

Master Catalog



2023



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FIT® Heat-Shrink Tubing

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The Right Expertise

Alpha Wire gives you choices so you can find the exact products for your application. We offer the brands respected in the industry—like the 100% recyclable EcoGen Cable, the high performance of Xtra-Guard Cable, the broad offering of industrial Ethernet cable, the high temperature-resistance ThermoThin Hook-Up Wire, or the exceptional sealing and protection of FIT Heat-Shrink Tubing. We have a wide range of wire, cable, tubing, and accessories that make any application perform to specification.

EcoGen® High-Performance Cable



Alpha's EcoGen family of wire and cable combines better performance with minimal environmental impact. EcoGen features:

- Zero halogen
- Temperature extremes to -50°C
- 91% lower outgassing and up to 47% smaller and 65% lighter cables compared to PVC

Pro-Met® VDE Flex Control Cable



Pro-Met® VDE Cable is a line of flexible industrial cable impervious to oils and resistant to UV damage.

- 0.5 mm² - 25 mm²
- 50 m, 100 m, 300 m package
- VDE compliance
- Premium industrial-grade PVC insulation and jacket
- Oil, UV and chemical resistance



Customs and Specials

Our capabilities go well beyond our standard offerings. To find what you need, visit our Cable & Wire page or call us today to discuss your needs for:

- *Custom designs*
- *Specials*
- *Unique packaging requirements*
- *Legacy products*

www.alphawire.com

Xtra-Guard® High-Performance Cable



Known for premium performance and system reliability, Xtra-Guard Cable is available in several performance grades to give you the best match between cost and performance.

- XG-1: high performance
- XG-2: abrasion resistant
- XG-3: direct burial
- XG-4: advanced temperature and chemical performance
- XG-5: maximum temperature and chemical performance
- XG Flex: flexing/flexible/TPE

Cable Glands



Alpha Wire's cable glands are a great solution for providing premium cable strain relief and protection against environmental factors, such as flames and dust for a wide range of industries, including renewable energy, industrial automation, and electrical equipment.

- NPT, Metric or PG
- Polyamide and brass
- IP68 rated

Industrial™ Series, C & C and Industrial Cable



Get control of any application with a wide range of cable configurations and ratings for applications from communication cabinets to the factory floor.

- Industrial cable
 - M series
 - P series
 - F series
 - S & SF series
- Industrial Ethernet cable

FIT® Heat-Shrink Tubing



FIT Heat-Shrink Tubing seals and protects wire and cables from environmental and mechanical abuse—with a wide variety of shrink ratios and materials.

- 2:1 to 6:1 shrink ratios
- Irradiated or cross-linked materials
- High temperature
- Chemical- and solvent-resistant

Hook-Up Wire



Hook-Up Wire for any application with the range of materials to meet any environmental, mechanical or electrical needs.

- PVC
- H05V-K & H07V-K
- PFA
- Silicone
- PTFE (Teflon®)
- PVDF (Kynar®)
- ETFE (Tefzel®)
- XLPE
- XL-PVC
- Special/high temperature
- Bus bar
- Ribbon

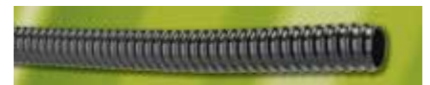
AlphaEssentials® High Performance Cable



Finding the right wire and cable for your application is now easier than ever with Alpha Essentials - your one-stop source for the widest range of industry-standard cable.

- Communication and control
- Tray cable
- Coax cable
- Cords/cordsets
- Data and bus cable
- Flat cable
- High/low-temperature cable
- CMP plenum cable

FIT® Wire Management



Organize, shield, and route cable assemblies and harnesses with our complete line of management products.

- Sleeving
- Braid
- Lacing tape
- EMI tape
- Heat guns

EcoWire®



Innovative EcoWire combines increased performance with a minimal environmental impact.

- Zero halogen
- 100% recyclable
- mPPE insulation
- Temperatures extremes to -40°C
- Up to 45% smaller in diameter and 40% lighter than PVC

our cataloged parts. If you don't
e Design Center or give us a call

The Right Service



Nobody outperforms Alpha Wire

Everybody talks great service, but, once you deal with Alpha Wire, you'll know what great service really can be. We apply our expertise to creating service that equals our products. Nobody works harder or more diligently to make sure you get the cable you want, when you need it, backed by the service you deserve.

Small put-ups: get what you need



We're geared to ship in small put-ups

or large. With Alpha, you don't have to buy more cable than you need because of high minimum order requirements.

Logistics that defy logic

Need cable tomorrow? No problem. We maintain a large inventory and offer same-day shipping. Order today and receive your order tomorrow in many locations. Alpha Wire



goes one step further: manufacturing custom cables to meet unique applications—offering

specific conductor counts, shielding options, jacket materials, and versatile product designs. Our custom cable orders are often shipped in less than a week, once again giving you products with more convenience and less delay.

Global reach

Encompassing more than 30,000 products and seven product families available worldwide through more than 1,500 Distributor locations, Alpha delivers the industry's widest range and largest inventory of wire, cable, and tubing products.

Application expertise

We understand your applications, from the needs of a machine tool cable to withstand coolants and extreme temperatures to the requirements of a wind turbine



where robust reliability eliminates service calls.

We've helped companies successfully

deploy applications in the frozen tundra, aboard wind- and water-swept offshore drilling rigs, and in the pristine environment of a semiconductor cleanroom.



Online selection made easy

Our new website makes finding the right cable easier than ever. The site's intuitive navigation helps you quickly find the right cable, along with dimensional,

material, and performance specifications.



Your standards are our standards

We rigorously test our cables to prevailing industry standards. Our cables are approved by such major agencies as UL, CSA, CE and VDE.

Make Alpha Wire your first choice for reliable performance

We're all about performance—high-performance products and service without compromise or excuse.



Whether you're building new products or engaged

in MRO, there is no better place to start your search than Alpha Wire. And once you have experienced the Alpha difference, we will become the only source you need.

Learn more

To find out more about why Alpha has the right product for your application, give us a call or visit

www.alphawire.com

FIT[®] Heat-shrink Tubing



Medical
Equipment



Industrial
Automation



Semi-conductor
Equipment



Aerospace
and Defence



Energy
and Solar



Consumer
Electronics

FIT[®] Heat-Shrink Tubing



Whether your concerns are mechanical strain relief, environmental sealing or organizing wires, Alpha Wire's FIT Heat-Shrink Tubing is ideal for solving many challenges in electrical and electronic wiring:

- **Protect** substrates from moisture, UV light, corrosion, oxidation, dust, chemicals, abrasion, environmental conditions, solder joints, and encapsulates
- **Insulate** wire terminations and connections and entire printed circuit boards from electrical and environmental conditions
- **Repair** cable splices, insulation damage and cuts, cable jackets and connections with permanent or temporary quick fixes
- **Relieve** strain on cables and connectors to prevent harmful flexing or bending
- **Bundle and organize** wire harness, cable, tubing, and hose dressing on OEM equipment, breakouts; bundle in small spaces, conform to odd shapes
- **Seal** connections, backshells, and other gaps from moisture and other contaminants
- **Identify** circuits through color-coding, grouping and labeling

FIT heat-shrink products

Our FIT Heat-Shrink Tubing offers a reliable way to protect and seal terminations or add additional mechanical ruggedness. FIT preferred heat-shrink products are made from premium compounds under the tightest manufacturing controls. This means FIT tubing consistently provides excellent physical characteristics, such as low longitudinal shrinkage and wide temperature ranges, while providing an elegant appearance when used alone or on OEM equipment.

The FIT line consists of various tubing types, each designed with unique attributes that offer tubing solutions for the broadest possible range of applications and environments. FIT products are always in stock and come in an unprecedented variety of package sizes.

Beyond the widely used polyolefin tubing that is suited to the broadest range of general-purpose needs, we offer a number of other materials for higher or lower shrink temperatures, wider operating temperatures, and special needs like outstanding chemical resistance or increased flexibility.



FIT® Heat-Shrink Tubing

Material	Features	Shrink Temperature	Shrink Ratio (approx.)	FIT Family
Single-Wall Cross-linked Polyolefin for General-Purpose Use				
Thin-wall irradiated polyolefin	LSZH: reduced smoke generation and gas emission Low outgassing	-55°C to 105°C	2:1	FIT-221L
Cross-linked polyolefin	General-purpose heat-shrink tubing Range of shrink ratios	90°C	2:1	FIT-221
		90°C	4:1	FIT-421
Flame-retardant cross-linked polyolefin	Low shrink temp Passes UL VW-1 flame test	90°C	2:1	FIT-221V
		90°C	3:1	FIT-321V
Cross-linked polyolefin	Approved for 600-V ground lead identification Green with yellow stripe Passes UL VW-1 flame test	90°C	2:1	FIT-260
Dual-Wall Polyolefin for Additional Sealing				
Surface cross-linked, dual extruded	Meltable inner wall to encapsulate without adhesive	140°C	2.5:1	FIT-300
		110°C	3:1	FIT-321
		121°C	5.6:1	FIT-621
Bonding, thermoplastic adhesive lined	Bonds to most materials High voltage: to 2 kV at 90°C continuous use	120°C	3:1	FIT-700
Bonding, adhesive lined	Permanent water and corrosion protection	110°C	2:1	FIT-750
Special-Application Tubing				
Irradiated PVC	Low shrink temperature Passes UL VW-1 flame test 30% stronger than standard polyolefin	100°C	2:1	FIT-105
Cross-linked PVDF	High shrink temperature Fast recovery time Excellent chemical, heat, and flame resistance Passes UL VW-1 flame test 3x the tensile strength of standard polyolefin	170°C	2:1	FIT-350
FEP	High shrink temperature Excellent chemical resistance Excellent dielectric properties Thinnest wall thickness available	200°C	1.2:1	FIT-400
PTFE	High shrink temperature Excellent chemical resistance Excellent dielectric properties Very thin wall thickness	250°C	1.5:1	FIT-500
Chlorinated polyolefin	Highly flexible Oil and abrasion resistant Passes UL VW-1 flame test	130°C	2:1	FIT-600
Flexible fluoroelastomer	High shrink temperature Excellent chemical resistance Flexible	175°C	2:1	FIT-650
Polyethylene/polyester	Superior abrasion resistance Excellent flexibility Resists harsh environments	80°C	2:1	FIT-FABRIC
Cross-linked silicone rubber	High flexibility available Pliable Scrape abrasion resistant Passes UL VW-1 flame test	200°C	1.7:1	FIT-FLEX
Cross-linked PVDF	Transparent after shrink Fast recovery time Excellent chemical, heat, and flame resistance Passes UL VW-1 flame test 2x the tensile strength of standard polyolefin	150°C	2:1	FIT-CLEAR

FIT® Heat-Shrink Tubing

FIT®-105 Heat-Shrink Tubing
2:1 Shrink Ratio, Irradiated PVC



AMS DTL-23053/5 Class 1 (except clear)
AMS DTL-23053/5 Class 2 (clear only)
UL 224 (except clear)
CSA 198 (except clear)

- Low shrink temperature
- Fast recovery time
- 30% stronger than standard polyolefin
- Low water absorption
- UV resistant

Operating Temperature

- -20°C to 105°C

Shrink Temperature

- 100°C min.
- 105°C full recovery

Material

- Irradiated PVC

Color

- Black

Physical Properties

- Tensile strength: 3,000 psi (20.68 N/mm²)
- Elongation: 300% min
- Longitudinal change: +1%/-25%
- Specific gravity: 1.32
- Flame retardant
- Shelf life: 1 year at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 1.0% max.
- Lead free

Electrical Properties

- 600 V (UL, CSA)
- Dielectric strength: 1,083 V/mil (426.3 kV/cm)
- Volume resistivity: 10¹² ohm-cm

Availability

See table

Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability	
	Inch	mm	Inch	mm	Inch	mm	ft	m
FIT-105-3/64	0.046	1.17	0.023	0.58	0.020	0.51	25, 100, 500, 1000	7.6, 30.5, 152, 305
FIT-105-1/16	0.062	1.57	0.031	0.79	0.020	0.51	25, 100, 500, 1000	7.6, 30.5, 152, 305
FIT-105-3/32	0.093	2.36	0.046	1.17	0.020	0.51	25, 100, 1000	7.6, 30.5, 305
FIT-105-1/8	0.125	3.18	0.062	1.57	0.025	0.64	25, 100, 1000	7.6, 30.5, 305
FIT-105-3/16	0.187	4.75	0.093	2.36	0.025	0.64	25, 100, 1000	7.6, 30.5, 305
FIT-105-1/4	0.250	6.35	0.125	3.18	0.025	0.64	25, 100, 1000	7.6, 30.5, 305
FIT-105-3/8	0.375	9.53	0.187	4.75	0.030	0.76	25, 100, 500	7.6, 30.5, 152
FIT-105-1/2	0.500	12.70	0.250	6.35	0.030	0.76	25, 100, 250	7.6, 30.5, 76.2
FIT-105-3/4	0.750	19.05	0.375	9.53	0.035	0.89	25, 100, 250	7.6, 30.5, 76.2
FIT-105-1IN	1.000	25.40	0.500	12.70	0.040	1.02	25, 100, 250	7.6, 30.5, 76.2
FIT-105-1-1/2	1.500	38.10	0.750	19.05	0.045	1.14	25, 100	7.6, 30.5

Packaged Assortments

Assorted sizes of 6” (15 cm) lengths

FIT-105-MS-1

Contents	Tubing Size		Quantity
	Inch	mm	
FIT-105-3/64	0.046	1.17	10
FIT-105-1/16	0.062	1.57	10
FIT-105-3/32	0.093	2.36	10
FIT-105-1/8	0.125	3.18	10
FIT-105-3/16	0.187	4.75	10
FIT-105-1/4	0.250	6.35	10

FIT-105-MS-2

Contents	Tubing Size		Quantity
	Inch	mm	
FIT-105-3/8	0.375	9.53	10
FIT-105-1/2	0.500	12.70	10
FIT-105-3/4	0.750	19.05	10
FIT-105-1 IN	1.000	25.40	10



FIT® Heat-Shrink Tubing

FIT®-221 Heat-Shrink Tubing
2:1 Shrink Ratio, XLPO



AMS DTL-23053/5 Class 1 (except clear)
AMS DTL-23053/5 Class 2 (clear only)
UL 224 (except clear)
CSA 198 (except clear)

- Excellent general-purpose tubing
- Low shrink temperature
- Fast recovery time
- Low water absorption
- UV resistant (black only)

Operating Temperature

- -55°C to 135°C
- -55°C to 125°C (UL, CSA)

Shrink Temperature

- 90°C min.
- 121°C full recovery

Material

- Cross-linked polyolefin

Color

- Black, white, red, yellow, blue, green, clear*

*Clear tubing may exhibit some color tint that is the result of the product's chemistry; the tint is variable and can be any color

Physical Properties

- Tensile strength: 1,500 psi (10.34 N/mm²)
- Elongation: 200% min
- Longitudinal change: ±5%

- Specific gravity: 1.35 (colors)/1.00 (clear)
- Flame retardant
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max.
- Fluid resistance: 1,000 psi (6.89 N/mm²)
- Lead free

Electrical Properties

- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10¹⁴ ohm-cm

Availability

See table, next page

Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.	
	Inch	mm	Inch	mm	Inch	mm
FIT-221-3/64	0.046	1.17	0.023	0.58	0.016	0.41
FIT-221-1/16	0.063	1.60	0.031	0.79	0.017	0.43
FIT-221-3/32	0.093	2.36	0.046	1.17	0.020	0.51
FIT-221-1/8	0.125	3.18	0.062	1.57	0.020	0.51
FIT-221-3/16	0.187	4.75	0.093	2.36	0.020	0.51
FIT-221-1/4	0.250	6.35	0.125	3.18	0.025	0.64
FIT-221-3/8	0.375	9.53	0.187	4.75	0.025	0.64
FIT-221-1/2	0.500	12.70	0.250	6.35	0.025	0.64
FIT-221-3/4	0.750	19.05	0.375	9.53	0.030	0.76
FIT-221-1IN	1.000	25.40	0.500	12.70	0.035	0.89
FIT-221-1-1/2	1.500	38.10	0.750	19.05	0.040	1.02
FIT-221-2IN	2.000	50.80	1.000	25.40	0.045	1.14
FIT-221-3IN	3.000	76.20	1.500	38.10	0.050	1.27
FIT-221-4IN	4.000	101.60	2.000	50.80	0.055	1.40

FIT® Heat-Shrink Tubing

FIT®-221 Heat-Shrink Tubing
2:1 Shrink Ratio, XLPO



**AMS DTL-23053/5 Class 1
(except clear)**
**AMS DTL-23053/5 Class 2
(clear only)**
UL 224 (except clear)
CSA 198 (except clear)

Availability

Part No.	Spools		Qty, Cut Pieces at Length			
	Ft	m	4 ft (1.2 m)	6" (152 mm)	1" (25.4 mm)	0.5" (12.7 mm)
FIT-221-3/64	1000*	305*	25	40	1000	1000
FIT-221-1/16	70, 100*, 1000	21.3, 30.5*, 305	25	36	1000	1000
FIT-221-3/32	65, 100*, 500	19.8, 30.5*, 152	25	32	1000	1000
FIT-221-1/8	60, 100*, 500	18.2, 30.5*, 152	25	28	1000	1000
FIT-221-3/16	50, 100*, 500	15.2, 30.5*, 152	25	24	1000	1000
FIT-221-1/4	40, 100*, 250	12.2, 30.5, 76.2*	25	20	1000	1000
FIT-221-3/8	35, 50*, 200	10.6, 15.2*, 60.9	25	16	1000	1000
FIT-221-1/2	32, 50*, 150	9.7, 15.2*, 45.7	5	14	—	—
FIT-221-3/4	24, 50*, 250	7.3, 15.2*, 76.2	5	12	—	—
FIT-221-1IN	16, 50*, 250	4.8, 15.2, 76.2	5	8	—	—
FIT-221-1-1/2	125*	38.1*	5	5	—	—
FIT-221-2IN	125*	38.1*	5	3	—	—
FIT-221-3IN	100*	30.5*	2	2	—	—
FIT-221-4IN	50*	15.2*	2	—	—	—

*Black and clear tubing only.
Spools may contain multiple lengths.

Packaged Assortments

Assorted sizes of 6" (152 mm) lengths

Each length is size identified.

FIT-221-MS-1 Assorted colors: Black, blue, red, green, yellow

Contents	Tubing Size		Quantity
	Inch	mm	
FIT-221-3/64	0.046	1.17	6
FIT-221-1/16	0.063	1.60	6
FIT-221-3/32	0.093	2.36	6
FIT-221-1/8	0.125	3.18	6
FIT-221-3/16	0.187	4.75	6

FIT-221-MS-2 Assorted colors: Black, blue, red, yellow

Contents	Tubing Size		Quantity
	Inch	mm	
FIT-221-1/4	0.250	6.35	4
FIT-221-3/8	0.375	9.53	4
FIT-221-1/2	0.500	12.70	4
FIT-221-3/4	0.750	19.05	4

FIT-KIT-221BK

Colors: Black

Contents	Tubing Size		Quantity
	Inch	mm	
FIT-221-3/16	0.187	4.75	25
FIT-221-1/4	0.250	6.35	20
FIT-221-3/8	0.375	9.53	15
FIT-221-1/2	0.500	12.70	10
FIT-221-3/4	0.750	19.05	6
FIT-221-1IN	1.000	25.40	4

FIT-KIT-221C Assorted colors: Black, blue, red, white, green, yellow, clear

Contents	Tubing Size		Quantity	
	Inch	mm	Each Color	Total
FIT-221-3/32	0.093	2.36	4	28
FIT-221-1/8	0.125	3.18	3	21
FIT-221-3/16	0.187	4.75	3	21
FIT-221-1/4	0.250	6.35	3	21
FIT-221-3/8	0.375	9.53	2	14
FIT-221-1/2	0.500	12.70	2	14



FIT® Heat-Shrink Tubing

FIT®-221B Heat-Shrink Tubing
2:1 Shrink Ratio, XLPO, Bulk Packaging



AMS DTL-23053/5 Class 1 (except clear)
AMS DTL-23053/5 Class 2 (clear only)
UL 224 (except clear)
CSA 198 (except clear)

- Excellent general-purpose tubing
- Low shrink temperature
- Fastest recovery time
- Low water absorption
- UV resistant (black only)

Operating Temperature

- -55°C to 135°C
- -55°C to 125°C (UL, CSA)

Shrink Temperature

- 90°C min.
- 121°C full recovery

Material

- Cross-linked polyolefin

Color

- Black, blue, clear*

*Clear tubing may exhibit some color tint that is the result of the product's chemistry; the tint is variable and can be any color

Physical Properties

- Tensile strength: 1,500 psi (10.34 N/mm²)
- Elongation: 200% min
- Longitudinal change: ±5%

- Specific gravity: 1.35 (colors)/1.00 (clear)
- Flame retardant
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max.
- Fluid resistance: 1,000 psi (6.89 N/mm²)
- Lead free

Electrical Properties

- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10¹⁴ ohm-cm

Availability

See table

Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.	
	Inch	mm	Inch	mm	Inch	mm
FIT-221B-3/64	0.046	1.17	0.023	0.58	0.016	0.41
FIT-221B-1/16	0.063	1.60	0.031	0.79	0.017	0.43
FIT-221B-3/32	0.093	2.36	0.046	1.17	0.020	0.51
FIT-221B-1/8	0.125	3.18	0.062	1.57	0.020	0.51
FIT-221B-3/16	0.187	4.75	0.093	2.36	0.020	0.51
FIT-221B-1/4	0.250	6.35	0.125	3.18	0.025	0.64
FIT-221B-3/8	0.375	9.53	0.187	4.75	0.025	0.64
FIT-221B-1/2	0.500	12.70	0.250	6.35	0.025	0.64
FIT-221B-3/4	0.750	19.05	0.375	9.53	0.030	0.76
FIT-221B-1IN	1.000	25.40	0.500	12.70	0.035	0.89

Availability

Part No.	Spools (Length x No. of Spools)		Qty, Cut Pieces at Length
	Ft	m	4 ft (1.2 m)
FIT-221B-3/64	1,000 x 3	305 x 3	250
FIT-221B-1/16	1,000 x 3	305 x 3	250
FIT-221B-3/32	500 x 3	152 x 3	250
FIT-221B-1/8	500 x 3	152 x 3	250
FIT-221B-3/16	500 x 2	152 x 2	250
FIT-221B-1/4	250 x 2	76.2 x 2	250
FIT-221B-3/8	200 x 2	60.9 x 2	250
FIT-221B-1/2	150 x 2	45.7 x 2	200
FIT-221B-3/4	250 x 1 250 x 2	76.2 x 1 76.2 x 2	125
FIT-221B-1IN	250 x 1	76.2 x 1	75



FIT® Heat-Shrink Tubing

FIT®-221V Heat-Shrink Tubing
2:1 Shrink Ratio, XLPO, Low Shrink Temperature



AMS DTL-23053/5 Class 1 and 3
AS23053
UL 224 VW-1
CSA 198

- Excellent general-purpose tubing
- Low shrink temperature
- Fastest recovery time
- Low water absorption
- UV resistant (black only)

Operating Temperature

- -55°C to 135°C
- -55°C to 125°C (UL, CSA)

Shrink Temperature

- 90°C min.
- 121°C full recovery

Material

- Cross-linked polyolefin

Color

- Black, white, red, yellow, green, blue

Physical Properties

- Tensile strength: 1,500 psi (10.34 N/mm²)
- Elongation: 200% min
- Longitudinal change: ±5%
- Specific gravity: 1.35

- Flame retardant
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max.
- Fluid resistance: 1,000 psi (6.89 N/mm²)
- Lead free

Electrical Properties

- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10¹⁴ ohm-cm

Availability

See table

Spools may contain multiple

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.	
	Inch	mm	Inch	mm	Inch	mm
FIT-221V-3/64	0.046	1.17	0.023	0.58	0.016	0.41
FIT-221V-1/16	0.063	1.60	0.031	0.79	0.017	0.43
FIT-221V-3/32	0.093	2.36	0.046	1.17	0.020	0.51
FIT-221V-1/8	0.125	3.18	0.062	1.57	0.020	0.51
FIT-221V-3/16	0.187	4.75	0.093	2.36	0.020	0.51
FIT-221V-1/4	0.250	6.35	0.125	3.18	0.025	0.64
FIT-221V-3/8	0.375	9.53	0.187	4.75	0.025	0.64
FIT-221V-1/2	0.500	12.70	0.250	6.35	0.025	0.64
FIT-221V-3/4	0.750	19.05	0.375	9.53	0.030	0.76
FIT-221V-1IN	1.000	25.40	0.500	12.70	0.035	0.89
FIT-221V-1-1/2	1.500	38.10	0.750	19.05	0.040	1.02
FIT-221V-2IN	2.000	50.80	1.000	25.40	0.045	1.14

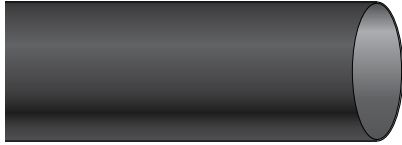
Availability

Part No.	Spools (Length x No. of Spools)		Qty, Cut Pieces at Length
	Ft	m	4 ft (1.2 m)
FIT-221V-3/64	1,000 x 3	305 x 3	250
FIT-221V-1/16	1,000 x 3	305 x 3	250
FIT-221V-3/32	500 x 3	152 x 3	250
FIT-221V-1/8	500 x 3	152 x 3	250
FIT-221V-3/16	500 x 2	152 x 2	250
FIT-221V-1/4	250 x 2	76.2 x 2	250
FIT-221V-3/8	200 x 2	60.9 x 2	250
FIT-221V-1/2	150 x 2	45.7 x 2	200
FIT-221V-3/4	250 x 1 250 x 2	76.2 x 1 76.2 x 2	125
FIT-221V-1IN	250 x 1	76.2 x 1	75



FIT® Heat-Shrink Tubing

FIT®-221L Heat-Shrink Tubing
2:1 Shrink Ratio, LSZH PO



AMS DTL-23053/5 Class 1 and 3
AS23053
UL 224 VW-1
CSA 198

- Excellent general-purpose tubing
- LSZH
- Fastest recovery time
- Low water absorption
- UV resistant

Operating Temperature

- -55°C to 125°C (UL, CSA)

Shrink Temperature

- 100°C min.
- 110°C full recovery

Material

- LSZH polyolefin

Color

- Black

Physical Properties

- Tensile strength: 1,500 psi (10.34 N/mm²)
- Elongation: 200% min
- Longitudinal change: ±5%
- Shelf life: 25 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.7% max.
- Fluid resistance: 1,000 psi (6.89 N/mm²)
- Lead free
- Halogen free

Electrical Properties

- 600 V (UL, CSA)

Availability

See table

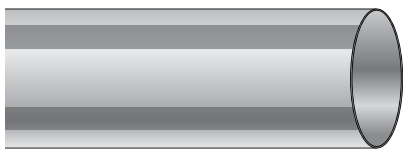
Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability	
	Inch	mm	Inch	mm	Inch	mm	ft	m
FIT-221L-3/64	0.046	1.17	0.023	0.58	0.013	0.33	1,000	305
FIT-221L-1/16	0.063	1.60	0.031	0.79	0.014	0.36	1,000	305
FIT-221L-3/32	0.094	2.39	0.046	1.17	0.017	0.43	500	152
FIT-221L-1/8	0.125	3.18	0.062	1.57	0.017	0.43	500	152
FIT-221L-3/16	0.187	4.75	0.093	2.36	0.017	0.43	200	61
FIT-221L-1/4	0.250	6.35	0.125	3.18	0.022	0.56	200	61
FIT-221L-3/8	0.375	9.53	0.187	4.75	0.022	0.56	200	61
FIT-221L-1/2	0.500	12.70	0.250	6.35	0.022	0.56	200	61
FIT-221L-3/4	0.750	19.05	0.375	9.53	0.027	0.69	200	61
FIT-221L-1IN	1.000	25.40	0.500	12.70	0.035	0.89	200	61

FIT® Heat-Shrink Tubing

FIT®-260 Heat-Shrink Tubing

2:1 Shrink Ratio, XLPO, Ground Lead Identification



**UL 224 VW-1
CSA 198**

- Excellent general-purpose tubing
- Low water absorption

Operating Temperature

- -55°C to 135°C
- -55°C to 125°C (UL, CSA)

Shrink Temperature

- 90°C min.
- 120°C full recovery

Material

- Cross-linked polyolefin

Color

- Green/yellow

Physical Properties

- Tensile strength: 1,500 psi (10.34 N/mm²)
- Elongation: 200% min
- Longitudinal change: ±5%
- Specific gravity: 1.35
- Flame retardant
- Shelf life: 25 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max.
- Fluid resistance: 1,000 psi (6.89 N/mm²)
- Lead free

Electrical Properties

- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10¹⁴ ohm-cm

Availability

See table

Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability	
	Inch	mm	Inch	mm	Inch	mm	ft	m
FIT-260-1/8	0.125	3.18	0.062	1.57	0.020	0.51	500	152
FIT-260-1/4	0.250	6.35	0.125	3.18	0.025	0.64	250	76.2
FIT-260-3/8	0.375	9.53	0.187	4.75	0.025	0.64	250	76.2
FIT-260-1/2	0.500	12.70	0.250	6.35	0.025	0.64	250	76.2
FIT-260-3/4	0.750	19.05	0.375	9.53	0.030	0.76	250	76.2
FIT-260-1	1.000	25.40	0.500	12.70	0.035	0.89	100	30.5

FIT® Heat-Shrink Tubing

FIT®-300 Heat-Shrink Tubing

2.5:1 Shrink Ratio, Dual-Wall Semirigid XLPO



AMS-DTL-23053/4 Class 1 UL 224 (Except clear)

- Meltable inner wall for encapsulation without adhesives
- Thicker wall for added protection
- High shrink ratios
- Excellent dielectric properties

Operating Temperature

- -55°C to 135°C
- -55°C to 125°C (UL)

Shrink Temperature

- 140°C min.

Material

- Dual-wall semirigid cross-linked polyolefin

Color

- Black, white, red, yellow, blue, slate, brown

Physical Properties

- Tensile strength: 1,500 psi (10.34 N/mm²)
- Elongation: 200% min
- Longitudinal change: +1%/-10%
- Specific gravity: 0.99
- Shelf life: 3 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max
- Fluid resistance: 1,000 psi (6.89 N/mm²)
- Lead free
- Halogen free

Electrical Properties

- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10¹⁶ ohm-cm

Availability

See table

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability Qty, Cut Pieces at Length	
	Inch	mm	Inch	mm	Inch	mm	4 ft (1.2 m)	6" (152 mm)
FIT-300-1/8	0.125	3.18	0.023	0.58	0.038	0.97	25	14
FIT-300-3/16	0.187	4.75	0.060	1.52	0.043	1.09	25	12
FIT-300-1/4	0.250	6.35	0.080	2.03	0.047	1.19	25	10
FIT-300-3/10	0.300	7.62	0.050	1.27	0.100	2.54	25	4
FIT-300-3/8	0.375	9.53	0.135	3.43	0.050	1.27	25	8
FIT-300-1/2	0.500	12.70	0.195	4.95	0.055	1.40	5	6
FIT-300-3/4	0.750	19.05	0.313	7.95	0.065	1.65	5	4
ST-3001-IN	1.000	25.40	0.400	10.16	0.075	1.91	5	--

FIT® Heat-Shrink Tubing

FIT®-321 Heat-Shrink Tubing

3:1 Shrink Ratio, Dual-Wall XLPO, Adhesive Lined



**AMS-DTL-23053/4 Class 3
UL 224
AS23053
CSA 198**

- Thicker wall for increased durability
- Water-resistant inner permanent-bonding adhesive

Operating Temperature

- -55°C to 125°C

Shrink Temperature

- 110°C min.
- 110°C full recovery

Material

- Dual-wall flexible polyolefin with thick-wall adhesive

Color

- Black

Physical Properties

- Tensile strength: 1,500 psi (10.34 N/mm²)
- Elongation: 250% min
- Longitudinal change: +1%/-15%
- Flame tested
- Shelf life: 3 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 1.0% max
- Fluid resistance: 900 psi (6.20 N/mm²)
- UV resistant
- Lead free

Electrical Properties

- 600 V (UL, CSA)
- Dielectric strength: 300 V/mil (118 kV/cm)
- Volume resistivity: 10¹² ohm-cm

Availability

See table

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Recovered Melt Wall Thickness, Nom.	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm
FIT-321-1/8	0.125	3.18	0.024	0.61	0.037	0.94	0.020	0.51
FIT-321-1/4	0.252	6.40	0.073	1.85	0.047	1.19	0.020	0.51
ST-303-3/8	0.374	9.50	0.118	3.00	0.051	1.30	0.025	0.64
FIT-321-1/2	0.500	12.70	0.157	3.99	0.071	1.80	0.030	0.76
ST-303-3/4	0.748	19.00	0.236	5.99	0.071	1.80	0.035	0.89
FIT-321-1	0.945	24.00	0.315	8.00	0.098	2.49	0.040	1.02
FIT-321-1-1/2	1.575	40.01	0.512	13.00	0.098	2.49	0.040	1.02

Availability

Part No.	Qty, Cut Pieces at Length	
	4 ft (1.2 m)	6" (152 mm)
FIT-321-1/8	25	28
FIT-321-1/4	25	20
FIT-321-1/2	5	14
FIT-321-1	5	8
FIT-321-1-1/2	5	5

Packaged Assortments

Assorted sizes of 6" (15 cm) lengths

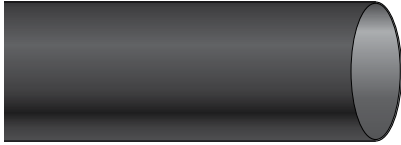
FIT-321-MS-1 Colors: Black

Part No.	Size		Quantity
	Inch	mm	
FIT-321-1/8	0.125	3.18	5
FIT-321-1/4	0.252	6.40	5
FIT-321-1/2	0.500	12.70	5
FIT-321-1	0.945	24.00	5



FIT® Heat-Shrink Tubing

FIT®-321V Heat-Shrink Tubing
3:1 Shrink Ratio, Flex XLPO, Thin Wall



**AMS-DTL-23053/5 Class 1
and 3(except dimensions)
AS23053
UL 224 VW-1
CSA 198**

- Low shrink temperature
- Fast recovery time
- Reduced wall thickness

Operating Temperature

- -55°C to 135°C
- -55°C to 125°C (UL, CSA)

Shrink Temperature

- 90°C min.
- 135°C full recovery

Material

- Flexible cross-linked thin-wall polyolefin

Color

- Black, white

Physical Properties

- Tensile strength: 1,500 psi (10.34 N/mm²)
- Elongation: 200% min
- Longitudinal change: +5%/-15%
- Specific gravity: 1.35
- Flame retardant
- Shelf life: 25 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max
- Fluid resistance: 1,000 psi (6.89 N/mm²)

Electrical Properties

- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10¹⁴ ohm-cm

Availability

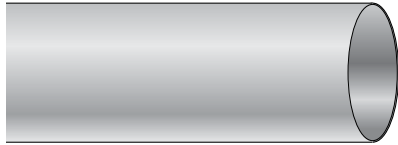
See table

Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
FIT-321V-3/32	0.060	1.52	0.020	0.51	0.020	0.51	500	152
FIT-321V-1/8	0.120	3.05	0.040	1.02	0.024	0.61	500	152
FIT-321V-1/4	0.240	6.10	0.080	2.03	0.028	0.71	250	76.2
FIT-321V-3/8	0.360	9.14	0.120	3.05	0.031	0.79	200	60.9
FIT-321V-1/2	0.472	11.99	0.160	4.06	0.033	0.84	150	45.7
FIT-321V-3/4	0.720	18.29	0.240	6.10	0.039	0.99	250	76.2
FIT-321V-1IN	0.945	24.00	0.315	8.00	0.048	1.22	250	76.2

FIT® Heat-Shrink Tubing

FIT®-350 Heat-Shrink Tubing
2:1 Shrink Ratio, PVDF



AMS-DTL-23053/8
UL 224 VW-1

- Chemical resistant
- Heat resistant
- 3x the tensile strength of standard XLPO

Operating Temperature

- -55°C to 135°C
- -55°C to 150°C (UL)

Shrink Temperature

- 170°C min.
- 175°C full recovery

Material

- Cross-linked polyvinylidene fluoride

Color

- Clear

Physical Properties

- Tensile strength: 5,000 psi (34.47 N/mm²)
- Elongation: 150% min
- Longitudinal change: ±10%
- Specific gravity: 1.80
- Flame retardant
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max
- Fluid resistance: 5,000 psi (34.47 N/mm²)
- Lead free

Electrical Properties

- 600 V (UL)
- Dielectric strength: 800 V/mil (315 kV/cm)
- Volume resistivity: 10¹³ ohm-cm

Availability

See table

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability	
	Inch	mm	Inch	mm	Inch	mm	4 ft (1.2 m)	6" (152 mm)
FIT-350-3/64	0.046	1.17	0.023	0.58	0.010	0.25	25	32
FIT-350-1/16	0.063	1.60	0.031	0.79	0.010	0.25	25	28
FIT-350-3/32	0.093	2.36	0.046	1.17	0.010	0.25	25	24
FIT-350-1/8	0.125	3.18	0.062	1.57	0.010	0.25	25	20
FIT-350-3/16	0.187	4.75	0.093	2.36	0.010	0.25	25	16
FIT-350-1/4	0.250	6.35	0.125	3.18	0.012	0.30	25	12
FIT-350-3/8	0.375	9.53	0.187	4.75	0.012	0.30	25	8
FIT-350-1/2	0.500	12.70	0.250	6.35	0.012	0.30	5	4
FIT-350-3/4	0.750	19.05	0.375	9.53	0.017	0.43	5	2
FIT-350-1IN	1.000	25.40	0.500	12.70	0.019	0.48	5	1

FIT® Heat-Shrink Tubing

FIT®-400 Heat-Shrink Tubing

1.2:1 Shrink Ratio, FEP



AMS-DTL-23053/11 Class 1

- Chemical resistant
- Wide temperature range
- Excellent dielectric properties
- Thinnest wall thickness available
- Lower recovery temperature than PTFE

Operating Temperature

- -75°C to 200°C

Shrink Temperature

- 175°C full recovery

Material

- FEP

Color

- Natural

Physical Properties

- Tensile strength: 2,000 psi (13.79 N/mm²)
- Elongation: 200% min
- Longitudinal change: ±15%
- Specific gravity: 2.17
- Shelf life: 4 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fluid resistance: pass
- Fungus resistance: no growth
- Water absorption: 0.01% max
- Lead free

Electrical Properties

- Dielectric strength: 2,000 V/mil (787 kV/cm)
- Volume resistivity: 10¹⁷ ohm-cm

Availability

See table

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability Qty, Cut Pieces at Length	
	Inch	mm	Inch	mm	Inch	mm	4 ft (1.2 m)	2 ft (0.6 m)
FIT-400-24	0.031	0.79	0.027	0.69	0.008	0.20	25	—
FIT-400-22	0.036	0.91	0.032	0.81	0.008	0.20	25	—
FIT-400-20	0.045	1.14	0.039	0.99	0.008	0.20	25	—
FIT-400-18	0.060	1.52	0.049	1.24	0.008	0.20	25	—
FIT-400-16	0.075	1.91	0.061	1.55	0.009	0.23	25	—
FIT-400-14	0.092	2.34	0.072	1.83	0.009	0.23	25	—
FIT-400-12	0.115	2.92	0.089	2.26	0.009	0.23	25	—
FIT-400-10	0.141	3.58	0.114	2.90	0.010	0.25	25	—
FIT-400-9	0.158	4.01	0.124	3.15	0.010	0.25	25	—
FIT-400-8	0.180	4.57	0.143	3.63	0.010	0.25	25	—
FIT-400-7	0.197	5.00	0.158	4.01	0.011	0.28	25	—
FIT-400-6	0.225	5.72	0.180	4.57	0.011	0.28	25	—
FIT-400-5	0.248	6.30	0.198	5.03	0.011	0.28	—	50
FIT-400-4	0.290	7.37	0.226	5.74	0.011	0.28	—	50
FIT-400-3	0.310	7.87	0.249	6.32	0.011	0.28	—	50
FIT-400-2	0.365	9.27	0.280	7.11	0.012	0.30	—	50
FIT-400-1	0.400	10.16	0.311	7.90	0.012	0.30	—	50
FIT-400-0	0.440	11.18	0.349	8.86	0.012	0.30	—	50

FIT® Heat-Shrink Tubing

FIT®-421 Heat-Shrink Tubing
4:1 Shrink Ratio, XLPO



AMS-DTL-23053/5 Class 1 UL 224 VW-1

- High-shrink ratio
- Large supplied diameters
- Conforms to irregular shapes
- Low water absorption
- UV resistant

Operating Temperature

- -55°C to 135°C
- -55°C to 125°C (UL)

Shrink Temperature

- 90°C min.
- 121°C full recovery

Material

- Cross-linked polyolefin

Color

- Black

Physical Properties

- Tensile strength: 1,500 psi (10.34 N/mm²)
- Elongation: 200% min
- Longitudinal change: +5%/-15%
- Specific gravity: 1.35
- Flame retardant
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max
- Fluid resistance: 1,000 psi (6.89 N/mm²)
- UV resistant
- Lead free

Electrical Properties

- 600 V (UL)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10¹⁴ ohm-cm

Availability

See table

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability Qty, Cut Pieces at Length	
	Inch	mm	Inch	mm	Inch	mm	4 ft (1.2 m)	2 ft (0.6 m)
FIT-421-1IN	1.000	25.40	0.260	6.60	0.045	1.14	5	—
FIT-421-1-1/2	1.500	38.10	0.375	9.53	0.045	1.14	5	—
FIT-421-2IN	2.000	50.80	0.550	13.97	0.045	1.14	5	—
FIT-421-3IN	3.000	76.20	0.810	20.57	0.045	1.14	2	—
FIT-421-4IN	4.000	101.60	1.050	26.67	0.045	1.14	2	—

FIT® Heat-Shrink Tubing

FIT®-500 Heat-Shrink Tubing

1.5:1 Shrink Ratio, PTFE



AMS-DTL-23053/12 Class 3

- Excellent chemical resistance
- Widest temperature range
- High tensile strength
- Excellent dielectric properties
- Extremely thin wall thickness
- Low friction coefficient

Operating Temperature

- -75°C to +260°C

Shrink Temperature

- 327°C full recovery

Material

- PTFE

Color

- Natural

Physical Properties

- Tensile strength: 2,500 psi (17.21 N/mm²)
- Elongation: 200% min
- Longitudinal change: ±20%
- Specific gravity: 2.20
- Shelf life: 4 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.01% max
- Fluid resistance: pass
- Lead free

Electrical Properties

- Dielectric strength: 800 V/mil (315 kV/cm)
- Volume resistivity: 10¹⁸ ohm-cm

Availability

See table

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability, Qty, Cut Pieces at Length
	Inch	mm	Inch	mm	Inch	mm	2 ft (0.6 m)
FIT-500-30	0.034	0.86	0.015	0.38	0.009	0.23	50
FIT-500-28	0.038	0.97	0.018	0.46	0.009	0.23	50
FIT-500-26	0.046	1.17	0.022	0.56	0.010	0.25	50
FIT-500-24	0.050	1.27	0.027	0.69	0.010	0.25	50
FIT-500-22	0.055	1.40	0.032	0.81	0.012	0.30	50
FIT-500-20	0.060	1.52	0.039	0.99	0.012	0.30	50
FIT-500-18	0.076	1.93	0.049	1.24	0.012	0.30	50
FIT-500-16	0.093	2.36	0.061	1.55	0.012	0.30	50
FIT-500-14	0.120	3.05	0.072	1.83	0.012	0.30	50
FIT-500-12	0.150	3.81	0.089	2.26	0.012	0.30	25
FIT-500-10	0.191	4.85	0.112	2.84	0.012	0.30	25
FIT-500-8	0.240	6.10	0.141	3.58	0.015	0.38	25
FIT-500-6	0.302	7.67	0.178	4.52	0.015	0.38	10
FIT-500-4	0.370	9.40	0.224	5.69	0.015	0.38	10
FIT-500-2	0.430	10.92	0.278	7.06	0.015	0.38	10
FIT-500-0	0.470	11.94	0.347	8.81	0.015	0.38	10

FIT® Heat-Shrink Tubing

FIT®-600 Heat-Shrink Tubing
2:1 Shrink Ratio, Chlorinated PO



AMS-DTL-23053/1 Class 1 and 2

- More flexible than standard XLPO
- 2x the tensile strength of silicone rubber
- Large tubing diameters
- Oil resistant
- Abrasion resistant

Operating Temperature

- -75°C to 121°C

Shrink Temperature

- 130°C min.
- 130°C full recovery

Material

- Chlorinated polyolefin

Color

- Black

Physical Properties

- Tensile strength: 1,500 psi (10.34 N/mm²)
- Elongation: 250% min
- Longitudinal change: +1%/-10%
- Specific gravity: 1.30
- Flame retardant
- Shelf life: 1 year at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 1.0% max
- Fluid resistance: 1,000 psi (6.89 N/mm²)
- UV resistant
- Lead free

Electrical Properties

- Dielectric strength: 300 V/mil (118 kV/cm)
- Volume resistivity: 10¹¹ ohm-cm

Availability

See table

Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability	
	Inch	mm	Inch	mm	Inch	mm	Ft.	Meter
FIT-600-1/4	0.250	6.35	0.143	3.63	0.035	0.89	25, 150	7.6, 46
FIT-600-3/8	0.375	9.53	0.211	5.36	0.040	1.02	25, 150	7.6, 46
FIT-600-1/2	0.500	12.70	0.286	7.26	0.048	1.22	25, 150	7.6, 46
FIT-600-5/8	0.625	15.88	0.357	9.07	0.052	1.32	25, 150	7.6, 46
FIT-600-3/4	0.750	19.05	0.428	10.87	0.057	1.45	25, 100	7.6, 30.5
FIT-600-7/8	0.875	22.23	0.500	12.70	0.065	1.65	25, 100	7.6, 30.5
FIT-600-1IN	1.000	25.40	0.570	14.48	0.070	1.78	25, 100	7.6, 30.5
FIT-600-1-1/4	1.250	31.75	0.714	18.14	0.087	2.21	25, 100	7.6, 30.5
FIT-600-1-1/2	1.500	38.10	0.857	21.77	0.095	2.41	25, 100	7.6, 30.5
FIT-600-1-3/4	1.750	44.45	1.000	25.40	0.107	2.72	25, 75	7.6, 22.8
FIT-600-2IN	2.000	50.80	1.140	28.96	0.110	2.79	25, 75	7.6, 22.8

FIT® Heat-Shrink Tubing

FIT®-621 Heat-Shrink Tubing

5.6:1 Shrink Ratio, Dual-Wall Flexible PO, Adhesive-Lined Inner Thick Wall



- High shrink ratios
- Heavy-duty adhesive lining
- Low water absorption
- Oil resistant
- Chemical resistant
- Abrasion resistant

Operating Temperature

- -55°C to 90°C

Shrink Temperature

- 121°C full recovery

Material

- Polyolefin

Color

- Black

Physical Properties

- Tensile strength: 1,200 psi (8.27 N/mm²)
- Elongation: 200% min
- Longitudinal change: -10%
- Specific gravity: 1.40
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max
- Fluid resistance: 750 psi (5.17 N/mm²)
- Halogen free
- Lead free

Electrical Properties

- Dielectric strength: 200 V/mil (79 kV/cm)
- Volume resistivity: 10¹³ ohm-cm

Availability

See table

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Recovered Adhesive Wall Thickness, Min.		Availability, Qty, Cut Pieces at Length
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	6" (152 mm)
FIT-621-5/8	0.600	15.24	0.150	3.81	0.060	1.52	0.050	1.27	3, 10
FIT-621-1-1/4	1.250	31.75	0.220	5.59	0.060	1.52	0.050	1.27	3, 10
FIT-621-2	2.000	50.80	0.374	9.50	0.106	2.69	0.050	1.27	3, 10, 24
FIT-621-2-1/2	2.500	63.50	0.500	12.70	0.120	3.05	0.050	1.27	3, 10
FIT-621-3	3.000	76.20	0.748	19.00	0.140	3.56	0.050	1.27	3, 10
FIT-621-4	4.000	101.60	0.898	22.81	0.155	3.94	0.050	1.27	3, 10

FIT® Heat-Shrink Tubing

FIT®-650 Heat-Shrink Tubing
2:1 Shrink Ratio, Flexible Fluoroelastomer



AMS-DTL-23053/13

- Excellent chemical resistance
- Wide temperature range
- Flexible
- Oil resistant
- Fuel resistant

Operating Temperature

- -40°C to 200°C

Shrink Temperature

- 130°C min.
- 175°C full recovery

Material

- Flexible fluoroelastomer

Color

- Black

Physical Properties

- Tensile strength: 1,200 psi (8.27 N/mm²)
- Elongation: 250% min
- Longitudinal change: ±20%
- Flammability: self-extinguishing
- Shelf life: 2 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.50% max
- Fluid resistance: 1,200 psi (8.27 N/mm²)
- Lead free

Electrical Properties

- Dielectric strength: 200 V/mil (79 kV/cm)
- Volume resistivity: 10⁹ ohm-cm

Availability

100 ft (30.5 m)
Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.	
	Inch	mm	Inch	mm	Inch	mm
FIT-650-1/8	0.125	3.18	0.062	1.57	0.031	0.79
FIT-650-3/16	0.187	4.75	0.093	2.36	0.035	0.89
FIT-650-1/4	0.250	6.35	0.125	3.18	0.035	0.89
FIT-650-3/8	0.375	9.53	0.187	4.75	0.035	0.89
FIT-650-1/2	0.500	12.70	0.250	6.35	0.035	0.89
FIT-650-3/4	0.750	19.05	0.375	9.53	0.042	1.07
FIT-650-1	1.000	25.40	0.500	12.70	0.049	1.24
ST-650-1-1/2*	1.500	38.10	0.750	19.50	0.055	1.40

*Available in 50 ft (76 m) spools only.

FIT® Heat-Shrink Tubing

FIT®-700 Heat-Shrink Tubing

3:1 Shrink Ratio, Heavy-Wall XLPO, Thermoplastic Adhesive Lined



ANSI C119:1
UL 486
CSA 198

- Thermoplastic adhesive bonds to most materials
- Rated for 1 kV, 90°C continuous use
- Superior strength

Operating Temperature

- -55°C to 110°C

Shrink Temperature

- 120°C min.
- 120°C full recovery

Material

- Heavy-wall cross-linked polyolefin
- Thermoplastic adhesive

Color

- Black

Physical Properties

- Tensile strength: 2,100 psi (14.48 N/mm²)
- Elongation: 600% min
- Longitudinal change: +1%/-10%
- Specific gravity: 1.10
- Flame retardant
- Shelf life: 25 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.10% max
- Fluid resistance: excellent
- UV resistant
- Lead free

Electrical Properties

- Dielectric strength: 500 V/mil (196.9 kV/cm)
- Volume resistivity: 10¹⁷ ohm-cm

Availability

Cut pieces (see table)

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Recovered Adhesive Wall Thickness, Min.		Availability, Qty, Cut Pieces at Length 12" (304 mm)
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	
FIT-700-21	0.750	19.05	0.240	6.10	0.120	3.05	0.050	1.27	6
FIT-700-22	1.100	27.94	0.350	8.89	0.120	3.05	0.050	1.27	6
FIT-700-23	1.500	38.10	0.470	11.94	0.140	3.56	0.050	1.27	6
FIT-700-24	2.000	50.80	0.630	16.00	0.140	3.56	0.050	1.27	6
FIT-700-25*	3.000	76.20	1.250	31.75	0.160	4.06	0.050	1.27	6
FIT-700-26*	4.500	114.30	1.750	44.45	0.160	4.06	0.050	1.27	6

*Not UL or CSA listed

FIT® Heat-Shrink Tubing

FIT®-750 Heat-Shrink Tubing
2:1 Shrink Ratio, XLPO, Adhesive Lined



AMS-DTL-23053/4 Class 2
UL 224 VW-1
AS23053
CSA 198

- General-purpose adhesive-lined tubing
- Total encapsulation
- Bonding to substrates

Operating Temperature

- -55°C to 110°C
- -55°C to 125°C (UL, CSA)

Shrink Temperature

- 110°C min.
- 110°C full recovery

Material

- Adhesive-lined cross-linked polyolefin

Color

- Black

Physical Properties

- Tensile strength: 1,500 psi (10.34 N/mm²)
- Elongation: 200% min
- Longitudinal change: +1%/-5%
- All tubing flame tested
- Self-extinguishing within 1 minute
- Shelf life: 3 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5% max
- Fluid resistance: 1,000 psi (6.89 N/mm²)
- UV resistance
- Lead free

Electrical Properties

- 600 V (UL, CSA)
- Dielectric strength: 500 V/mil (197 kV/cm)
- Volume resistivity: 10¹² ohm-cm

Availability

See table

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Recovered Adhesive Wall Thickness, Min.		Availability, Qty, Cut Pieces at Length 4' (1219 mm)
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	
ST-302-1/8	0.125	3.18	0.063	1.60	0.027	0.69	0.002	0.05	25
ST-302-3/16	0.187	4.75	0.093	2.36	0.027	0.69	0.002	0.05	25
FIT-750-1/4	0.250	6.35	0.125	3.18	0.030	0.76	0.004	0.10	25
FIT-750-3/8	0.375	9.53	0.187	4.75	0.031	0.79	0.004	0.10	25
FIT-750-1/2	0.500	12.70	0.250	6.35	0.032	0.81	0.005	0.13	5
FIT-750-3/4	0.750	19.05	0.375	9.53	0.037	0.94	0.005	0.13	5
FIT-750-1IN	1.000	25.40	0.500	12.70	0.039	0.99	0.007	0.18	5
FIT-750-1-1/2	1.500	38.10	0.750	19.05	0.046	1.17	0.007	0.18	5

FIT® Heat-Shrink Tubing

FIT®-FABRIC Woven Fabric Heat-Shrink Tubing
2:1 Shrink Ratio, Polyethylene-polyester Fabric



**UL 1441 (125°C)
MVSS 302**

- Excellent abrasion resistance
- Outstanding flexibility and durability
- Easy installation: cuts with scissors

Operating Temperature

- -40°C to 125°C

Shrink Temperature

- 80°C min.
- 135°C full recovery

Material

- Polyethylene-polyester fabric

Color

- Black

Physical Properties

- Flame retardant
- Shelf life: 25 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Lead free
- Halogen free
- UV resistant

Availability

See table

Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability	
	Inch	mm	Inch	mm	Inch	mm	Ft.	Meter
FIT-FAB-1	0.472	11.99	0.236	5.99	0.040	1.02	50, 200	15.2, 60.9
FIT-FAB-2	0.787	19.99	0.394	10.01	0.040	1.02	50, 200	15.2, 60.9
FIT-FAB-3	1.181	30.00	0.591	15.01	0.040	1.02	50, 200	15.2, 60.9
FIT-FAB-4	1.575	40.01	0.787	19.99	0.040	1.02	50, 200	15.2, 60.9
FIT-FAB-5	1.969	50.01	0.984	24.99	0.040	1.02	25, 100	7.6, 30.5
FIT-FAB-6	2.362	59.99	1.181	30.00	0.040	1.02	25, 100	7.6, 30.5
FIT-FAB-7	2.756	70.00	1.378	35.00	0.040	1.02	25, 100	7.6, 30.5

FIT® Heat-Shrink Tubing

FIT®-FLEX Highly Flexible Heat-Shrink Tubing
1.7:1 Shrink Ratio, Cross-linked Silicone Rubber



UL 224 VW-1

- Highly flexible over wide temperature range
- Scrape abrasion resistant
- Pliable

Operating Temperature

- -50°C to 200°C

Shrink Temperature

- 80°C min.
- 135°C full recovery

Material

- Cross-linked silicone rubber

Color

- Slate

Physical Properties

- Tensile strength: 870 psi (5.99 N/mm²)
- Elongation: 350% min
- Longitudinal change: -15%
- Specific gravity: 1.20
- Flammability: self-extinguishing
- Shelf life: 25 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption 1.0% max
- Lead free

Electrical Properties

- 600 V
- Dielectric strength: 200 V/mil (79 kV/cm)
- Volume resistivity: 10¹² ohm-cm

Availability

25 ft (7.6 m)
100 ft (30.5 m)
Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.	
	Inch	mm	Inch	mm	Inch	mm
FIT-FLEX-2	0.165	4.19	0.071	1.80	0.055	1.40
FIT-FLEX-3	0.263	6.68	0.114	2.90	0.055	1.40
FIT-FLEX-5	0.394	10.01	0.173	4.39	0.055	1.40
FIT-FLEX-6	0.512	13.00	0.244	6.20	0.055	1.40
FIT-FLEX-9	0.757	19.23	0.354	8.99	0.059	1.50
FIT-FLEX-12	0.984	24.99	0.492	12.50	0.079	2.01
FIT-FLEX-20	1.378	35.00	0.748	19.00	0.079	2.01

FIT® Heat-Shrink Tubing

FIT®-CLEAR Heat-Shrink Tubing
2:1 Shrink Ratio, Cross-Linked PVDF



AMS-DTL-23053/18 Class 1 UL 224 VW-1

- Excellent heat and chemical resistance
- Mechanical abrasion and cut-through resistance

Operating Temperature

- -55°C to 175°C
- -55°C to 150°C (UL)

Shrink Temperature

- 150°C full recovery

Material

- Cross-linked polyvinylidene fluoride

Color

- Clear

Physical Properties

- Tensile strength: 3,500 psi (24.13 N/mm²)
- Elongation: 200% min
- Longitudinal change: ±10%
- Specific gravity: 2.0
- Flame retardant
- Shelf life: 5 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption 0.5% max
- Fluid resistance: 2,000 psi (13.79 N/mm²)
- Lead free

Electrical Properties

- 600 V (UL)
- Dielectric strength: 400 V/mil (158 kV/cm)
- Volume resistivity: 10¹¹ ohm-cm

Availability

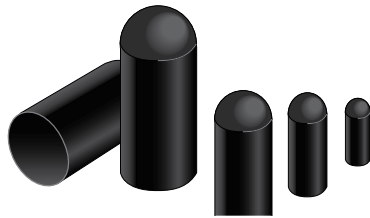
See table

Spools may contain multiple lengths

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Availability	
	Inch	mm	Inch	mm	Inch	mm	Ft.	Meter
FIT-CLEAR-3/64	0.046	1.17	0.023	0.58	0.010	0.25	100	30.5
FIT-CLEAR-1/16	0.063	1.60	0.031	0.79	0.010	0.25	100	30.5
FIT-CLEAR-1/8	0.125	3.18	0.062	1.57	0.010	0.25	100	30.5
FIT-CLEAR-3/16	0.187	4.75	0.093	2.36	0.010	0.25	100	30.5
FIT-CLEAR-1/4	0.250	6.35	0.125	3.18	0.012	0.30	100	30.5

FIT® Heat-Shrink Tubing

CAP Molded Heat-Shrink End Caps
2:1 Shrink Ratio, Semirigid Polyolefin



- Abrasion resistant
- Moisture resistant

Operating Temperature

- -55°C to 135°C

Shrink Temperature

- 135°C full recovery

Material

- Semirigid polyolefin

Color

- Black

Physical Properties

- Tensile strength: 2,500 psi (1.76 N/mm²)
- Elongation: 300% min
- Recovered parts may have angularity of 30° to 45°
- Specific gravity: 1.25
- Flammability: self-extinguishing
- Shelf life: 25 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption 0.1% max
- UV resistant
- Lead free

Electrical Properties

- Dielectric strength: 700 V/mil (276 kV/cm)
- Volume resistivity: 10¹⁶ ohm-cm

Availability

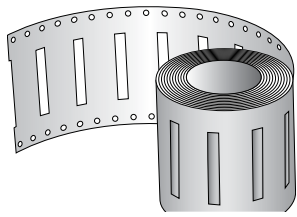
25-piece packages

Part No.	Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.		Recovered Length, Nom.	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm
CAP-21	0.200	5.08	0.080	2.03	0.040	1.02	0.900	22.86
CAP-22	0.290	7.37	0.130	3.30	0.050	1.27	1.000	25.40
CAP-23	0.400	10.16	0.180	4.57	0.060	1.52	1.200	30.48
CAP-24	0.600	15.24	0.250	6.35	0.070	1.78	1.600	40.64
CAP-25	0.810	20.57	0.370	9.40	0.080	2.03	2.400	60.96
CAP-26	1.000	25.40	0.450	11.43	0.090	2.29	2.700	68.58
CAP-27	1.550	39.37	0.710	18.03	0.100	2.54	3.600	91.44

FIT® Heat-Shrink Tubing

FIT®-PRINT Heat-Shrinkable Identification System

3:1 Shrink Ratio, XLPO



UL 224
CSA 198
MIL-STD-202F Method 215J

- Permanent, smear-resistant marking
- Identification for cable or harness assemblies

Operating Temperature

- -30°C to 105°C

Shrink Temperature

- 90°C min.
- 125°C full recovery

Material

- Cross-linked polyolefin

Color

- White, yellow

Physical Properties

- Tensile strength: 1,160 psi (8.0 N/mm²)
- Elongation: 150% min
- Longitudinal change: 20%
- Flame retardant
- Shelf life: 3 years at 18°C to 35°C

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.5%

Electrical Properties

- Dielectric strength: 20 V/mil (7.9 kV/cm)
- Volume resistivity: 10¹⁴ ohm-cm

Availability

250 tubing pieces per package

Part No.	Range			Supplied ID, Min.		Recovered ID, Max.		Recovered Wall Thickness, Nom.	
	AWG	Inch	mm	Inch	mm	Inch	mm	Inch	mm
FIT-PRINT-1/8	22 - 16	0.344 - 1.374	8.74 - 34.90	0.125	3.18	0.042	1.07	0.023	0.58
FIT-PRINT-1/4	16 - 8	1.374 - 3.264	34.90 - 82.92	0.250	6.35	0.083	2.11	0.023	0.58
FIT-PRINT-1/2	8 - 2	3.264 - 6.543	82.92 - 166.19	0.500	12.70	0.166	4.22	0.023	0.58
FIT-PRINT-1	2 - 4/0	6.543 - 10.2	166.19 - 259.08	1.000	25.40	0.333	8.46	0.023	0.58

To economically meet the wire identification needs of the electronic interconnect, industrial, computer office automation, marine, and electrical markets, FIT-PRINT sleeves allow smear-resistant, permanent identification. The sleeves, available in white or high-visibility bright yellow, feed directly into dot matrix printers (high carbon content ribbon recommended). A standard ball-point pen may also be used.

FIT® Heat-Shrink Tubing

FIT®-KIT

Assorted Heat-Shrink Tubing



- For use in R&D labs, engineering development, and maintenance departments

FIT-KIT-1 for General-Purpose Indoor Applications

Tubing supplied in 6" (15.2 cm) lengths unless otherwise noted.

Family	Material	Sizes	Range	Total Quantity
FIT-105	PVC	9	3/64" - 3/4"	18
FIT-221	XLPO	9	3/64" - 3/4"	19
FIT-295	SR-XLPO	8	3/64" - 1/2"	12
FIT-300	XLPO	5	1/8" - 1/2"	10
FIT-350	PVDF	7	3/64" - 3/8"	14
FIT-CRIMP	Nylon	22 - 10 AWG	—	3 pc*
Caps	XLPO	22, 23, 24 AWG	—	6 pc

*1 each of FIT-CRIMP 1, 2, and 3.

FIT-KIT-2 for General-Purpose Indoor and Outdoor Applications

Tubing supplied in 6" (15.2 cm) lengths unless otherwise noted.

Family	Material	Sizes	Range	Total Quantity
FIT-105	PVC	9	3/64" - 3/4"	18
FIT-221	XLPO	9	3/64" - 3/4"	19
FIT-295	SR-XLPO	8	3/64" - 1/2"	12
FIT-300	XLPO	5	1/8" - 1/2"	10
FIT-321	Adhesive-Lined XLPO	2	1/4" - 1/2"	16, 24*
FIT-350	PVDF	7	3/64" - 3/8"	14
FIT-400	FEP	6	24 - 12 AWG	22
FIT-500	PTFE	5	26 - 18 AWG	17
FIT-600	Chlorinated PO	5	1/4" - 1"	8
FIT-700	Thermoplastic Adhesive-Lined XLPO	2	21 - 22	2
FIT-750	Adhesive-Lined XLPO	1	3/8"	10*
FIT-CRIMP	Nylon	22 - 10 AWG	—	3 pc**
Caps	XLPO	22, 23, and 24	—	6 pc

*1"/25.4 mm length.

**1 each of FIT-CRIMP 1, 2, and 3.

FIT-KIT-7 for General-Purpose Indoor and Outdoor Applications

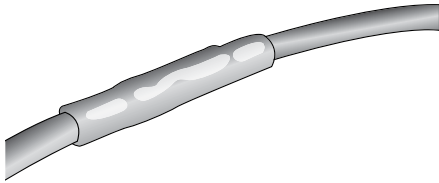
Tubing supplied in 6" (15.2 cm) lengths unless otherwise noted.

Family	Material	Sizes	Range	Total Quantity
FIT-105	PVC	7	1/16" - 1/2"	14
FIT-221	XLPO	7	1/16" - 1/2"	28
FIT-260	XLPO (Ground Lead)	3	1/8" - 1/2"	6
FIT-300	XLPO	4	3/8" - 1/2"	8
FIT-321	Adhesive-Lined XLPO	3	1/8" - 1/2"	6
FIT-350	PVDF	7	1/6" - 1/2"	14
FIT-400	FEP	7	24 - 12 AWG	14
FIT-750	Adhesive-Lined XLPO	5	1/4" - 1"	10
FIT-CRIMP	Nylon	22 - 10 AWG	—	12 pc*

*4 each of FIT-CRIMP 1, 2, and 3.

FIT® Heat-Shrink Tubing

FIT®-CRIMP Heat-Shrinkable Crimp Splices
2:1 Shrink Ratio, Nylon



Operating Temperature

- -55°C to 125°C

Material

- Heat-shrinkable nylon
- Polyamide-based adhesive
- Tin-plated copper base metal

Chemical Properties

- Solvent resistance: isopropyl alcohol, trichloroethylene, gasoline, battery acid, diesel fuel, motor oil, anti-freeze, brake fluid, 5% salt water

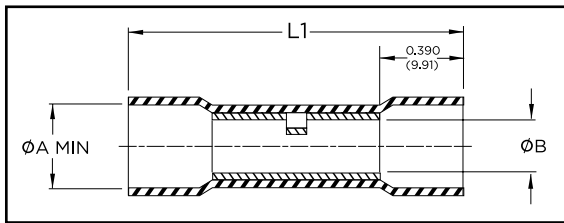
Availability

- 100-piece packages
- 500-piece packages

UL ZMVV

Physical Properties

- Shelf life: 25 years at 18°C to 35°C
- Not flame retardant



Part No.	Wire Range		Color	Length		Supplied ID, Min.				Recovered ID, Max.	
	AWG	mm ²		L1		A		B		A	
				Inch	mm	Inch	mm	Inch	mm	Inch	mm
FIT-CRIMP 1	22 - 18	0.26 - 0.96	Red	1.50	38.10	0.170	4.32	0.058	1.47	0.055	1.40
FIT-CRIMP 2	16 - 14	1.04 - 2.62	Blue	1.50	38.10	0.197	5.00	0.092	2.34	0.080	2.03
FIT-CRIMP 3	12 - 10	2.62 - 6.64	Yellow	1.70	43.18	0.255	6.48	0.138	3.51	0.110	2.79

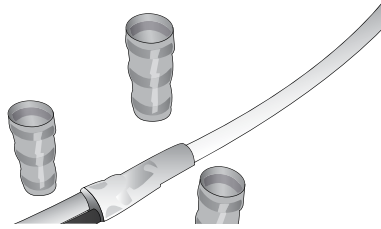
Alpha Wire’s heat-shrinkable pre-insulated crimp splices completely seal electrical connections from corrosion caused by water, salts, and other contaminants. Unlike conventional splices, these adhesive-lined butt connectors provide a strong reinforced connection. They are lightweight and easy to install, too.

Simply insert the wires. The sleeve’s transparent nylon insulation lets you inspect wire location and position your crimping tool fast. Crimp the splice and then shrink and seal it with a common heat gun or other heat source. Reliable sealing plus quick and easy installation add up to protection you can count on whenever wire splices are required, including automobile and truck wiring, outdoor electrical equipment, marine equipment, telecommunications equipment, recreational equipment, and household appliances.



FIT® Heat-Shrink Tubing

FIT®-SLV Soldering Sleeves



ANSI J-STD-004
ANSI J-STD-006
NAS 1745

Operating Temperature

- -55°C to 105°C (SLV 12 - 16)
- -55°C to 125°C (SLV 22 - 26)

Color

- Transparent blue

Material

- PVDF heat-shrinkable sleeve

Physical Properties

- Shelf life: 25 years at 18°C to 35°C

Solder Perform

- 105°C Series: 51.2% tin, 30.6% lead, 18.2% cadmium (143°C melting temperature)
- 125°C Series: 63% tin, 37% lead (183°C melting temperature)

Availability

- 25-piece packages
- 100-piece packages

Part No.		Dimensions					
		D1 min.		D min.		L nom.	
105°C	125°C	Inch	mm	Inch	mm	Inch	mm
FIT-SLV-12	FIT-SLV-22	0.125	3.18	0.110	2.79	0.625	15.88
FIT-SLV-14	FIT-SLV-24	0.200	5.08	0.180	4.57	0.625	15.88
FIT-SLV-16	FIT-SLV-26	0.300	7.62	0.280	7.11	0.750	19.05

Alpha's FIT-SLV soldering sleeve is a one piece, shield ground termination system featuring a strong, low-cost soldered connection that is completely insulated and encapsulated. It consists of a heat-shrinkable thermoplastic sleeve containing a precisely engineered preform of fluxed solder and thermoplastic inserts at each end. When placed over a cable shield and

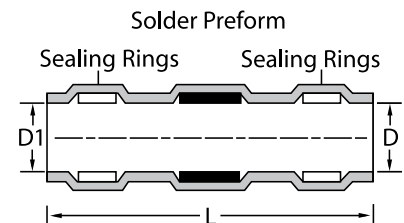
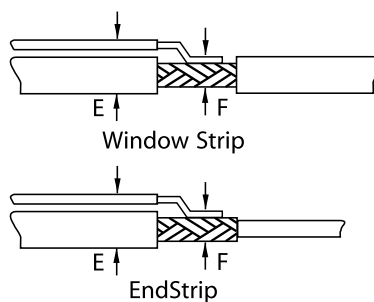
heated, the solder melts and flows, connecting the ground lead and shield. The outer sleeve shrinks and the thermoplastic inserts melt, encapsulating the termination. The result is a perfectly soldered, strain-relieved and environmentally protected termination.

A solder preform ensures exact quantity of solder and flux, producing optimum solder connections for maximum

strength and lowest voltage drop. Transparent heat-shrinkable insulating sleeve allows inspection of termination, and provides long-life strain relief. Meltable inserts insure complete environmental protection.







Selection Guide

- 1 Measure maximum diameter (E) and minimum diameter (F) of combined cable and ground lead.
- 2 Find appropriate Alpha part number and sleeve size in the cable and sleeve dimensions chart.



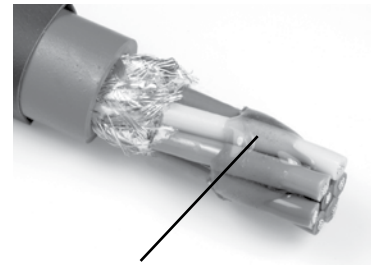
FIT® Accessories

FIT Heat Guns

Part No.	FIT-GUN-1	FIT-GUN-3
		
Temperature, Low	60°C (140°F)	316°C (600°F)
Temperature, High	566°C (1,050°F)	510°C (950°F)
Temperature Selection	Slider switch: Off, Low, Medium, High	Slider switch: Off, Low, High
Power	1400 W	1300 W
Voltage	120 VAC/60 Hz	120 VAC/60 Hz
Current	11.6 A	10.0 A
Power Cord Length	6.5 ft (2 m)	6.5 ft (2 m)
Net Weight	2.2 lb (1 kg)	1.6 lb (0.68 kg)
Color	Black/gray	Black/gray
Nozzle Attachments	Reflector nozzle	—
Approvals	UL 499  	UL 499  
Part No.	FIT-GUN1	FIT-GUN3

FIT-FILL Adhesive

A unique adhesive filler, FIT-FILL is amber bead-like balls of adhesive that are ideal for use when additional adhesive is needed, or when the tubing does not effectively cover the desired locations. FIT-FILL is an ideal complement to FIT Heat-Shrink Tubing for applications involving multiple wires in a tubing array, where the tubing's inner adhesive does not touch the inner wires. FIT-FILL aids in creating a better tubing-to-cable seal to prevent water entry, while providing extra protection to maintain the integrity of the cable.



FIT-FILL is the perfect way to fill and seal interstitial void

Part No. Size

- FITFILL1

Material

- Modified Polyamide

Color

- Amber

Size

- ID: 0.138" (3.51 mm)
- OD: 0.295" (7.49 mm)
- Opening: 0.055" (1.40 mm)
- Length: 0.197 (5 mm)

Operating Temperature

- -10°C to 105°C

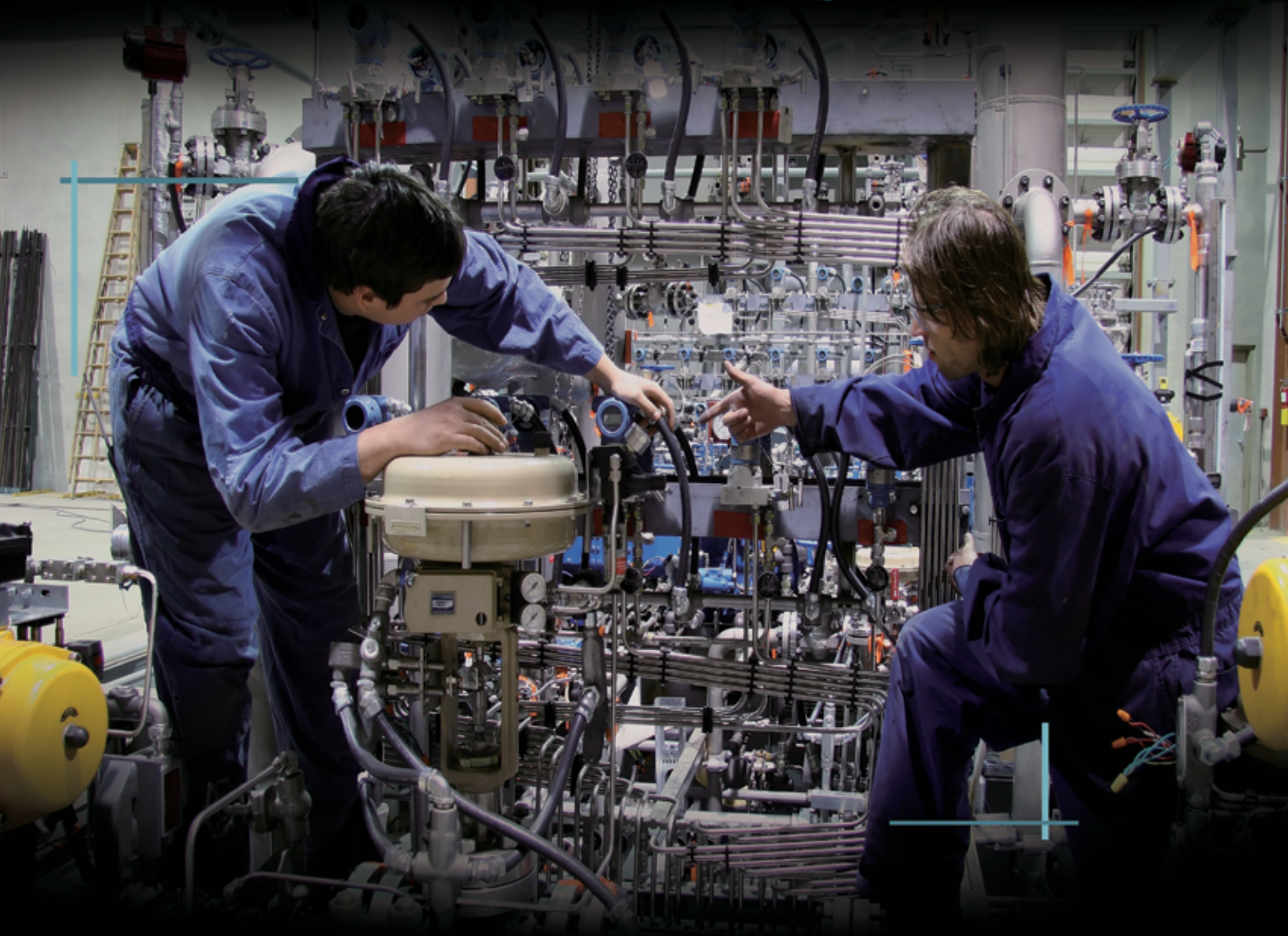
Shrink Temperature

- 90°C min.

Availability

- Packs of 1,000

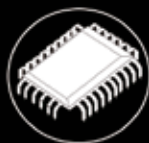
FIT[®] Wire Management



Medical
Equipment



Industrial
Automation



Semi-conductor
Equipment



Aerospace
and Defence



Energy
and Solar



Consumer
Electronics

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FIT® Wire Management

Better Wire Management Means Better Harnesses



Bringing order to wire harnesses and cable routing means a system that is more reliable, easier to fabricate, and simpler to maintain. Our woven sleeves are tough and flexible. For additional resistance to chemicals, oils, and solvents, our flexible tubing offers exceptional performance and operates at temperatures as high as 260°C. Our braided shields are effective and easy to use for additional EMI protection or a ground connection.

Neatness counts

As a leader in premium products, Alpha Wire knows wire and cable. And we know the challenges you face in creating harnesses, routing and combating noise. Our FIT wire management products are designed to tame the most unruly 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.

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.

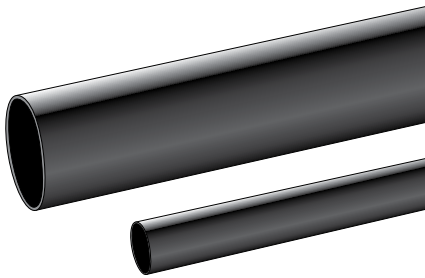
Routing

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 split looms to provide a convenient solution for your routing needs.

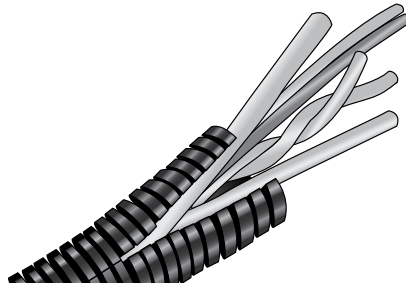
FIT® Wire Management

Better Wire Management Means Better Harnesses



PVC-105

PVC tubing is the workhorse choice for protecting, organizing, and routing cables.

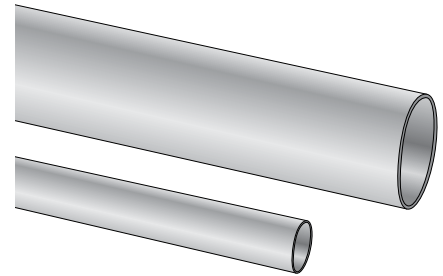


Convoluted Slit Loom Tubing and Tee Connector Fittings

Type 492 Tubing

Type 493 Fittings

Flexible polyethylene loom material permits fast, easy installations and protection of harness and cable assemblies. The loom is slit full length so that it slides over the completed wire assembly easily, but closes after installation to protect the wire bundle. The slit allows the wires to break out at any point along the cable length for custom installation. Companion snap-on connectors provide simple, clean cable junctions.



Flexible PTFE Tubing

TFT-200 Thin-Wall Tubing

TFT-250 Standard-Wall Tubing

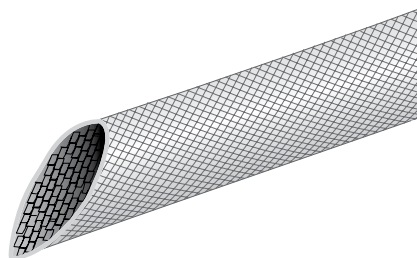
To improve the reliability of cable harnesses, PTFE tubing provides a heat- and abrasion-resistant wire insulator under the most adverse conditions. With an unmatched temperature range, exceptional abrasion resistance, and excellent dielectric properties, it maintains flexibility over its entire temperature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



PVC-Coated Fiberglass Sleeving

PIF-130

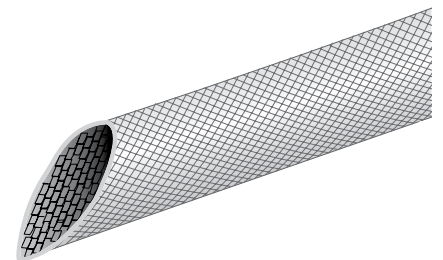
PIF-130 sleeving is a woven fiberglass braid impregnated with a heat-resistant, extremely tough, abrasion-resistant and flexible plastic insulation. The fiberglass is treated to remove all organic matter and resist fraying. The sleeving is completely compatible with all insulation and conductor types.



Uncoated Fiberglass Sleeving

PIF-240

PIF-240 sleeving is extremely flexible and abrasion resistant. It is ideal for applications requiring operation up to 648°C. It is heat treated to remove all organic matter, and it is completely compatible with all insulation and conductor types.



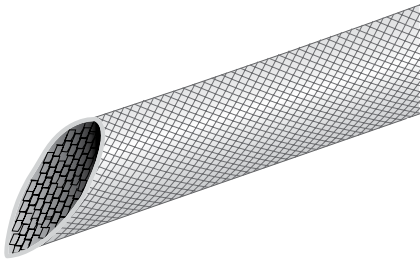
Acrylic-Coated Fiberglass Sleeving

AF-155

AF-155 is a specially designed fiberglass sleeving coated with a thermally stable, flexible, acrylic resin for wire and cable protection in electrical equipment. The most economical and versatile of all coated sleeving products, it offers high heat resistance, extreme flexibility, and resistance to cracking, abrasion, cut-through, and chemicals.

FIT® Wire Management

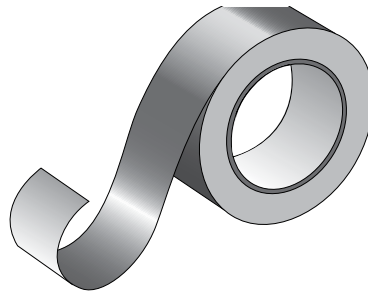
Better Wire Management Means Better Harnesses



Silicone-Coated Fiberglass Sleeving

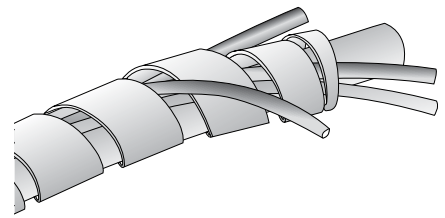
PIF-200, SF-200

PIF-200 and SF-200 sleeving offers high heat and superior electrical characteristics in a closely woven, braided fiberglass, uniformly coated with silicone rubber. It provides low temperature flexibility to -70°C and heat protection to 200°C. The fiberglass sleeving material is heat-set, cuts cleanly and will not fray. It is easy to “push back” and form over components, connections, and cables.



CST Series

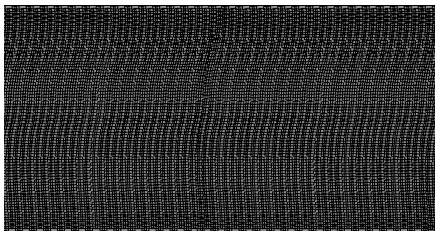
The pressure-sensitive adhesive contains a uniform dispersion of unique oxidation-resistant conductive particles that produce very low resistance through the tape. This feature results in shielding performance approximately 5 dB better than other metal foil shielding tapes.



Spiral Wrap Tubing

SW

Spiral Wrap Tubing simplifies wire harnessing, cabling, and bundling. Alpha's SW tubing wraps tightly to the wire and cable being bundled, yet is flexible and simple to apply. All types maintain flexibility even when bent around sharp edges. Breakouts or tap off connections may be made through the openings of the wrap. SW spiral wrap is constructed from several semi-rigid tubing materials and then cut on a continual spiral.



Expandable Braided Polyester Sleeving

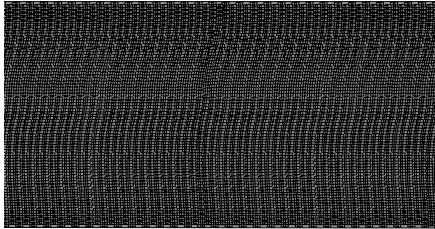
GRP-110, GRP-120

GRP-110/120 are lightweight, expandable woven polyester sleeving that offer high flexibility with high resistance to abrasion and cut-through. The open weave allows for a great range of expansion of the sleeving diameter, thus ensuring ease of installation and gripping action over a wide range of shapes and sizes. GRP sleeving is an ideal protective sleeve for wire bundles, harnesses, pneumatic hoses, hydraulic lines, and highly polished or threaded machine parts.

To prevent fraying of ends, GRP-110 and GRP-120 should be cut/sealed with a hot knife.

FIT® Wire Management

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Non-Fraying, Expandable Braid Sleeving

GRP-110NF, GRP-120NF

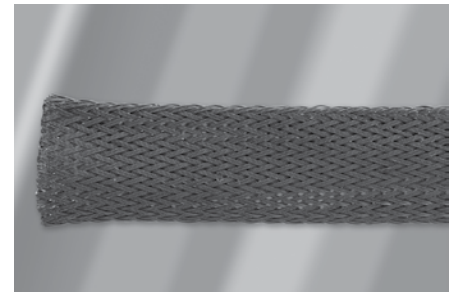
GRP-110NF/120NF sleeving cuts cleanly and fray-free with scissors, with no hot knife required. It is a lightweight, expandable woven polyester sleeving that offers high flexibility with high resistance to abrasion and cut-through. The open weave allows for a great range of expansion of the sleeving diameter, thus ensuring ease of installation and gripping action over a wide range of shapes and sizes. GRP sleeving is an ideal protective sleeve for wire bundles, harnesses, pneumatic hoses, hydraulic lines and highly polished or threaded machine parts.



Wrappable Sleeving

GRP-130, GRP-130NF

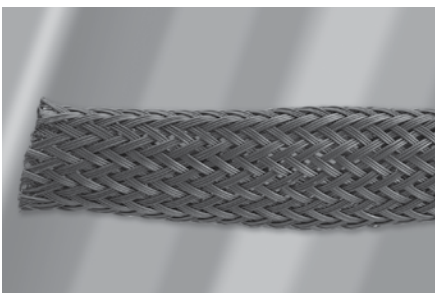
A unique split, semi-rigid braided construction allows GRP-130 and GRP-130NF sleeving to be installed quickly and easily. The lateral split opens up to accommodate a wide variety of bundling requirements, and then closes around the entire installation without the need for any additional fasteners. The sleeving bends to a tight radius without distorting or splitting open and, unlike full rigid tubing, will not impair or affect the flexibility of harnesses.



Advanced Protection Expandable Sleeving

GRP-160

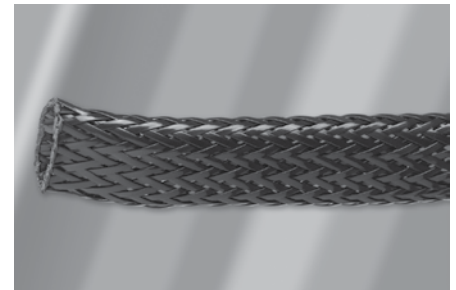
This heavy-duty, flexible sleeving is extremely versatile in any industrial application requiring abrasion protection without sacrificing flexibility or durability. GRP-160 sleeving is economical and easy to use, cutting cleanly with a hot knife, and expanding up to 50% for easy installation over plugs and connectors. It resists fuels, UV, solvents, salt water, and most chemicals.



Advanced Chemical-Resistant Expandable Sleeving

GRP-170

GRP-170 is lightweight sleeving, resistant to high temperatures and virtually impervious to solvents. The sleeving resists all known solvents below 200°C; is chemical resistant, is inert to steam, strong bases, fuels and acids; and offers high temperature stability, low moisture absorption, excellent dimensional stability and ultra-low wear.



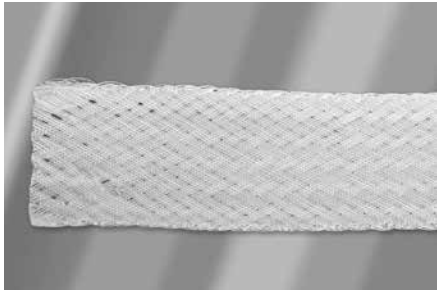
Maximum Protection Expandable Sleeving

GRP-180

For a thick abrasion guard offering extreme protection against abrasion and cut-through on hoses and cables exposed to harsh conditions. GRP-180 provides fuller coverage for increased resistance to abrasion and penetration, and still expands for easy installation over long lengths. The braided construction allows moisture to dissipate quickly to prevent rot and fungus.

FIT® Wire Management

Better Wire Management Means Better Harnesses



Extreme Performance Expandable Sleeving

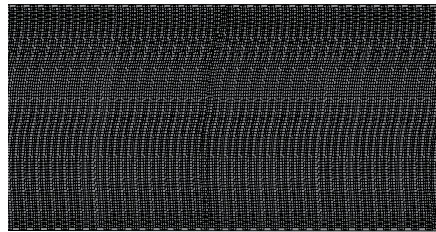
GRP-200

GRP-200 sleeving uses PTFE to allow the highest levels of performance, including resistance to chemicals, flame, and high temperatures. Thermal stability and low outgassing make it suited to aerospace, military and high-tech applications. GRP-2000 sleeving is suitable for plenum applications.



Lacing Tape

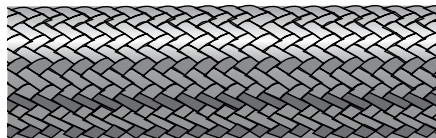
Alpha lacing tapes offer high tensile strength and knot retention. Designed to allow a wider contact area with the insulation so that it remains in place, lacing tape is flexible and easy on the assembler's hands. Once knotted, tape resists slipping and does not increase the diameter of harness. Nylon 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.



Braided Sleeving

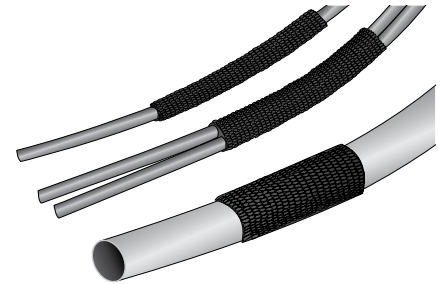
XS-200N

Durable overbraiding for military and commercial cable assemblies protects against abrasion, mildew and aging. Type XS-200N nylon braided self-fitting cable sleeving has been designed to cover and protect round and flat cable assemblies. The variety of sizes and self-fitting features make selection easy for solving many of the cable assembly design problems found in electronic, electrical, aerospace, process control, and robotic-automation equipment.



Tinned and Silver-Plated Copper Braid

A tight weave of multistrand, soft-drawn copper wire (either tinned or silver plated), copper braid is an ideal shielding material for short-run cables, providing easy radial termination. In retrofit applications, it provides additional shielding efficiency. Tinned copper flat braid, used as a ground strap, provides an excellent, low-resistance ground path.



Expandable Polyester Braided Sleeving

ZIP-GRP

ZIP-GRP expandable webbing offers superb flexibility and high tensile strength while providing added protection against flame, chemicals and abrasion. With its hook-and-loop fastening, wires, cable assemblies, and wire harnesses are always accessible and can be easily opened for any number of breakouts. To prevent fraying of ends, ZIP-GRP should be cut/sealed with a hot knife.



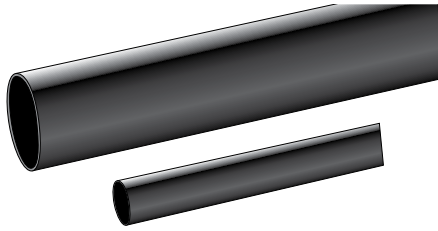
Cable Gland

Our broad offering includes a full range of easily installed standard dome glands, flexible spiral glands, and sealing hole plugs. All products are available in NPT, metric and PG thread sizes. Glands are packaged with an accompanying locknut and a gasket, providing you with a complete strain-relief solution.

FIT® Wire Management

Multipurpose PVC Tubing

PVC-105



UL 224 VW-1
CSA 198
MIL-I-631D Type F, Form U,
Subform Ua, Grade C
ASTM D922

Operating Temperature

- -20°C to 105°C

Color

- Size #24 to 1-1/2 inches:
Black, clear
- 2 Inches to 2-1/2 inches: Black

Physical Properties

- Tensile strength:
2,780 psi (19.17 N/mm²)
- Elongation: 260%
- Specific gravity: 1.32
- Flammability: UL 224 VW-1

Chemical Properties

- Corrosive effect: non-corrosive
- Fungus resistance: no growth
- UV stable
- Lead free

Electrical Properties

- Dielectric strength:
870 V/mil (343 kV/cm)
- Volume resistivity:
2 x 10¹⁴ ohm-cm
- UL voltage rating:
Sizes #24 to #1: UL rated 300 V
5/16 to 2 inches: UL rated 600 V

Availability

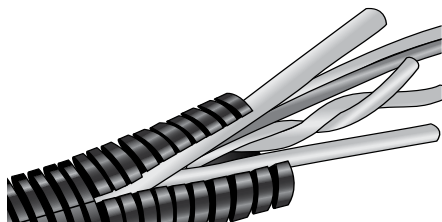
- See table
- PVC-105-24 to PVC-105-1 are available air spooled on the largest put-ups only

Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Wall Thickness, Nom.		Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
PVC-105-24	0.022	0.56	0.027	0.69	0.012	0.30	1000	305
PVC-105-22	0.025	0.64	0.032	0.81	0.012	0.30	100, 1000	30.5, 305
PVC-105-20	0.032	0.81	0.039	0.99	0.016	0.41	1000	305
PVC-105-19	0.036	0.91	0.044	1.12	0.016	0.41	1000	305
PVC-105-18	0.040	1.02	0.049	1.24	0.016	0.41	100, 1000	30.5, 305
PVC-105-17	0.045	1.14	0.054	1.37	0.016	0.41	100, 1000	30.5, 305
PVC-105-16	0.051	1.30	0.061	1.55	0.016	0.41	100, 1000	30.5, 305
PVC-105-15	0.057	1.45	0.067	1.70	0.016	0.41	100, 1000	30.5, 305
PVC-105-14	0.064	1.63	0.072	1.83	0.016	0.41	100, 500	30.5, 152
PVC-105-13	0.072	1.83	0.08	2.03	0.016	0.41	100, 500	30.5, 152
PVC-105-12	0.081	2.06	0.089	2.26	0.016	0.41	500	152
PVC-105-11	0.091	2.31	0.101	2.57	0.016	0.41	100, 500	30.5, 152
PVC-105-10	0.102	2.59	0.112	2.84	0.016	0.41	500	152
PVC-105-9	0.114	2.90	0.124	3.15	0.020	0.51	500	152
PVC-105-8	0.129	3.28	0.141	3.58	0.020	0.51	100, 500	30.5, 152
PVC-105-7	0.144	3.66	0.158	4.01	0.020	0.51	100, 500	30.5, 152
PVC-105-6	0.162	4.11	0.178	4.52	0.020	0.51	100, 500	30.5, 152
PVC-105-5	0.183	4.65	0.198	5.03	0.020	0.51	100, 500	30.5, 152
PVC-105-4	0.204	5.18	0.224	5.69	0.020	0.51	100, 250	30.5, 76
PVC-105-3	0.229	5.82	0.249	6.32	0.020	0.51	100, 250	30.5, 76
PVC-105-2	0.258	6.55	0.278	7.06	0.020	0.51	250	76
PVC-105-1	0.289	7.34	0.311	7.90	0.020	0.51	100, 250	30.5, 76
PVC-105-5/16	0.313	7.95	0.334	8.48	0.025	0.64	100, 250	30.5, 76
PVC105-0	0.325	8.26	0.347	8.81	0.020	0.51	100, 250	30.5, 76
PVC-105-3/8	0.375	9.53	0.399	10.13	0.025	0.64	100, 250	30.5, 76
PVC-105-7/16	0.438	11.13	0.462	11.73	0.025	0.64	100	30.5
PVC-105-1/2A	0.500	12.70	0.524	13.31	0.025	0.64	100	30.5
PVC-105-9/16	0.562	14.27	0.592	15.04	0.030	0.76	100	30.5
PVC-105-5/8	0.625	15.88	0.655	16.64	0.030	0.76	100	30.5
PVC-105-3/4	0.750	19.05	0.786	19.96	0.035	0.89	50	15.2
PVC-105-7/8	0.875	22.23	0.911	23.14	0.035	0.89	50	15.2
PVC-105-1IN	1.000	25.40	1.036	26.31	0.035	0.89	50	15.2
PVC-105-1-1/8	1.125	28.58	1.161	29.49	0.035	0.89	50	15.2
PVC-105-1-1/4	1.250	31.75	1.29	32.77	0.040	1.02	50	15.2
PVC-105-1-1/2	1.500	38.10	1.55	39.37	0.045	1.14	50	15.2
PVC-105-2IN	2.000	50.80	2.07	52.58	0.060	1.52	50	15.2



FIT® Wire Management

Convoluted Slit Loom Tubing Type 492



- Abrasion and fluid resistant
- Light weight
- Easy, flexible cable breakouts

Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Outside Diameter, Min.		Outside Diameter, Max.	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm
492250	0.256	6.50	0.276	7.01	0.373	9.47	0.398	10.11
492350	0.341	8.66	0.38	9.65	0.496	12.60	0.526	13.36
492413	0.399	10.13	0.437	11.10	0.569	14.45	0.597	15.16
492500	0.473	12.01	0.516	13.11	0.664	16.87	0.70	17.78
492625	0.603	15.32	0.639	16.23	0.802	20.37	0.837	21.26
492750	0.707	17.96	0.759	19.28	0.95	24.13	0.989	25.12
492100	1.020	25.91	1.069	27.15	1.251	31.78	1.304	33.12
492150	1.566	39.78	1.647	41.83	1.867	47.42	1.947	49.45
492200	1.969	50.01	2.038	51.77	2.285	58.04	2.388	60.66

Operating Temperature

- -40°C to 93°C

Color

- Black

Material

- PE

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Lead free

Electrical Properties

- Volume resistivity: 10¹⁵ ohm-cm

Availability

100 ft (30.5 m)

FIT® Wire Management

Loom Tee Connector Fittings

Type 493



Part No.	Mating Loom Size					
	Left		Center		Right	
	Inch	mm	Inch	mm	Inch	mm
493100	0.413 or 0.500	10.49 or 12.70	0.413 or 0.500	10.49 or 12.70	0.413 or 0.500	10.49 or 12.70
493101	0.500	12.70	0.350	8.89	0.750	19.05
493102	0.500	12.70	0.413	10.49	0.750	19.05
493103	0.750	19.05	0.500	12.70	0.750	19.05
493110	0.413	10.49	0.350	8.89	0.350	8.89
493118	1.000	25.40	0.625	15.88	0.100	2.54

Operating Temperature

- -40°C to 90°C

Color

- Black

Material

- PE

Chemical Properties

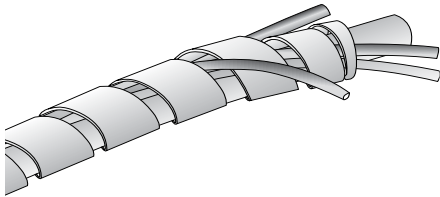
- Corrosive effect: none
- Fungus resistance: no growth
- Lead free

Availability

Single pieces

FIT® Wire Management

Spiral Wrap Tubing SW



- Flexible cable bundling
- Easy breakouts

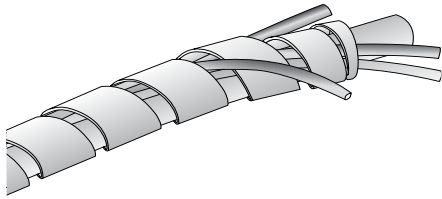
See table for specifications

	SW-1 to SW-6	SW-10 to SW-14	SW-20 to SW-25	SW-30 to SW-35	SW-40 to SW-45	SW-50 to SW-53	
Material	Natural Polyethylene	Flame-Retardant Polyethylene	Nylon	PTFE	UV-Resistant Polyethylene	PVC	
Colors	Natural	White	Natural	Natural, Black	Black	Black	
Operating Temperature (°C)	-66 to 88	-20 to 80	-40 to 121	-268 to 260	-66 to 88	-20 to 80	
Abrasion Resistance (Taber)	22	27	6 - 8	7	20	Excellent	
Flame Rating	Not rated	UL 1441 Self-extinguishing	Self-extinguishing	UL VW-1	Not rated	Self-extinguishing	
Tensile Strength (psi (N/mm²))	1800 (12.41)	1300 (8.96)	12,000 (82.74)	3000 (20.68)	2000 (13.79)	3000 (20.68)	
Water Absorption (%)	0.014	0.02	1.5	0.005	0.03	—	
Dielectric Constant (Max.)	—	2.58	4.0	2.1	—	—	
Effects of Alkalis and Acids	None	None	None	None	None	Satisfactory*	
Weather Resistance	N/A	N/A	N/A	Excellent	N/A	N/A	
Specs	UL UZKX2 MIL-I-631D, Type A, Form U MIL-P-21922B ASTM 1248-65T Type 1 Class A, Grade 3 A-A-59602, Type 1, Class 1	UL UZKX2 A-A-59602, Type 1, Class 3	UL UZKX2 ASTM-D-4066, Group 2, Class 1	UL UZKX2 ASTM-D-3295-01, Group 4 A-A-59602, Type 3, Class 1 (as noted)	UL UZKX2 MIL-I-631D, Type A, Form U MIL-P-21922B, Type 1 Class L A-A-59602, Type 1, Class 2	—	—

*Satisfactory except for high concentrations; not recommended for organic solvents.

FIT® Wire Management

Spiral Wrap Tubing SW



- Flexible cable bundling
- Easy breakouts

See table for specifications

Part No.	Material	Trade Size	Outside Diameter, Nom.		Wall Thickness, Nom.		Right-Hand Pitch, Nom.		Standard Put-Ups*	
			Inch	mm	Inch	mm	Inch	mm	Ft	m
SW-1	Natural PE	1/8	0.125	3.18	0.032	0.81	0.187	4.75	25, 100, 500	7.6, 30.5, 152
SW-2	Natural PE	1/4	0.250	6.35	0.045	1.14	0.375	9.53	25, 100, 500	7.6, 30.5, 152
SW-3	Natural PE	3/8	0.375	9.53	0.052	1.32	0.438	11.13	25, 100	7.6, 30.5
SW-4	Natural PE	1/2	0.500	12.70	0.062	1.57	0.563	14.30	25, 100	7.6, 30.5
SW-5	Natural PE	3/4	0.750	19.05	0.065	1.65	0.750	19.05	25, 100, 500	7.6, 30.5, 152
SW-6	Natural PE	1	1.000	25.40	0.080	2.03	1.000	25.40	25, 100, 500	7.6, 30.5, 152
SW-10	FR PE	1/8	0.125	3.18	0.032	0.81	0.187	4.75	25, 100, 500	7.6, 30.5, 152
SW-11	FR PE	1/4	0.250	6.35	0.045	1.14	0.375	9.53	25, 100, 500	7.6, 30.5, 152
SW-12	FR PE	3/8	0.375	9.53	0.052	1.32	0.438	11.13	25, 100	7.6, 30.5
SW-13	FR PE	1/2	0.500	12.70	0.062	1.57	0.563	14.30	25, 100	7.6, 30.5
SW-14	FR PE	3/4	0.750	19.05	0.065	1.65	0.750	19.05	25, 100	7.6, 30.5
SW-20	Nylon	1/8	0.125	3.18	0.015	0.38	0.187	4.75	25, 100, 500	7.6, 30.5, 152
SW-21	Nylon	1/4	0.250	6.35	0.025	0.64	0.375	9.53	25, 100, 500	7.6, 30.5, 152
SW-22	Nylon	3/8	0.375	9.53	0.035	0.89	0.438	11.13	25, 100	7.6, 30.5
SW-23	Nylon	1/2	0.500	12.70	0.035	0.89	0.500	12.70	25, 100	7.6, 30.5
SW-24	Nylon	3/4	0.750	19.05	0.032	0.81	0.750	19.05	25, 100, 500	7.6, 30.5, 152
SW-25	Nylon	1	1.000	25.40	0.032	0.81	1.000	25.40	25, 100	7.6, 30.5
SW-30	PTFE	1/8	0.125	3.18	0.030	0.76	0.187	4.75	25, 100	7.6, 30.5
SW-31	PTFE	1/4	0.250	6.35	0.030	0.76	0.375	9.53	25, 100	7.6, 30.5
SW-32**	PTFE	3/8	0.375	9.53	0.030	0.76	0.438	11.13	25, 100	7.6, 30.5
SW-33**	PTFE	1/2	0.500	12.70	0.030	0.76	0.500	12.70	25, 100	7.6, 30.5
SW-34**	PTFE	3/4	0.750	19.05	0.032	0.81	0.750	19.05	25, 100	7.6, 30.5
SW-35	PTFE	1	1.000	25.40	0.040	1.02	1.000	25.40	25, 100	7.6, 30.5
SW-40	UV-Res. PE	1/8	0.125	3.18	0.032	0.81	0.187	4.75	25, 100, 500	7.6, 30.5, 152
SW-41	UV-Res. PE	1/4	0.250	6.35	0.045	1.14	0.375	9.53	25, 100, 500	7.6, 30.5, 152
SW-42	UV-Res. PE	3/8	0.375	9.53	0.052	1.32	0.438	11.13	25, 100	7.6, 30.5
SW-43	UV-Res. PE	1/2	0.500	12.70	0.062	1.57	0.500	12.70	25, 100	7.6, 30.5
SW-44	UV-Res. PE	3/4	0.750	19.05	0.065	1.65	0.750	19.05	25, 100, 500	7.6, 30.5, 152
SW-45	UV-Res. PE	1	1.000	25.40	0.080	2.03	1.000	25.40	25, 100, 500	7.6, 30.5, 152
SW-50	PVC	1/8	0.125	3.18	0.032	0.81	0.187	4.75	25, 100	7.6, 30.5
SW-51	PVC	1/4	0.250	6.35	0.045	1.14	0.375	9.53	25, 100	7.6, 30.5
SW-52	PVC	3/8	0.375	9.53	0.052	1.32	0.438	11.13	25, 100	7.6, 30.5
SW-53	PVC	1/2	0.500	12.70	0.062	1.57	0.500	12.70	25, 100	7.6, 30.5

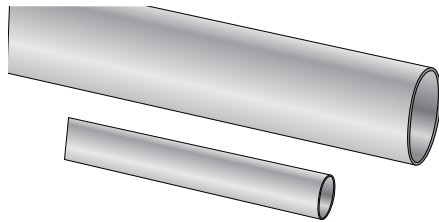
*May contain multiple lengths.

**Does not meet A-A-59602 Type 3 Class 1

FIT® Wire Management

Flexible PTFE Thin-Wall Tubing

TFT-200



**ASTM D 3295-81a Type I
Class B
AMS 3655**

- Flexible wire protection for harnesses and ground straps
- Resistance to heat, oil and abrasion

Operating Temperature

- -75°C to 260°C

Color

- Natural

Material

- PTFE

Physical Properties

- Tensile strength: 2,000 psi (13.7 N/mm²)
- Elongation: 200% min.
- Specific gravity: 2.18
- Flammability rating: UL 94V-0

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.01%
- Lead free

Electrical Properties

- Dielectric strength: 1,400 V/mil (55 kV/cm)
- Volume resistivity: 10¹⁸ ohm-cm
- Dielectric constant: 2.1

Availability

See table

Spools may contain multiple lengths

TFT-200-7 and larger supplied as coils

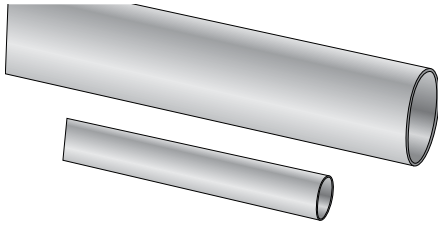
Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Wall Thickness, Nom.		Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
TFT-200-30	0.010	0.25	0.015	0.38	0.009	0.23	100, 500, 1000	30.5, 152, 305
TFT-200-28	0.013	0.33	0.018	0.46	0.009	0.23	100, 500, 1000	30.5, 152, 305
TFT-200-26	0.016	0.41	0.021	0.53	0.009	0.23	100, 500, 1000	30.5, 152, 305
TFT-200-24	0.020	0.51	0.026	0.66	0.010	0.25	100, 500, 1000	30.5, 152, 305
TFT-200-22	0.026	0.66	0.032	0.81	0.010	0.25	100, 500, 1000	30.5, 152, 305
TFT-200-20	0.032	0.81	0.04	1.02	0.012	0.30	100, 500, 1000	30.5, 152, 305
TFT-200-19	0.036	0.91	0.042	1.07	0.012	0.30	100, 1000	30.5, 305
TFT-200-18	0.040	1.02	0.046	1.17	0.012	0.30	100, 500, 1000	30.5, 152, 305
TFT-200-17	0.045	1.14	0.052	1.32	0.012	0.30	100, 500, 1000	30.5, 152, 305
TFT-200-16	0.051	1.30	0.058	1.47	0.012	0.30	100, 1000	30.5, 305
TFT-200-15	0.057	1.45	0.065	1.65	0.012	0.30	100, 1000	30.5, 305
TFT-200-14	0.064	1.63	0.072	1.83	0.012	0.30	100, 500	30.5, 152
TFT-200-13	0.072	1.83	0.081	2.06	0.012	0.30	100, 500	30.5, 152
TFT-200-12	0.081	2.06	0.091	2.31	0.012	0.30	100, 500	30.5, 152
TFT-200-11	0.091	2.31	0.101	2.57	0.012	0.30	100, 500	30.5, 152
TFT-200-10	0.102	2.59	0.112	2.84	0.012	0.30	100, 500	30.5, 152
TFT-200-9	0.114	2.90	0.124	3.15	0.012	0.30	100, 500	30.5, 152
TFT-200-8	0.129	3.28	0.139	3.53	0.015	0.38	100	30.5
TFT-200-7	0.144	3.66	0.155	3.94	0.015	0.38	100	30.5
TFT-200-6	0.162	4.11	0.174	4.42	0.015	0.38	100*	30.5*
TFT-200-5	0.182	4.62	0.195	4.95	0.015	0.38	100*	30.5*
TFT-200-4	0.204	5.18	0.218	5.54	0.015	0.38	100*	30.5*
TFT-200-3	0.229	5.82	0.244	6.20	0.015	0.38	100*	30.5*
TFT-200-2	0.258	6.55	0.273	6.93	0.015	0.38	100*	30.5*
TFT-200-1	0.289	7.34	0.305	7.75	0.015	0.38	100*	30.5*
TFT-200-0	0.325	8.26	0.342	8.69	0.015	0.38	100*	30.5*

*Supplied as coils.



FIT® Wire Management

Flexible PTFE Standard-Wall Tubing TFT-250



ASTM D 3295-81a Type I Class C MIL-I-22129

- Excellent heat and chemical resistance
- Flexible wire protection for harnesses and ground straps
- Resistance to heat, oil, and abrasion

Operating Temperature

- -75°C to 260°C

Color

- Natural

Material

- PTFE

Physical Properties

- Tensile strength: 2,000 psi (13.7 N/mm²)
- Elongation: 200% min.
- Specific gravity: 2.18
- Flammability rating: UL 94V-0

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.01%
- Lead free

Electrical Properties

- Dielectric strength: 1,400 V/mil (551 kV/cm)
- Volume resistivity: 10¹⁸ ohm-cm
- Dielectric constant: 2.1

Availability

See table

Spools may contain multiple lengths
TFT-200-7 and larger supplied
as coils

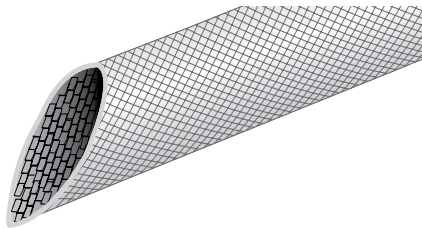
Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Wall Thickness, Nom.		Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
TFT-250-24	0.020	0.51	0.026	0.66	0.012	0.30	100, 500, 1000	30.5, 152, 305
TFT-250-22	0.025	0.64	0.032	0.81	0.012	0.30	100, 500, 1000	30.5, 152, 305
TFT-250-20	0.032	0.81	0.040	1.02	0.016	0.41	100, 500, 1000	30.5, 152, 305
TFT-250-19	0.036	0.91	0.044	1.12	0.016	0.41	100, 500, 1000	30.5, 152, 305
TFT-250-18	0.040	1.02	0.049	1.24	0.016	0.41	100, 500, 1000	30.5, 152, 305
TFT-250-17	0.045	1.14	0.054	1.37	0.016	0.41	100, 1000	30.5, 305
TFT-250-16	0.051	1.30	0.061	1.55	0.016	0.41	100, 500, 1000	30.5, 152, 305
TFT-250-15	0.057	1.45	0.067	1.70	0.016	0.41	100, 500	30.5, 152
TFT-250-14	0.064	1.63	0.074	1.88	0.016	0.41	100, 500	30.5, 152
TFT-250-13	0.072	1.83	0.082	2.08	0.016	0.41	100	30.5
TFT-250-12	0.081	2.06	0.091	2.31	0.016	0.41	100	30.5
TFT-250-11	0.091	2.31	0.101	2.57	0.016	0.41	100, 500	30.5, 152
TFT-250-10	0.102	2.59	0.112	2.84	0.016	0.41	100, 500	30.5, 152
TFT-250-9	0.114	2.90	0.124	3.15	0.020	0.51	100, 500	30.5, 152
TFT-250-8	0.129	3.28	0.141	3.58	0.020	0.51	100	30.5
TFT-250-7	0.144	3.66	0.158	4.01	0.020	0.51	100	30.5
TFT-250-6	0.162	4.11	0.178	4.52	0.020	0.51	100*	30.5*
TFT-250-5	0.182	4.62	0.196	4.98	0.020	0.51	100*	30.5*
TFT-250-4	0.204	5.18	0.224	5.69	0.020	0.51	100*	30.5*
TFT-250-3	0.229	5.82	0.249	6.32	0.020	0.51	100*	30.5*
TFT-250-2	0.258	6.55	0.278	7.06	0.020	0.51	100*	30.5*
TFT-250-1	0.289	7.34	0.311	7.90	0.020	0.51	100*	30.5*
TFT-250-0	0.325	8.26	0.342	8.69	0.020	0.51	100*	30.5*

*Supplied as coils.

FIT® Wire Management

Acrylic-Coated Fiberglass Sleeving

AF-155



**MIL-I-3190/3 Grade C1
NEMA TF-1**

Operating Temperature

- -30°C to 155°C

Color

- Natural

Material

- Acrylic-coated fiberglass braid

Physical Properties

- Elongation: 150% min.
- Low-temperature (-10°C) flexing: no cracking

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Lead free

Electrical Properties

- Dielectric strength: 2,500 V/mil (984 kV/cm)
- Dielectric constant: 2.5
- Volume resistivity: 10¹⁰ ohm-cm

Availability

See table

Spools may contain multiple lengths

Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Wall Thickness, Nom.		Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
AF-155-24	0.020	0.51	0.027	0.69	0.006	0.15	100, 500	30.5, 152
AF-155-22	0.025	0.64	0.032	0.81	0.006	0.15	100, 500	30.5, 152
AF-155-20	0.032	0.81	0.039	0.99	0.006	0.15	100, 500	30.5, 152
AF-155-18	0.040	1.02	0.049	1.24	0.006	0.15	100, 500	30.5, 152
AF-155-16	0.051	1.30	0.061	1.55	0.006	0.15	100, 500	30.5, 152
AF-155-15	0.057	1.45	0.067	1.70	0.006	0.15	100, 500	30.5, 152
AF-155-14	0.064	1.63	0.074	1.88	0.006	0.15	100, 500	30.5, 152
AF-155-13	0.072	1.83	0.082	2.08	0.006	0.15	100, 250	30.5, 76
AF-155-12	0.081	2.06	0.091	2.31	0.006	0.15	100, 250	30.5, 76
AF-155-11	0.091	2.31	0.101	2.57	0.008	0.20	100, 250	30.5, 76
AF-155-10	0.102	2.59	0.112	2.84	0.008	0.20	100, 250	30.5, 76
AF-155-9	0.114	2.90	0.124	3.15	0.008	0.20	100, 250	30.5, 76
AF-155-8	0.129	3.28	0.141	3.58	0.008	0.20	100, 250	30.5, 76
AF-155-7	0.144	3.66	0.158	4.01	0.008	0.20	100, 250	30.5, 76
AF-155-6	0.162	4.11	0.178	4.52	0.010	0.25	100, 250	30.5, 76
AF-155-5	0.182	4.62	0.198	5.03	0.010	0.25	100, 250	30.5, 76
AF-155-4	0.204	5.18	0.224	5.69	0.010	0.25	100, 250	30.5, 76
AF-155-3	0.229	5.82	0.249	6.32	0.010	0.25	100, 250	30.5, 76
AF-155-2	0.258	6.55	0.278	7.06	0.010	0.25	100, 250	30.5, 76
AF-155-1	0.289	7.34	0.311	7.90	0.010	0.25	100, 125	30.5, 38
AF-155-0	0.325	8.26	0.347	8.81	0.016	0.41	100, 125	30.5, 38
AF-155-3/8	0.375	9.53	0.399	10.13	0.016	0.41	125, 250	38, 76
AF-155-7/16	0.438	11.13	0.462	11.73	0.016	0.41	125	38
AF-155-1/2	0.500	12.70	0.524	13.31	0.016	0.41	100	30.5
AF-155-5/8	0.625	15.88	0.655	16.64	0.016	0.41	100	30.5
AF-155-3/4	0.750	19.05	0.786	19.96	0.016	0.41	100	30.5
AF-155-7/8	0.875	22.23	0.911	23.14	0.016	0.41	100	30.5
AF-155-1IN	1.000	25.40	1.036	26.31	0.016	0.41	100	30.5

FIT® Wire Management

PVC-Coated Fiberglass Sleeving

PIF-130



UL 1441 (600 V_{RMS})
UL VW-1
MIL-I-3190/2 Class 130
Type B Category b
NEMA TF-1 Grade A

- High temperature, abrasion, and oil resistance
- Resists fraying, bending, and knotting

Operating Temperature

- -20°C to 130°C

Color

- Black

Material

- PVC-coated fiberglass braid

Chemical Properties

- Corrosive effect: non-corrosive
- Fungus resistance: no growth
- Lead free

Electrical Properties

- Dielectric strength: 5,000 V/mil (1,968 kV/cm)
- Volume resistivity: 10⁹ ohm-cm

Availability

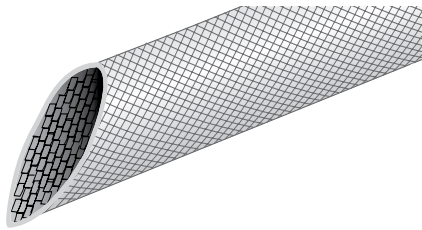
See tables

Spools may contain multiple lengths

Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Wall Thickness, Nom.		Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
PIF-130-20	0.032	0.81	0.039	0.99	0.013	0.33	100, 500, 1000	30.5, 152, 305
PIF-130-18	0.040	1.02	0.049	1.24	0.015	0.38	100, 500, 1000	30.5, 152, 305
PIF-130-16	0.051	1.30	0.061	1.55	0.015	0.38	100, 1000	30.5, 305
PIF-130-14	0.064	1.63	0.074	1.88	0.015	0.38	100	30.5
PIF-130-12	0.081	2.06	0.091	2.31	0.015	0.38	100, 500	30.5, 152
PIF-130-10	0.102	2.59	0.112	2.84	0.018	0.46	100, 500	30.5, 152
PIF-130-8	0.129	3.28	0.141	3.58	0.018	0.46	100, 500	30.5, 152
PIF-130-6	0.162	4.11	0.178	4.52	0.020	0.51	100, 250	30.5, 76
PIF-130-4	0.204	5.18	0.224	5.69	0.020	0.51	100, 250	30.5, 76
PIF-130-2	0.258	6.55	0.278	7.06	0.020	0.51	100, 250	30.5, 76
PIF-130-0	0.325	8.26	0.347	8.81	0.025	0.64	100	30.5
PIF-130-3/8	0.375	9.53	0.399	10.13	0.025	0.64	100	30.5
PIF-130-7/16	0.438	11.13	0.462	11.73	0.025	0.64	100	30.5
PIF-130-1/2A	0.500	12.70	0.524	13.31	0.025	0.64	100	30.5
PIF-130-5/8	0.625	15.88	0.655	16.64	0.025	0.64	100	30.5
PIF-130-3/4	0.750	19.05	0.786	19.96	0.025	0.64	100	30.5
PIF-130-7/8	0.875	22.23	0.911	23.14	0.025	0.64	100	30.5
PIF-130-1IN	1.000	25.40	1.036	26.31	0.025	0.64	100	30.5

FIT® Wire Management

Silicone-Coated Fiberglass Sleeving PIF-200, SF-200



**UL 1441 (600 V_{RMS})
MIL-I-3190/6 Class 200 Type
D Category C
NEMA TF-1 Grade A
UL VW-1**

- Highly flexible routing
- Extreme abrasion resistance
- Superior electrical properties

Operating Temperature

- -70°C to 200°C

Color

- Natural

Material

- Silicone rubber-coated fiberglass braid

Physical Properties

- Tensile strength: 1,200 psi (8.2 N/mm²)
- Elongation: 420% min

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Lead free

Electrical Properties

- Dielectric strength: 15,000 V/mil (5,905 kV/cm)
- Volume resistivity: 6 x 10¹³ ohm-cm
- Dielectric constant: 2.8

Availability

See table

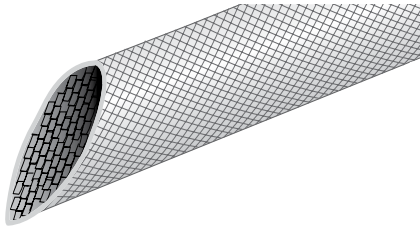
Spools may contain multiple lengths

Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Wall Thickness, Nom.		Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Ft	m
PIF-200-24	0.020	0.51	0.027	0.69	0.011	0.28	100, 500, 1000	30.5, 152, 305
PIF-200-22	0.025	0.64	0.032	0.81	0.013	0.33	100, 500, 1000	30.5, 152, 305
PIF-200-20	0.032	0.81	0.039	0.99	0.013	0.33	100, 500, 1000	30.5, 152, 305
PIF-200-18	0.040	1.02	0.049	1.24	0.015	0.38	100, 500, 1000	30.5, 152, 305
PIF-200-17	0.045	1.14	0.054	1.37	0.015	0.38	500, 1000	152, 305
PIF-200-16	0.051	1.30	0.061	1.55	0.015	0.38	100, 500, 1000	30.5, 152, 305
PIF-200-15	0.057	1.45	0.067	1.70	0.015	0.38	100, 1000	30.5, 305
PIF-200-14	0.064	1.63	0.074	1.88	0.015	0.38	100, 500	30.5, 152
PIF-200-13	0.072	1.83	0.082	2.08	0.015	0.38	100, 500	30.5, 152
PIF-200-12	0.081	2.06	0.091	2.31	0.015	0.38	100, 500	30.5, 152
PIF-200-11	0.091	2.31	0.101	2.57	0.018	0.46	500	152
PIF-200-10	0.102	2.59	0.112	2.84	0.018	0.46	100, 500	30.5, 152
PIF-200-9	0.114	2.90	0.124	3.15	0.018	0.46	100, 500	30.5, 152
PIF-200-8	0.129	3.28	0.141	3.58	0.018	0.46	100, 500	30.5, 152
PIF-200-7	0.144	3.66	0.158	4.01	0.018	0.46	100, 500	30.5, 152
PIF-200-6	0.162	4.11	0.178	4.52	0.020	0.51	25, 100	7.6, 30.5
PIF-200-5	0.182	4.62	0.198	5.03	0.020	0.51	25, 100	7.6, 30.5
PIF-200-4	0.204	5.18	0.224	5.69	0.020	0.51	100	30.5
PIF-200-3	0.229	5.82	0.249	6.32	0.020	0.51	25, 100	7.6, 30.5
PIF-200-2	0.258	6.55	0.278	7.06	0.020	0.51	25, 100	7.6, 30.5
PIF-200-1	0.289	7.34	0.311	7.90	0.020	0.51	100	30.5
PIF-200-0	0.313	7.95	0.347	8.81	0.020	0.51	100	30.5
PIF-200-3/8	0.375	9.53	0.398	10.11	0.025	0.64	25, 100	7.6, 30.5
PIF-200-7/16	0.438	11.13	0.462	11.73	0.025	0.64	25, 100	7.6, 30.5
PIF-200-1/2A	0.500	12.70	0.524	13.31	0.025	0.64	25, 100	7.6, 30.5
PIF-200-5/8	0.625	15.88	0.655	16.64	0.025	0.64	25, 100	7.6, 30.5
SF-200-3/4	0.750	19.05	0.786	19.96	0.025	0.64	100	30.5
SF-200-7/8	0.875	22.23	0.911	23.14	0.025	0.64	100	30.5
SF-200-1IN	1.000	25.40	1.036	26.31	0.025	0.64	100	30.5

FIT® Wire Management

Uncoated Fiberglass Sleeving

PIF-240



- Extreme flexibility
- Extreme heat environments

Operating Temperature

- -60°C to 648°C

Color

- Natural

Material

- Heat-annealed braided fiberglass

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Lead free

Electrical Properties

- Volume resistivity: 10¹⁵ ohm-cm

Availability

100 ft (30.5 m)

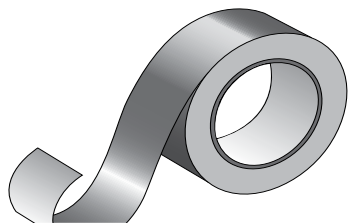
Spools may contain multiple lengths

UL 1441 (500 V_{RMS})
UL VW-1
MIL-Y-1140
ASTM D 350/372 Class C

Part No.	Inside Diameter, Min.		Inside Diameter, Max.		Wall Thickness, Nom.	
	Inch	mm	Inch	mm	Inch	mm
PIF-240-20	0.032	0.81	0.039	0.99	0.009	0.23
PIF-240-18	0.040	1.02	0.049	1.24	0.011	0.28
PIF-240-16	0.051	1.30	0.061	1.55	0.011	0.28
PIF-240-15	0.057	1.45	0.067	1.70	0.011	0.28
PIF-240-14	0.064	1.63	0.074	1.88	0.011	0.28
PIF-240-12	0.081	2.06	0.091	2.31	0.011	0.28
PIF-240-11	0.091	2.31	0.101	2.57	0.011	0.28
PIF-240-10	0.102	2.59	0.112	2.84	0.011	0.28
PIF-240-9	0.114	2.90	0.124	3.15	0.011	0.28
PIF-240-8	0.129	3.28	0.141	3.58	0.011	0.28
PIF-240-7	0.144	3.66	0.158	4.01	0.013	0.33
PIF-240-6	0.162	4.11	0.178	4.52	0.013	0.33
PIF-240-5	0.182	4.62	0.198	5.03	0.013	0.33
PIF-240-4	0.204	5.18	0.224	5.69	0.016	0.41
PIF-240-3	0.229	5.82	0.249	6.32	0.016	0.41
PIF-240-2	0.258	6.55	0.278	7.06	0.016	0.41
PIF-240-1	0.289	7.34	0.311	7.90	0.016	0.41
PIF-240-0	0.325	8.26	0.347	8.81	0.016	0.41
PIF-240-3/8	0.375	9.53	0.399	10.13	0.016	0.41
PIF-240-7/16	0.438	11.13	0.462	11.73	0.018	0.46
PIF-240-1/2A	0.500	12.70	0.524	13.31	0.018	0.46
PIF-240-5/8	0.625	15.88	0.655	16.64	0.018	0.46
PIF-240-3/4	0.750	19.05	0.783	19.89	0.018	0.46
PIF-240-7/8	0.875	22.23	0.991	25.17	0.018	0.46
PIF-240-1IN	1.000	25.40	1.026	26.06	0.018	0.46

FIT® Wire Management

Copper EMI Shielding Tape CST Series



UL 510
ASTM D 1000, Method 303
MIL-STD-202C

- EMI shielding
- Highly conductive pressure-sensitive adhesive seal

Operating Temperature

- -40°C to 205°C

Color

- Copper

Material

- Copper foil on pressure-sensitive adhesive

Physical Properties

- Tensile strength: 21 lb/inch (0.145 N/mm²)
- Adhesion: 40 oz/inch
- Foil thickness: 0.0014 inch (0.04 mm)
- Adhesive thickness: 0.00015 inch (0.004 mm)
- Flammability: flame resistant per UL 510

Electrical Properties

- Electrical resistance through tape: <0.003 ohms/inch² (<0.0005 ohms/cm²)
- Shielding effectiveness: 50 dB at 153 MHz

Availability

36-yard (33 m) rolls

Part No.	Width	
	Inch	mm
CST-5	0.50	12.70
CST-10	1.00	25.40
CST-15	1.50	38.10
CST-20	2.00	50.80

FIT® Wire Management

Expandable Braided Sleeving GRP-110, GRP-120



UL UZKX2
UL VW-1 (GRP-120)
MIL-I-631

- Light weight, flexible routing
- High abrasion and cut-through resistance

Operating Temperature

- -75°C to 125°C
- 250°C melt temperature

Color

- GRP-110: Black or natural
- GRP-120: Black with white tracer thread or white with black tracer thread

Material

- Braided polyester
- Should be cut with hot knife

Physical Properties

- Tensile strength:
GRP-110: 85,000 psi (586 N/mm²)
GRP-120: 55,000 psi (379 N/mm²)

Chemical Properties

- Corrosive effect: noncorrosive
- Fungus resistance: no growth
- GRP-120: flame retardant
- Halogen free
- Lead free

Availability

See tables

Spools may contain multiple lengths

General-Purpose Sleeving

Part No.	Inside Diameter, Min.		Expanded Inside Diameter, Max.		Wall Thickness		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-110-1/8	0.093	2.36	0.250	6.35	0.025	0.64	32	1	32	100, 500	30.5, 152
GRP-110-1/4	0.125	3.18	0.375	9.53	0.025	0.64	24	3	72	100, 500	30.5, 152
GRP-110-1/2	0.250	6.35	0.750	19.05	0.025	0.64	48	3	144	100, 500	30.5, 152
GRP-110-3/4	0.500	12.70	1.250	31.75	0.025	0.64	72	3	216	100, 500	30.5, 152
GRP-110-1-1/4	0.750	19.05	1.750	44.45	0.025	0.64	96	3	288	50, 250	15.2, 76
GRP-110-1-3/4	1.250	31.75	2.750	69.85	0.025	0.64	120	4	480	50, 250	15.2, 76
GRP-110-2IN	1.500	38.10	3.500	88.90	0.025	0.64	120	4	480	50, 250	15.2, 76

Flame-Retardant Sleeving

Part No.	Inside Diameter, Min.		Expanded Inside Diameter, Max.		Wall Thickness		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-120-1/8	0.093	2.36	0.250	6.35	0.025	0.64	32	1	32	100, 500	30.5, 152
GRP-120-1/4	0.125	3.18	0.375	9.53	0.025	0.64	24	3	72	100, 500	30.5, 152
GRP-120-1/2	0.250	6.35	0.750	19.05	0.025	0.64	48	3	144	100, 500	30.5, 152
GRP-120-3/4	0.500	12.70	1.250	31.75	0.025	0.64	72	3	216	100, 500	30.5, 152
GRP-120-1-1/4	0.750	19.05	1.750	44.45	0.025	0.64	96	3	288	50, 250	15.2, 76
GRP-120-1-3/4	1.250	31.75	2.750	69.85	0.025	0.64	120	4	480	50, 250	15.2, 76
GRP-120-2IN	1.500	38.10	3.500	88.90	0.025	0.64	120	4	480	50, 250	15.2, 76

FIT® Wire Management

Non-Fraying, Expandable Braided Sleeving GRP-110NF, GRP-120NF



- Light weight, flexible routing
- Frayless: cuts without a hot knife
- Compatible with automatic cutting machines

Operating Temperature

- -75°C to 125°C

Color

- GRP-110NF, XS-100: Black or natural
- GRP-120NF: Black with white tracer thread

Material

- Braided PET

Physical Properties

- Tensile strength:
GRP-110NF: 85,000 psi (586 N/mm²)
GRP-120NF: 55,000 psi (379 N/mm²)

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth

Availability

See tables

Spools may contain multiple lengths

UL UZKX2
UL VW-1 (GRP-120NF,
XS-100FR)
CSA 5836 01
MIL-I-631

General-Purpose Sleeving

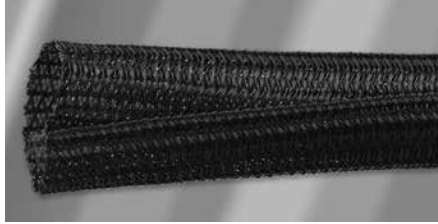
Part No.	Inside Diameter, Min.		Expanded Inside Diameter, Max.		Wall Thickness		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-110NF18	0.125	3.18	0.250	6.35	0.024	0.61	32	3	96	100, 500	30.5, 152
GRP-110NF14	0.156	3.96	0.438	11.13	0.024	0.61	40	3	120	100, 500	30.5, 152
GRP-110NF12	0.250	6.35	0.750	19.05	0.024	0.61	64	3	192	100, 500	30.5, 152
GRP-110NF34	0.625	15.88	1.000	25.40	0.024	0.61	80	3	240	100, 500	30.5, 152
GRP-110NF114	1.000	25.40	1.500	38.10	0.024	0.61	120	3	360	50, 250	15.2, 76
GRP-110NF112	1.250	31.75	2.000	50.80	0.024	0.61	120	4	480	50, 250	15.2, 76

Flame-Retardant Sleeving

Part No.	Inside Diameter, Min.		Expanded Inside Diameter, Max.		Wall Thickness		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-120NF18	0.125	3.18	0.250	6.35	0.024	0.61	32	3	96	100, 500	30.5, 152
GRP-120NF14	0.156	3.96	0.438	11.13	0.024	0.61	40	3	120	100, 500	30.5, 152
GRP-120NF12	0.250	6.35	0.750	19.05	0.024	0.61	64	3	192	100, 500	30.5, 152
GRP-120NF34	0.625	15.88	1.000	25.40	0.024	0.61	80	3	240	100, 500	30.5, 152
GRP-120NF114	1.000	25.40	1.500	38.10	0.024	0.61	120	3	360	50, 250	15.2, 76
GRP-120NF112	1.250	31.75	2.000	50.80	0.024	0.61	120	4	480	50, 250	15.2, 76

FIT® Wire Management

Flexible, Semirigid Wrappable Sleeving GRP-130 and GRP-130NF



UL UZKX2
UL 94V-0 (GRP-130)
UL VW1 (GRP-130NF)
CSA 5836 01 FT2
FAR 25 (GRP-130NR)

- Bends tightly without distorting or opening
- 25% edge overlap to accommodate connectors and splices
- Fast, easy wrap-around installation
- More flexible than spiral wrap or split convoluted tubing

Operating Temperature

- -70°C to 125°C
- GRP-130: 230°C melt temperature
- GRP-130NF: 250°C melt temperature

Color

- GRP-130: Black or orange
- GRP-130NF: Black with white tracer

Material

- 10-mil PET braid
- Cuts with hot knife

Physical Properties

- Tensile strength:
 GRP-130: 6 psi (0.04 N/mm²)
 GRP-130NF: 4 psi (0.02 N/mm²)
- Specific gravity: 1.38 max

Chemical Properties

- Corrosive effects: noncorrosive
- Fungus resistance: no growth
- Water absorption: 0.10% max
- UV resistant
- Halogen free
- Lead free

Availability

See table
 Reels may contain multiple lengths

The GRP-130 installation tool makes installing long length of GRP-130 sleeving fast and easy. Simply insert your wire bundle into the tool's shank and slide the tool along the split in the sleeving. The tool deposits the wires and allows the split to close correctly.

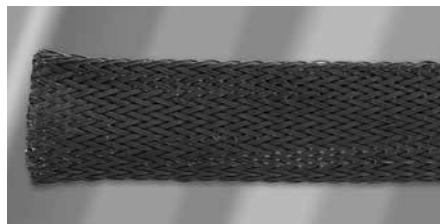


Part No.		Size		Wall Thickness (Min)		Ends per Carrier Alternating	Standard Put-Ups		Installation Tool Part No.
Black	Black w/ Tracer	Inch	mm	Inch	mm		Ft	m	
GRP-130-1/8	GRP-130NF-18	0.125	3.18	0.024	3.18	1/3	50, 200	15.2, 71	GRP-130T-1/4
GRP-130-1/4	GRP-130NF-14	0.250	6.35	0.025	6.35	1/3	50, 200	15.2, 71	GRP-130T-1/4
GRP-130-3/8	GRP-130NF-38	0.375	9.53	0.025	9.53	1/3	50, 100	15.2, 30.5	GRP-130T-1/2
GRP-130-1/2	GRP-130NF-12	0.500	12.70	0.025	12.70	1/3	50, 100	15.2, 30.5	GRP-130T-1/2
GRP-130-3/4	GRP-130NF-34	0.750	19.05	0.025	19.05	1/3	50, 100	15.2, 30.5	GRP-130T-3/4
GRP-130-1IN	GRP-130NF-1IN	1.000	25.40	0.038	25.40	1/3	50, 100	15.2, 30.5	GRP-130T-1IN
GRP-130-1-1/4	GRP-130NF-1-14	1.250	31.75	0.038	31.75	1/3	25	7.6	GRP-130T-1-1/4
GRP-130-1-1/2	GRP-130NF-1-12	1.500	38.10	0.038	38.10	1/3	25	7.6	GRP-130T-1-1/4
GRP-130-2IN	GRP-130NF-2IN	2.000	50.80	0.038	50.80	2/3	25	7.6	GRP-130T-1-1/4*

*Designed for up to 1.22" cable diameter

FIT® Wire Management

Advanced Protection Expandable Sleeving GRP-160



An economical, easy-to-use choice for advanced abrasion and cut-through protection

- Extreme abrasion resistance without losing flexibility or durability
- Cuts cleanly with hot knife
- Resists fuels, solvents, salt water, chemicals and UV
- Expandable to 150%

Operating Temperature

- -45°C to 150°C
- 256°C melt temperature

Color

- Black

Material

- 20-mil nylon polyamide monofilament

Physical Properties

- Tensile strength: 19 psi (0.13 N/mm²)
- Specific gravity: 1.14 max

Chemical Properties

- Corrosive effects: noncorrosive
- Fungus resistance: no growth
- Water absorption: 2.50% max
- UV resistant
- Halogen free
- Lead free

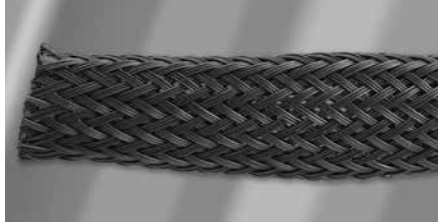
Availability

See table
Reels may contain multiple lengths

Part No.	Nominal Size		Expansion Range		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-160-1/4	1/4	6.35	0.250 - 0.500	6.35 - 12.70	20	3	60	50, 250	15.2, 76
GRP-160-1/2	1/2	12.70	0.500 - 1.000	12.70 - 25.40	36	3	108	50, 250	15.2, 76
GRP-160-3/4	3/4	19.05	0.750 - 1.250	19.05 - 31.75	40	3	120	50, 250	15.2, 76
GRP-160-1IN	1	25.40	1.000 - 1.500	25.40 - 38.10	48	3	144	50, 250	15.2, 76
GRP-160-1-1/4	1-1/4	31.75	1.250 - 2.000	31.75 - 50.80	56	3	168	50, 250	15.2, 76
GRP-160-1-3/4	1-3/4	44.45	1.750 - 2.750	44.45 - 69.85	72	3	216	50, 250	15.2, 76
GRP-160-2-1/4	2-1/4	57.15	2.250 - 3.000	57.15 - 76.20	96	3	288	25, 100	7.6, 30.5

FIT® Wire Management

Advanced Chemical Resistance Expandable Sleeving GRP-170



The extremely lightweight sleeving that is impervious to virtually all chemicals

UL 94V-0 FAR 25

- Resists acids, bases, solvents and fuels
- Ultra-lightweight
- High abrasion resistance
- Expandable to 150%
- Flame resistant
- Cuts cleanly with hot knife

Operating Temperature

- -70°C to 200°C
- 285°C melt temperature

Color

- Black

Material

- 8-mil-diameter polyphenylene sulfide (PPS) monofilaments
- Cuts with hot knife

Physical Properties

- Specific gravity: 1.37 max
- Flame resistant

Chemical Properties

- Corrosive effects: noncorrosive
- Fungus resistance: no growth
- Water absorption: 0.025% max
- Low outgassing
- UV resistant
- Halogen free
- Lead free

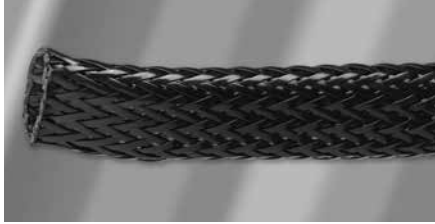
Availability

See table
Reels may contain multiple lengths

Part No.	Nominal Size		Expansion Range		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-170-1/8	1/8	3.18	0.094 - 0.250	2.38 - 6.35	32	2	64	100, 500	30.5, 152
GRP-170-1/4	1/4	6.35	0.125 - 0.375	3.18 - 9.53	48	2	96	100, 500	30.5, 152
GRP-170-1/2	1/2	12.70	0.250 - 0.750	6.35 - 19.05	56	3	168	100, 500	30.5, 152
GRP-170-3/4	3/4	19.05	0.500 - 1.250	12.70 - 31.75	72	3	216	50, 250	15.2, 76
GRP-170-1-1/4	1-1/4	31.75	0.750 - 1.750	19.05 - 44.45	96	4	384	50, 250	15.2, 76
GRP-170-1-3/4	1-3/4	44.45	1.250 - 2.500	31.75 - 63.50	120	4	480	50, 250	15.2, 76

FIT® Wire Management

Maximum Performance Expandable Sleeving GRP-180



Superior abrasion resistance, a wide operating temperature range, easy installation for industrial, solar and high-abrasion applications

- Superior abrasion resistance
- Easy to install
- Resists fuels, solvents, chemicals, salt water and UV
- Smooth inner wall to prevent internal abrasion damage

Operating Temperature

- -60°C to 150°C
- 265°C melt temperature

Color

- Black

Material

- Flat 20-mil nylon filaments
- Cuts with hot knife

Physical Properties

- Tensile strength:
19 psi (0.13 N/mm²)
- Specific gravity: 1.12 max

Chemical Properties

- Corrosive effects: noncorrosive
- Fungus resistance: no growth
- Water absorption: 2.50% max
- UV resistant
- Lead free

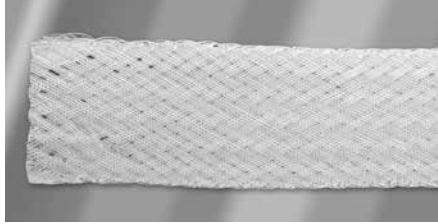
Availability

See table
Reels may contain multiple lengths

Part No.	Nominal Size		Expansion Range		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-180-3/4	3/4	19.05	0.625 - 1.000	15.88 - 25.40	36	1	36	50, 250	15.2, 76
GRP-180-1IN	1	25.40	0.875 - 1.250	22.22 - 31.75	44	1	44	50, 250	15.2, 76

FIT® Wire Management

Extreme Performance Slewing GRP-200



FAR 25

The high-temperature choice for aerospace, military and high-tech applications where thermal stability and low outgassing are critical

- Cut and abrasion resistant
- Flame resistant
- Resists virtually all chemicals and UV
- Thermally stable
- Low outgassing
- Suitable for plenum use

Operating Temperature

- -70°C to 280°C
- 310°C melt temperature

Color

- Natural

Material

- 16-mil PTFE filaments
- Cuts with hot knife or hot wire

Physical Properties

- Specific gravity: 2.15 max

Chemical Properties

- Corrosive effects: noncorrosive
- Fungus resistance: no growth
- Water absorption: 0.01% max
- Vacuum outgassing: 95.0% max
- Lead free

Availability

See table
Spools may contain multiple lengths

Part No.	Nominal Size		Expansion Range		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
GRP-200-3/8	3/8	9.53	0.250 - 0.750	6.35 - 19.06	40	3	120	50, 250	15.2, 76
GRP-200-1/2	1/2	12.70	0.375 - 0.875	9.53 - 22.23	48	3	144	50, 250	15.2, 76

FIT® Wire Management

Braided Sleeving XS-200N



MIL-S-47053
CID A-A-59301

- Extremely durable
- Abrasion resistant
- Tight weave with excellent flexibility

Operating Temperature

- -45°C to 120°C
- 250°C melt temperature

Color

- Black

Material

- Braided nylon

Physical Properties

- Tensile strength:
80,000 psi (551 N/mm²)
- Specific gravity: 1.14

Chemical Properties

- Corrosive effect: none
- Fungus resistance: no growth
- Water absorption: 0.04%, max.
- Halogen free
- Lead free

Electrical Properties

- Dielectric strength:
4 V/mil (1.57 kV/cm)

Availability

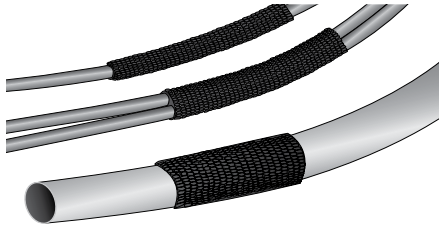
See table

Spools may contain multiple lengths

Part No.	Nominal Size		Expansion Range		Construction			Standard Put-Ups	
	Inch	mm	Inch	mm	Carriers	Yarns	Total	Ft	m
XS-200N-1/8	0.125	3.18	0.020	0.51	28	3	84	100, 1000	30.5, 305
XS-200N-1/4	0.250	6.35	0.032	0.81	48	4	192	100, 500	30.5, 152
XS-200N-3/8	0.375	9.53	0.032	0.81	52	5	260	100, 500	30.5, 152
XS-200N-1/2	0.500	12.70	0.035	0.89	72	6	432	100	30.5
XS-200N-3/4	0.750	19.05	0.035	0.89	72	9	648	100, 250	30.5, 76
XS-200N-1IN	1.000	25.40	0.045	1.14	72	16	1152	100	30.5

FIT® Wire Management

Expandable Braided Sleeving ZIP-GRP



UL UZKYZ
UL 94V-0
CSA 5836 01

- Unlimited breakouts
- Abrasion and cut-through resistance
- Oil and solvent resistance

Operating Temperature

- -70°C to 125°C
- 230°C melt temperature

Color

- Black

Material

- Braided PET with hook and loop closure
- Cuts with hot knife

Physical Properties

- Tensile strength: 85,000 psi (586 N/mm²)
- Specific gravity: 1.38

Chemical Properties

- Corrosive effect: None
- Fungus resistance: no growth
- Water absorption: 0.15% max.
- Halogen free
- Lead free
- Chemically inert
- UV resistant

Availability

25 ft (7.6 m)
50 ft (15.2 m)

Spools may contain multiple lengths

Part No.	Nominal Size		Expansion Range		Wall Thickness		Construction		
	Inch	mm	Inch	mm	Inch	mm	Carriers	Yarns	Total
ZIP-GRP-7/8	0.500	12.70	2.375	60.33	0.025	0.64	88	4	220
ZIP-GRP-1-1/2	1.500	38.10	3.500	88.90	0.025	0.64	105	4	420
ZIP-GRP-2	2.000	50.80	4.500	114.30	0.025	0.64	137	4	548

FIT® Wire Management

Lacing Tape



A-A-52080 Type 1

- High tensile strength
- Good chemical resistance
- Excellent abrasion resistance
- Excellent knot retention

See table for specifications.

A-A-52080 (MIL-T-43435B Type I)

- Flat braid made from high-tenacity continuous nylon yarn

Operating Temperature

- -55°C to 121°C

Elongation

- 40% max

Finish Weight (Impregnated % of material by weight)

- Finish A (natural)
- Finish B (wax): 15% – 32%
- Finish C (synthetic rubber/elastomer): 7% – 17%
- Finish E (synthetic resin/vinyl): 15% – 30%

Finishes

A. Natural, No Finish

B. Wax: A microcrystalline wax with a melting point above 54°C compounded with a fungicide that does not contain copper or mercuric materials. Excellent knot retention, yet the finish does not have too great a “waxy” feel to the user. Microcrystalline wax is soft, pliable, and easy to tie.

C. Synthetic Rubber or Elastomer:

A special continuous coating of fungistatic synthetic rubber containing no corrosive compounding ingredients. Knots tied with this finish will not slip. This finish will not flake or dust.

D: Glass/TFE:

The glass/TFE combination has excellent tensile strength and abrasion resistance. Also resists fungus, acids and flames.

E. Synthetic Resin or Vinyl:

A thermoplastic synthetic resin with a melting point above 177°C for use where a “wax-free” type is specified. It is a non-dusting and flaking dry finish with good knot-tying qualities.

Part No.	Finish	Color	Width, Nom.		Thickness, Nom.		Break Strength, Min.		Availability*	
			Inch	mm	Inch	mm	lb	kg	Yd	m
801530W	A	Natural	0.050	1.27	0.010	0.25	15	6.8	500	457
801536B	B	Black	0.050	1.27	0.010	0.25	15	6.8	500	457
801536W	B	Natural	0.050	1.27	0.010	0.25	15	6.8	500	457
802534B	B	Black	0.060	1.52	0.012	0.30	25	11.3	500	457
802534W	B	Natural	0.060	1.52	0.012	0.30	25	11.3	500	457
LC-134	B	Black/White	0.060	1.52	0.012	0.30	25	11.3	500	457
LC-132	C	Black/White	0.085	2.16	0.014	0.36	50	22.7	500	457
LC-136	B	Black/White	0.085	2.16	0.014	0.36	50	22.7	500	457
LC-140	C	Black/White	0.085	2.16	0.014	0.36	50	22.7	500	457
LC-162	B	Black/White	0.085	2.16	0.014	0.36	50	22.7	500	457
805032B	E	Black	0.085	2.16	0.014	0.36	50	22.7	500	457
805032W	E	Natural	0.085	2.16	0.014	0.36	50	22.7	500	457
805036B	B	Black	0.085	2.16	0.014	0.36	50	22.7	500	457
805036W	B	Natural	0.085	2.16	0.014	0.36	50	22.7	500	457
805040B	C	Black	0.085	2.16	0.014	0.36	50	22.7	500	457
805040W	C	Natural	0.085	2.16	0.014	0.36	50	22.7	500	457
LC-143	E	Black/White	0.085	2.16	0.014	0.36	50	22.7	500	457
808036B	B	Black	0.110	2.79	0.015	0.38	80	36.3	250	228
808036W	B	Black	0.110	2.79	0.015	0.38	80	36.3	250	228

* Bobbins/tubes may contain multiple lengths.



FIT® Wire Management

Lacing Tape



A-A-52081

(formerly MIL-T-43435B Type II)

- Flat braid made from high-tenacity continuous polyester yarn

Operating Temperature

- -73°C to 177°C

Elongation

- 40% max

Finish Weight (Impregnated % of material by weight)

- Finish A (natural)
- Finish B (wax): 15% - 32%
- Finish C (synthetic rubber/elastomer): 7% - 17%
- Finish E (synthetic resin/vinyl): 15% - 30%

Part No.	Finish	Color	Width, Nom.		Thickness, Nom.		Break Strength, Min.		Availability*	
			Inch	mm	Inch	mm	lb	kg	Yd	m
801566B	C	Black	0.050	1.27	0.010	0.25	15	6.8	500	457
802566B	C	Black	0.060	1.52	0.012	0.30	25	11.3	500	457
C164	B	Black/White	0.062	1.57	0.010	0.25	25	11.3	500	457
805058B	E	Black	0.085	2.16	0.014	0.36	50	22.7	500	457
805058W	E	Natural	0.085	2.16	0.014	0.36	50	22.7	500	457
805060B	A	Black	0.085	2.16	0.014	0.36	50	22.7	500	457
805062B	B	Black	0.085	2.16	0.014	0.36	50	22.7	500	457
805062W	B	Natural	0.085	2.16	0.014	0.36	50	22.7	500	457
805066W	C	Natural	0.085	2.16	0.014	0.36	50	22.7	500	457
C162	B	Black/White	0.085	2.16	0.014	0.36	50	22.7	500	457
808060W	A	Natural	0.110	2.79	0.015	0.38	80	36.3	500	457
808058B	E	Black	0.110	2.79	0.015	0.38	80	36.3	250	228
C160	B	Black/White	0.200	5.08	0.016	0.41	135	61.2	250	228

**Bobbins/tubes may contain multiple lengths.

A-A-52083

(formerly MIL-T-43435B Type IV)

- Flat braid made from continuous filament glass yarn coated with PTFE before braiding

Part No.	Finish	Color	Width, Nom.		Thickness, Nom.		Break Strength, Min.		Availability*	
			Inch	mm	Inch	mm	lb	kg	Yd	m
807510W	D	Natural	0.085	2.16	0.016	0.41	75	34.0	500	457
810010W	D	Natural	0.110	2.79	0.016	0.41	100	45.3	250	228

**Bobbins/tubes may contain multiple lengths.

Operating Temperature

- Glass maintain strength and stability to 427°C

Elongation

- 5% max

Finish Weight (Impregnated % of material by weight)

- Finish D (glass/TFE): 10% - 20%



FIT® Wire Management

Lacing Tape



Operating Temperature

- -55°C to 260°C

Elongation

- 40% max

Finish Weight (Impregnated % of material by weight)

- Finish C (synthetic rubber/elastomer): 7% – 17%

A-A-52084

(formerly MIL-T-43435B Type V)

- Flat braid made from continuous filament aramid yarn

Part No.	Finish	Color	Width, Nom.		Thickness, Nom.		Break Strength, Min.		Availability*	
			Inch	mm	Inch	mm	lb	kg	Yd	m
803554	C	Natural	0.075	1.91	0.012	0.30	35	15.9	500	457

**Bobbins/tubes may contain multiple lengths.

MIL-DTL-713 Type P

- Twisted nylon cord made from high-tenacity continuous filament yarn

Operating Temperature

- -55° C to 121°C

Elongation

- 20% min.

Finish Weight (Impregnated % of material by weight)

- Finish B (wax): 20% – 32%

Part No.	Finish	Color	Diameter, Nom.		Break Strength, Min.		Availability*	
			Inch	mm	lb	kg	Yd	m
803215B	B	Black	0.023	0.58	32	14.5	1	0.45
803215W	B	Natural	0.023	0.58	32	14.5	1	0.45
804812W	A	Natural	0.025	0.64	48	21.8	1	0.45
804814B	B	Black	0.025	0.64	48	21.8	1	0.45
804814W	B	Natural	0.025	0.64	48	21.8	1	0.45
807013B	B	Black	0.040	1.02	70	31.7	1	0.45
807013W	B	Natural	0.040	1.02	70	31.7	1	0.45

*Weight per tube; bobbins/tubes may contain multiple lengths.

Telecommunications-Grade Polyester Yarn

- Round, twisted polyester cord made from high-tenacity industrial polyester fiber

Part No.	Finish	Color	Diameter, Nom.		Break Strength, Min.		Plies	Availability*	
			Inch	mm	lb	kg		lb	kg
812030W	Wax	Natural	0.030	0.76	32	14.5	9	0.5	0.22
815040W	Wax	Natural	0.030	0.76	32	14.5	12	0.5	0.22

*Weight per tube; bobbins/tubes may contain multiple lengths.

Melt Temperature (approx.)

- 121°C

Elongation

- 17% – 27%

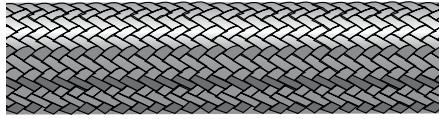
Finish Weight (Impregnated % of material by weight)

- 9 ply: 7% – 17%
- 12 ply: 35%



FIT® Wire Management

Tinned Copper Braid
Flat, Oval



AA-59569A (as indicated)

Color

- Silver

Material

- Tinned copper braid

Availability

See table

Spools may contain multiple lengths

Part No.	Flat Width, Nom.		Thickness, Nom.		Braid Construction			AWG Equivalent, Approx.	CMA, Nom.	Current-Carrying Capacity	Standard Put-Ups	
	Inch	mm	Inch	mm	AWG of Individ. Ends	Carriers	No. of Individ. Ends				Amps	Ft
1221*	0.025	0.64	0.015	0.38	36	8	8	27	200	4	100, 500, 1000	30.5, 152, 305
1222*	0.032	0.81	0.020	0.50	36	16	16	24	400	6	100, 500, 1000	30.5, 152, 305
1223	0.047	1.19	0.020	0.50	36	24	24	22	600	7	100, 500, 1000	30.5, 152, 305
1224*	0.094	2.39	0.020	0.50	36	16	48	19	1,200	11	100, 500, 1000	30.5, 152, 305
1229	0.125	3.18	0.020	0.50	36	24	72	18	1,800	16	100, 500, 1000	30.5, 152, 305
1230	0.187	4.75	0.020	0.50	36	24	120	15	3,000	25	100, 500, 1000	30.5, 152, 305
1231	0.250	6.35	0.030	0.76	36	24	168	14	4,200	32	100, 500, 1000	30.5, 152, 305
1232*	0.375	9.53	0.030	0.76	36	48	288	12	7,200	46	100, 500, 1000	30.5, 152, 305
1233/2*	0.500	12.70	0.030	0.76	36	48	384	10	9,600	53	100, 500, 1000	30.5, 152, 305
1233	0.625	15.88	0.030	0.76	36	48	384	10	9,600	53	100, 500, 1000	30.5, 152, 305
1234	0.750	19.05	0.040	1.02	36	48	864	7	20,800	85	100, 500, 1000	30.5, 152, 305
1235*	1.000	25.40	0.045	1.14	36	48	864	7	20,800	85	100, 500, 1000	30.5, 152, 305
1239	1.375	34.93	0.050	1.27	30	48	336	5	33,700	100	100, 500, 1000	30.5, 152, 305
1240	1.500	38.10	0.060	1.52	30	48	528	3	53,064	150	100	30.5
1241*	1.750	44.45	0.080	2.03	30	48	1248	2/0	125,424	280	100	30.5
1242*	2.000	50.80	0.120	3.05	30	48	1436	3/0	154,368	310	100	30.5
1242/4*	3.000	76.20	0.200	5.08	30	48	2256	4/0	225,000	390	100	30.5

*Not A-A-59569A.

FIT® Wire Management

Tinned Copper Braid
Flat, Oval



A-A-59569 (as indicated)

Color

- Silver

Material

- Tinned copper braid

Availability

See table

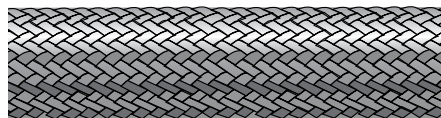
Spools may contain multiple lengths

Part No.	Inside Diameter, Nom.		Braid Construction			AWG Equivalent, Approx.	CMA, Nom.	Current-Carrying Capacity	Standard Put-Ups	
	Inch	mm	AWG of Individ. Ends	Carriers	No. of Individ. Ends				Amps	Ft
2132	1/16	1.59	34	16	32	19	1,192	11	100, 500, 1000	30.5, 152, 305
2138	11/64	4.37	34	24	120	14	4,770	32	100, 500, 1000	30.5, 152, 305
2140*	3/16	4.76	34	24	144	13	5,724	38	100, 500	30.5, 152
2142*	1/4	6.35	34	24	168	12	6,678	41	100, 500	30.5, 152
2144*	3/8	9.53	34	24	192	11	7,632	46	100, 500,	30.5, 152
2146	1/2	12.70	34	48	336	9	13,356	62	100	30.5
2148*	5/8	15.88	34	48	384	8	14,264	64	100	30.5
2150*	11/16	17.46	34	48	480	7	19,080	81	100	30.5
2152	25/32	19.84	34	48	528	7	20,988	85	100	30.5

*Not A-A-59569A.

FIT® Wire Management

Tinned Copper Braid Tubular



A-A-59569

Color

- Silver

Material

- Tinned copper braid

Availability

See table

Spools may contain multiple lengths

Tinned Copper

Part No.	Inside Diameter, Nom.		Braid Construction			AWG Equivalent, Approx.	CMA, Nom.	Current-Carrying Capacity	Standard Put-Ups	
	Inch	mm	AWG of Individ. Ends	Carriers	No. of Individ. Ends				Amps	Ft
2160	0.031	0.79	36	24	24	22	600	7	100, 250	30.6, 76
2162	0.062	1.57	36	24	48	19	1,200	11	100, 250	30.6, 76
2163	0.078	1.98	36	24	72	18	1,800	16	100, 250	30.6, 76
2164	0.109	2.77	36	24	96	16	2,400	19	100, 250	30.6, 76
2166	0.125	3.18	36	24	120	15	3,000	25	100, 250	30.6, 76
2167	0.156	3.96	36	24	240	12	6,000	40	100, 250	30.6, 76
2168	0.171	4.34	36	24	168	14	4,200	32	100, 250	30.6, 76
2170	0.203	5.16	34	24	192	11	7,630	46	100	30.5
2171	0.250	6.35	36	24	384	10	9,600	53	100	30.5
2171/1	0.281	7.14	30	24	120	9	12,060	60	100	30.5
2172	0.375	9.53	36	48	384	10	9,600	53	100	30.5
2173	0.437	11.10	30	24	240	6	24,120	90	100	30.5
2174	0.500	12.70	36	48	528	9	13,200	62	100	30.5
2175	0.462	11.73	30	48	480	3	48,240	145	100	30.5
2175/1	0.656	16.66	30	48	768	1	77,180	190	100	30.5
2176	0.781	19.84	36	48	864	7	21,600	88	100	30.5

Extra-Large Tinned Copper

Part No.	Inside Diameter, Nom.		Braid Construction			AWG Equivalent, Approx.	CMA, Nom.	Current-Carrying Capacity	Standard Put-Ups	
	Inch	mm	AWG of Individ. Ends	Carriers	No. of Individ. Ends				Amps	Ft
2177	0.875	22.23	30	48	336	5	33,700	100	100	30.5
2178	1.000	25.40	30	48	384	4	38,600	120	100	30.5
2179	1.125	28.58	30	48	432	4	43,330	130	100	30.5
2180*	1.250	31.75	30	48	480	3	48,150	145	100	30.5
2181	1.375	34.93	30	48	528	3	53,000	150	100	30.5
2182	1.500	38.10	30	48	576	2	57,775	165	100	30.5

*Not A-A-59569.

FIT® Wire Management

Tinned Copper Braid
Flat, Oval



Color

- Brass

Material

- Brass Alloy 260 per ASTM B-134

Availability

See table

Spools may contain multiple lengths

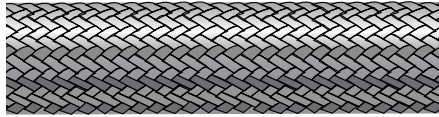
Part No.	Inside Diameter, Nom.		Braid Construction			AWG Equivalent, Approx.	CMA, Nom.	Current-Carrying Capacity	Standard Put-Ups	
	Inch	mm	AWG of Individ. Ends	Carriers	No. of Individ. Ends				Amps	Ft
2155	1/8	3.18	Solid	24	5	15	3000	12.9	250	76
2156	1/4	6.35	Solid	24	16	14	4200	4.3	100	30.5
2157	3/8	9.53	Solid	48	8	10	14,200	4.0	100	30.5
2158	1/2	12.70	Solid	48	11	9	20,800	2.9	100	30.5

FIT® Wire Management

Silver-Plated Copper Braid

Tubular

A-A-59569



Color

- Silver

Material

- Silver-plated copper braid

Availability

See table

Spools may contain multiple lengths

Silver-Plated

Part No.	Inside Diameter, Nom.		Braid Construction			AWG Equivalent, Approx.	CMA, Nom.	Current-Carrying Capacity		Standard Put-Ups	
	Inch	mm	AWG of Individ. Ends	Carriers	No. of Individ. Ends			Amps	Ft	m	
2191	1/16	1.59	36	24	48	19	1,200	11	100	30.5	
2193	7/64	2.78	36	24	96	16	2,400	19	100	30.5	
2194	1/8	3.18	36	24	120	15	3,000	25	100	30.5	
2195	5/32	3.97	36	24	240	12	6,000	40	100	30.5	
2196	11/64	4.37	36	24	168	14	4,200	32	100	30.5	
2197	13/64	5.16	34	24	192	11	7,640	46	100	30.5	
2198	1/4	6.35	36	24	384	10	9,600	53	100	30.5	

FIT® Wire Management

Cable Glands



Alpha Wire’s cable glands are a great solution for providing premium cable strain relief and protection against environmental factors, such as flames and dust, for a wide range of industries, including renewable energy, industrial automation, and electrical equipment.

Our broad offering includes a full range of easily installed standard dome glands, flexible spiral glands, and sealing hole plugs. All products are available in NPT, metric and PG thread sizes. Cable glands are dust-, dirt- and sand-resistant and watertight in accordance with IP68. Glands are packaged with an accompanying locknut and a gasket, providing you with a complete strain-relief solution. Cable glands are the latest addition to our FIT Wire Management family of products. All items are in stock and ready for immediate delivery.

Operating Temperature

- -20°C to 100°C (permanent)
- -30°C to 150°C (intermittent)

Material

- Polyamide 6 (body)
- Chloroprene rubber (O-ring/seal)

Color

- Slate, RAL 7001
- Black

Protection Class

- IP68 (5 bar, 30 min)
- IP66

Flammability

- V2 (According to UL 94)

Thread Type

- NPT, Metric or PG

Approvals

- CSA C22.2
- UL 514
- RoHS

- Optimum strain relief for static and flex applications
- High-strength polyamide body composition
- Large clamping range
- IP68 up to 5 bar rating

- Robust rubber seals to protect against dripping water and water pressure
- Up to 150°C temperature rating
- UL, CSA, RoHS rated

FIT® Wire Management

Cable Gland

	Part No.	Size	Clamping Range		Thread Length		Thread Ø		Color	Packing Unit
			mm	inch	mm	inch	mm	inch		
Standard Threaded Glands - Includes Locknut and Gasket										
High-quality strain relief and sealing for standard industrial applications Easy assembly: Simply install cable gland, insert cable, tighten cap										
NPT	PNC3/8	NPT-3/8"	5 - 10	0.197 - 0.394	15	0.591	17.14	0.675	Slate/Black	10
	PNC1/2	NPT-1/2"	6 - 12	0.236 - 0.472	15	0.591	21.34	0.840	Slate/Black	10
	PNC1/2W	NPT-1/2"	9 - 16	0.354 - 0.630	11	0.433	21.34	0.840	Slate/Black	10
	PNC3/4	NPT-3/4"	13 - 18	0.512 - 0.709	15	0.591	26.67	1.050	Slate/Black	10
	PNC1	NPT-1"	18 - 25	0.709 - 0.984	18	0.709	33.40	1.315	Slate/Black	10
Metric	PMC12	M-12x1.5	3 - 6.5	0.118 - 0.256	8	0.31	12	0.47	Slate/Black	10
	PMC16	M-16x1.5	5 - 10	0.197 - 0.394	8	0.39	16	0.63	Slate/Black	10
	PMC20	M-20x1.5	6 - 12	0.236 - 0.472	10	0.39	20	0.79	Slate/Black	10
	PMC25	M-25x1.5	11 - 17	0.433 - 0.669	8	0.31	25	0.98	Slate/Black	10
	PMC32	M-32x1.5	15 - 21	0.591 - 0.827	10	0.39	32	1.26	Slate/Black	10
	PMC40	M-40x1.5	19 - 28	0.748 - 1.102	10	0.39	40	1.57	Slate/Black	10
PG	PPC7	PG 7	3 - 6.5	0.118 - 0.256	8	0.31	12.5	0.49	Slate/Black	10
	PPC9	PG 9	4 - 8	0.157 - 0.315	8	0.31	15.2	0.60	Slate/Black	10
	PPC11	PG 11	5 - 10	0.197 - 0.394	8	0.31	18.6	0.73	Slate/Black	10
	PPC13	PG 13.5	6 - 12	0.236 - 0.472	10	0.39	20.4	0.80	Slate/Black	10
	PPC16	PG 16	10 - 14	0.396 - 0.551	10	0.39	22.5	0.89	Slate/Black	10
	PPC21	PG 21	13 - 18	0.511 - 0.708	11	0.43	37	1.46	Slate/Black	10
	PPC29	PG 29	18 - 25	0.708 - 0.984	11	0.43	37	1.46	Slate/Black	10
Flexible Cable Protection Glands - Includes Locknut and Gasket										
Spiral design for industrial applications needing high-quality strain relief with enhanced cable bending protection										
NPT	PNS3/8	NPT-3/8"	5 - 10	0.197 - 0.394	15	0.591	17.14	0.673	Slate/Black	10
	PNS1/2	NPT-1/2"	6 - 12	0.236 - 0.472	15	0.591	21.34	0.839	Slate/Black	10
	PNS3/4	NPT-3/4"	13 - 18	0.512 - 0.709	15	0.591	26.67	1.051	Slate/Black	10
Metric	PMS12	M-12x1.5	3 - 6.5	0.118 - 0.256	8	0.31	12.00	0.47	Slate/Black	10
	PMS16	M-16x1.5	5 - 10	0.197 - 0.394	10	0.39	20.00	0.79	Slate/Black	10
	PMS20	M-20x1.5	10 - 14	0.396 - 0.511	10	0.39	20.00	0.79	Slate/Black	10
	PMS25	M-25x1.5	13 - 18	0.511 - 0.708	10	0.39	25.00	0.98	Slate/Black	10
PG	PPS7	PG 7	3 - 6.5	0.118 - 0.256	8	0.31	12.5	0.49	Slate/Black	10
	PPS9	PG 9	4 - 8	0.157 - 0.315	8	0.31	15.2	0.60	Slate/Black	10
	PPS11	PG 11	5 - 10	0.197 - 0.394	8	0.31	18.6	0.73	Slate/Black	10
	PPS13	PG 13.5	6 - 12	0.236 - 0.472	10	0.39	20.4	0.80	Slate/Black	10
	PPS16	PG 16	10 - 14	0.396 - 0.551	10	0.39	22.5	0.89	Slate/Black	10
Hole Plugs - For Sealing of Housing When No Cable Gland Is Used										
For standard industrial applications; can be fastened with screwdriver										
Metric	HPM12	M-12x1.5	-	-	6	0.24	12.00	0.47	Slate/Black	10
	HPM16	M-16x1.5	-	-	7	0.28	16.00	0.63	Slate/Black	10
	HPM20	M-20x1.5	-	-	7	0.28	20.00	0.79	Slate/Black	10
	HPM25	M-25x1.5	-	-	10	0.39	25.00	0.98	Slate/Black	10
	HPM32	M-32x1.5	-	-	8	0.31	32.00	1.26	Slate/Black	10
	PG	HPP7	PG 7	-	-	6	0.24	12.5	0.49	Slate/Black
HPP9		PG 9	-	-	6	0.24	15.2	0.60	Slate/Black	10
HPP11		PG 11	-	-	6	0.24	18.6	0.73	Slate/Black	10
HPP13		PG 13.5	-	-	6	0.24	20.4	0.80	Slate/Black	10
HPP16		PG 16	-	-	6	0.24	22.5	0.89	Slate/Black	10
HPP21		PG 21	-	-	8	0.31	28.3	1.11	Slate/Black	10
HPP29		PG 29	-	-	8	0.31	37.00	1.46	Slate/Black	10

FIT® Wire Management

Metal Cable Gland

Operating Temperature

- -20°C to +100°C (Permanent)
- -40°C to +150°C (Intermittent)

Material

- Brass, nickel plated (Body & cap)
- Chloroprene rubber (Seal)
- NBR (O-ring)

Protection Class

- IP68 (5 bar, 30 min)
- IP66

Flammability

- V2 (According to UL94)

Thread Type

- NPT, Metric or PG

Approvals

- CSA C22.2
- UL 514
- RoHS

	Part No.	Size	Clamping Range		Thread Length		Thread Ø		Packing Unit
			mm	inch	mm	inch	mm	inch	
Metal Glands									
NPT	MNPT3/8	NPT-3/8"	4 - 8	0.157 - 0.315	11.5	0.453	17.14	0.675	10
	MNPT1/2	NPT-1/2"	6 - 12	0.236 - 0.472	13	0.512	21.34	0.840	10
	MNPT3/4	NPT-3/4"	13 - 18	0.512 - 0.709	13	0.512	26.67	1.050	10
	MNPT1	NPT-1/2"	18 - 25	0.709 - 0.984	13	0.512	33.40	1.315	10
Metric	MES12	M-12x1.5	3 - 6.5	0.118 - 0.256	6	0.236	12	0.472	10
	MES16	M-16x1.5	5 - 10	0.197 - 0.394	7	0.276	16	0.63	10
	MES20	M-20x1.5	6 - 12	0.236 - 0.472	8	0.315	20	0.787	10
	MES25	M-25x1.5	11 - 17	0.433 - 0.669	8	0.315	25	0.984	10
	MES32	M-32x1.5	15 - 21	0.591 - 0.827	8	0.315	32	1.26	10
PG	MPG7	PG 7	3 - 6.5	0.118 - 0.256	6	0.236	12.5	0.492	10
	MPG9	PG 9	4 - 8	0.157 - 0.315	6	0.236	15.2	0.598	10
	MPG11	PG 11	5 - 10	0.197 - 0.394	6	0.236	18.6	0.732	10
	MPG13	PG 13	6 - 12	0.236 - 0.472	6.5	0.256	20.4	0.803	10
	MPG16	PG 16	10 - 14	0.394 - 0.551	6.5	0.256	22.5	0.886	10
	MPG21	PG 21	13 - 18	0.512 - 0.709	7.2	0.283	28.3	1.114	10
	MPG29	PG 29	18 - 25	0.709 - 0.984	8	0.315	37	1.46	10