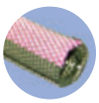
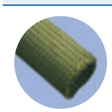
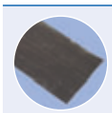
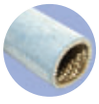
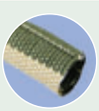
Powerful Solutions for Superior Aircraft Protection

ABRASION & BUNDLING

Product	Description	Temperature	Flammability	Halogen Free	Design and Construction	Available Sizes
 **ROUNDIT® PPS**	A lightweight, solution that provides abrasion protection in areas within close proximity to fluid lines or in space applications where low outgassing is required.	-60°C to +175°C (-76°F to +347°F)	• FAR Part 25 § 853	✓	**Design:** Wrappable **Construction:** Polyphenylene Sulfide (PPS)	5 to 38 mm (3/16" to 1-1/2")
 **ROUNDIT® 2000 NX**	A flexible solution that provides excellent abrasion and cut-through resistance; oil and water repellent. Qualified to ASD EN6049-006 and BMS 13-81 Type 1.	-60°C to +200°C (-76°F to +392°F)	• FAR Part 25 § 853	✓	**Design:** Wrappable **Construction:** Nomex® and PPS	5 to 40 mm (3/16" to 1-1/2")
 **ROUNDIT® 2000 NX PTR/VTR**	Designed with a pink tracer to identify fuel lines or a violet tracer to identify fiber optics, as well as an ivory tracer to indicate maximum operating diameter; oil and water repellent. Qualified to ASD EN6049-006.	-60°C to +200°C (-76°F to +392°F)	• FAR Part 25 § 853	✓	**Design:** Wrappable **Construction:** Nomex® and PPS	5 to 40 mm (3/16" to 1-1/2")
 **ROUNDIT® 2000 NX Red / Orange**	Designed to identify wire harnesses connected with test equipment taken on-board airplanes (Orange) or with weapon systems (Red); oil and water repellent. Qualified to ASD EN6049-006.	-60°C to +200°C (-76°F to +392°F)	• FAR Part 25 § 853	✓	**Design:** Wrappable **Construction:** Nomex® and PPS	5 to 40 mm (3/16" to 1-1/2")
 **ROUNDIT® 2000 NX GRIP**	Designed with a sewn loop textile attachment method which, in conjunction with an adhesive hook, enables attachment of the wire harness directly to the aircraft structure thus reducing the space needed between the wire harness and the structure.	-60°C to +200°C (-76°F to +392°F)	• FAR Part 25 § 853	✓	**Design:** Wrappable **Construction:** Nomex® and PPS	5 to 40 mm 3/16" to 1-1/2"
 **Expando® HR Plus**	Fray-resistant and flame retardant solution used for abrasion protection over a range of temperature environments.	-70°C to +150°C (-94°F to +302°F)	• FAR Part 25 § 853 • VW-1		**Design:** Tubular **Construction:** Halar®(E-CTFE) fluoropolymer	3 to 64 mm (1/8" to 2-1/2")
 **Expando® 686 DM**	Optimal solution for use where a combination of abrasion protection and lightweight properties are required.	-70°C to +200°C (-94°F to +392°F)	• FAR Part 25 § 853 • VW-1	✓	**Design:** Tubular **Construction:** PEEK & PPS	3 to 64 mm (1/8" to 2-1/2")
 **Expando® PPS**	Designed for mechanical protection in high temperature areas. Often used for its outstanding properties in extreme environments.	-70°C to +200°C (-94°F to +392°F)	• FAR Part 25 § 853 • VW-1	✓	**Design:** Tubular **Construction:** PPS	3 to 45 mm (1/8" to 1-3/4")
 **Expando® HTNS-L/HO**	Low flammability and resists damage from most chemicals. Features an open-braid construction, making the product highly flexible and resistant to trapping water, heat and humidity. Qualified to EN6049-003.	-60°C to +240°C (-76°F to +464°F)	• FAR Part 25 § 853 • VW-1	✓	**Design:** Tubular **Construction:** Nomex®	2 to 30 mm (1/16" to 1-3/16")
 **Expando® PEEK**	Designed for mechanical protection in temperature extremes and hostile conditions.	-70°C to +260°C (-94°F to +500°F)	• FAR Part 25 § 853	✓	**Design:** Tubular **Construction:** PEEK	3 to 64 mm (1/8" to 2 -1/2")
 **Expando® PFA**	Self-extinguishing when used to encase typical non-flammable wires or cables, has low flammability and resists damage from most chemicals.	-70°C to +260°C (-94°F to +500°F)	• FAR Part 25 § 853		**Design:** Tubular **Construction:** PFA	3 to 32 mm (1/8" to 1-1/4")
 **Silicone Tapes**	Provide good fluid resistance and are ideal for sealing, connecting and finishing cut ends. Also available with fiberglass reinforcement for increased mechanical strength.	-60°C to +250°C (-76°F to +482°F)			**Design:** Flat **Construction:** Silicone	Maximum elongation ranges from 200% to 500%. Multiple widths and thicknesses available.
 **Lacing Tapes**	Flat braided textiles that feature outstanding chemical and thermal stability, are fray resistant and have a high breaking strength. TG series conforms to CID-A-A-52083 Finish D.	-55°C to +1100°C (-67°F to +2012°F)			**Design:** Flat Rectangular **Construction:** Available in Teflon-coated fiberglass, Nomex® or ceramic fibers	

ELECTRICAL INSULATION

Product	Description	Temperature	Flammability	Halogen Free	Design and Construction	Available Sizes
 **Ben-Har® 1151 FR-B**	A rugged, flame-retardant solution that provides both electrical insulation and abrasion resistance. Difficult to ignite and self-extinguishes promptly. Grade B qualified to DMS 2109.	-70C° to +200°C (-94°F to +392°F)	• FAR Part 25 § 853	✓	**Design:** Tubular **Construction:** Silicone Rubber Coated Fiberglass Sleeving	14 AWG through 3" (Grade B only)
 **ROUNDIT® 2000 NX HT**	A high temperature version of ROUNDIT® 2000 NX. Includes a wide ivory tracer on the outer side for identification purposes; oil and water repellent. Qualified to ASD EN6049-007.	-60°C to +260°C (-76°F to +500°F)	• FAR Part 25 § 853	✓	**Design:** Wrappable **Construction:** Nomex® and Polyetheretherketone (PEEK)	5 to 40 mm (3/16" to 1-1/2")

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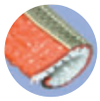
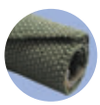
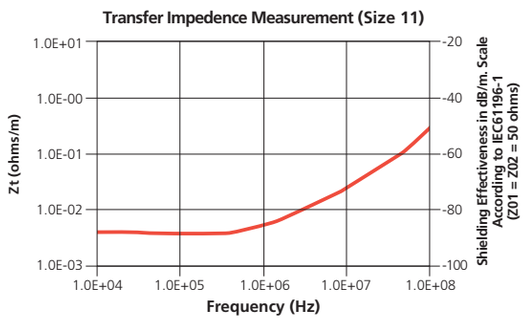
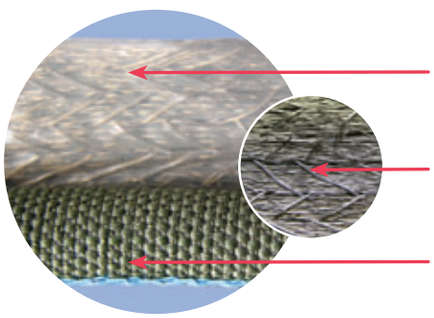
THERMAL MANAGEMENT

Product	Description	Temperature	Flammability	Halogen Free	Design and Construction	Available Sizes
 **Aerospace FyreJacket®**	Protects components in extreme temperatures. Silicone rubber coating has excellent shedding properties; meets AS 1072.	-54°C to +260°C (-65°F to +500°F)	Withstands 15 min at +1100°C (+2012°F) when installed on AS 1055 hose assembly	✓	**Design:** Tubular. Also available in tape form (FyreTape®) **Construction:** Silicone outer layer and fiberglass inner layer	5 to 100 mm (1/4" to 4")
 **ROUNDIT® Therm-A**	Three layer design provides thermal/fire protection and excellent cut-through and abrasion resistance; oil and water repellent.	-60°C to +260°C (-76°F to +500°C)	Withstands 5 min at +1100°C (+2012°F) according to ISO 2685	✓	**Design:** Wrappable **Construction:** ROUNDIT® 2000 NX HT, silica and Panox®	10 to 32 mm (3/8" to 1-1/4")
 **ROUNDIT® Therm-B**	Two layer design provides increased thermal/ fire protection and excellent cut-through and abrasion resistance; oil and water repellent.	-60°C to +260°C (-76°F to +500°C)	Withstands 15 min at +1100°C (+2012°F) according to ISO 2685	✓	**Design:** Wrappable **Construction:** ROUNDIT® 2000 NX HT and FyreTape®	10 to 32 mm (3/8" to 1-1/4")
 **Therm-L-Wrap™ 66**	Self-wrappable sleeve with an adhesive closure; offers excellent radiant heat protection and excellent EMI shielding performance	-60°C to +200°C -76°F to +392°F	• FAR Part 25 § 853	✓	**Design:** Wrappable **Construction:** Aluminum outer layer and fiberglass inner layer	10 to 25 mm 3/8" to 1"
 **Therm-L-Gard™**	Custom multilayer heat shielding system also shown to provide good EMI shielding performance	Based on construction; customized testing can be conducted to actual application specific heat environment.	• FAR Part 25 § 853	✓	**Design:** Application specific **Construction:** Fiberglass fabric with aluminum laminate	Custom parts may be slit to width and length or die cut into complex geometric shapes

ELECTROMAGNETIC SHIELDING

Product	Description	Temperature	Flammability	Halogen Free	Design and Construction	Available Sizes
 **ROUNDIT® 2000 NX EMI**	Provides mechanical/abrasion protection with outer layer and EMI shielding with inner layer; oil and water repellent.	-55°C to +200°C (-65°F to + 392°F)	• FAR Part 25 § 853	✓ (Type A only)	**Design:** Wrappable **Construction:** Nickel-plated copper C27 according to ASTM B-355 combined with Nomex® multifilaments and PPS monofilaments; PTFE layer optional	6 to 38 mm (1/4" to 1-1/2")



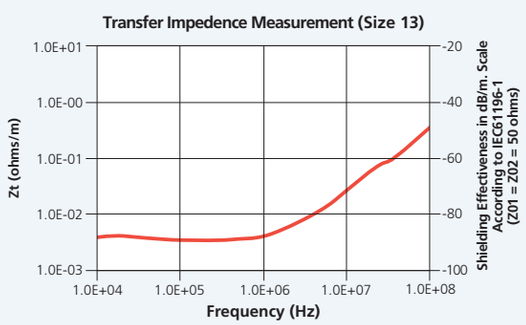


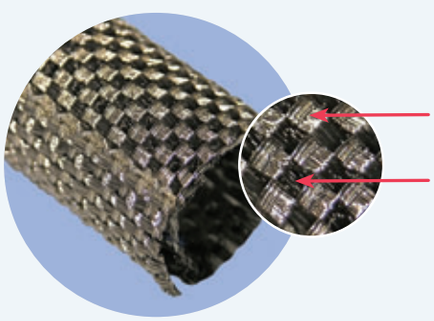
Optional PTFE inner layer provides protection of component from the metal

Braided nickel-plated copper wire provides EMI insulation

Nomex® & PPS construction with oil and water repellent treatment

Product	Description	Temperature	Flammability	Halogen Free	Design and Construction	Available Sizes
 **ROUNDIT® EMI FMJ**	Self-wrapping metal solution with 95% optical coverage; flexible and easy to install providing very high performance EMI shielding	-65°C to +200°C (-85°F to +392°F)	• FAR Part 25 § 853	✓	**Design:** Wrappable **Construction:** Nickel-plated copper C4 according to ASTM B-355 combined with PPS monofilament	8 to 38 mm (5/16" to 1-1/2")





Nickel-plated copper strands are woven to provide high conductivity and ensure EMI shielding with a 95% optical coverage

PPS monofilaments ensure aerospace-grade temperature and a highly flexible assembly