

Heat-Shrink Tubing

Selection Guide

Heat Shrinkable

Material	Product	Single Wall	Dual Wall	Highly Flexible	Flexible	Semi Rigid	Operating Temperature	Size Range	1.2m Lengths	Spools	Flat Spools
Single Wall											
Polyolefin	CGPT	●			●		-40°C to +135°C	1.2mm to 102mm		●	
Polyolefin	CRN	●				●	-55°C to +135°C	1.2mm to 19mm	●		
Polyolefin	DCPT	●			●		-55°C to +135°C	1.6mm to 38mm		●	
Polyolefin	LSTT	●			●		-40°C to +125°C	1.6mm to 38mm		●	
Polyolefin	RNF-100	●			●		-55°C to +135°C	1.2mm to 102mm	●	●	●
Polyolefin	RNF-3000	●			●		-55°C to +135°C	1.5mm to 39mm	●	●	
Polyolefin	RP-4800	●			●		-55°C to +135°C	25.4mm to 102mm	●	●	
Polyolefin	VERSAFIT®	●		●			-55°C to +135°C	1.6mm to 104.2mm		●	●
Elastomer	DR-25	●			●		-75°C to +150°C	3.2mm to 76mm		●	
Elastomer	DR-25-TW	●		●			-75°C to +150°C	2.4mm to 38mm		●	
Fluoroelastomer	RW-200-E	●			●		-55°C to +200°C	3.2mm to 51mm		●	
Silicone	SRFR	●		●			-75°C to +200°C	2.9mm to 51mm		●	
Fluoropolymer	RT-375	●			●		-55°C to +150°C	1.2mm to 25.4mm		●	
Fluoropolymer	RT-555	●				●	-65°C to +200°C	3.2mm to 50.8mm		●	
Fluoropolymer	RW-175-E	●				●	-55°C to +175°C	1.2mm to 25.4mm	●	●	
Fluoropolymer	TFE	●				●	-67°C to +250°C	0.8mm to 11.9mm	●		
Fluoropolymer	TFER	●				●	-67°C to +250°C	2.0mm to 32mm	●		
Polyolefin/Polyester	HFT5000	●		●			-40°C to +125°C	4.0mm to 70mm		●	●
Zero Halogen											
Polyolefin	ZH-150	●			●		-75°C to +150°C	3.0mm to 50mm		●	
Polyolefin	ZHT	●			●		-30°C to +125°C	1.2mm to 80mm		●	
Polyolefin	ZHTM	●			●		-30°C to +105°C	3mm to 50mm		●	
Dual Wall / Adhesive lined											
Polyolefin	ATUM		●		●		-55°C to +110°C	3mm to 52mm	●	●	
Polyolefin	CGAT		●		●		-40°C to +80°C	3mm to 39mm	●	●	
Fluoropolymer	D-150		●			●	-65°C to +150°C	1.1mm to 2.8mm			
Fluoropolymer	D-260		●			●	-65°C to +260°C	5.16mm to 16.26mm			
Polyolefin	HTAT		●		●		-55°C to +125°C	4mm to 48mm	●	●	
Polyolefin	SCL		●			●	-55°C to +110°C	3.2mm to 25.4mm	●		
Polyolefin	SCT		●			●	-40°C to +150°C	1.7mm to 17.8mm	●		

Shrink Ratio	Min. Shrink Temperature	Black	Clear/Natural	Colours	Comment	Flame Retardant	UL Approved	CSA	VW-1 (UL/CSA)	MIL Spec*	Page Number
Single Wall											
2:1 & 3:1	+80°C	●	●	●	General purpose, flexible	●	●	●			92
2:1	+110°C	●	●		General purpose, semi-rigid	●	●	●		●	94
2:1 & 3:1	+95°C			●	Green and yellow striped	●	●	●			95
2:1	+65°C	●	●	●	Low shrink temperature tubing	●					99
2:1	+95°C	●	●	●	High performance and flexible	●	●	●		●	100
3:1	+80°C	●	●	●	Higher shrink ratio	●	●	●		●	101
4:1	+95°C	●		●	4:1 shrink ratio tubing	●	●			●	102
2:1	+70°C	●		●	Highly flame retardant, multi-spec	●	●	●	●	●	110
2:1	+150°C	●			Diesel resistant tubing	●				●	96
2:1	+150°C	●			Thin wall, diesel resistant tubing	●				●	97
2:1	+100°C	●			High temperature, chemical resistant tubing	●				●	106
1.7:1	+135°C			●	Very flexible heat shrinkable silicone	●	●		●		106
2:1	+125°C		●		Clear high performance tubing	●	●	●	●	●	103
2:1	+150°C	●			Fluid and chemical resistant tubing	●	●		●		104
2:1	+155°C		●		High temperature, chemical resistant tubing	●					105
1.8:1	+260°C		●		High temperature, chemically inert tubing	●					108
3.2:1	+240°C		●		High temperature, chemically inert tubing	●					109
2:1	+110°C	●			Woven heat shrinkable tubing		●				98
Zero Halogen											
2:1	+150°C	●			Zero halogen, LFH tubing	●					112
2:1	+120°C	●		●	Zero halogen, coloured LFH tubing	●	●				113
2:1	+80°C	●			Zero halogen, medium-wall LFH tubing	●			●		111
Dual Wall / Adhesive Lined											
3:1 & 4:1	+80°C	●			Adhesive lined performance tubing	●	●			●	114
3:1	+80°C	●	●		Adhesive lined tubing	●	●				115
n/a	-			●	C-Wrap repair sleeve						116
n/a	-	●			Wraparound side entry repair						116
4:1	+80°C	●			High temperature adhesive lined tubing	●					117
4:1	+125°C	●		●	Encapsulant lined tubing		●			●	118
4:1	+125°C	●			High temperature, adhesive lined tubing	●					119

Braided Sleeving

Selection Guide

Abrasion and Mechanical Protection

1	Product	Type	Markets	Description
2	Mechanical and Abrasion Protection...			
3	Expando® 686DM	Tubular	Aero, Def	Optimal solution for use where a combination of abrasion protection and lightweight are required.
4	Expando® HR & HR Plus	Tubular	Aero, Def	Fray-resistant and flame retardant used for abrasion protection over a range of temp. environments. Low vacuum out-gassing.
5	Expando® HTNS-L/HO	Tubular	Aero, Def	Low flammability, resists most chemicals. Open braid construction, highly flexible and resistant to trapping moisture.
6	Expando® HTNS-LA/HO	Tubular	Aero	Higher expansion ratio than HTNS L/HO (1:3)
7	Expando® Peek	Tubular	Aero, Def	Designed for mechanical protection in temperature extremes and hostile conditions
8	Expando® PFA	Tubular	Aero, Def	Self-extinguishing, used to encase typical non-flammable wires or cables, low flammability, resists damage from most chemicals.
9	Expando® PPS	Tubular	Aero, Def	Offers mechanical protection in high temperature areas. Often used for its outstanding properties in extreme environments.
10	Expando® PT Plus	Tubular	Elec	Highly expandable braid (1:3) with strong mechanical protection; treated to prevent end fraying, available in a variety of colours.
11	Expando® TCP V0	Tubular	Rail, Elec	Expandable braid (1:2) with strong mechanical protection, with low toxicity and smoke-emission.
12	Roundit® 2000	Wrappable	Elec	Self-wrapping sleeve with strong mechanical protection; quick and easy installation and removal for assembly and maintenance
13	Roundit® 2000 FR	Wrappable	Rail	Rail approved self-wrapping sleeve with good mechanical protection; Excellent cut through and abrasion resistance.
14	Roundit® 2000 V0	Wrappable	Rail	Self-wrapping sleeve with high mechanical protection; Highly flame retardant (UL94 V0) with low toxicity and smoke emission.
15	Roundit® 2000 NX	Wrappable	Aero, Def, Oil/Gas, Rail	Woven combination of Nomex® and PPS in a flat weave for a rugged and smooth texture, for high temperature cable bundling.
16	Roundit® 2000 NX HT	Wrappable	Aero, Def, Oil/Gas, Rail	High temp. version of 'NX' differentiated by a wide ivory tracer on the outside. PEEK mono-filaments and Nomex® multi-filaments.
17	Roundit® 2000 NX PTR/VTR	Wrappable	Aero, Def	Designed with a pink tracer to identify fuel lines (PTR) or a violet tracer to identify fibre optics (VTR); Oil and water repellent.
18	Roundit® 2000 NX Grip	Wrappable	Aero, Def	Designed with a sewn loop textile attachment method in conjunction with adhesive hook, enables direct attachment.

Approvals	Temp.	Flammability	Construction	Size
... continued				
	-70°C to +200°C	FAR Part 25 § 853 and UL 1441 (VW-1)	PEEK and PPS	3 to 64
	-70°C to +150°C	FAR Part 25 § 853 and UL 1441 (VW-1)	Halar® (E-CTFE) fluoropolymer	2 to 70mm
ASD EN6049-003	-60°C to +240°C	FAR Part 25 § 853 and UL 244 (VW-1)	Nomex®	1 to 40mm
ASD EN6049-003	-60°C to +240°C	FAR Part 25 § 853	Nomex®	2 to 60mm
	-70°C to +260°C	FAR Part 25 § 853	PEEK	2 to 76mm
BMS 13-52 Type IV	-70°C to +260°C	FAR Part 25 § 853	Perfluoroalkoxy (PFA)	1 to 76mm
BMS 13-52 Type III	-70°C to +200°C	FAR Part 25 § 853 and UL 1441 (VW-1)	Polyphenylene Sulfide (PPS)	2 to 64mm
	-70°C to +125°C	Flame retardant	Polyester	2 to 114mm
EN 45545-2	-50°C to +150°C	NF16101 - 16102 DB DIN 5510 & 54837 ASTM E-662 & ASTM E-162	Polyester	4 to 75mm
	-70°C to +125°C	FMVSS-302 Method D45 1333	Polyester	5 to 62mm
EN 45545-2	-50°C to +150°C	NF16101 - 16102 DB DIN 5510 & 54837 ASTM E-662 & ASTM E-162	Polyester	5 to 50mm
EN 45545-2	-50°C to +150°C	NF16101 - 16102 DB DIN 5510 & 54837 ASTM E-662 & ASTM E-162	Polyester	5 to 50mm
ASD EN6049-006 BMS 13-81 Type 1	-60°C to +200°C	FAR Part 25 § 853	Nomex® and PPS	5 to 40mm
ASD EN6049-007	-70°C to +260°C	FAR Part 25 § 853	Nomex® and PEEK	5 to 40mm
ASD EN6049-006.	-60°C to +200°C	FAR Part 25 § 853	Nomex® and PPS	5 to 40mm
	-60°C to +200°C	FAR Part 25 § 853	Nomex® and PPS	5 to 40mm

Braided Sleeving

Selection Guide

Electrical Insulation | Thermal and Fire | Electromagnetic Shielding

Product	Type	Markets	Description
Electrical Insulation and Abrasion Resistance...			
GES 40 and GES 100	Tubular	Elec	Highly flexible with relative diametric expansion (1:3), with silicone coating. Offering dielectric strength from 4kV to 10kV.
Roundit® 2000 NX HT	Wrappable	Aero	High temperature version of Roundit 2000 NX. Oil and water repellent - Dielectric 1.5kV
Thermal and Fire Insulation...			
TST/TSX	Tubular	Aero, Def	High temperature resistant, multi-filament pure silica fibre (>99.8%). Heat treated to remove organic content.
Textalu® 1202	Tubular	Elec	Fibreglass sleeve with a heavy aluminium coating for protection in high temperature areas.
Thermotubix Aerospace	Tubular	Aero, Rail	Expands readily to go over fittings and couplings. Protects from molten splash and welding sparks.
Roundit® Therm-A	Wrappable	Aero, Def	Two layer design provides thermal/fire protection and excellent cut-through and abrasion resistance; oils and water repellent.
Roundit® Therm-B	Wrappable	Aero, Def	Three layer design provides increased protection and excellent cut-through and abrasion resistance; oil and water repellent
Therm-L-Wrap® 66	Wrappable	Aero, Def, Oil/Gas	Self-wrappable sleeve with an adhesive closure, offers excellent radiant heat protection and excellent EMI shielding performance.
Electromagnetic Shielding...			
Roundit® 2000 NX EMI	Wrappable	Aero, Def	Multi-layer solution providing mechanical protection and very high EMI shielding; also available with an inner layer of PTFE.
Roundit® 2000 V0 EMI	Wrappable	Rail	Self-wrapping metal solution; flexible and easy to install providing high performance EMI shielding
Roundit® 2000 EMI FMJ	Wrappable	Aero, Rail	Self-wrapping metal solution, with 95% optical coverage; flexible and easy to install providing very high performance EMI shielding
Roundit® 2000 EMI XWS	Wrappable	Aero	Self-wrapping metal solution to optimise weight with EMI shielding performance. C4 (Blue tracer) & C27 (Pink tracer)
Raybraid® 90, 101 and 103	Tubular	Aero, Def	Tubular metal braid for electrical screening of wire bundles, with minimum 90% optical coverage, greater for 101 and 103
HBT90 and HBT99	Tubular	Aero, Def Motorsport	Tubular metal braid for electrical screening, offering up to 99% optical coverage HBT99.
InstaLite® 101 and 103	Tubular	Aero, Motorsport	Lightweight tubular metal alloy braiding for electrical screening of wire bundles, 50% lighter than traditional copper braid

Approvals	Temp.	Flammability	Construction	Size
... continued				
	-60°C to +220°C	UL 1441 (VW-1)	Silicone rubber coated fibreglass sleeving	0.5 to 32mm
ASD EN6049-007	-70°C to +260°C	FAR Part 25 § 853	Nomex® and PEEK	5 to 40mm
... continued				
	-60°C to 950°C	FAR Part 25 § 853	Multi-filament pure silica fibre	0.5 to 36mm
ISO 6722 SAE AS1072 (2)	-40°C to +200°C	FMVSS 302, D45 1333	Fibreglass sleeve with aluminium coating	5 to 22mm
EN 45545-2	-54°C to 260°C	ASTM D-350 B and NF 16101-16102. Fire protection to +1100°C (15min)	Thick wall fibreglass sleeve coated with silicone rubber	8 to 100mm
ASD EN6049-009	-60°C to +260°C	ISO 2685 - 5 min @ +1100°C	Roundit® 2000 NX HT, Silica and Panox®	5 to 32mm
	-60°C to +260°C	ISO 2685 - 15 min @ +1100°C	Fibreglass sleeve coated with silicone rubber outer	5 to 32mm
	-60°C to 200°C	FAR Part 25 § 853	Aluminium outer layer and fibreglass inner layer	8 to 25mm
... continued				
ASD EN6049-008	-60°C to 200°C	FAR Part 25 § 853	Ni plated Cu combined with PPS mono-filaments	5 to 38mm
EN 45545-2	-50°C to 200°C	NF 16101-16102	Ni plated Cu combined with PPS mono-filaments	8 to 45mm
EN 45545-2	-65°C to 200°C	FAR Part 25 § 853 NF 16101-16102	Ni plated Cu combined with PPS mono-filaments	5 to 38mm
C4: EN4674-003 C27: EN4674-004	-65°C to 200°C	FAR Part 25 § 853	Ni plated Cu combined with PPS mono-filaments	5 to 165mm
	101 up to +150°C 103 up to +200°C	-	Series 90 & 101 tinned Cu and series 103 tinned Ni Cu	3 to 30mm
	90 up to +150°C 99 up to +260°C	-	Series 90 tinned Cu and series 99 tinned Ni Cu	3 to 30mm 3 to 40mm
	101 up to +150°C 103 up to +200°C	-	Series 101 tinned Cu alloy and series 103 tinned Ni Cu	3 to 20mm