



**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).

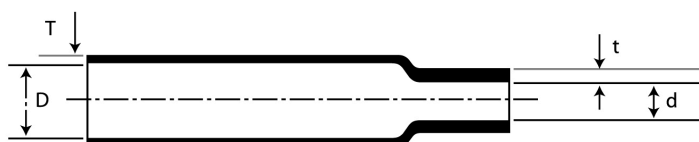
**Agency Approval & Compliance** UL, CUL, RoHS, Halogen Free, Flame Retardant, FMark, UL224, REACH, VW1

**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

## SINGLE WALL

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)	≥10 <sup>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 ±1.0°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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**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

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**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)	≥10 <sup>14</sup>
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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### 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)	≥10 <sup>14</sup>
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-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

## SINGLE WALL

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

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

**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).

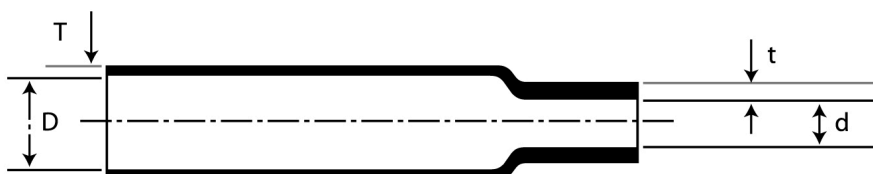
**Agency Approval & Compliance** UL, CUL, ROHS, Halogen free, Flame Retardant, F Mark, UL224, REACH, VW1

**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

## SINGLE WALL

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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 <sup>14</sup> sup>

## SINGLE WALL

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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
Dielectric Strength (@1min, AC2500V)	

**Availability** Four-foot lengths, master reels and cut pieces

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## 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

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Order Fax (800) 421-3538 E-mail sales@thermosleeve-USA.com Website <http://www.thermosleeve-usa.com>

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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	0.45±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)	≥10 <sup>14</sup>
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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### Part Number MTTAG

#### Header MTTAG Low Fire Hazard Marker Tags

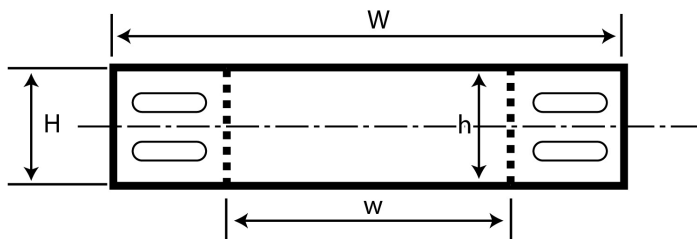
**Description** MTTAG is made from zero halogen, radiation cross-linked and UV stabilized polyolefin that provide low smoke and low toxicity properties. Primarily used for cable and wire-bundle identification where limited fire hazards characteristics are required. MTTAG marker tag material has excellent 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 -40°C to 125 °C

#### Size



#### Sizes:

Size	Marker dimensions (W*H)		Printable area (w*h)		Pack size (pcs)
	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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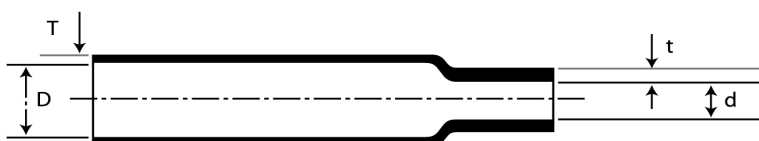
**Part Number** CB-MTHX**Header** CB-MTHX3X MIL Spec Heat Shrink Marker Sleeve

**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

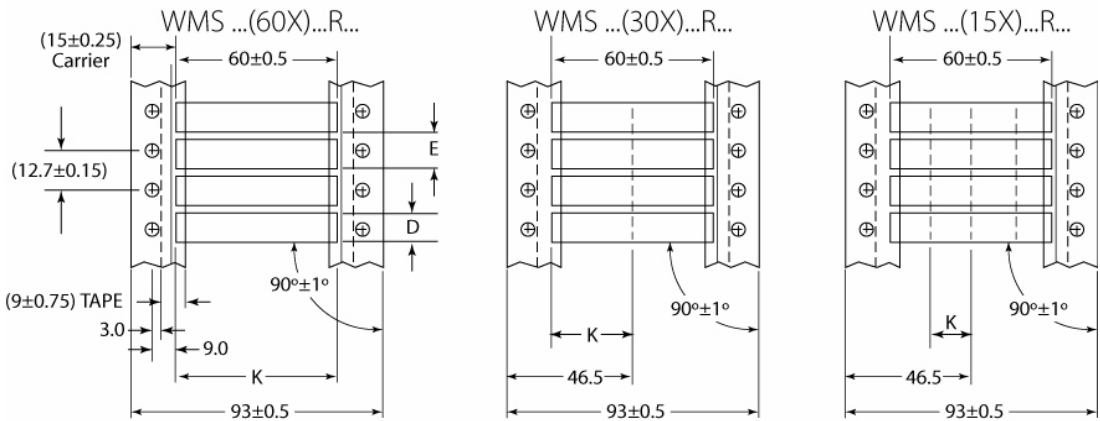
**Application** CB-MTHX wire markers are designed to meet wire identification needs of commercial and industrial customers.

**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)		≥10 <sup>14</sup>
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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**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

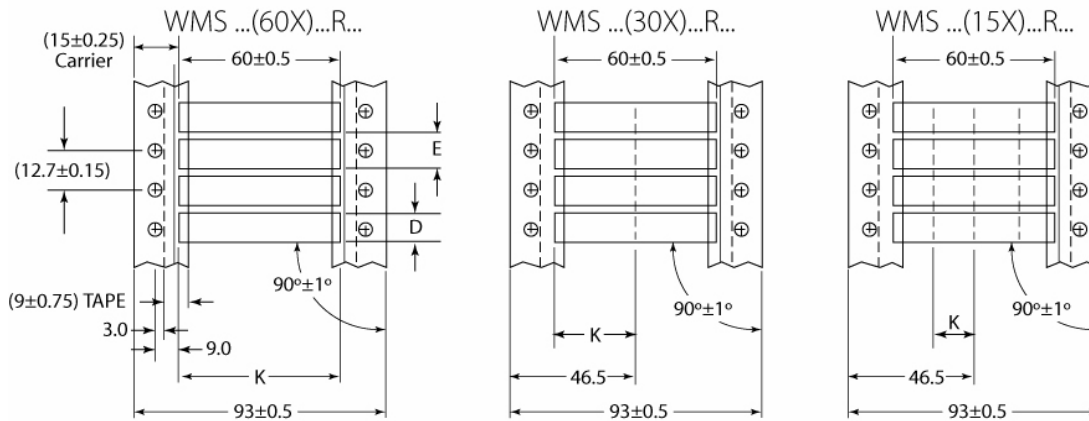
**Application** CB-MTTM wire markers are designed to meet wire identification needs of commercial and industrial customers.

**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
<b>Physical performance</b>	
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
<b>Print performance</b>	
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 <sub>2</sub> O/PGME Monoethanolamine
<b>Electrical performance</b>	
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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**Part Number** CB-MTTM-MIL-S

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

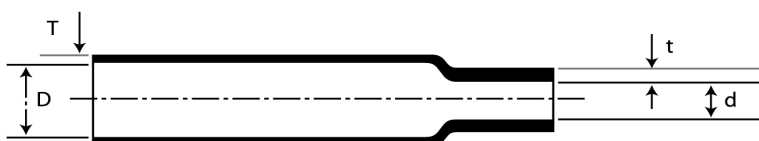
**Description** CB-MTTM-MIL-S is used to identify wire and cable, tools, hoses and equipment in operating environments where temperatures range from -55°C to 135°C. It can withstand abrasion and exposure to cleaning solvents and other industrial fluids. Sleeves are flame-retardant and can be used for 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

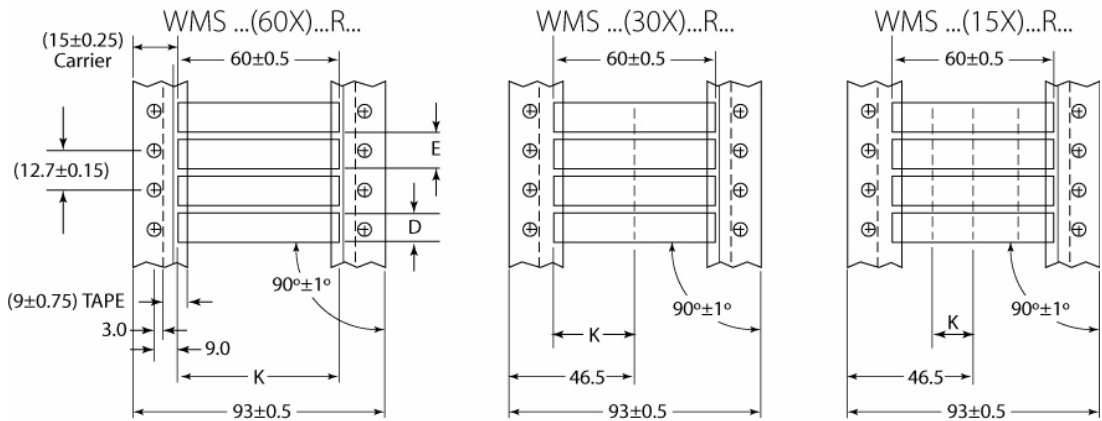
**Size**



**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
<b>Physical performance</b>	
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 (%)	
<b>Print performance</b>	
UL 224	50 Rubber erasure, identification
MIL-M-81531-4.6.2	50 Rubber erasure, identification
MIL-STD-202	30 Rubber erasure, identification
<b>Electrical performance</b>	
Aging in Circulating-air Oven	
Dielectric Strength (kV/mm)	≥19.7KV/mm
Dielectric Voltage (V) AC	
Volume Resistivity (Ω.cm)	≥10 <sup>14</sup> Ω.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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**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

## SINGLE WALL

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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**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)	
Ø0.8		1.3±0.2	0.18±0.08	≤0.45	0.33±0.06	200
Ø1.0	3/64"	1.5±0.2	0.18±0.05	≤0.6	0.36±0.06	200
Ø1.5	1/16"	2.0±0.2	0.20±0.08	≤0.8	0.40±0.08	200
Ø2.0	3/32"	2.5±0.2	0.20±0.08	≤1.00	0.42±0.08	200
Ø2.5		3.0±0.2	0.22±0.08	≤1.25	0.42±0.08	200
Ø3.0	1/8"	3.5±0.3	0.25±0.10	≤1.5	0.46±0.08	200
Ø3.5		4.0±0.3	0.25±0.10	≤1.75	0.46±0.08	200
Ø4.0		4.5±0.3	0.25±0.10	≤2.0	0.48±0.08	200
Ø4.5	3/16"	5.0±0.3	0.25±0.10	≤2.25	0.50±0.10	100
Ø5.0		5.5±0.4	0.25±0.10	≤2.5	0.50±0.10	100
Ø6.0	1/4"	6.5±0.4	0.28±0.12	≤3.0	0.56±0.10	100
Ø6.5		7.0±0.4	0.28±0.12	≤3.25	0.56±0.10	100
Ø7.0		7.5±0.4	0.30±0.12	≤3.5	0.58±0.10	100
Ø8.0		8.5±0.5	0.30±0.12	≤4.0	0.60±0.10	100

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Order Fax (800) 421-3538 E-mail sales@thermosleeve-USA.com Website <http://www.thermosleeve-usa.com>

## SINGLE WALL

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%

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Volume Resistivity ( $\Omega$ .cm)	$\geq 1014$
Dielectric Strength (kV/mm)	$\geq 15$
Concentricity (%)	$\geq 65\%$
Copper Corrosion	No corrosion

**Availability** Four-foot lengths, master reels and cut pieces

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**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 125°C. 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 wirn 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 x15 min
Ø3	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

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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 <sup>2</sup>	≤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/m <sup>2</sup> )	5.0*10 <sup>7</sup> ---10.0*10 <sup>7</sup>
Ultimate Elongation (%)	200---350
Tensile Strength (M/mm)	100-300
Absorption (water) %	< 2.0%
Dielectric Strength (kV/mm)	> 80
Surface Resistivity (Ω)	> 10 <sup>9</sup>
Volume Resistivity (Ω.cm)	> 10 <sup>14</sup>
Operating Temperature Range (°C)	-40°C + 130°C

**Availability** hundred-foot reels

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**Part Number** CYG-ZHP

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

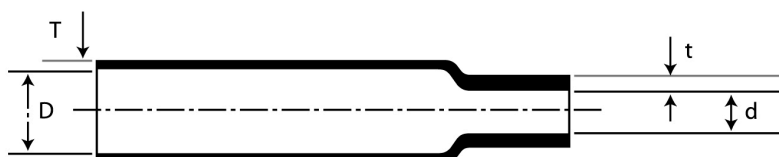
**Description** CYG-ZHP is a phosphorous-free version of our CB-HFT600 which is also free of Pb,Cd, Hg,Cr+6, PBB and PBDE. CYG-ZHP can be used in any enclosed area where a flame-retardant, halogen-free environment is required. This 2X heat shrink tubing complies with EU requirements and has the same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

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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

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Item	Specifications
Ultimate Elongation (%) - After Aging	≥100
Dielectric Voltage Withstand (V)	600
Volume Resistivity (Ω.cm)	≥10 <sup>14</sup>
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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**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		

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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		30
Φ70	73±3.0	1.5±0.3	41.2±3.0	2.5±0.35		
Φ80	85±5.0	1.5±0.4	47±5.0	2.5±0.35		20
Φ90	95±5.0	1.5±0.4	53±5.0	2.5±0.35		
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		
Φ11	110±5.	1.5±0.4	60.0±5.0	3.0±0.5		20

### Typical Properties

Specification Type	CB-SRT-H
Temperature Range (°C)	150
Dielectric Voltage Withstand (V)	600
Tensile Strength MPa (Kg/cm <sup>2</sup> )	≥3.45
Elongation	≥100
Peel Strength kN/m (Kg f/cm)	≥14.5 (15)
Resistant Volume Ω·m(Ω·cm)	≥2X10 <sup>12</sup> (2X10 <sup>14</sup> )
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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guarantees the product to be free from defects in material and manufacturing at the time of purchase. If this product is found to be defective within the warranty period, at our option we will refund the purchase price, replace or repair the Thermosleeve-USA product.



**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		
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	50	300

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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±0.3		30
Φ70	73±3.0	1.5±0.3	41.2±3.0	2.5±0.3		
Φ80	85±5.0	1.5±0.4	47±5.0	2.5±0.3		
Φ90	95±5.0	1.5±0.4	53±5.0	2.5±0.3		
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		
Φ35	36±1.5	1.0±0.3	18.0±1.0	2.0±0.2		50

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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		30
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		20
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		20

### Typical Properties

Specification Type	CB-SRT-N
Temperature Range (°C)	150
Dielectric Voltage Withstand (V)	600
Tensile Strength MPa (Kg/cm <sup>2</sup> )	≥3.45
Elongation	≥100
Peel Strength kN/m (Kg f/cm)	≥14.5 (15)
Resistant Volume Ω·m(Ω·cm)	≥2X10 <sup>12</sup> (2X10 <sup>14</sup> )
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

**Important Notice** All information contained in this data sheet is believed to be reliable and accurate. It is advised however that the end user of this material evaluate the suitability of the product for their specific application.

**Limited Warranty/Limited Liability** Thermosleeve-USA offers no guarantees in respect to the accuracy of the information detailed in this document and accepts no explicit or applied liability as to the products use. In no instance will Thermosleeve-USA be liable

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