chanhvinh.com

The Perfect FIT® for Any Need

FIT Heat-Shrink Tubing
FIT Wire Management



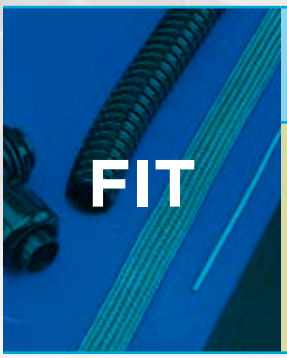
AlphaWire

Cables you trust. Service you deserve.

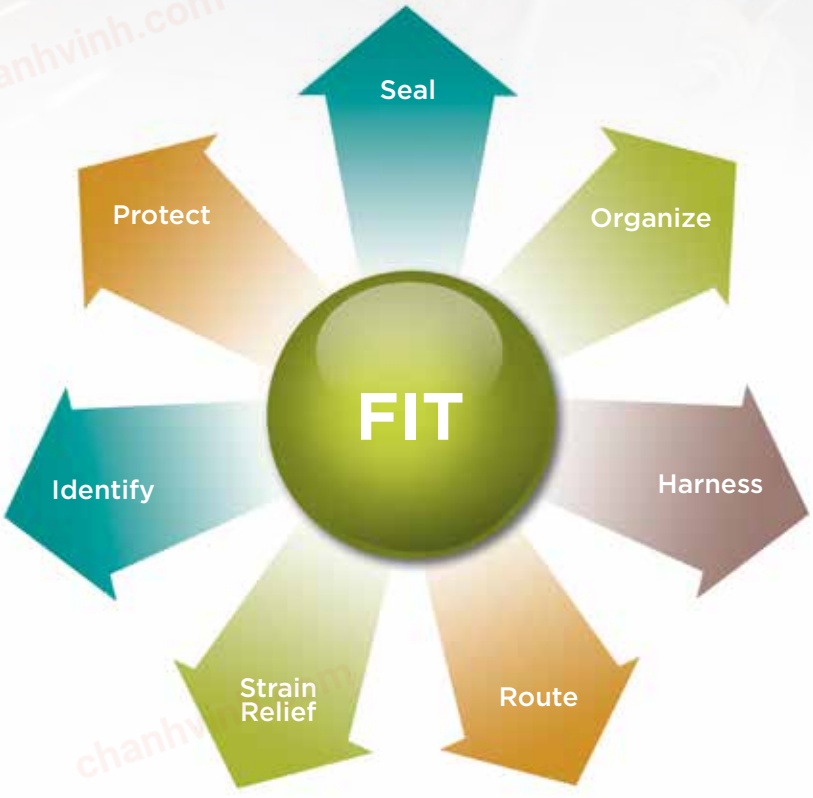
chanhvinh.com

The Right FIT for Your Applications

FIT heat-shrink tubing and wire management products give you more choices to achieve reliable, rugged cabling systems. Within our wide array of products, you'll find solutions to satisfy any application, from general-purpose needs to extremes of temperature, chemicals, and abrasion.



Heat-Shrink Tubing	Standard Polyolefin Tubing
	Dual-Wall Polyolefin Tubing
	Special-Purpose Tubing
Wire Management	Non-Shrink Tubing
	Woven Sleeving
	Specialty Sleeving
	Adhesive Tape
	Lacing Tape
	Copper Braid and Tape



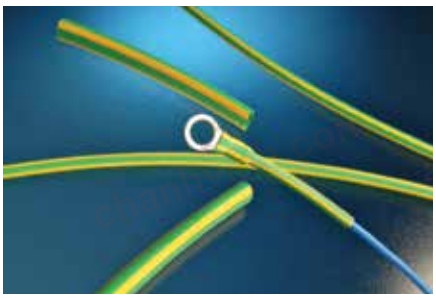
FIT® Heat-Shrink Tubing

FIT heat-shrink tubing offers a reliable way to protect and seal terminations, while adding additional mechanical ruggedness.

The Alpha Wire FIT line consists of a wide range of general-purpose and special-purpose styles, materials, and tubing types, each having unique attributes that provide solutions for use in the broadest possible range of applications and environments.

Made from premium compounds under the tightest manufacturing controls, FIT will consistently have excellent physical characteristics.

- **2:1 to 6:1 shrink ratios**
- **Irradiated or crosslinked materials**
- **Low longitudinal shrinkage**
- **Wide temperature range**
- **Chemical and solvent resistant**
- **Choice of standard and custom colors**
- **Unlined and adhesive lined**
- **Low outgassing: FIT-221L meets NASA's requirements for low-outgassing materials**







Heat-Shrink Tubing

Material	Purpose	UL VW-1	Resistance			Flexibility	Operating Temperature	Shrink Ratio	FIT Family
			Chemical	Heat	Abrasion				
Single-Wall Irradiated Polyolefin for General-Purpose Use									
Thin-wall irradiated polyolefin	LSZH: reduced smoke generation and gas emission Low outgassing	✔		✔		✔	-55 to +105°C	2:1	**FIT-221L**
Irradiated polyolefin	Variety of shrink-ratios						-55 to +135°C	2:1	**FIT-221**
		✔		✔			-55 to +135°C	4:1	**FIT-421**
Flame-retardant irradiated polyolefin	Low shrink temp	✔		✔			-55 to +135°C	2:1	**FIT-221V**
							-55 to +135°C	3:1	**FIT-321V**
Irradiated polyolefin	600V ground lead identification	✔		✔			-55 to +135°C	2:1	**FIT-260**
Semi-rigid irradiated polyolefin	30% stronger 25% stiffer than standard polyolefin	✔	✔		✔		-55 to +135°C	2:1	**FIT-295**
Dual-Wall Polyolefin for Additional Sealing									
Surface irradiated, dual extruded	Meltable inner wall, no adhesive		✔		✔		-55 to +125°C	2.5:1	**FIT-300**
Bonding, thermoplastic adhesive lined	Bonds to most materials; high voltage (2kV at 90°C continuous)		✔	✔	✔		-55 to +110°C	3:1	**FIT-700**
Bonding, adhesive lined	Water and corrosion protection		✔	✔	✔		-55 to +125°C	3:1	**FIT-321**
							-55 to +90°C	5.6:1	**FIT-621**
							-55 to +125°C	2:1	**FIT-750**
Special-Application Tubing									
Irradiated PVC	Low shrink temp; 30% stronger than standard polyolefin	✔					-20 to +105°C	2:1	**FIT-105**
Irradiated PVDF	High shrink temp; 3x tensile strength of standard polyolefin	✔	✔	✔	✔		-55 to +150°C	2:1	**FIT-350**
FEP	High shrink temp; thin wall thickness		✔				-75 to +200°C	1.2:1	**FIT-400**
PTFE	High shrink temp; thin wall thickness		✔				-75 to +260°C	1.5:1	**FIT-500**
Chlorinated polyolefin	Oil resistant	✔		✔	✔		-75 to +121°C	2:1	**FIT-600**
Flexible fluoroelastomer	High shrink temp		✔			✔	-40 to +200°C	2:1	**FIT-650**
Polyethylene/ polyester	Resists harsh environments				✔	✔	-40 to +125°C	2:1	**FIT-FABRIC**
Irradiated silicone rubber	Pliable	✔		✔	✔	✔	-50 to +200°C	1.7:1	**FIT-FLEX**
Irradiated PVDF	Transparent after shrink; 2x tensile strength of standard polyolefin	✔	✔	✔			-55 to 150°C	2:1	**FIT-CLEAR**

chanhvinh.com

FIT Wire Management Solutions

General-Purpose Tubing

Our range of tubing includes traditional solid PVC tubing to convoluted slit loom tubing and spiral wrap. Our Zipper Tubing™ provides a professional finish to wiring installations by eliminating exposed wiring and providing added protection against flame, chemicals, and abrasion.

Flexible PTFE Tubing

To improve the reliability of cable harnesses, PTFE tubing provides a heat and abrasion resistant wire insulator under the most adverse conditions. With an unmatched temperature range, exceptional abrasion resistance, and excellent dielectric properties, it maintains flexibility over its entire temperature range. Alpha offers both standard-wall and space-saving thin-wall versions.

Fiberglass Sleeving

Our fiberglass sleeving is used to provide extra protection for cable in a tough external environment, fitting comfortably over wire and cable without needing to be shrunk to size first. Combining flexibility with excellent abrasion resistance and high-temperature performance, our fiber glass sleeving is available uncoated or coated with acrylic, PCV, or silicone to provide the best match to application requirements.

Woven Sleeving

Our expandable and nonexpendable woven sleeving gives you the range of performance you need for applications running from general purpose to extreme of abrasion, chemicals, and temperature. With eleven families, woven in different braid densities from materials ranging from PVC and nylon to PPS and PTFE, finding the right sleeving for your application is easy.

Lacing Tape

Alpha lacing tapes offer high tensile strength, flexibility, and knot retention, maintaining a wide contact area with the insulation so that it remains in place. Nylon has excellent tensile strength and resists acids, abrasion, flame, and fungus. Polyester has all the characteristics of nylon, but has better resistance to acids, and no appreciable discoloration.

- **0.012 to 0.014 in. (0.30 to 0.36 mm) thickness range**
- **High tensile strength**
- **Excellent knot retention**

EMI Shielding and Grounding

Our copper braid and tape helps achieve EMI protection or grounding.

Copper Braid

- **Flat, round, or oval configurations**
- **Tinned copper or silver-plated copper**
- **Allows 360° termination for low-resistance path to ground**

Copper Tape

- **Highly conductive adhesive backing**
- **0.5 to 2.0 in. (12.70 to 50.8 mm) width**
- **Approx. 5 dB better than other metal foil shielding tapes**





PTFE and Fiberglass Sleeving

FIT PTFE and Braided Fiberglass Sleeving			
Material	**Feature**	**Characteristics**	**FIT Family**
PTFE	Thin wall Standard wall	-75°C to +260°C Excellent heat and chemical resistance Flexible wire protection for harnesses and ground straps Resistance to heat, oil, and abrasion	**TFT-200** **TFT-250**
FIT Braided Fiberglass Sleeving			
Material	**Feature**	**Characteristics**	**FIT Family**
Acrylic coated	Chemical resistant	-30°C to +155°C	**AF-155**
PVC coated	General purpose	-20°C to +130°C High temperature, abrasion, and oil resistance Resists fraying, bending, and knotting	**PIF-130**
Silicone coated	Extreme abrasion resistance	-70°C to +200°C Highly flexible routing Extreme abrasion resistance Superior electrical properties	**PIF-200**
Uncoated	Extreme temperatures	-60°C to +648°C Extreme flexibility Extreme heat environments	**PIF-240**

Tubing

FIT General-Purpose Tubing			
Material	**Feature**	**Characteristics**	**FIT Family**
PVC	Multipurpose	-20°C to +105°C Flexible wire protection for harnesses and ground straps 37 sizes from 0.022" to 2.5"	**PVC-105**
PVC tubing Nylon connectors	Flexible, liquid tight	-18°C to +50°C Maximum flexibility Usable in extremely tight quarters	**FNT** **SLC/RLC**
PE, nylon, PTFE, PVC	Spiral wrap	Wide range of materials, temperature ranges, and mechanical properties	**SW**
PE tubing PP fittings	Convoluted slit loom	-40°C to +93°C Abrasion and fluid resistant Light weight Easy, flexible cable breakouts	**Type 492**
PVC	Zipper tubing	-20°C to +105°C Loc-Trac® zipperlike closure Protection against flame, chemicals, and abrasion	**ZIP-41**

chanhvinh.com

FIT Wire Management Applications

Harnessing

Make any wire harness organized, manageable, and neat with our tubing, sleeving, spiral wrap tubing, zipper tubing, and lacing tape. Our unique ZIP-GRP expandable enclosure sleeving allows easy re-entry and unlimited wire and cable break outs with its hook and loop fastener system.

Routing

Get the advantages of conduit in a flexible non-metallic, liquid-tight tubing and connection system that protects wire, copper cable, and fiber-optic cable in factories, offices, or underground installations.

Use our watertight tubing to replace rigid raceways where flexibility, re-entry, or re-usability is required. Additionally, Alpha offers slit looms to provide a convenient solution for your routing needs.

Shielding

Add shielding easily and quickly. We offer flat, round, and oval braided shielding for additional protection against EMI and for grounding protection. Our copper foil shielding tape is backed with a highly conductive, pressure-sensitive adhesive for use in a wide variety of EMI/RFI shielding applications in cable and connector assemblies.

Protection

Our rugged FIT sleeving is available in a range of materials and construction to give outstanding performance in a range of extreme applications:

- **Wide temperature ranges**
- **UV exposure**
- **Heavy abrasion and cut-through potential**
- **Outgassing**

Our rugged FIT sleeving is available in both expandable and wrappable versions.

FIT Accessories



FIT-FILL Adhesive
For applications that require additional sealing of voids not accommodated by heat-shrink tubing, FIT-FILL adhesive is the answer. The bead-shaped, flame-retardant adhesive has a melting temperature of 90°C and an operating temperature from -40°C to +105°C, with no cracking with low-temperature flexing down to -40°C. It also offers good chemical and physical resistance.



Heat Guns
Alpha heat guns are the perfect complement to FIT tubing, making it easy to apply the tubing quickly and efficiently.



Wrappable Sleeving Tool
This tool simplifies applying our GRP-130 and GRP-130NF sleeves.







Woven Sleeving

FIT Expandable Woven Sleeving			
Material	**Feature**	**Characteristics**	**FIT Family**
Polyester	General purpose	-75°C to +125°C Good abrasion and cut-through resistance Flame resistant (110) and flame retardant (120) versions	**GRP-110 GRP-120**
PET	Non-fraying	-75°C to +125°C Good abrasion and cut-through resistance Flame resistant (110) and flame retardant (120) versions	**GRP-110NF GRP-120NF**
PET	Wrappable	-70°C to +125°C Bends tightly without distorting or opening Easy to install NF = flame retardant	**GRP-130 GRP-130NF**
Nylon polyamide	Advanced protection	-45°C to +150°C Extreme abrasion resistance without losing flexibility or durability Resists fuels, solvents, salt water, chemicals, and UV rays Expandable to 150%	**GRP-160**
PPS	Advanced chemical resistance	-70°C to +200°C Resists acids, bases, solvents, and fuels Extremely lightweight	**GRP-170**
Nylon	Maximum protection	-60°C to +150°C Superior abrasion resistance Smooth inner wall to prevent internal abrasion damage Resists fuels, solvents, salt water, chemicals, and UV rays	**GRP-180**
PTFE	Extreme protection	-70°C to +280°C Cut and abrasion resistant Resists virtually all chemicals and UV rays Thermally stable Low outgassing	**GRP-200**
PET	Wrappable with hook and loop closure	-75°C to +125°C Unlimited breakouts Abrasion and cut-through resistance Oil and solvent resistance	**ZIP-GRP**
FIT Non-Expandable Woven Sleeving			
Material	**Feature**	**Characteristics**	**FIT Family**
PET	Heavy duty	-70°C to +125°C	**XS-100HD**
Nylon	General purpose	-45°C to +120°C Tightly woven Excellent abrasion resistance and durability	**XS-200N**
Nylon	Maximum protection	-45°C to +120°C Excellent abrasion resistance Tightly woven Deflects high-pressure hose ruptures Resists fuels, chemicals, UV, rot, and vermin Smooth inner wall to prevent internal abrasion damage	**XS-300**

chanhvinh.com

The cables you trust. The service you deserve.

Every application is critical and cable failure is not an option when the safety of your equipment and personnel is paramount. Specify Alpha Wire FIT wire management for extreme environments and crucial applications, since the integrity of your system is only as robust as the products you use.

Superior availability

Alpha offers FIT wire management products from stock in most sizes and constructions, in small quantities, so you can order them when you need them. Our products are available for same-day shipment, eliminating long lead times.

Service and support, second-to-none

Selecting the correct wire management products is essential to overall system reliability, performance, and safety. So we make it easy for you to select the right Alpha product for your specific application. Our online resources include a wire and cable selection guide, technical information, full product catalog, and a distributor locator to make it easy to select and get the cable or wire management product you need. Just visit **www.alphawire.com!**

GLOBAL HEADQUARTERS
711 Lidgerwood Avenue
Elizabeth, NJ 07207-0711 USA
Toll Free: 1-800-52 ALPHA
Tel: 1-908-925-8000
Fax: 1-908-925-5411
E-mail: info@alphawire.com

EUROPE
Alpha Wire International
Saxon House
1 Downside | Sunbury-on-Thames
Middlesex | United Kingdom | TW16 6RT
Tel: +44-(0)-800-288-8809
Fax: +44-(0)-800-288-8810
E-mail: europe@alphawire.com

ASIA PACIFIC
Alpha Wire
Silver Center | Room 1708
North Shanxi Road 1388
Shanghai | China | 200060
Tel: +86-21-61498201/61498205
Fax: +86-21-61498001
E-mail: apac@alphawire.com

AlphaWire
Cables you trust. Service you deserve.

©2014 Alpha Wire. All rights reserved.
Specifications subject to change. Consult Alpha Wire for latest specifications.

Lit. No. FWM-Ovr-Bro-1404
Supersedes: FWM-Ovr-Bro-1201