

HSKITMIXED

Halogen free, Flexible, Polyolefin Heat Shrink Tubing Kit. 2:1 Normal Wall Tubing SHW-1-H(2X), 3:1 and 4:1 Dual Wall Tubing: SHW-1-SB (3X, 4X)

This kit comprises varying sizes and lengths of black tubing packed in a handy transparent plastic compartment box.

This Kit Contains:

2:1 normal wall, 3.2mm (45mm x 50pcs)
2:1 normal wall, 4.8mm (45mm x 30pcs)
2:1 normal wall, 6.4mm (45mm x 20pcs)
3:1 dual wall, 9.5mm (70mm x 20pcs)
3:1 dual wall, 12.7mm (70mm x 10pcs)
4:1 dual wall 16.0mm (70mm x 10 pcs)

**Characteristics**

- Operating temperature -45°C to +125°C (Dual Wall)
-55°C to +125°C (Normal Wall)
- Minimum shrink temperature 70°C (Dual Wall)
- Minimum shrink temperature 70°C (Normal Wall)
- Shrink Ratio 2:1/3:1/4:1
- Approvals: UL224, 125°C 600V VW-1
- RoHS compliant
- Standard color: black

Applications

SHW-1-H series of heat shrink tubing is manufactured with modified radiation cross-linked polyolefin. The specially designed halogen free formulation makes the tubing very flexible and shrink at lower temperature. Suitable for applications where temperature sensitive components protection, e.g. PVC jacketed wire and cable and quick shrinkage is required. It has good mechanical and electrical performances.

SHW-1-SB (3X, 4X) Manufactured by co-extrusion of polyolefin and hot-melt adhesive. Designed to provide both insulation and sealing for protected

articles. Used to protect auto wires, shipping cable, bundle wires and metal tubes against water and moisture. High expansion ratio makes it possible to repair most damaged cable jackets without removing connectors.

Technical Data for Normal Wall 2:1 tube (SHW-1-H(2X))

Property	Test Method	Typical Data
Tensile Strength	ASTM D2671	≥ 10.4 Mpa
Ultimate Elongation	ASTM D2671	$\geq 200\%$
Longitudinal Shrinkage	UL 224	+/-5%
Heat Aging Tensile Strength Ultimate Elongation	158°C, 168hr	≥ 7.3 Mpa $\geq 100\%$
Heat shock	250°C, 4hrs	No cracking, No dripping
Flammability	FMVSS302	Pass
Dielectric Strength	ASTM D150	≥ 15 kV/mm
Volume Resistivity	ASTM D2671	$\geq 1 \times 10^{14}$ $\Omega \cdot \text{cm}$
Copper Stability	UL224	Pass
Copper Corrosion	UL224	No corrosion

Normal Wall 2:1 Heat Shrinkable Tubing (SHW-1-H(2X))

Size		As supplied	After Recovery(mm)	
Inch	mm	Internal diameter(mm)	Internal diameter Max(mm)	Wall thickness Nom(mm)
1/8	3.2	3.5 \pm 0.2	1.50	0.40 \pm 0.10
3/16	4.8	5.0 \pm 0.2	2.30	0.50 \pm 0.10
1/4	6.4	6.5 \pm 0.2	3.0	0.55 \pm 0.10

Technical Data for Normal Wall 3:1/4:1 tube (SHW-1-SB(3X, 4X))

Property	Test Method	Typical Data
Tensile Strength	ASTM D 2671	≥ 12.0 MPa
Ultimate Elongation	ASTM D 2671	$\geq 300\%$
Longitudinal Shrinkage	UL 224	+/-8%
Heat Aging Ultimate Elongation	158°C, 168hrs	$\geq 200\%$

Flammability	VW-1	Pass (out jacket only)
Dielectric Strength	IEC 243	$\geq 15\text{kV/mm}$
Volume Resistivity (ohm-cm)	UL224	$\geq 10^{14}\Omega\cdot\text{cm}$
Copper Stability	ASTM D 2671	Pass
Corrosion	UL224	No corrosion

Adhesive Data for Normal Wall 3:1/4:1 tube (SHW-1-SB(3X, 4X))

Property	Test Method	Typical Data
Water Absorption	ISO 62	$< 0.2\%$
Softening Point	ASTM D E28	95°C
Peel Strength (to PE)	ASTM D 1000	120N/25m
Peel Strength (to AL)	ASTM D 1000	80N/25m

Dual Wall 3:1 Heat Shrinkable Tubing (HSKIT31DUALLWALL)

Size		As supplied	After recovery (mm)		
Inch	mm	Internal Diameter Min. (mm)	Internal Diameter Max.	Total Wall Thickness	Wall Thickness of Adhesive
3/8	9.5	9.5	3.20	1.45±0.30	0.50±0.20
1/2	12.7	12.7	4.20	1.65±0.30	0.50±0.20

Dual Wall 4:1 Heat Shrinkable Tubing (HSKIT41DUALLWALL)

Size		As supplied	After recovery (mm)		
Inch	mm	Internal Diameter Min. (mm)	Internal Diameter Max.	Total Wall Thickness	Wall Thickness of Adhesive
5/8	16.0	16.0	4.0	2.00±0.30	0.70±0.30

CERTIFICATE OF RoHS COMPLIANCE

SHW-1-H(2X) and SHW-1-SB(3X, 4X) has been manufactured from materials that are compliant with the UK (EU) RoHS requirements.

The materials in our heat shrink ranges have been independently tested by an appropriate third party and we retain these records and intend to repeat such tests on an ongoing basis as part of our quality control procedures.

Testing methods include:

- EPA method 3050B:1996 other acid digestion
- BSEN1122: 2001 method B other acid digestion
- EPA method 3052B:1996 other acid digestion
- EPA method 3060 & EPA 7196A:1992
- Atomic Absorption Spectrometer/ Inductively coupled Plasma Atomic Emission Spectrometer (ICP+AES) UV-VIS Spectrophotometer