMD792	1.0~1.1g/cm3

TSGEC tubing shall be homogeneous and essentially free from flaws, defects, pinholes, bubbles, seams, cracks and inclusions. Standard color is black.

Standard color: Black

Availability In standard lengths

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number TSGBK

Header TSGBK Low Voltage Cable Breakouts

Description Thermosleeve-USA TSGBK Low Voltage Cable Breakout is made from irradiated cross-linked polyolefin. This specifically designed formulation provides the tubing with a low shrink temperature, fire-retardance properties, and flexibility. It also meets RoHS and other environmentally concerned standards. TSGBK comes in 2, 3, 4, and 5-core cable breakouts.

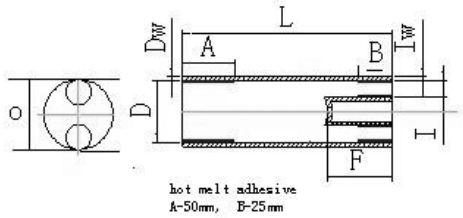
Agency Approval & Compliance ROHS, and REACH compliant

Application TSGBK molded polyolefin is designed for breakouts. It is suitable for applications in low voltage cable terminations where electrical insulation and waterproofing is essential.

Shrink Ratio and Operating Temperature TSGBK is available as a 2:1 material, shrinking to one half (50%) of its supplied size and ≤10% along the axis. The tubing's wall thickness also changes proportionally to the degree of recovery.

TSGBK low voltage cable breakouts have a continuous operating temperature range of -55 degrees C (-67 degrees F) to 135 degrees C (275 degrees F). Working temperature: 150ºC (302 degrees F).

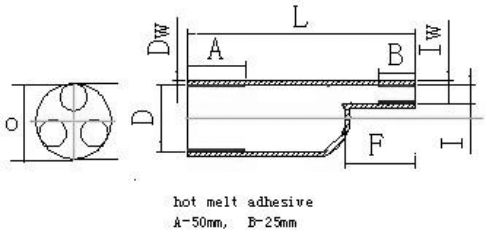
Standard Sizes and Dimensions



2-Core Cable Breakouts

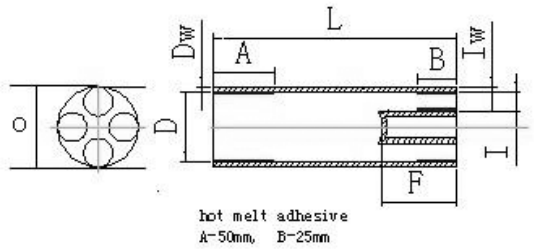
Size (mm)	As supplied (mm) ± 10%		D (mm)		I (mm)		Recovered wall (mm) ±10%		Recovered wall (mm) ±20%	
	L *	F *	a* (Min.)	b* (Max.)	a* (Min.)	b* (Max.)	L	F	Dw	lw
TSGBK205-22/8	55	16	22	12	11	3.5	60	18	2.2	1.8
TSGBK210-30/12	80	22	30	14	14	4.5	84	21	2.6	2.4
TSGBK215-40/16	100	30	40	16	15	5	110	30	2.2	2.2
TSGBK220-60/23	95	21	60	23	25	8	105	25	2.4	2.4
TSGBK230-90/60	165	45	90	60	30	8	170	48	3	3
TSGBK250-160/ 9 0	290	170	160	92	50	30	310	160	4.5	4.5

3-Core Cable Breakouts



Size (mm)	As supplied (mm) ± 10%		D (mm)		I (mm)		Recovered wall (mm) ±10%		Recovered wall (mm) ±20%	
	L *	F *	a* (Min.)	b* (Max.)	a* (Min.)	b* (Max.)	L	F	Dw	Iw
TSGBK310-38/16	100	35	38	16	15	5	110	30	2.3	2
TSGBK320-60/25	170	40	60	25	26	8	175	45	3.2	2.8
TSGBK325-70/28	175	45	70	28	32	10	180	45	3.3	3
TSGBK330-80/38	190	50	80	38	34	16	195	55	3.5	3.3
TSGBK340-110/5 0	220	55	110	50	46	19	230	60	3.8	3.5
TSGBK350-125/ 57	230	58	125	57	55	20	240	65	3.7	3.3
TSGBK360-140/ 70	250	58	140	70	62	26	270	68	3.9	3.6
TSGBK370-170/ 77	250	55	170	77	75	28	270	68	3.9	3.6

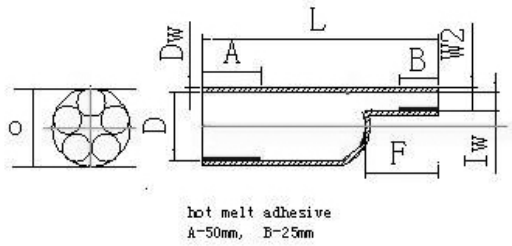
4-Core Cable Breakouts



Size (mm)	As supplied (mm) ± 10%		D (mm)		I (mm)		Recovered wall (mm) ±10%		Recovered wall (mm) ±20%	
	L *	F *	a* (Min.)	b* (Max.)	a* (Min.)	b* (Max.)	L	F	Dw	Iw
TSGBK410-40/15	95	23	40	15	12	5	100	24	2.2	2
TSGBK420-55/21	145	40	55	21	20	5.5	150	42	2.9	2.7
TSGBK425-65/26	170	45	65	26	25	7.5	180	50	3.3	3.1

TSGBK430-75/26	180	45	75	26	28	7.5	190	50	3.3	3.1
TSGBK440-82/37	170	46	82	37	30	11	180	45	3.3	3
TSGBK445-90/37	170	46	90	37	32	11	180	50	3.3	3
TSGBK450-100/4 7	180	55	100	47	38	12	190	55	3.9	3.3
TSGBK460-125/5 2	215	50	125	52	50	15	240	68	4	4
TSGBK470-160/7 0	240	50	160	70	64	20	270	68	3.8	3.7

5-Core Cable Breakouts



Size (mm)	As supplied (mm) ± 10%		D (mm)		I (mm)		Recovered wall (mm) ±10%		Recovered wall (mm) ±20%	
	L *	F *	a* (Min.)	b* (Max.)	a* (Min.)	b* (Max.)	L	F	Dw	Iw
TSGBK510-40/19	90	20	40	19	13	4.5	85	20	2.5	2.2
TSGBK520-55/24	145	36	55	24	18	5.5	150	40	3	2.6
TSGBK530-80/33	160	46	80	33	26	8	175	50	3.2	3
TSGBK540-100/4 2	185	52	100	42	35	10	195	55	3.5	3.2

Technical Properties

Property	Test Method	Typical Data
Tensile strength	ASTM D 2671	≥13 MPa
Tensile strength after thermal aging	ASTM D 2671 /120ºC, 168 hrs.	≥10 MPa
Ultimate elongation	ASTM D 2671	≥300%
Ultimate elongation after thermal aging	ASTM D 2671 /120ºC, 168 hrs.	≥250%
Dielectric strength	IEC 243	≥15 kV/mm
Volume resistance	IEC 93	≥1013 Ω.cm
Water absorption	O 62	≤1%

TSGBK tubing shall be homogeneous and essentially free from flaws, defects, pinholes, bubbles, seams, cracks and inclusions. Standard color is black.

Standard color: Black

Availability 2, 3, 4, 5-core cable breakouts

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number PET
Header PET Braided Expandable Sleeving

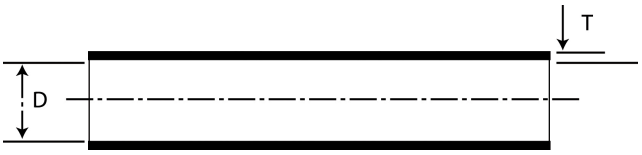
Description PET is an expandable braided polyester sleeving that is self-extinguishing and expands up to two times its resting diameter.

Agency Approval & Compliance UL, CUL, ROHS, Halogen Free, Flame Retardant, REACH

Application PET material is used as protection from mechanical abrasion on cables, wires, wire harnesses, flat ribbon and cable assemblies.

UL Rated Temperature PET has a temperature rating of -40 degrees C (-40 degrees F) and 150 degrees C (302 degrees F). Melting temperature of 240°C (464 degrees F).

Standard Sizes and Dimension



P/N	(D) Size (∅) (in)	(D) Size (∅)(mm)	Application Range
125016	0.118	2	2-4
125032	0.197	3	3-6
125040	3/16"	4	4-8
325024	1/4"	5	5-10
125048	0.276	6	6-12
320032	0.315	6	3-12
125056	3/8"	7	7-14
325032	1/2"	8	8-16
325040	5/8"	10	10-20
325048	3/4"	12	12-24
320056	0.866	13	13-26
320064	1"	15	15-30
325056	1.024	17	17-32
325064	1.102	20	20-35
325072	1.181	23	23-40
325096	1.575	30	30-60
3250120	1.969	40	40-80

4250120	2.756	50	50-100

Availability Four-foot lengths, master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number CB-TT L/T/S

Header CB-TT L/T/S Teflon Non Shrink Tubing, 150V/300V/600V

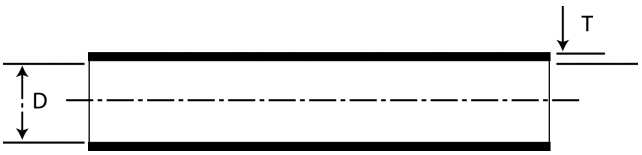
Description CB-TT series PTFE tubing has high temperature (260°C) resistance, corrosion resistance, excellent insulation and mechanical strength properties. This tubing is being used widely in industries such as electrical, computer, chemical, aerospace, military and transmission system etc, where high temperature requirements are needed.
This product has gained UL recognition (File No: E180908) and is also F mark.

Agency Approval & Compliance UL, CUL, ROHS, Halogen Free, Flame Retardant, FMark, UL224, REACH, VW1

Application CB-TT L/T/S tubing is being used widely in industries such as electrical, computer, chemical, aerospace, military and transmission system etc, where high temperature requirements are needed.

UL Rated Temperature CB-TT/L/S has a UL temperature rating of -80 degrees C (-112 degrees F) and 200 degrees C (392 degrees F). CB-TT/L is rated @ 150V; CB-TT/T @ 300V; CB-TT/S @ 600V.

Standard Sizes and Dimension



1.CB-TT-L(Thin Wall) Rated @ 150V

Standard color: clear (natural)

SIZE	Supplied inside diameter (D) (mm)	Wall-Thickness (mm)
AWG 30	0.30	0.15 ± 0.04
AWG28	0.38	0.15 ± 0.04
AWG26	0.46	0.15 ± 0.04
AWG24	0.56	0.15 ± 0.04
AWG23	0.66	0.15 ± 0.04
AWG22	0.71	0.15 ± 0.04
AWG21	0.81	0.15 ± 0.04
AWG20	0.86	0.15 ± 0.04
AWG19	0.96	0.15 ± 0.04
AWG18	1.07	0.15 ± 0.04
AWG17	1.19	0.15 ± 0.04
AWG16	1.34	0.15 ± 0.04
AWG15	1.50	0.15 ± 0.04
AWG14	1.68	0.15 ± 0.04

AWG13	1.93	0.20 ± 0.05
AWG12	2.16	0.20 ± 0.05
AWG11	2.41	0.20 ± 0.05
AWG10	2.69	0.20 ± 0.05
AWG9	3.00	0.20 ± 0.05
AWG8	3.38	0.20 ± 0.05
AWG7	3.76	0.20 ± 0.05
AWG6	4.22	0.25 ± 0.06
AWG5	4.72	0.25 ± 0.06
AWG4	5.28	0.25 ± 0.06
AWG3	5.94	0.25 ± 0.06
AWG2	6.68	0.25 ± 0.06
AWG1	7.46	0.25 ± 0.06
AWG0	8.38	0.25 ± 0.06

2.CB-TT-T (Medium Wall) Rated @ 300V

SIZE	Supplied inside diameter (D) (mm)	Wall-Thickness (mm)
AWG 30	0.30	0.23 ± 0.05
AWG28	0.38	0.23 ± 0.05
AWG26	0.46	0.23 ± 0.05
AWG24	0.56	0.25 ± 0.06
AWG23	0.66	0.25 ± 0.06
AWG22	0.71	0.25 ± 0.06
AWG21	0.81	0.25 ± 0.06
AWG20	0.86	0.25 ± 0.06
AWG19	0.96	0.30 ± 0.06
AWG18	1.07	0.30 ± 0.06
AWG17	1.19	0.30 ± 0.06
AWG16	1.34	0.30 ± 0.06
AWG15	1.50	0.30 ± 0.06
AWG14	1.68	0.30 ± 0.06
AWG13	1.93	0.30 ± 0.06
AWG12	2.16	0.30 ± 0.06
AWG11	2.41	0.30 ± 0.06

AWG10	2.69	0.30 ± 0.06
AWG9	3.00	0.38 ± 0.07
AWG8	3.38	0.38 ± 0.07
AWG7	3.76	0.38 ± 0.07
AWG6	4.22	0.38 ± 0.07
AWG5	4.72	0.38 ± 0.07
AWG4	5.28	0.38 ± 0.07
AWG3	5.94	0.38 ± 0.07
AWG2	6.68	0.38 ± 0.07
AWG1	7.46	0.38 ± 0.07
AWG0	8.38	0.38 ± 0.07

Standard color: clear (natural)

3.CB-TT-S (Heavy Wall) Rated @ 600V

SIZE	Supplied inside diameter(mm)	Wall-Thickness (mm)
AWG23	0.66	0.30 ± 0.06
AWG22	0.71	0.30 ± 0.06
AWG21	0.81	0.30 ± 0.06
AWG20	0.86	0.40 ± 0.07
AWG19	0.96	0.40 ± 0.07
AWG18	1.07	0.40 ± 0.07
AWG17	1.19	0.40 ± 0.07
AWG16	1.34	0.40 ± 0.07
AWG15	1.50	0.40 ± 0.07
AWG14	1.68	0.40 ± 0.07
AWG13	1.93	0.40 ± 0.07
AWG12	2.16	0.40 ± 0.07
AWG11	2.41	0.40 ± 0.07
AWG10	2.69	0.40 ± 0.07
AWG9	3.00	0.50 ± 0.07
AWG8	3.38	0.50 ± 0.07
AWG7	3.76	0.50 ± 0.07
AWG6	4.22	0.50 ± 0.07
AWG5	4.72	0.50 ± 0.07

SIZE	Supplied inside diameter(mm)	Wall-Thickness (mm)
AWG4	5.28	0.50 ± 0.07
AWG3	5.94	0.50 ± 0.07
AWG2	6.68	0.50 ± 0.07
AWG1	7.46	0.50 ± 0.07
AWG0	8.38	0.50 ± 0.07

Typical Properties

Item	Test Method	Unit	Specifications
Specific Gravity	ASTM D792	g/cm³	2.16
Tensile strength	ASTM D638	M Pa	24.5
Ultimate Elongation	ASTM D638	%	350
Flexural Modulus	ASTM D790	M Pa	490
Impact Strength	ASTM D256+23°C-54°Cj/m		No break, 107
Hardness	ASTM D2240	Shore D	55
Coefficient Of Dynamic Friction			0.1
Melting Point		°C	327
Service Temperature 20000h with 50% Retention Of Ultimate Elongation		°C	260
Flammability	UL-224		VW-1
Dielectric Constant At 10^3-10^6Hz	ASTM D150		2.1
Dielectric Strength	UL-224	2500V/60s	Yes
Dissipation Factor At 106Hz	ASTM D150		0.0002
Arc Resistance	ASTMD495 (Stainless steel electrodes)	S	>300
Volume Resistivity	ASTM D257	Ω cm	>1018
Weather Resistance	"Weather-o-meter"(2000h)		No cracking
Solvent Resistance	ASTM D543		Excellent
Chemical Resistance	ASTM D543		Excellent

Availability Four-foot lengths, master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number CB-300/600PVC

Header CB-300/CB-600 PVC Non-Shrink Tubing, 300V/600V

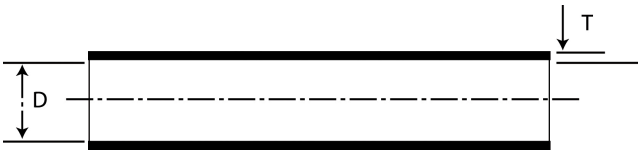
Description CB-300/CB-600 PVC tubing is flexible flame-retardant non heat-shrinkable tubing, which has excellent electrical and physical performances properties and outstanding acid fastness and corrosion resistivity. The product has UL recognition and the file No is E180908.

Agency Approval & Compliance UL, CUL, RoHS, FMark, UL224, REACH, VW1

Application CB-300/CB-600 PVC tubing is suitable for insulating electronics, automotive components, terminal lugs, small electrical parts, lead wires on toy motors and transformers etc.

Temperature Rating 105ºC

Standard Sizes and Dimension



Size	Inside diameter (mm) (D)	300 PVC Wall-thickness (mm) (T)	600 PVC Wall-thickness (mm) (T)	Stock Packaging (Ft/Roll)	Stock Packaging (Mt/Roll)
5/8"	15.9	0.7±0.15	0.7±0.15	164	50
9/16"	14.3	0.7±0.15	0.7±0.15	328	100
1/2"	12.7	0.57±0.15	0.57±0.15	328	100
7/16"	11.1	0.57±0.15	0.57±0.15	656	200
3/8"	9.53	0.57±0.15	0.57±0.15	656	200
5/16"	7.92	0.57±0.15	0.57±0.15	1000	305
0#	8.38	0.45±0.15	0.57±0.15	1000	305
1#	7.47	0.45±0.15	0.57±0.15	1000	305
2#	6.68	0.45±0.15	0.57±0.15	1000	305
3#	5.94	0.45±0.15	0.57±0.15	1000	305
4#	5.28	0.45±0.15	0.57±0.15	1000	305
5#	4.72	0.45±0.15	0.57±0.15	1000	305
6#	4.22	0.45±0.15	0.57±0.15	1000	305
7#	3.87	0.45±0.15	0.57±0.15	1000	305
8#	3.38	0.45±0.15	0.57±0.15	1000	305
9#	3	0.45±0.15	0.57±0.15	1000	305
10#	2.69	0.35±0.15	0.57±0.15	1000	305
11#	2.41	0.35±0.10	0.57±0.10	1000	305
12#	2.16	0.35±0.10	0.57±0.10	1000	305

13#	1.93	0.35±0.10	0.57±0.10	1640	500
14#	1.68	0.35±0.10	0.57±0.10	1640	500
15#	1.5	0.35±0.10	0.57±0.10	1640	500
16#	1.34	0.35±0.10	0.57±0.10	1640	500
17#	1.19	0.35±0.10	0.57±0.10	1640	500
18#	1.07	0.35±0.10	0.45±0.10	1640	500
19#	0.96	0.35±0.10	0.45±0.10	1640	500
20#	0.86	0.35±0.10	0.45±0.10	1640	500
21#	0.79	0.35±0.10	0.45±0.10	1640	500

Note: Inside Diameter ±5% Other sizes are available upon special order.

Typical Properties

Item	CB-300/600 (PVC) Specifications
Temperature Rating (°C)	-10~105°C
Longitudinal Change	≤±5%
Tensile Strength (MPa)	≥10.4
Ultimate Elongation (%)	≥100
Aging in Circulating-air Oven	105 ±1.0°C, 168hrs
After aging - Tensile Strength (MPa)	≥7.3
After aging - Ultimate Elongation (%)	≥70
Potential Rating/V	300V, 600V
Volume Resistivity/Ωcm	$\geq 10^{10}$
Dielectric Strength/V	2500(60s), No breakdown
Corrosion of Bare Copper	No corrosion
Heat Shock	No cracking
Cold Bend	No cracking

Availability Master reels and cut pieces

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THERMOSLEEVE | USA
YOUR TUBING SPECIALIST

Part Number CB-300/600PE

Header CB-300/600PE Polyolefin Non-Shrink Tubing, 300V/600V

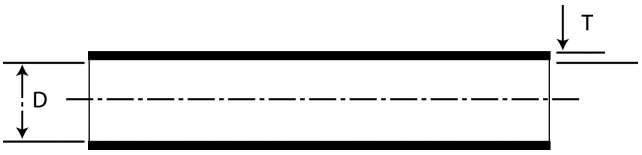
Description CB-300/600PE is flexible Polyolefin, halogen-free tubing, which has excellent electrical and physical performances properties and outstanding acid fastness and corrosion resistivity. The product has UL recognition and the file No is E180908.

Agency Approval & Compliance UL, CUL, RoHS, FMark, UL224, REACH, VW1

Application CB-300/600PE tubing is suitable for insulating electronics, automotive components, terminal lugs, small electrical parts, lead wires on toy motors and transformers etc.

Temperature Rating 125ºC

Standard Sizes and Dimension



SIZE	Inside diameter (mm)	300PE Wall Thickness (mm)	600PE Wall Thickness (mm)
φ0.9	0.9±0.05	0.38±0.05	0.50±0.06
φ1.4	1.45±0.05	0.38±0.05	0.62±0.06
φ2.0	2.05±0.05	0.38±0.05	0.62±0.06
φ2.5	2.55±0.05	0.38±0.05	0.62±0.06
φ3.0	3.10±0.10	0.5±0.06	0.62±0.06
φ3.4	3.5±0.10	0.5±0.06	0.62±0.06
φ4.0	4.10±0.10	0.5±0.06	0.62±0.06
φ4.8	4.9±0.10	0.5±0.06	0.62±0.06
φ5.8	5.90±0.10	0.5±0.06	0.62±0.06
φ6.3	6.4±0.10	0.5±0.06	0.62±0.06
φ6.8	6.9±0.10	0.5±0.06	0.62±0.06
φ7.3	7.40±0.10	0.5±0.06	0.62±0.06
φ7.8	7.90±0.10	0.5±0.06	0.62±0.06
φ8.8	8.90±0.10	0.5±0.06	0.62±0.06
φ9.7	9.85±0.15	0.5±0.06	0.62±0.06
φ10.6	10.8±0.20	0.5±0.06	0.62±0.06

φ11.6	11.80±0.20	0.5±0.06	0.62±0.06
φ12.6	12.80±0.20	0.62±0.06	0.75±0.06
φ13.6	13.80±0.20	0.62±0.06	0.75±0.06
φ14.6	14.80±0.20	0.62±0.06	0.75±0.06
φ15.6	15.80±0.20	0.62±0.06	0.75±0.06

Typical Properties

Item	CB-300/600PE Specifications
Temperature Rating (°C)	125
Tensile Strength (MPa)	≥10.4
Ultimate Elongation (%)	≥200
Aging in Circulating-air Oven	158.0±1.0°C, 7 days
After aging - Tensile Strength (MPa)	≥7.3
After aging - Ultimate Elongation (%)	≥100
Potential Rating/V	300V, 600V
Volume Resistivity/Ωcm	$\geq 10^{14}$
Dielectric Strength/V	2500(60s), No breakdown
Corrosion of Bare Copper	No corrosion
Heat Shock	No cracking
Flammability	VW-1

Availability Master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number CB-SGS

Header CB-SGS Flame Retardant Fiberglass Tubing

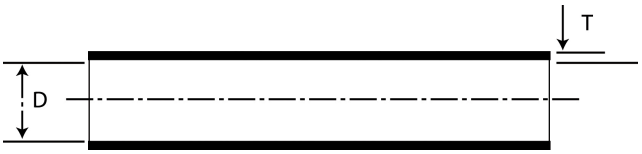
Description CB-SGS series tubing is flexible, flame-retardant, halogen free and comprised of silicone resin continuously coated on electrical-grade, braided fiberglass tubing.

Agency Approval & Compliance UL, CUL, RoHS, Halogen Free, Flame Retardant, REACH

Application CB-SGS series is widely used in many consumer appliances, lighting fixtures, stoves, oven and furnace controls, relays, breaker panels, switchgear and other commercial and industrial applications.

Temperature Rating -10°C~200°C

Standard Sizes and Dimension



Size	Inside Diameter (D) (mm)	Wall Thickness (T) (mm)				Packing Length (Meter/Roll)
		1200V	1500V/ 2500V	4000V	7000V	
Φ0.5	0.50+0.20/-0	0.28±0.05	0.35±0.05	0.40±0.05	0.45±0.05	100
Φ0.8	0.80+0.20/-0	0.28±0.05	0.35±0.05	0.40±0.05	0.45±0.05	100
Φ1.0	1.00+0.20/-0	0.28±0.05	0.35±0.05	0.40±0.05	0.45±0.05	100
Φ1.5	1.50+0.20/-0	0.28±0.05	0.35±0.05	0.40±0.05	0.45±0.05	100
Φ2.0	2.00+0.20/-0	0.28±0.05	0.35±0.05	0.40±0.05	0.45±0.05	100
Φ2.5	2.50+0.25/-0	0.30±0.05	0.35±0.05	0.40±0.05	0.45±0.05	100
Φ3.0	3.00+0.25/-0	0.30±0.05	0.35±0.05	0.40±0.05	0.45±0.05	100
Φ3.5	3.50+0.35/-0	0.38±0.05	0.42±0.05	0.50±0.05	0.55±0.05	100
Φ4.0	4.00+0.35/-0	0.38±0.05	0.42±0.05	0.50±0.05	0.55±0.05	100
Φ4.5	4.50+0.35/-0	0.38±0.05	0.42±0.05	0.50±0.05	0.55±0.05	100
Φ5.0	5.00+0.35/-0	0.38±0.05	0.42±0.05	0.50±0.05	0.55±0.05	100
Φ6.0	6.00+0.50/-0	0.43±0.05	0.45±0.05	0.55±0.05	0.60±0.05	100
Φ6.5	6.50+0.50/-0	0.43±0.05	0.45±0.05	0.55±0.05	0.60±0.05	100
Φ7.0	7.00+0.50/-0	0.43±0.05	0.45±0.05	0.55±0.05	0.60±0.05	100
Φ7.5	7.50+0.50/-0	0.43±0.05	0.45±0.05	0.55±0.05	0.60±0.05	100
Φ8.0	8.00+0.50/-0	0.43±0.05	0.45±0.05	0.55±0.05	0.60±0.05	50
Φ8.5	8.50+0.50/-0	0.43±0.05	0.45±0.05	0.55±0.05	0.60±0.05	50
Φ9.0	9.00+0.50/-0	0.43±0.05	0.45±0.05	0.55±0.05	0.60±0.05	50

Φ10	10.0+0.70/-0	0.47±0.05	0.53±0.05	0.60±0.05	0.65±0.05	50
Φ11	10.0+0.70/-0	0.47±0.05	0.53±0.05	0.60±0.05	0.65±0.05	50
Φ12	12.0+0.70/-0	0.47±0.05	0.53±0.05	0.60±0.05	0.65±0.05	30
Φ13	13.0+0.80/-0	0.53±0.05	0.56±0.05	0.65±0.05	0.70±0.05	30
Φ14	14.0+0.80/-0	0.53±0.05	0.56±0.05	0.65±0.05	0.70±0.05	30
Φ15	15.0+0.80/-0	0.53±0.05	0.56±0.05	0.65±0.05	0.70±0.05	30
Φ16.0	16.0+0.80/-0	0.53±0.05	0.56±0.05	0.65±0.05	0.70±0.05	30
Φ17.0	17.0+0.80/-0	0.53±0.05	0.56±0.05	0.65±0.05	0.70±0.05	30
Φ18.0	18.0+0.80/-0	0.53±0.05	0.56±0.05	0.65±0.05	0.70±0.05	25
Φ19.0	19.0+0.80/-0	0.53±0.05	0.56±0.05	0.65±0.05	0.70±0.05	25
Φ20.0	20.0+0.80/-0	0.53±0.05	0.56±0.05	0.65±0.05	0.70±0.05	25
Φ22.0	22.0+0.90/-0	0.68±0.05	0.70±0.05	1.00±0.05	1.05±0.05	25
Φ25.0	25.0+0.90/-0	0.68±0.05	0.70±0.05	1.00±0.05	1.05±0.05	25
Φ30.0	30.0+0.90/-0	0.68±0.05	0.70±0.05	1.00±0.05	1.05±0.05	25
Φ 35.0	35.0+0.90/-0	0.68±0.05	0.70±0.05	1.00±0.05	1.05±0.05	25

Typical Properties

Item	Silicone/Fiberglass Sleeving
Temperature Range	-10℃~+200℃
Temperature Endurance	200±2℃, 168h≥1/2
Aging Test	260℃, 6h, No cracking
Cold Bend	No cracking
Horizontal Flame Test	Pass
Flammability	VW-1
Submerge Water Test	None viscous, no deformation, no softening

Type	Testing Condition	Average Voltage	Individual Value (V)
CB-SGS-12	UL1441	1200	800
CB-SGS-15	UL1441	1500	1000
CB-SGS-25	UL1441	2500	1800
CB-SGS-40	UL1441	4000	3000
CB-SGS-70	UL1441	7000	5000

Availability Master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number CB-SRS1

Header CB-SRS1 Flame Retardant Fiberglass Tubing (inner Fiberglass/outer Silicone)

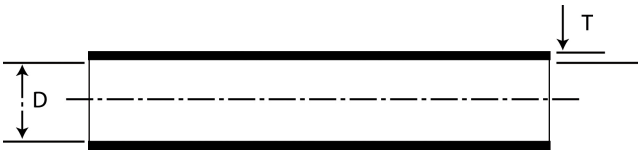
Description CB-SRS1 series tubing is flexible, flame-retardant and halogen free. CB-SRS is a fiberglass tubing coated with silicone rubber at high temperature.

Agency Approval & Compliance UL, CUL, RoHS, Halogen Free, Flame Retardant, REACH

Application CB-SRS1 fiberglass tubing provides good electrical insulation and is widely used in many consumer appliances, lighting fixtures, stoves, oven and furnace controls, relays, breaker panels, switchgear and other commercial and industrial applications.

Temperature Rating -10°C~200°C

Standard Sizes and Dimension



Size	Inside Diameter (mm) (D)	Wall Thickness (mm) (T)		Packing Length (Meter/Roll)
		4000V	7000V	
Φ0.5	0.5+0.2/-0	0.40±0.05	0.45±0.05	200
Φ0.8	0.8+0.2/-0	0.40±0.05	0.45±0.05	200
Φ1.0	1.0+0.2/-0	0.40±0.05	0.45±0.05	200
Φ1.5	1.5+0.2/-0	0.40±0.05	0.45±0.05	200
Φ2.0	2.0+0.2/-0	0.40±0.05	0.45±0.05	200
Φ2.5	2.5+0.25/-0	0.40±0.05	0.50±0.05	100
Φ3.0	3.0+0.25/-0	0.40±0.05	0.50±0.05	100
Φ3.5	3.5+0.35/-0	0.50±0.05	0.55±0.05	100
Φ4.0	4.0+0.35/-0	0.50±0.05	0.55±0.05	100
Φ4.5	4.5+0.35/-0	0.50±0.05	0.55±0.05	100
Φ5.0	5.0+0.35/-0	0.50±0.05	0.55±0.05	100
Φ5.5	5.5+0.5/-0	0.55±0.05	0.60±0.05	100
Φ6.0	6.0+0.5/-0	0.55±0.05	0.60±0.05	100
Φ7.0	7.0+0.5/-0	0.55±0.05	0.60±0.05	100
Φ8.0	8.0+0.5/-0	0.55±0.05	0.60±0.05	50
Φ9.0	9.0+0.5/-0	0.55±0.05	0.60±0.05	50

Φ10.0	10.0+0.7/-0	0.60±0.05	0.65±0.05	50
Φ11.0	11.0+0.7/-0	0.60±0.05	0.65±0.05	50
Φ12.0	12.0+0.7/-0	0.60±0.05	0.65±0.05	30
Φ13.0	13.0+0.8/-0	0.65±0.05	0.70±0.05	30
Φ14.0	14.0+0.8/-0	0.65±0.05	0.70±0.05	30
Φ15.0	15.0+0.8/-0	0.65±0.05	0.70±0.05	30
Φ16.0	16.0+0.8/-0	0.65±0.05	0.70±0.05	30
Φ17.0	17.0+0.8/-0	0.65±0.05	0.70±0.05	30
Φ18.0	18.0+0.8/-0	0.65±0.05	0.70±0.05	25
Φ20.0	20.0+0.8/-0	0.65±0.05	0.70±0.05	25
Φ22.0	22.0+0.9/-0	1.00±0.05	1.00±0.05	25
Φ25.0	25.0+1.0/-0	1.00±0.05	1.00±0.05	25
Φ30.0	30.0+1.0/-0	1.00±0.05	1.00±0.05	25
Φ35.0	35.0+1.0/-0	1.00±0.05	1.00±0.05	25

Typical Properties

Item	Silicone/Fiberglass Sleeving
Temperature Range	-10℃~+200℃
Temperature Endurance	200±2℃, 168h≥1/2
Aging Test	260℃, 6h, No cracking
Cold Bend	No cracking
Horizontal Flame Test	Pass
Flammability	VW-1
Volume Resistivity	10^{11}
Submerge Water Test	None viscous, no deformation, no softening

Type	Testing Condition	Average Voltage	Individual Value (V)
CB-SRS1-40	UL1441	4000	3000
CB-SRS1-70	UL1441	7000	5000

Availability Master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number CB-SRS2

Header CB-SRS2 Flame Retardant Fiberglass Tubing (inner Silicone /outer Fiberglass)

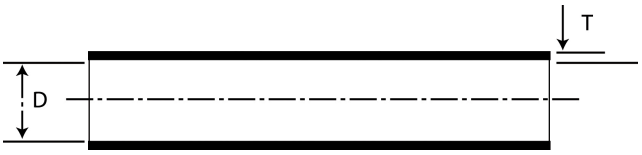
Description CB-SRS2 series tubing is flexible, flame-retardant and halogen free. CB-SRS is a fiberglass tubing coated with silicone rubber at high temperature.

Agency Approval & Compliance UL, CUL, RoHS, Halogen Free, Flame Retardant, REACH

Application CB-SRS2 fiberglass tubing provides good electrical insulation and is widely used in many consumer appliances, lighting fixtures, stoves, oven and furnace controls, relays, breaker panels, switchgear and other commercial and industrial applications.

Temperature Rating -10°C~200°C

Standard Sizes and Dimension



Size	Inside Diameter (D) (mm)	Wall Thickness (T) (mm) 7000V
Φ0.5	0.5+0.20/-0	0.60±0.05
Φ0.8	0.8+0.20/-0	0.60±0.05
Φ1.0	1.0+0.20/-0	0.60±0.05
Φ1.5	1.5+0.20/-0	0.60±0.05
Φ2.0	2.0+0.20/-0	0.60±0.05
Φ2.5	2.5+0.25/-0	0.60±0.05
Φ3.0	3.0+0.30/-0	0.70±0.05
Φ3.5	3.5+0.30/-0	0.70±0.05
Φ4.0	4.0+0.30/-0	0.70±0.05
Φ4.5	4.5+0.30/-0	0.70±0.05
Φ5.0	5.0+0.30/-0	0.70±0.05
Φ6.0	6.0+0.35/-0	0.75±0.05
Φ7.0	7.0+0.35/-0	0.75±0.05
Φ8.0	8.0+0.40/-0	0.80±0.05
Φ9.0	9.0+0.40/-0	0.80±0.05
Φ10.0	10.0+0.50/-0	0.90±0.05

Φ11.0	11.0+0.50/-0	0.90±0.05
Φ12.0	12.0+0.50/-0	0.90±0.05
Φ13.0	13.0+0.65/-0	1.30±0.05
Φ14.0	14.0+0.65/-0	1.30±0.05
Φ15.0	15.0+0.65/-0	1.30±0.05
Φ16.0	16.0+0.65/-0	1.30±0.05
Φ17.0	17.0+0.65/-0	1.30±0.05
Φ18.0	18.0+0.65/-0	1.30±0.05
Φ20.0	20.0+0.65/-0	1.30±0.05
Φ22.0	22.0+0.65/-0	1.30±0.05
Φ25.0	25.0+0.65/-0	1.30±0.05

Typical Properties

Item	Silicone/Fiberglass Sleeving
Temperature Range	-10℃~+200℃
Temperature Endurance	200±2℃, 168h≥1/2
Aging Test	260℃, 6h, No cracking
Cold Bend	No cracking
Horizontal Flame Test	Pass
Flammability	VW-1
Submerge Water Test	None viscous, no deformation, no softening

Type	Testing Condition	Average Voltage	Individual Value (V)
CB-SRS2-70	UL1441	7000	5000

Availability Master reels and cut pieces

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THERMOSLEEVE USA
YOUR TUBING SPECIALIST

Part Number CB-SRT

Header CB-SRT Extruded Silicone Rubber Tubing

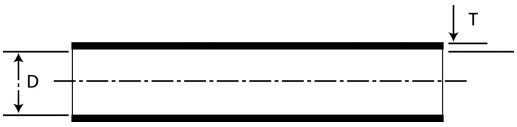
Description CB-SRT is silicone rubber tubing ideally suited for many automotive, appliance, electrical/electronic, and aerospace custom rubber requirements.

Agency Approval & Compliance UL, CUL, RoHS, Halogen Free, Flame Retardant, REACH, VW-1

Application CB-SRT silicone tubing is used where high resistance to both high and low temperature extremes are involved.

Temperature Rating -50°C~200°C

Standard Sizes and Dimension



Size mm	Size mm	Inside Diameter (D) (mm)	Wall Thickness (T) (mm)			Packing Length (Meter/Roll)
			1000V	1200V	1500V	
Φ0.8		0.80+0.20/-0.1	0.5±0.10	0.6±0.10	1.0±0.10	100
Φ1.0		1.00+0.20/-0.1				100
Φ1.2		1.20+0.20/-0.1				100
Φ1.5		1.50+0.20/-0.1				100
Φ2.0		2.00+0.20/-0.1				100
Φ2.5		2.50+0.20/-0.1				100
Φ3.0		3.00+0.20/-0.1				100
Φ3.5		3.50+0.20/-0.1				100
Φ4.0		4.00+0.20/-0.1				100
Φ4.5		4.50+0.20/-0.1				100
Φ5.0		5.00+0.20/-0.1				100
Φ6.0		6.00+0.20/-0.1				100
Φ7.0		7.00+0.20/-0.1	0.7±0.10	0.8±0.10		100
Φ8.0		8.00+0.20/-0.1				100
Φ9.0		9.00+0.20/-0.1	0.8±0.10	0.9±0.10		100
Φ10		10.0+0.20/-0.1				100
Φ11		10.0+0.20/-0.1	0.9±0.10	1.0±0.10	1.5±0.1.0	50
Φ12		12.0+0.20/-0.1				50

Φ13		13.0+0.20/-0.1	1.0±0.10	1.1±0.10	1.5±0.1.0	50
Φ14		14.0+0.20/-0.1				50

Typical Properties

Specifications	Flammability	General Type
Tensile Strength MPa (Kg/cm^2)	≥6.9 (70)	≥6.9 (70)
Elongation	≥200	≥300
Peel Strength kN/m (Kg f/cm)	≥14.5 (15)	≥14.5 (15)
Resistant Volume Ω•m(Ω •cm)	≥2X10^{12}(2X10^{14})	≥2X10^{12}(2X10^{14})
Dielectric Strength KV/mm	≥25	≥25
Dielectric Constant (ε) 50Hz	3.2	3.2
Dielectric Loss Tangent Angle 50Hz	0.001	0.001
Flammability UL-224	VW-1	–
Operation Temperature (°C)	-50~+200	-50~+200

Availability Master reels and cut pieces

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