Thick Wall Polyolefin Heat Shrink Tubing

PANDUIT®
SPECIFICATION SHEET

specifications

Thick Wall Polyolefin Heat Shrink with a 3:1 ratio shall be used to insulate, seal and protect electrical splices and terminations where maximum flame retardancy and exceptional insulating and sealing characteristics are required. The adhesive-lined inner wall shall seal and protect against moisture. The heat shrink tube shall be suitable for direct burial according to UL 486D; and UL Recognized for sunlight (UV) resistance and VW-1 flame rating for outdoor applications such as solar and wind. The thick wall tube shall be CSA certified and RoHS compliant.

technical information

Material:	Irradiated cross-linked polyolefin outer wall with an inner wall of hot melt adhesive
UL listed: *	File number E173379 “SEALED WIRE CONNECTOR SYSTEM”
UL recognized: * (Black only)	File number E342365 “VW-1 and SUNLIGHT RESISTANT”
CSA certified: *	File number 244528
MIL spec:	SAE-AMS-DTL-23053/15 Class 1
Flammability:	Flame retardant meets UL 224 VW-1
Color:	Black and Red
Shrink ratio:	3:1
Voltage rating:	UL 486D Listed for 600V 90°C continuous use Additionally tested for 1 kV withstand
Continuous operating temperature:	-67°F to 230°F (-55°C to 110°C)
Shrink temperature:	248°F (120°C)
Water absorption:	0.5% MAX. per ASTM D570
Dielectric strength:	7.9 kV/mm minimum per ASTM D2671
Environmental compliance:	Compliant per European Directive 2002/95/EC on the Restriction of Hazardous Substances (RoHS)
Shelf life:	10 years

* = (except HST3.0 and HST3.5 sizes)

key features and benefits

Wet applications:	High impact and abrasion resistance Suitable for outdoor, direct sunlight and direct burial applications Resistant to splitting or rupture during installation
Variety of diameters:	Allows optimal sizing for application requirements to provide a lower installed cost and the flexibility to protect different size electrical and electronic components, cables, terminals and connectors
Convenient packaging:	Available in boxes that include 4' lengths to help maintain a manageable and organized inventory A variety of shorter lengths are also available
Quality material:	Suitable for use in 600 V applications to comply with UL standards

applications

Approved by UL for outdoor, direct sunlight applications as well as submersible and direct burial installations, providing excellent cable protection with an operating temperature up to 230°F (110°C) with VW-1 flame rating. Ideal for outdoor alternative energy applications, such as, wind and solar. A broad soft flame torch or hot air gun can be used to shrink the tube. Minimum recommended shrink temperature is 248°F (120°C). Continually move the heat source around the diameter of the tube, which will cause the product to recover. The Panduit heat gun is designed for indoor use only, and the recovery rate will be slower than using a torch. Do not scorch the tube.

3:1 Heat Shrink Tubing Thick Wall Polyolefin

0.40" expanded dia.:	HST0.4*
0.75" expanded dia.:	HST0.8*
1.10" expanded dia.:	HST1.1*
1.50" expanded dia.:	HST1.5*
2.00" expanded dia.:	HST2.0*
2.70" expanded dia.:	HST2.7*
3.00" expanded dia.:	HST3.0*
3.50" expanded dia.:	HST3.5*

Related products

Adhesive-Lined Heat Shrink End Caps

0.47" expanded dia.:	HSEC0.5-X
0.79" expanded dia.:	HSEC0.8-X
1.15" expanded dia.:	HSEC1.0-X
1.58" expanded dia.:	HSEC1.5-5
2.25" expanded dia.:	HSEC2.0-5
3.92" expanded dia.:	HSEC4.0-2

Flame Retardant Adhesive-Lined Heat Shrink End Caps

0.51" expanded dia.:	HSECFR0.5-XY
0.75" expanded dia.:	HSECFR0.8-XY
1.10" expanded dia.:	HSECFR1.0-XY
1.50" expanded dia.:	HSECFR1.5-5Y
2.00" expanded dia.:	HSECFR2.0-5Y

Heat Gun and Accessories

Heat Gun:	HSG-115V-650
Shrink tube reflector for tubing up to ¾":	HSG-A1
Shrink tube reflector for tubing up to 1½":	HSG-A2

*Additional sizes or colors are available. See following page for complete part number information.

Thick Wall Polyolefin Heat Shrink Tubing

Sizes and Dimensions

Part Number	Color	Min. Expanded I.D.		Max. Recovered I.D.		Nominal Recovered Wall Thickness		Length	
		In.	mm	In.	mm	In.	mm	In.	mm
HST0.4-3-Q2Y	Red	0.40	10.2	0.16	4.1	0.08	2.0	3.0	76.2
HST0.4-3-QY	Black								
HST0.4-6-3Y	Black							6.0	152.4
HST0.4-6-X2Y	Red								
HST0.4-6-XY	Black								
HST0.4-48-5-2Y	Red							48.0	1219.2
HST0.4-48-5Y	Black								
HST0.8-6-3Y	Black	0.75	19.1	0.22	5.6	0.09	2.3	6.0	152.4
HST0.8-6-X2Y	Red								
HST0.8-6-XY	Black								
HST0.8-9-X2Y	Red							9.0	228.6
HST0.8-9-XY	Black								
HST0.8-12-5-2Y	Red							12.0	304.8
HST0.8-12-5Y	Black								
HST0.8-48-5-2Y	Red							48.0	1219.2
HST0.8-48-5Y	Black								
HST1.1-6-3Y	Black	1.10	27.9	0.39	9.5	0.12	3.0	6.0	152.4
HST1.1-6-X2Y	Red								
HST1.1-6-XY	Black								
HST1.1-9-2Y	Black							9.0	228.6
HST1.1-9-X2Y	Red								
HST1.1-9-XY	Black								
HST1.1-12-5-2Y	Red							12.0	304.8
HST1.1-12-5Y	Black								
HST1.1-48-5-2Y	Red							48.0	1219.2
HST1.1-48-5Y	Black								
HST1.5-9-XY	Black	1.50	38.1	0.50	12.7	0.16	4.1	9.0	228.6
HST1.5-12-1Y	Black							12.0	304.8
HST1.5-12-5Y	Black								
HST1.5-48-5-2Y	Red							48.0	1219.2
HST1.5-48-5Y	Black								
HST2.0-9-5Y	Black	2.00	50.8	0.67	16.9	0.16	4.1	9.0	228.6
HST2.0-12-2Y	Black							12.0	304.8
HST2.0-48-2Y	Black							48.0	1219.2
HST2.7-12-2Y	Black	2.70	68.6	0.87	22.1	0.16	4.1	12.0	304.8
HST2.7-48-2Y	Black							48.0	1219.2
HST3.0-12-2	Black	3.00	76.2	1.00	25.4	0.16	4.1	12.0	304.8
HST3.0-48-2	Black							48.0	1219.2
HST3.5-12-2Y	Black	3.50	88.9	1.20	30.5	0.16	4.1	12.0	304.8
HST3.5-48-2Y	Black							48.0	1219.2

applications

Generally, the largest tube that shrinks down tightly onto an object should be chosen. This will provide a heat shrink with maximum wall thickness and maximum stress relief that will yield the largest service life.

Example:
A multi-conductor cable needs to be covered with HST thick wall heat shrink tubing. The area to be covered has a measured outside diameter of 0.650" (16.5mm). Based on expanded and recovered ID attributes, the first three part numbers are possible options:

HST2.0-48-2Y will not work because its recovered I.D. is greater than 0.650" (16.5mm). The optimal choice is HST1.5-48-5Y since the tube will recover to less than 0.650" (16.5mm) and it has the largest expanded I.D. while the HST0.8-48-5Y and HST1.1-48-5Y will fit over the 0.650" (16.5mm) outside diameter, the recovered wall would be thinner and not provide as much protection.

Part Number	Expanded I.D. In. (mm)	Recovered I.D. In. (mm)
HST0.8-48-5Y	0.75 (19.1)	0.22 (5.6)
HST1.1-48-5Y	1.10 (27.9)	0.38 (9.5)
HST1.5-48-5Y	1.50 (38.1)	0.50 (12.7)
HST2.0-48-2Y	2.00 (50.8)	0.67 (16.9)

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Replaces WW-HSSP01
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