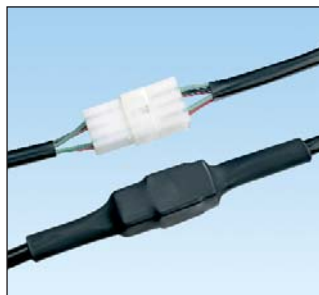


# 4:1 Heat Shrink Tubing

## specifications

Heat shrink with a 4:1 shrink ratio shall be used to insulate and protect oversized electrical and electronic components, cables, terminals, and connectors. This tube shall be recovered with a heat gun that provides consistent shrinking without burning or charring the outer wall of the tube. The heat shrink tube shall include an adhesive inner wall, which seals and protects components from moisture and corrosion. The heat shrink tube shall be UL Recognized and RoHS Compliant to assure quality material and to provide confidence that the product meets the application requirements.



## technical information

<b>Material:</b>	Irradiated cross-linked polyolefin outer wall with an inner wall of specifically designed hot melt adhesive
<b>UL recognized:</b>	File number E342365
<b>Flammability:</b>	Flame retardant outer wall meets UL 224 VW-1
<b>Color:</b>	Black
<b>Voltage rating:</b>	Up to 600 volts
<b>Application temperature:</b>	-67°F to 257°F (-55°C to 125°C)
<b>Shrink temperature:</b>	248°F (120°C)
<b>Water absorption:</b>	1.0% MAX. per ASTM D570
<b>Dielectric strength:</b>	Greater than 19.7 kV/mm
<b>Environmental compliance:</b>	Compliant per European Directive 2002/95/EC on the Restriction of Hazardous Substances (RoHS)

## key features and benefits

<b>4 to 1 shrink ratio</b>	Permits fewer sizes to cover a larger range of applications to provide increased mechanical protection and the ability to repair most damaged cable jackets without removing the connectors
<b>Variety of diameters</b>	Enable specific sizes to be chosen based on application requirements to provide a lower installed cost and the flexibility to protect different size electrical and electronic components, cables, terminals and connectors, especially oversized terminals and connectors
<b>Convenient packaging</b>	Available in boxes that include 4' lengths to help maintain a manageable and organized inventory
<b>Quality material</b>	Suitable for use in 600 V applications to comply with UL standards

## applications

Heat shrink with a 4:1 shrink ratio offers an economical and simple way to provide increased mechanical protection. With high quality material, Panduit 4:1 heat shrink tubing delivers optimum reliability for the insulation, protection, harnessing, and identification of oversized electrical and electronic components, cables, terminals, and connectors. A variety of sizes

accommodate cable and termination sizes from 0.04" up to 2.0" in diameter, are suitable for indoor and outdoor applications and approved for use up to 600 volts. Ideal for the repair of damaged cable jackets, this solution speeds maintenance without the need to remove connectors, which also ensures continuity of the related systems in the physical infrastructure.

### 4:1 Heat Shrink Tubing

<b>0.158" expanded diameter:</b>	HSTT4A15-48-Q
<b>0.315" expanded diameter:</b>	HSTT4A31-48-Q
<b>0.472" expanded diameter:</b>	HSTT4A47-48-Q
<b>0.630" expanded diameter:</b>	HSTT4A62-48-5
<b>0.945" expanded diameter:</b>	HSTT4A94-48-5
<b>1.26" expanded diameter:</b>	HSTT4A125-48-5
<b>2.05" expanded diameter:</b>	HSTT4A200-48-5

### Heat Gun and Accessories

<b>Heat gun:</b>	HSG115V-650
<b>Shrink tube reflector for tubing up to ¾":</b>	HSG-A1
<b>Shrink tube reflector for tubing up to 1½":</b>	HSG-A2
<b>Black polyethylene storage case:</b>	HSG-A4

# 4:1 Heat Shrink Tubing

## sizes and dimensions

Part Number	Nominal Diameter		Min. Expanded I.D.		Max. Recovered I.D.		Nominal Recovered Wall Thickness		Length	
	In.	mm	In.	mm	In.	mm	In.	mm	Ft.	m
HSTT4A15-48-Q	.158	4.0	.158	4.0	.039	1.0	.043	1.10	4.00	1.2
HSTT4A31-48-Q	.315	8.0	.315	8.0	.079	2.0	.043	1.10	4.00	1.2
HSTT4A47-48-Q	.472	12.0	.472	12.0	.118	3.0	.055	1.40	4.00	1.2
HSTT4A62-48-5	.630	16.0	.630	16.0	.158	4.0	.070	1.80	4.00	1.2
HSTT4A94-48-5	.945	24.0	.945	24.0	.236	6.0	.088	2.25	4.00	1.2
HSTT4A125-48-5	1.260	32.0	1.260	32.0	.315	8.0	.100	2.54	4.00	1.2
HSTT4A200-48-5	2.050	52.0	2.050	52.0	.512	13.0	.100	2.54	4.00	1.2

## size selection for heat shrink tubing

Generally, the largest tube that shrinks down tightly onto an object should be chosen. This allows the heat shrink tubing maximum stress relief and will yield the longest service life.

Example:

A multi-conductor cable needs to be covered with HSTT4A 4:1 heat shrink tubing. The area to be covered has a measured outside diameter of 0.500" (12.7mm). Based on expanded and recovered ID attributes, the following three part numbers are possible options.

Part Number	Expanded I.D. In. (mm)	Recovered I.D. In. (mm)
HSTT4A62-48-5	0.630 (16.0)	0.158 (4.0)
HSTT4A94-48-5	0.945 (24.0)	0.236 (6.0)
HSTT4A125-48-5	1.26 (32.0)	0.315 (8.0)

The optimal choice is HSTT4A125-48-5 since the tube will recover more than HSTT4A62-48-5 and HSTT4A94-48-5. While the HSTT4A62-48-5 and HSTT4A94-48-5 will fit over the 0.500" (12.7mm) outside diameter, the recovered I.D. is smaller than that of the HSTT4A125-48-5. In general, heat shrink should recover at least 10% – 20% to reduce stress and yield the longest service life.

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