

# Alpha Wire FIT® Heat Shrink Tubing

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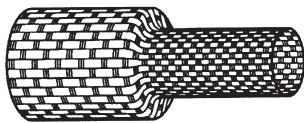


## NYLON FLAT LACING TAPE—LC-136 WHITE OR BLACK

Designed to allow a wider contact area with the insulation so that it remains in place. Once knotted, tape resists slipping and does not increase diameter of harness. Tape is flexible and easy on the assembler's hands.

### NYLON FLAT LACING TAPE—LC-136

Cat. No.	Class	Type	Ten-sile Strgth.	Fin-ish	Nom. Diam. Inches	Yards Per Pound	Standard Put-Up	Price Per Spool
LC-136-WHITE	I	Nylon	50 lbs.	MW	.090	—	500 yds	\$55.03
LC-136-BLACK	I	Nylon	50 lbs.	MW	.090	—	500 yds	32.78



## ALPHA FIT® FABRIC, ABRASION RESISTANT TUBING HIGHLY FLEXIBLE, HEAT SHRINKABLE WOVEN FABRIC TUBING

**FEATURES:** Superior abrasion resistance over a wide temperature range. Outstanding flexibility and durability. Tight grip without additional fixing. Ease of installation. Resistance to harsh environments. Soft, safe handling. Cuts with scissors. **APPLICATIONS:** Mechanical abrasion protection. Severe environments protection. Noise and rattle protection. Halogen free environment. Flexing applications. **CHARACTERISTICS:** Operating Temperature: -40°C to 125°C. Shrink Ratio: Approx. 2 to 1 or 3 to 1 at 135°C depending on size. Colour Description: All standard packages: Black. Physical Properties: Longitudinal Shrinkage: Up to 20% @ 2:1 Shrink horizontal burn test. Chemical Properties: Corrosive Effect: Non-corrosive. Fungus Resistance: No Growth. Chemical Resistance: Antifreeze (50% ethylene glycol), engine oil, mineral hydraulic fluid, detergent (1% Teepol), brake fluid (DOT 4), unleaded gasoline, diesel fuel and battery acid.

Cat. No.	Minimum Supplied I.D.	Maximum Recovered I.D.	Nominal Rec. Wall Thickness	Standard Put-Up Spools Ft.	Net Price
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### APPROX. SHRINK RATIO 2 TO 1

FIT FAB-1	0.47	0.24	0.039	200	\$271.65
FIT FAB-2	0.79	0.39	0.039	200	322.52
FIT FAB-3	1.18	0.59	0.039	200	393.05
FIT FAB-4	1.57	0.79	0.039	200	473.96
FIT FAB-5	1.97	0.98	0.039	100	291.00
FIT FAB-6	2.36	1.18	0.039	100	317.04
FIT FAB-7	2.76	1.38	0.039	100	432.56

### APPROX. SHRINK RATIO 3 TO 1

FIT FAB-8	0.71	0.24	0.039	200	380.28
FIT FAB-9	1.18	0.39	0.039	200	454.31
FIT FAB-10	2.36	0.79	0.039	100	335.49



## FIT®-105 FLEXIBLE IRRADIATED PVC SHRINKABLE TUBING

Choose FIT®-105 for: Flexibility. Excellent flame retardancy. Military, UL/CSA requirements. **CHARACTERISTICS:** Operating Temperature: -35°C to +105°C. Shrinkage Ratio: Approx. 2 to 1 at 175°C. Physical Properties: Tensile Strength: 2600 psi. Ultimate elongation: 250%. Longitudinal shrinkage: 10%. Water Absorption: 0 to 1% Max. 24 Hrs. at 25°C. Electrical Properties: Dielectric Strength: 750V/mil. **SPECIFICATIONS:** MIL-1-23053/2C. UL Standard 224. CSA Standard 198. Passes UL VW-1 Flame Test.

## FIT105 POLYVINYLCHLORIDE SHRINKABLE TUBING—BLACK ONLY

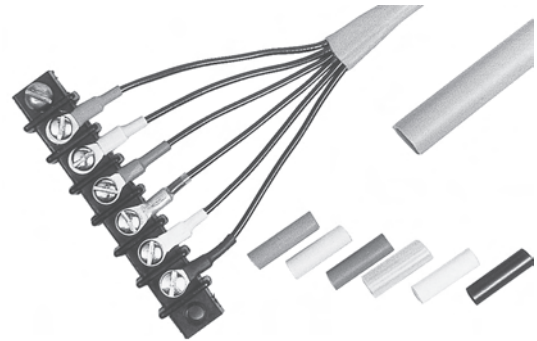
Cat. No.	Min. I.D. Before Shrinkage Inches	Recovered I.D. After Shrinkage Inches	Standard Put-Up Feet	Net Price Per Spool
FIT105-3/64-25	.046	.023	25	\$13.47
FIT105-3/64-100			100	46.23
FIT105-3/64-500			500	228.85
FIT105-3/64-1000			1000	292.80
FIT105-1/16-25	.062	.031	25	14.36
FIT105-1/16-100			100	51.28
FIT105-1/16-500			500	245.61
FIT105-1/16-1000			1000	318.14
FIT105-3/32-25	.093	.046	25	16.36
FIT105-3/32-100			100	56.12
FIT105-3/32-1000			1000	360.53
FIT105-1/8-25	.125	.062	25	18.32
FIT105-1/8-100			100	43.89
FIT105-1/8-1000			1000	360.53
FIT105-3/16-25	.187	.093	25	13.97
FIT105-3/16-100			100	48.20
FIT105-3/16-1000			1000	452.41
FIT105-1/4-25	.250	.125	25	18.32
FIT105-1/4-100			100	69.43
FIT105-1/4-1000			1000	589.08
FIT105-3/8-25	.375	.187	25	19.27
FIT105-3/8-100			100	85.71
FIT105-3/8-500			200	320.43
FIT105-1/2-25	.500	.250	25	25.68
FIT105-1/2-100			100	73.28
FIT105-1/2-250			250	188.55
FIT105-3/4-25	.750	.375	25	36.19
FIT105-3/4-100			100	158.22
FIT105-3/4-250			250	240.32
FIT105-1-25	1.000	.500	25	61.75
FIT105-1-100			100	215.08
FIT105-1-250			250	346.37
FIT105-1-1/2-25	1.500	.750	25	79.81
FIT105-1-1/2-100			100	360.53
FIT105-2-25	2.000	1.000	25	155.67
FIT105-2-50			50	299.98
FIT105-2-100			100	405.32

## FIT®-105 PVC PACKAGED ASSORTMENTS

Assorted sizes of 6" lengths (each length—size identified).

Cat. No.	Tubing Size Range	Lengths Per Box	Net Price Per Box
FIT105-MS-1	3/4" thru 1/4" (6 Sizes)	60 (10 per Size)	\$29.53
FIT105-MS-2	3/8" thru 1" (4 Sizes)	40 (10 per Size)	31.40

Stock Colour: Black.



## FIT®-221 IRRADIATED POLYOLEFIN SHRINKABLE TUBING

Manufactured from irradiated cross-linked polyolefin, FIT221 is an all purpose tubing with excellent physical, chemical and electrical properties, that meet most stringent military and industrial requirements. Has high resistance to fungus and chemicals, and will not crack or peel. Operating temperature -55°C to +135°C. Shrinkage temperature: 2 to 1@121°C. Tensile strength: 1800 psi. Ultimate elongation: 400%. Longitudinal shrinkage: ±3% max. Dielectric strength: 500 volts/mil. Specified gravity: 1.3 max. Non-flammable—self-extinguishing (except clear). CSA CERTIFIED

Continued on next page....

# Alpha Wire FIT® Heat Shrink Tubing



## FIT221 POLYOLEFIN SHRINKABLE TUBING—CLEAR OR BLACK

Cat. No.	Colour	Min. I.D. Before Shrinkage Inches	Recovered I.D. After Shrinkage Inches	Net Price
FIT221-3/64-4B	Black	.046	.023	\$5.59
FIT221-1/16-4B	Black	.063	.031	.64
FIT221-1/16-100B	Black			17.46
FIT221-3/32-4B	Black	.093	.046	.68
FIT221-3/32-100B	Black			17.96
FIT221-1/8-4B	Black	.125	.062	.85
FIT221-3/16-4B	Black	.187	.093	.87
FIT221-3/16-100B	Black			22.95
FIT221-1/4-4B	Black	.250	.125	1.02
FIT221-1/4-100B	Black			26.94
FIT221-3/8-4B	Black	.375	.187	1.23
FIT221-3/8-200B	Black			61.69
FIT221-1/2-4B	Black	.500	.250	1.47
FIT221-1/2-150B	Black			52.04
FIT221-3/4-4B	Black	.750	.375	1.89
FIT221-3/4-250B	Black			116.44
FIT221-1-4B	Black	1.000	.500	2.60
FIT221-1-250B	Black			162.77
FIT221-1-1/2-4B	Black	1.500	.750	7.52
FIT221-1-1/2-125B	Black			186.35
FIT221-2-4B	Black	2.000	1.000	10.64
FIT221-2-125B	Black			292.40

NOTE: Specify colour using the suffix: **W** = White, **R** = Red, **G** = Green, **Y** = Yellow, **B** = Blue, **C** = Clear. **FOR HIGHLY FLAME RETARDANT POLYOLEFIN:** add "V" to Cat. No. ex. **FIT-221V-3/64**. Also sold in bulk packaging. As specified in Cat. No. sold in lengths of 4', 100', 125', 150', 200', 250'.

## FIT®-221 POLYOLEFIN PACKAGED ASSORTMENT

This irradiated flexible, flame-retardant polyolefin tubing is the most widely used, general purpose heat-shrinkable tubing.

Box of assorted sizes and colours. Box contains an assortment of 6" lengths in various sizes and colours. Every length identified as to size and supplied in black, white, yellow, blue and clear.

Assorted Sizes of 6" Lengths (Each Length-Size Identified)

Cat. No.	Tubing Size Range	Lengths Per Box	Net Price Per Box
FIT221-MS-1	3/64" thru 3/16" (5 Sizes)	30 (6 per Size)	\$18.46
FIT221-MS-2	1/4" thru 3/4" (4 Sizes)	16 (4 per Size)	35.59

Stock Colour: Assorted.

## PVC-105 EXTRUDED POLYVINYLCHLORIDE TUBING 105°C

Extruded plastic insulating material with superior thermal, mechanical and electrical properties. Is compounded of non-migratory resinous type plasticizers. Added stabilizers and modifiers counteract chemical and environmental degradation. Self extinguishing. Operating temperature -20°C to +105°C. Tensile strength: 2800 psi. Dielectric strength: 800 volts/mil. Maintains flexibility. High dielectric strength. Resistant to heat, oil, chemical corrosion, abrasion and fungus. For general electronic, aircraft, computer, instrumentation and electrical applications. CSA CERTIFIED.

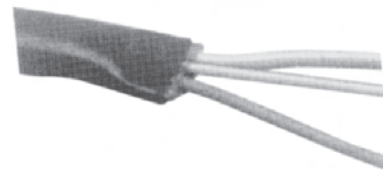
## 105° POLYVINYLCHLORIDE (PVC) TUBING—CLEAR OR BLACK

Cat. No.	Colour	Nom. Inside Dia. Inch.	Nom. Wall Thickness Inch.	Standard Put-Up Feet	Net Price Per Spool or Coil
PVC105-24-1000B	Black	.022	.013	1000	\$24.10
PVC105-22-100B	Black	.027	.012	100	11.27
PVC105-22-1000B	Black			1000	44.69
PVC105-20-1000B	Black	.034	.016	1000	45.89
PVC105-19-1000B	Black	.038	.016	1000	37.77
PVC105-18-100B	Black	.042	.016	100	11.87
PVC105-18-1000B	Black			1000	52.08
PVC105-17-100B	Black	.047	.016	100	11.97
PVC105-17-1000B	Black			1000	52.08
PVC105-16-100B	Black	.053	.016	100	12.07
PVC105-16-1000B	Black			1000	32.78
PVC105-15-100B	Black	.059	.016	100	12.17
PVC105-15-1000B	Black			1000	56.07
PVC105-14-100B	Black	.066	.016	100	12.67
PVC105-14-500B	Black			500	28.63

NOTE: Spools are in 100', 500' and 1000' and coils in 50', 100' and 250' put-ups only as indicated in chart. Specify colour using the suffix **C** for clear.

Cat. No.	Colour	Nom. Inside Dia. Inch.	Nom. Wall Thickness Inch.	Standard Put-Up Feet	Net Price Per Spool or Coil
PVC105-13-100B	Black	.076	.016	100	\$12.97
PVC105-13-500B	Black			500	29.73
PVC105-12-500B	Black	.085	.016	500	31.72
PVC105-11-100B	Black	.095	.016	100	14.47
PVC105-11-500B	Black			500	31.72
PVC105-10-500B	Black	.106	.016	500	28.63
PVC105-9-500B	Black	.118	.020	500	28.63
PVC105-8-100B	Black	.133	.020	100	14.76
PVC105-8-500B	Black			500	28.63
PVC105-7-100B	Black	.148	.020	100	15.06
PVC105-7-500B	Black			500	28.63
PVC105-6-100B	Black	.166	.020	100	16.06
PVC105-6-500B	Black			500	28.63
PVC105-5-100B	Black	.186	.020	100	17.16
PVC105-5-500B	Black			500	28.63
PVC105-4-100B	Black	.208	.020	100	16.12
PVC105-4-250B	Black			250	31.72
PVC105-3-100B	Black	.234	.020	100	21.85
PVC105-2-250B	Black	.263	.020	250	37.21
PVC105-1-100B	Black	.294	.020	100	24.04
PVC105-1-250B	Black			250	41.80
PVC105-0-100B	Black	.330	.025	100	26.94
PVC105-0-250B	Black			250	46.69
PVC105-5/16-100B	Black	.312	.025	100	31.52
PVC105-5/16-250B	Black			100	54.97
PVC105-3/8-100B	Black	.375	.025	100	37.31
PVC105-3/8-250B	Black			250	65.24
PVC105-7/16-100B	Black	.438	.025	100	29.63
PVC105-1/2-100B	Black	.500	.030	100	35.44
PVC105-9/16-100B	Black	.562	.030	100	46.39
PVC105-5/8-100B	Black	.625	.035	100	50.58
PVC105-3/4-50B	Black	.750	.035	50	43.30
PVC105-7/8-50B	Black	.875	.035	50	49.08
PVC105-1-50B	Black	1.000	.035	50	67.64
PVC105-1-1/8-50B	Black	1.125	.040	50	89.98
PVC105-1-1/4-50B	Black	1.250	.040	50	95.57
PVC105-1-1/2-50B	Black	1.500	.055	50	127.69

NOTE: Spools are in 100', 500' and 1000' and coils in 50', 100' and 250' put-ups only as indicated in chart. Specify colour using the suffix **C** for clear.



## FIT®-321 SHRINKABLE TUBING 3 TO 1 SHRINK RATIO, MEDIUM WALL, POLYOLEFIN

Choose FIT-321 for: Adhesive inner wall excellent flame retardancy. Bonding to substrates. Conforms to irregular shapes. Use with XTRA•GUARD® 1. **APPLICATIONS:** Wire harnesses. Cable/connector protection. Insulation of terminals. Wire splices. **CHARACTERISTICS:** Operating Temperature: Shrinkable Ratio: Approximately 3 to 1 at 125°C. Physical Properties: Tensile strength: 1300 psi, (92kg/cm²). Ultimate elongation: 300%. Longitudinal shrinkage: 15%. Heat agent: (168 hrs. at 150°C) no dripping, cracking or flowing. Low temperature brittleness: (4 hrs. at -55°C) no cracking. Flammability: Self-extinguishing (outer jacket only). Corrosive effect: Non-corrosive. Fungus resistance: No growth. Water absorption: 0.5% max. Dielectric strength: 350V/mil (138 kV/cm). Volume resistivity: 10<sup>14</sup> ohm-cm. MIL-I-23053/4C, Class 3.

Cat. No.	Minimum Supplied I.D. Inches	Maximum Recovered I.D. Inches	Nom. Recovered Wall Thickness		Net Price
			Inches	mm	
FIT-321-1/8-4B	0.120	0.040	0.040	1.02	\$9.86
FIT-321-1/4-4B	0.240	0.080	0.040	1.02	15.02
FIT-321-1/2-4B	0.470	0.160	0.070	1.75	8.38
FIT-321-1-4B	0.940	0.320	0.100	2.54	19.55
FIT-321-1-1/2-4B	1.570	0.510	0.100	2.54	59.56

NOTE: Sold in 4 ft. lengths. Stock Colour: Black.



### FYBEROID "FISH PAPER"

#560 thin insulated "Fish Paper". For numerous repair jobs around the shop where electrical insulation is required. **SPECIFICATIONS:** Size: 10" wide. Description: vulcanized cellulose fiber. Colour: blue-grey. Thickness: 0.010 inch  $\pm$  10%. Uses: all electrical insulation. Tensile strength: MD 15,000 psi, (typical). CD 6,000 psi, (typical). Density: 1.1 gram per cubic centimeter min. Electrical strength: 300 volts per mil (typical). Bursting strength: (mullen) 270 psi, (typical). Tearing strength: MD 375 grams, (typical). CD 450 grams, (typical). Zinc chloride content: 0.05% max. UL 94 flame class: 94HB UL file #E55656. Meets mil. spec. MIL-1-695A type F. Rolled.

Cat. No.	Net Price
00-0560-0000	\$4.16

### HD-4018 HARDWARE KIT ASSORTMENT

Individually compartmented, for fast selection, in reusable, plastic boxes with hinged cover and positive clasp. All metal hardware is nickel-plated steel. Contains 115 fasteners. Binder hd. steel machine screws, hex nuts, and hex hd. sheet metal screws.

Cat. No.	Description of Kit Contents		Net Price
	Cat. No.	Fits Chassis Hole Size	
HD-4018	F-021	4-40 x 1/2" screw	\$10.66
	F-503	6-32 x 1/4" screw	
	F-015	6-32 x 3/4" screw	
	F-025	8-32 x 1/2" screw	
	F-557	4-40 x 1/4" nut	
	F-561	8-32 x 1/4" nut	
	F-526	#6 x 1/2" screw	
	F-559	6-32 x 1/4" nut	

### HD-4209 VINYL GROMMET HARDWARE KIT ASSORTMENT

Contains 185 pieces of the six most popular types of vinyl grommets in a reusable plastic box.

Cat. No.	Description of Kit Contents			Net Price
	Cat. No.	Fits Chassis Hole Size	Wire Hole Size (I.D.)	
HD-4209	G-401	1/4"	1/8"	\$17.58
	G-402	5/16"	3/16"	
	G-403	3/8"	1/4"	
	G-404	7/16"	5/16"	
	G-405	1/2"	3/8"	
	G-406	5/8"	1/2"	



### MACHINE SCREW ASSORTMENT

Contents	Qty. in Pkg.
<b>ROUND HEAD MACHINE SCREWS</b>	
#4-40 x 1/2"	100
#6-32 x 1/4"	100
#6-32 x 1/2"	75
#6-32 x 3/4"	50
#8-32 x 1/2"	50
<b>HEX NUTS—STEEL, NICKEL PLATED</b>	
#4-40 x 1/4"	100
#6-32 x 1/4"	100
#8-32 x 1/4"	100

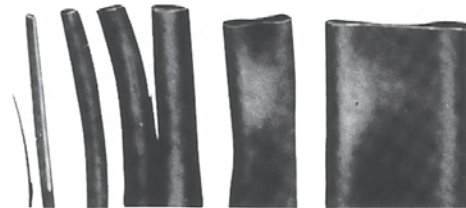
Cat. No.	Net Price
11-520	\$25.57



### HEAT SHRINKABLE TUBING ASSORTMENT

Shrink to half its original size when heated. Use it for insulating terminals, connectors, tool handles and wire splices. Use heat gun, oven, barrel of soldering iron or just a match. Assorted size and colours. Package of 7 6" lengths.

Cat. No.	Net Price
H3-0462-0000	\$2.42



### FLEXIBLE HEAT SHRINKABLE PVC TUBING

Fungus-resistant and non-corrosive PVC tubing. Application of heat (250°F) shrinks tubing to 50% of original diameter. Recommended for tightly sealing connectors, weather proofing repaired sections in insulated wire or cable, etc. Meets UL requirements, ASTM D-922, Mil. spec. MIL-1-631 Grade C and MIL-1-23053 Grade 5b.

**SPECIFICATIONS:**  
**Recovery Temperature:** 250°F  
**Tensile Strength:** 1800 PSI min.  
**Flammability:** less than 15 seconds (ASTM D-876)  
**Dielectric Strength:** 800V/MIL  
**Dielectric Constant:** 7.0 1 kHz  
**Material:** PVC, Class A (105°C) shrinkdown  
 Packaged in 6" lengths

Cat. No.	Description	Pieces Per Bag	Net Price
12-1080-0000	Assorted Black N.S.N. 5970-01-051-4706	23	\$5.22



### FLEXIBLE HEAT SHRINKABLE PVC TUBING

Fungus-resistant and non-corrosive PVC tubing. Application of heat (250°F) shrinks tubing to 50% of original diameter. Recommended for tightly sealing connectors, weather proofing repaired sections in insulated wire or cable, etc. Meets UL requirements, ASTM D-922, Mil. spec. MIL-1-631 Grade C and MIL-1-23053 Grade 5b. **SPECIFICATIONS:** Recovery temperature: 250°F. Tensile strength: 1800 PSI min. Flammability: less than 15 seconds (ASTM D-876). Dielectric strength: 800V/MIL. Dielectric constant: 7.0 1 kHz. Material: PVC, Class A (105°C) shrinkdown, packaged in 6" lengths.

Cat. No.	Description	Pieces Per Bag	Net Price
12-1082-0000	Assorted Clear N.S.N. 5970-01-051-4708	19	\$5.22