

## 3M Heat Shrink Tubing

A **valmont**  COMPANY



**Features:** Split resistant, mechanically tough, easily marked and resists cold flow. 2:1 shrink ratio. Two sizes cover all common lugs and ground wire.

**Construction:** Flexible, polyolefin.

**Design Criteria:** Rated for continuous operation at  $-55^{\circ}\text{C}$  ( $-67^{\circ}\text{F}$ ) to  $135^{\circ}\text{C}$  ( $275^{\circ}\text{F}$ ), and is designed to withstand elevation temperatures to  $300^{\circ}\text{C}$  ( $572^{\circ}\text{F}$ ) for short periods. Minimum shrink temperature for all tubing is  $100^{\circ}\text{C}$  ( $212^{\circ}\text{F}$ ).

Part #	Color	Tube Size	Wire/Lug Size	Weight
SHT12	Black	1/2" X 4'	6 AWG - 2 AWG	0.01 lb.
SHT34	Black	3/4" X 4'	2/0 AWG - 4/0 AWG	0.10 lb.
SHT12-CL	Clear	1/2" X 4'	6 AWG - 2 AWG	0.05 lb.
SHT34-CL	Clear	3/4" X 4'	2/0 AWG - 4/0 AWG	0.06 lb.

# Heat Shrink Tubing

Flexible, Polyolefin

## Description

Heat Shrink Tubing offers an outstanding balance of electrical, physical and chemical properties for a wide variety of industrial and military applications. Rated for 135°C continuous operation, all tubing is split resistant, mechanically tough, easily marked and resists cold flow.

Tubing is rated for continuous operation at -55°C (-67°F) to 135°C (275°F), and is designed to withstand elevated temperatures to 300°C (572°F) for short periods. Minimum shrink temperature for all tubing is 100°C (212°F).

## Agency Approvals & Self Certifications

Meets requirements of:

- SAE-AMS-DTL-23053/5, Class 1, Class 2 (Clear)\*
- AMS-3636, AMS-3637
- UL Recognized, File E-39100, at 600 volts maximum @ 125°C
- CSA Certified, CSA LR38227, at 600 volts maximum @ 125°C
- ABS

**\*Formerly MIL-I-23053/5 and MIL-DTL-23053/5**

## Applications

Tubing is typically used as a shrink-fit electrical insulation over cable splices and terminations. It is also used for lightweight wire harness covering, wire marking, wire bundling, component packaging and fire-resistant covering.

## Shrink Ratio

Tubing has a 2:1 shrink ratio. When freely recovered, the tubing will shrink to 50% of its as-supplied internal diameter. The recovered wall thickness is proportional to the degree of recovery.

## Standard Sizes and Dimensions

Ordering Size (Nominal)	Expanded I.D. (Minimum)		Recovered I.D. (Maximum)		Recovered Wall Thickness (Nominal)	
	In.	(mm)	In.	(mm)	In.	(mm)
1/2	.500	(12,70)	.250	(6,35)	.025	(0,64)
3/4	.750	(19,05)	.375	(9,53)	.030	(0,76)

## Typical Properties

Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (23°C) unless otherwise stated.

Electrical Property (Test Method)	Typical Value
Dielectric Strength	900 V/mil
Volume Resistivity	10 <sup>15</sup> ohm/cm

Chemical Property (Test Method)	Typical Value
Corrosion Resistance (Copper mirror)	Non-corrosive
Fungus Resistance	Non-nutrient
Water Absorption	0.2%
Solvent Resistance	Excellent

Physical Property	Typical Value US units (metric)
<b>Tensile Strength</b>	2400 psi
<b>Ultimate Elongation</b>	400%
<b>Longitudinal Change</b>	±5%
<b>Secant Modulus (2%)</b>	13,000 psi
<b>Specific Gravity</b>	1.3 (Opaque) .93 (Clear)
<b>Operating Temperature</b>	-67° to 275°F (-55° to +135°C)
<b>Shrink Temperature (minimum)</b>	212°F (100°C)
<b>Heat Aging (336 hrs. @ 175° C)</b>	Elongation 175%
<b>Heat shock (4 hrs. @ 250° C)</b>	No dripping, flowing, cracking, passes mandrel wrap test
<b>Low Temperature Flexibility (4 hrs @ -55° C)</b>	No cracking
<b>Scant Modules (2%)</b>	13,000 psi
<b>Flammability</b> Self-extinguish, Meets UL 224 All-Tubing Flame Test (Except Clear)	Pass

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**Colors** Black, Clear

NOTE: The clear tubing is not flame retardant or UL listed.

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**Shelf Life & Storage** Heat Shrink Tubing has a 10-year shelf life from date of manufacture when stored in a humidity controlled storage (10°C/50°F to 27°C/80°F and <75% relative humidity).

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