



Heat Shrink Tubing

Overview

From precision sealing to rugged protection, the Sumitomo tubing lineup offers versatile solutions engineered for professional-grade insulation, environmental resistance, and component identification. The series includes:

B2: A single-wall, flame-retarded polyolefin tubing built to military specification, ideal for general-purpose applications such as wire marking and light harness insulation.

O2B2: A dual-wall construction designed for straight-profile components, combining high dielectric strength with a thinner meltable adhesive lining for efficient waterproof sealing and corrosion protection.

W3B2: The heavy-duty performer of the trio, featuring a thick adhesive layer and high shrink ratio that conforms to irregular shapes—perfect for encapsulating wire branches and sealing complex assemblies.

All models deliver 600V-rated electrical insulation, meet key UL and CSA standards, and perform reliably across a wide temperature range. Whether you need structural conformity, environmental sealing, or flexible reinforcement, Sumitomo tubing delivers precision where it counts.



Product Name	Classification				Materials	Specifications/Approvals			Conditions
B2	Waterproofing	Flame-retardant	UL Recognized	SAE recognized	Polyolefin	UL 125°C VW-1	CSA 125°C VW-1	SAE 135°C	Dry
O2B2	Waterproofing	Flame-retardant	UL Recognized	SAE recognized	Polyolefin	UL 125°C	CSA 125°C	SAE 110°C	Damp
W3B2	Waterproofing	Flame-retardant	UL Recognized	SAE recognized	Polyolefin	UL 125°C	CSA 125°C	SAE 110°C	Damp

Product Name	Features	Oil/Chemical Resistance (Room Temperature)						Shrink Properties		Cont. Operating Temp.
		Gasoline	Gas Oil	Lubricant	Alcohol	Acid	Alkali	Shrink Ratio	Shrink Temp.	
B2	Flame retardant, no marking	▲	▲	▲	◎	○	○	2:1	90°C	135°C
O2B2	Thin adhesive	▲	▲	▲	○	○	▲	2:1	110°C	125°C
W3B2	Thick adhesive	▲	▲	▲	○	○	▲	3:1	110°C	125°C

Symbol Key: ○ = Good; ◎ = Very good, ▲ = Not applicable in some cases

For details, refer to the full comparison chart.

Heat Shrink Tubing Comparison Chart				
Characteristics	B2	O2B2	W3B2	
Shrink Ratio	2:1	2:1	3:1	
Wall Type	Single	Dual	Dual	
Adhesives	N/A	+	++	
Voltage Rating	600V	600V	600V	
Longitudinal Change	0 ±5%	+1, -10%	-15 to 5%	
Min Radial Change	50%	50%	60%	
Conditions	Dry	Damp	Damp	
Applications	• Insulation, protection and reinforcement for termination and joints of electric wire • Insulation and protection of resistors and capacitors	• Corrosion protection of pipes • Waterproof sealing for electronic devices • Insulation and protection for wire joints	• Waterproof sealing for electronic devices with irregular shapes or profiles • Encapsulation for wire branches • Insulation and protection for wire joints	
Regulatory	UL Recognized CSA SAE	UL224 File No. E48762 CSA C22.2 No. 198.1 File No. LR33298 SAE-AS230534 Class 1, 3 (formerly MC353)	UL224 File No. E75077 CSA C22.2 No. 198.1 File No. LR33298 SAE-AS230534 Class 2 (formerly MC353)	UL224 File No. E75077 CSA C22.2 No. 198.1 File No. LR33298 SAE-AS230534 Class 3 (formerly MC353)
Outer Wall	Insulated flame-retardant cross-linked polyolefin	Insulated flame-retardant cross-linked polyolefin	Insulated flame-retardant cross-linked polyolefin	
Material				
Inner Wall		Hot melt adhesive	Hot melt adhesive	
Flame Retardant	VW-1	VW-1	VW-1	
Shrink Temperature	90C	—	—	
Temperature	UL Rating CSA Rating SAE Rating	-55 to 125°C (-67 to 257°F) -55 to 125°C (-67 to 257°F) -55 to 135°C (-67 to 275°F)	-55 to 125°C (-67 to 257°F) -55 to 125°C (-67 to 257°F) -55 to 110°C (-67 to 230°F)	-55 to 125°C (-67 to 257°F) -55 to 125°C (-67 to 257°F) -55 to 110°C (-67 to 230°F)
Chemical	Alcohol Acid Alkaline	++ + +	+ + N/A	+ + N/A



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Sumitomo O2B2 Heat Shrink Tubing

Designed for straightforward sealing applications, Sumitomo O2B2 heat shrink tubing features a flame-retardant polyolefin outer layer and a meltable adhesive lining that flows to form a secure, watertight bond. Its dual-wall construction offers dependable insulation, corrosion protection, and environmental sealing—ideal for straight-profile components, wire joints, and electronic devices requiring long-term durability.

Features

- Voltage rating: 600 V
- Sold in 4ft sticks
- Black
- Shrink ratio: 2:1
- Dual wall
 - Inner wall material: hot melt adhesive (thinner than W3B2)
 - Outer wall material: flame-retardant irradiated cross-linked polyolefin
- Dielectric strength (typical value): 1044 V/mil (41.1 kV/mm)
- Minimum temperature: -67°F [-55°C]
- Maximum temperature: 257°F [125°C]
- Shrink temperature: 230°F [110°C]
- Applicable standards (Maximum Temperature):
 - UL 224: 257°F [125°C]
 - CSA C22.2 No. 198.1: 257°F [125°C]
 - SAE-AS23053/4 Class 2: 230°F [110°C]

Applications

- Corrosion protection of pipes
- Waterproof sealing for electronic devices
- Insulation and protection for wire joints



O2B2 Heat Shrink Tubing Specifications

Part Number	Pkg Qty*	Price	Trade Size (in)	Trade Size (mm)	Supplied Inside Diameter (Min)	Recovered Inside Diameter (Max)	Wall Thickness After Recovery (Nom)
114-10010	5	\$18.00	1/4 in	6.4/3.2	0.25 in (6.4 mm)	0.125 in (3.2 mm)	0.03 in (0.75 mm)
114-10019	5	\$20.00	3/8 in	9.5/4.8	0.375 in (9.5 mm)	0.187 in (4.8 mm)	0.03 in (0.75 mm)
114-10030	5	\$23.00	1/2 in	12.7/6.4	0.5 in (12.7 mm)	0.25 in (6.4 mm)	0.03 in (0.75 mm)
114-10041	5	\$29.00	3/4 in	19.1/9.5	0.75 in (19.1 mm)	0.375 in (9.5 mm)	0.035 in (0.9 mm)
114-10049	5	\$43.50	1 in	25.4/12.7	1 in (25.4 mm)	0.5 in (12.7 mm)	0.042 in (1.1 mm)
114-10063	2	\$29.00	1-1/2 in	38.1/19.1	1.5 in (38.1 mm)	0.75 in (19.1 mm)	0.047 in (1.2 mm)

* Sold in 4 ft sticks


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ELECTRIC**

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Heat Shrink Tubing Comparison Chart

Characteristics		B2	02B2	W3B2
Shrink Tubing Characteristics	Shrink Ratio	2:1	2:1	3:1
	Wall Type	Single	Dual	Dual
	Adhesive	N/A	+	++
	Voltage Rating	600V	600V	600V
	Longitudinal Change	0 ±5%	+1, -10%	-15 to 5%
	Min Radial Change	50%	50%	60%
	Conditions	Dry	Damp	Damp
	Applications	- Insulation, protection and reinforcement for termination and joints of electric wire - Insulation and protection of resistors and capacitors	- Corrosion protection of pipes - Waterproof sealing for electronic devices - Insulation and protection for wire joints	- Waterproof sealing for electronic devices with irregular shapes or profiles - Encapsulation for wire branches - Insulation and protection for wire joints
Regulatory	UL Recognized	UL224 File No. E48762	UL224 File No. E75077	UL224 File No. E75077
	CSA	CSA C22.2 No. 198.1 File No. LR33298	CSA C22.2 No. 198.1 File No. LR33298	CSA C22.2 No. 198.1 File No. LR33298
	SAE	SAE-AS23053/5 Class 1, 3 (formerly M23053)	SAE-AS23053/4 Class 2 (formerly M23053)	SAE-AS23053/4 Class 3 (formerly M23053)
Material	Outer Wall	Irradiated flame-retardant cross-linked polyolefin	Irradiated flame-retardant cross-linked polyolefin	Irradiated flame-retardant cross-linked polyolefin
	Inner Wall	—	Hot melt adhesive	Hot melt adhesive
	Flame Retardant	VW-1	VW-1	VW-1
Temperature	Shrink Temperature	90°C	110°C	110°C
	UL Rating	-55 to 125°C [-67 to 257°F]	-55 to 125°C [-67 to 257°F]	-55 to 125°C [-67 to 257°F]
	CSA Rating	-55 to 125°C [-67 to 257°F]	-55 to 125°C [-67 to 257°F]	-55 to 125°C [-67 to 257°F]
	SAE Rating	-55 to 135°C [-67 to 275°F]	-55 to 110°C [-67 to 230°F]	-55 to 110°C [-67 to 230°F]
Chemical	Alcohol	++	+	+
	Acid	+	+	+
	Alkali	+	N/A	N/A
	Corrosion Against Bare Copper	175°C x 16 hours, no corrosion	121°C x 16 hours, no corrosion	121°C x 16 hours, no corrosion
Mechanical	Tensile Strength (Before Aging)	Min. value: 10.4MPa typical values [reference only]:13.4MPa	Min. value: 10.4MPa typical values [reference only]:14.4MPa	Min. value: 10.4MPa typical values [reference only]:14.4MPa
	Elongation (Before Aging)	Min. value: 200% typical values [reference only]:410%	Min. value: 250% typical values [reference only]:472%	Min. value: 250% typical values [reference only]:472%
	Elongation (After Aging)	175°C x 7 days, min. 100%	—	—
	Low-Temperature Flexibility	-55°C x 4 hours, no crack	—	—
	Cold Impact	—	-55°C x 3 minutes, no crack	-55°C x 3 minutes, no crack
	Heat Shock	250°C x 4 hours, no crack	250°C x 4 hours, no crack	250°C x 4 hours, no crack
	Specific Gravity	Max. Value: 1.35 typical values [reference only]:1.32	—	—
Electrical	Dielectric Strength	Min. Value: 19.7kV/mm typical values [reference only]:37.1kV/mm	Min. Value: 11.8kV/mm typical values [reference only]:41.1kV/mm	Min. Value: 11.8kV/mm typical values [reference only]:41.1kV/mm
	Volume Resistivity	Min. Value: 1.0 x 10 ¹⁴ Ω • cm typical values [reference only]:3.1 x 10 ¹⁵ Ω • cm	Min. Value: 1.0 x 10 ¹⁴ Ω • cm typical values [reference only]:2.11 x 10 ¹⁵ Ω • cm	Min. Value: 1.0 x 10 ¹⁴ Ω • cm typical values [reference only]:2.11 x 10 ¹⁵ Ω • cm
Fluid Resistance*	Tensile Strength	Min. value: 6.9MPa typical values [reference only]:13.1MPa	Min. value: 6.2MPa typical values [reference only]:10.4MPa	Min. value: 6.2MPa typical values [reference only]:10.4MPa
	Dielectric Strength	Min. Value: 15.8kV/mm typical values [reference only]:30.5kV/mm	Min. Value: 7.9kV/mm typical values [reference only]:38.1kV/mm	Min. Value: 7.9kV/mm typical values [reference only]:38.1kV/mm
	Flammability (UL224)	VW-1	VW-1	VW-1
Water Immersion at 23°C for 24 Hours	Water Absorption	Max. Value: 0.50% typical values [reference only]: 0.28%	Max. Value: 1% typical values [reference only]: 0.49%	Max. Value: 1% typical values [reference only]: 0.49%
	Color Stability	175°C x 24 hours, no change	175°C x 24 hours, no change	175°C x 24 hours, no change
Water Immersion at 20°C for 2 Weeks	External Appearance	—	No abnormality	No abnormality
	Insulation Resistance (in water)	—	Min. 100MΩ	Min. 100MΩ
	Withstand Voltage (in oil)	—	No dielectric breakdown after application of AC1.5kV for 60 s	No dielectric breakdown after application of AC1.5kV for 60 s

* After immersion in fluids specified in SAE-AS23053 at 23°C for 24 hours.