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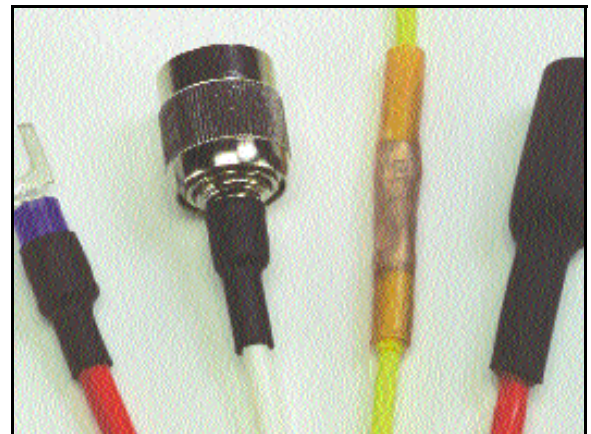
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## Tubing & Sleeving Catalog



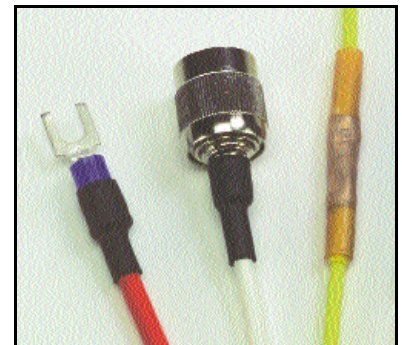
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## Using this catalog is as easy as 1-2-3!

### 1. Select the right product:

- Quick Scan Property Chart - pages 4-5
- Competitive Cross Reference - page 30
- Chemical Resistance Chart - page 31
- Need Technical Help? Call 1-888-SPC-TECH (1-888-772-8324)

### 2. Select the right part number:

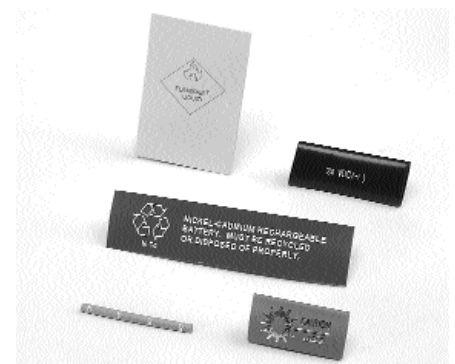
- Material & Product from Step 1
- Product & Size Information Tables - pages 6-24

### 3. Contact Newark Electronics® to place order

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- or **e-mail: techsupport@spctechnology.com**
- Visit us at **www.spctechnology.com**



## Voltrex Quick Scan Property Chart for

VOLTREX Tubing Types	POLYOLEFIN									
	FLEXIBLE			SEMI-RIGID MELT WALL			FLEXIBLE ADHESIVE LINED		Very Flexible	PVC-105
	FPF	FPS	LTP	SRS	SRM	SHS	PHD	PHS	FPHS	PVS
	FPFA	FPA								
<b>ELECTRICAL</b>										
Dielectric Strength	900 V/MIL	800 V/MIL	800 V/MIL	900 V/MIL	700 V/MIL	800 V/MIL	700 V/MIL	400 V/MIL	600 V/MIL	
Dielectric Constant	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.17@1MHz Max.	
Volume Resistivity	10 <sup>15</sup> Ω CM Min	10 <sup>14</sup> Ω CM Min	10 <sup>15</sup> Ω CM Min	10 <sup>15</sup> Ω CM Min	10 <sup>14</sup> Ω CM Min	10 <sup>14</sup> Ω CM Min	10 <sup>12</sup> Ω CM Min	10 <sup>15</sup> Ω CM Min	21.5x10 <sup>12</sup> Ω CM Min	
<b>PHYSICAL</b>										
Dia. Shrinkage	2:1	2:1	2:1	2.5:1	4:1	2:1	3:1	3:1	2:1	
Long. Shrinkage	+1%,-10%	± 5%	± 5%	+1,-10%	+1,-10%	+1,-5%	+1,-15%	± 5%	20%	
Tensile Strength	2400 PSI Min	2100 PSI Min	2600 PSI Min	2200 PSI	1900 PSI	2100 PSI	2100 PSI	1100 PSI	2000 PSI	
Specific Gravity	FPS/FPA 1.3g/CM <sup>2</sup> Max	1.3g/CM <sup>2</sup> Max	1.25g/CM <sup>2</sup> Max	1.0g/CM <sup>2</sup> Max	1.25g/CM <sup>2</sup> Max	1.3g/CM <sup>2</sup> Max	1.3g/CM <sup>2</sup> Max	1.29g/CM <sup>2</sup> Max	1.63g/CM <sup>2</sup> Max	
	CLR 0.93g. CM <sup>2</sup> Max									
	FPF/FPFA 1.5g/CM <sup>2</sup> Max									
Operating Temp.	Min -67°F[-55°C]	-67°F[-55°C]	-67°F[-55°C]	-67°F[-55°C]	-67°F[-55°C]	-67°F[-55°C]	-67°F[-55°C]	-67°F[-55°C]	-4°F[-20°C]	
	Max 275°F[135°C]	275°F[135°C]	275°F[135°C]	230°F[110°C]	230°F[110°C]	230°F[110°C]	230°F[110°C]	275°F[135°C]	221BF[105BC]	
Shrink Temp Min	212°F[100°C]	212°F[100°C]	275°F[135°C]	275°F[135°C]	250°F[121°C]	250°F[121BC]	250°F[121°C]	212°F[100°C]	212°F[100°C]	
Abrasion Resist.	Good	Good	Good	Good	Good	Good	Good	Good	Good	
Flexibility*	3	2	7	7	7	3	3	3	4	
<b>CHEMICAL</b>										
Water Absorption	<0.2%	<0.2%	<0.2%	<0.1%	<0.2%	<0.3%	<0.3%	<0.3%	<0.1%	
Flammability	Colors are self-ext. Clear is non-flame retardant	Self Extinguishing	Self Extinguishing	Non Flame Retardant	Self Extinguishing	Self Extinguishing	Self Extinguishing	Self Extinguishing	VW-1	
Oil Resistance	Good	Good	Good	Good	Good	Good	Good	Good	Good	
Acid/Alkali Rest.	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Good	
Solvent Resist.	Excellent	Excellent	Excellent	Good	Good	Good	Good	Good	Good	
Military Specification	MIL.-1-23053/5 Colors Class 1 Clear Class 2 N/A on FPF & FPFA	MIL-R-46846	MIL-DTL-23053/6	MIL-DTL-23053/4	MIL-DTL-23053/4	MIL-DTL-23053/4	MIL-DTL-23053/4	MIL-DTL-23053/6	MIL-DTL-23053/4	

\*Flexibility - Materials are rated for flexibility on a scale from 1 to 10 - with 1 the most flexible and 10 the most rigid.

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# Heat-Shrinkable & Insulating Product

VOLTREX	PVC			KYNAR	NEOPRENE	TEFLON®			
	PVC-105 IRRADIATED	NON-IRRADIATED, ADHESIVE LINED	IRRADIATED, ADHESIVE LINED	POLYVINYLIDENE		PTFE	FEP	PTFE/FEP "Double Shrink"	Semi-Rigid SPTFE
				FLUORIDE					
Tubing Types	PVHR	VPV1	VPV2	KYS	NPS	TTS	SST	TFM	8416-Series
<b>ELECTRICAL</b>									
Dielectric Strength	1000 V/MIL	1000 V/MIL	1000 V/MIL	900 V/MIL	800 V/MIL	1400 V/MIL	1400 V/MIL	1400 V/MIL	1400V/MIL
Dielectric Constant	4.8@1KHz Max	N/A	N/A	N/A	N/A	2.2 @ 100Hz-60MHz	2.1 @100Hz- 60MHz	2.2 @ 100Hz-60MHz	2.2 @ 100Hz-60MHz
Volume Resistivity	21.5x10 <sup>12</sup> Ω CM Min	21.5x10 <sup>12</sup> Ω CM Min	21.5x10 <sup>12</sup> Ω CM Min	10 <sup>14</sup> Ω CM Min	10 <sup>12</sup> Ω CM Min	10 <sup>18</sup> Ω CM Min	10 <sup>18</sup> Ω CM Min	10 <sup>18</sup> Ω CM Min	10 <sup>18</sup> Ω CM Min
<b>PHYSICAL</b>									
Dia. Shrinkage	2:1	2:1	2:1	2:1	2:1	2:1	1.67:1	1.3:1 - 3.0:1	4:1
Long. Shrinkage	± 10%	± 25%	± 25%	+1,-10%	+1,-10%	± 20%	± 10%	± 10%	± 20%
Tensile Strength	3000 PSI	3000 PSI	3000 PSI	5500 PSI Min	2100 PSI	3000-4000 PSI	2000 PSI	2000 PSI	3000-4000 PSI
Specific Gravity	1.32g/CM <sup>2</sup>	1.32g/CM <sup>2</sup>	1.32g/CM <sup>2</sup>	1.7g/CM <sup>2</sup> Max.	1.3g/CM <sup>2</sup>	2.13-2.20g/CM <sup>2</sup>	2.12-2.17g/CM <sup>2</sup>	2.12/2.17g/CM <sup>2</sup>	2.13-2.20g/CM <sup>2</sup>
Operating Min	-4°F[20°C]	-4°F[20°C]	-4°F[20°C]	-67°F[55°C]	-67°F[55°C]	-100°F[-75°C]	-100°F[-75°C]	-100°F[-75°C]	-100°F[-75°C]
Temp. Max	221°F[105°C]	221°F[105°C]	221°F[105°C]	347°F[175°C]	49.4°F[121°C]	482°F[250°C]	392°F[200°C]	110°F[231°C]	500°F[250°C]
Shrink Temp Min	221°F[105°C]	212°F[100°C]	212°F[100°C]	347°F[175°C]	275°F[135°C]	620°F[327°C]	350°F[177°C]	620°F[327°C]	625°F[327°C]
Abrasion Resist.	Good	Good	Good	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Flexibility*	5	4	5	10	1	2	2	6	2
<b>CHEMICAL</b>									
Water Absorption	<0.1%	<0.1%	<0.1%	<0.2%	± 0.5%	± 0.01%	± 0.01	± 0.01	
Flammability	VW-1	Self Extinguishing	Self Extinguishing	Self Extinguishing	Self Extinguishing	UL94V-0	UL94V-0	UL94V-0	UL94V-0
Oil Resistance	Excellent	Good	Excellent	Excellent	Good	Excellent	Excellent	Excellent	Excellent
Acid/Alkali Rest.	Excellent	Good	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Solvent Resist.	Good	Good	Good	Excellent	Good	Excellent	Excellent	Excellent	Excellent
Military Specification	MIL-I-23053/2 Class 1	N/A	N/A	MIL-I-23053/8 Class 1 AMS-3632	MIL-I-23053/1 Class 1 & 2 MIL R47846 Type 1, Class 1	MIL-I-23053/12	MIL-I-23053/11	N/A	MIL-I-23053/12 Class 5 ASTMD2902 Type 1

\*Flexibility - Materials are rated for flexibility on a scale from 1 to 10 - with 1 the most flexible and 10 the most rigid.

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# Heat-Shrinkable Polyolefin Tubing



## FPS Series General Purpose Flexible Polyolefin



General purpose insulation tubing; shrinks uniformly; does not coldflow; and is split-resistant. Used for a wide variety of industrial and military applications. These include harnessing, wire bundling, strain relief and any application where components or cable require insulation or packaging. Meets MIL-DTL-23053/5 Class 1 for black and colors and MIL-DTL-23053/5 Class 2 for clear.

Shrink Ratio: 2:1 Shrink Temp: 100°C (212°F) Operating Temp: -55°C (-67°F) ~ 135°C (275°F)

Dimensions				Standard Packages (Black)							
Size	Expanded I.D. (Min.)	Recovered I.D. (Max.)	Recovered Nominal Wall Thickness	Spools		4 Foot Lengths			6 Inch Lengths		
				Type No.	Total Footage	Type No.	Pcs.	Total Footage	Type No.	Pcs.	Total Footage
3/64"	.046"	.023"	.016"	FPS-003-1100-BLK	100 FT	FPS-003-4025-BLK	25	100 FT	FPS-003-6040-BLK	40	20 FT
1/16"	.063"	.031"	.017"	FPS-004-1100-BLK	100 FT	FPS-004-4025-BLK	25	100 FT	FPS-004-6036-BLK	36	18 FT
3/32"	.093"	.046"	.020"	FPS-006-1100-BLK	100 FT	FPS-006-4025-BLK	25	100 FT	FPS-006-6032-BLK	32	16 FT
1/8"	.125"	.062"	.020"	FPS-008-1100-BLK	100 FT	FPS-008-4025-BLK	25	100 FT	FPS-008-6028-BLK	28	14 FT
3/16"	.187"	.093"	.020"	FPS-012-1100-BLK	100 FT	FPS-012-4025-BLK	25	100 FT	FPS-012-6024-BLK	24	12 FT
1/4"	.250"	.125"	.025"	FPS-016-1100-BLK	100 FT	FPS-016-4025-BLK	25	100 FT	FPS-016-6020-BLK	20	10 FT
3/8"	.375"	.187"	.025"	FPS-024-1100-BLK	100 FT	FPS-024-4025-BLK	25	100 FT	FPS-024-6016-BLK	16	8 FT
1/2"	.500"	.250"	.025"	FPS-032-1100-BLK	100 FT	FPS-032-4005-BLK	5	20 FT	FPS-032-6014-BLK	14	7 FT
3/4"	.750"	.375"	.030"	FPS-048-1100-BLK	100 FT	FPS-048-4005-BLK	5	20 FT	FPS-048-6012-BLK	12	6 FT
1"	1.000"	.500"	.035"	FPS-064-1100-BLK	100 FT	FPS-064-4005-BLK	5	20 FT	FPS-064-6008-BLK	8	4 FT
1 1/2"	1.500"	.750"	.040"	FPS-096-1100-BLK	100 FT	FPS-096-4005-BLK	5	20 FT	FPS-096-6005-BLK	5	2.5 FT
2"	2.000"	1.000"	.045"	FPS-128-1100-BLK	100 FT	FPS-128-4005-BLK	5	20 FT	FPS-128-6003-BLK	3	1.5 FT
3"	3.000"	1.500"	.050"	N/A		FPS-192-4002-BLK	2	8 FT	N/A		
4"	4.000"	2.000"	.055"	N/A		FPS-256-4002-BLK	2	8 FT	N/A		

Sizes 3/32 ~ 1/2" avail. In Green, Clear, Blue, Red and White in some put-up sizes. Call Tech Support for more info. 1-888-SPC-TECH.

## FPF Series Flame Retardant Flexible Polyolefin



General purpose insulating tubing with the same outstanding balance of electrical, physical and chemical properties as FPS tubing and is specially engineered for superior flame resistance. Meets MIL-DTL-23053/5 Class 3, VW-1.

Shrink Ratio: 2:1 Shrink Temp: 100°C (212°F) Operating Temp: -55°C (-67°F) ~ 135°C (275°F)

Dimensions				Standard Packages (Black)					
Size	Expanded I.D. (Min)	Recovered I.D. (Max.)	Recovered Nominal Wall thickness	4 Foot Lengths			6 Inch Lengths		
				Type No.	Pcs.	Total Footage	Type No.	Pcs.	Total Footage
3/64"	.046"	.023"	.016"	FPF-003-4025-BLK	25	100 FT	FPF-003-6040-BLK	40	20 FT
1/16"	.063"	.031"	.017"	FPF-004-4025-BLK	25	100 FT	FPF-004-6036-BLK	36	18 FT
3/32"	.093"	.046"	.020"	FPF-006-4025-BLK	25	100 FT	FPF-006-6032-BLK	32	16 FT
1/8"	.125"	.062"	.020"	FPF-008-4025-BLK	25	100 FT	FPF-008-6028-BLK	28	14 FT
3/16"	.187"	.093"	.020"	FPF-012-4025-BLK	25	100 FT	FPF-012-6024-BLK	24	12 FT
1/4"	.250"	.125"	.025"	FPF-016-4025-BLK	25	100 FT	FPF-016-6020-BLK	20	10 FT
3/8"	.375"	.187"	.025"	FPF-024-4025-BLK	25	100 FT	FPF-024-6016-BLK	16	8 FT
1/2"	.500"	.250"	.025"	FPF-032-4005-BLK	5	20 FT	FPF-032-6014-BLK	14	7 FT
3/4"	.750"	.375"	.030"	FPF-048-4005-BLK	5	20 FT	FPF-048-6012-BLK	12	6 FT
1"	1.000"	.500"	.035"	FPF-064-4005-BLK	5	20 FT	FPF-064-6008-BLK	8	4 FT
1 1/2"	1.500"	.750"	.040"	FPF-096-4005-BLK	5	20 FT	FPF-096-6005-BLK	5	2.5 FT
2"	2.000"	1.000"	.045"	FPF-128-4005-BLK	5	20 FT	FPF-128-6003-BLK	3	1.5 FT
3"	3.000"	1.500"	.050"	FPF-192-4002-BLK	2	8 FT	FPF-192-6003-BLK	3	1.5 FT

### LTP Series Low-Temperature Flexible Polyolefin



The most flexible of the polyolefin tubing family. Rapid low shrink temperature minimizes heat exposure. Ideal for shrink-fit jacketing, insulation of flexible wire bundles and sensitive components. Meets MIL-R-46846, Type V.

Shrink Ratio: 2:1    Shrink Temp: 100°C (212°F)    Operating Temp: -55°C (-67°F) ~ 135°C (275°F)

Dimensions				Standard Packages (Black)					
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	4 Foot Lengths			6 Inch Lengths		
				SPC Type No.	Pcs.	Total Footage	SPC Type No.	Pcs.	Total Footage
1/16"	.063"	.031"	.017"	LTP-004-4025-BLK	25	100 FT	LTP-004-6036-BLK	36	18 FT
3/32"	.093"	.046"	.020"	LTP-006-4025-BLK	25	100 FT	LTP-006-6032-BLK	32	16 FT
1/8"	.125"	.062"	.020"	LTP-008-4025-BLK	25	100 FT	LTP-008-6028-BLK	28	14 FT
3/16"	.187"	.093"	.020"	LTP-012-4025-BLK	25	100 FT	LTP-012-6024-BLK	24	12 FT
1/4"	.250"	.125"	.025"	LTP-016-4025-BLK	25	100 FT	LTP-016-6020-BLK	20	10 FT
3/8"	.375"	.187"	.025"	LTP-024-4025-BLK	25	100 FT	LTP-024-6020-BLK	16	8 FT
1/2"	.500"	.250"	.025"	LTP-032-4005-BLK	5	20 FT	LTP-032-6016-BLK	14	7 FT
3/4"	.750"	.375"	.030"	LTP-048-4005-BLK	5	20 FT	LTP-048-6012-BLK	12	6 FT
1"	1.000"	.500"	.035"	LTP-064-4005-BLK	5	20 FT	LTP-064-6008-BLK	8	4 FT
1 1/2"	1.500"	.750"	.040"	LTP-096-4005-BLK	5	20 FT	N/A	---	---
2"	2.000"	1.000"	.045"	LTP-128-4005-BLK	5	20 FT	N/A	---	---

### SRS Series Semi-Rigid Polyolefin



Semi-rigid polyolefin provides mechanical protection, electrical and chemical insulation, and is cut-through and abrasion resistant. It's particularly suitable for applications where additional strength is needed. Meets MIL-DTL-23053/6 Class 1.

Shrink Ratio: 2:1    Shrink Temp: 135°C (275°F)    Operating Temp: -55°C (-67°F) ~ 135°C (275°F)

Dimensions				Standard Packages (Black)					
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	4 Foot Lengths			6 Inch Lengths		
				SPC Type No.	Pcs.	Total Footage	SPC Type No.	Pcs.	Total Footage
1/16"	.063"	.031"	.020"	SRS-004-4025-BLK	25	100 FT	SRS-004-6036-BLK	36	18 FT
3/32"	.093"	.046"	.020"	SRS-006-4025-BLK	25	100 FT	SRS-006-6032-BLK	32	16 FT
1/8"	.125"	.062"	.020"	SRS-008-4025-BLK	25	100 FT	SRS-008-6028-BLK	28	14 FT
3/16"	.187"	.093"	.025"	N/A	---	---	SRS-012-6024-BLK	24	12 FT
1/4"	.250"	.125"	.025"	SRS-016-4025-BLK	25	100 FT	SRS-016-6020-BLK	20	10 FT
3/8"	.375"	.187"	.030"	SRS-024-4025-BLK	25	100 FT	SRS-024-6016-BLK	16	8 FT

## SRM Series Semi-Rigid Multiple Wall Polyolefin



Semi-rigid, multi-wall, heat-shrinkable polyolefin tubing provides a thorough protective and insulating barrier, highly resistant to penetration by moisture and the attack of chemicals and solvents. Typical applications are braided-shield pigtail, electrical wiring mechanical assemblies, electronic components, electrical splicing, breakouts, connections, solder joints, delicate wire terminations, end-sealing of electrical cables and installations that may require rework, retrofit or repair in the field. Tubing offers the extra advantage of easy removability. Tubing readily accepts marking by printing or hot stamping techniques. Meets MIL-DTL-23053/4 Class 1.

Shrink Ratio: 2.5:1    Shrink Temp: 135°C (275°F)    Operating Temp: -55°C (-67°F) ~ 110°C (230°F)

Dimensions				Standard Packages (Black)					
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	4 Foot Lengths			6 Inch Lengths		
				SPC Type No.	Pcs.	Total Footage	SPC Type No.	Pcs.	Total Footage
				1/8"	.125"	.023"	.038"	SRM-008-4025-BLK	25
3/16"	.187"	.060"	.043"	SRM012-4025-BLK	25	100 FT	SRM-012-6012-BLK	12	6 FT
1/4"	.250"	.080"	.047"	SRM-016-4025-BLK	25	100 FT	SRM-016-6010-BLK	10	5 FT
3/8"	.375"	.135"	.050"	SRM-024-4025-BLK	25	100 FT	SRM-024-6008-BLK	8	4 FT
1/2"	.500"	.195"	.055"	SRM-032-4005-BLK	5	20 FT	SRM-032-6006-BLK	6	3 FT
3/4"	.750"	.313"	.065"	SRM-048-4005-BLK	5	20 FT	N/A	---	---
1"	1.000"	.400"	.075"	SRM-064-4005-BLK	5	20 FT	SRM-064-6002-BLK	2	1 FT

### Technical Note:

Products such as our SRM series tubing are made from a specially **cross-linked** polyolefin. When cross-linked, the usually meltable polyolefin becomes a non-meltable material with a permanent "memory." This new material can be supplied in the expanded state and with the application of heat will shrink to its original size.

Cross-linking is used to enhance one or more properties of the original material. The "new" material has improved properties including increased temperature resistance, improved mechanical properties and a greater resistance to solvent and chemical attack.



### Did You Know?

Did you know..... that SPC Technology offers a broad, innovative line of heat shrink insulated, solder-sleeve terminals, splices, and terminators? The tough, heat-shrinkable polyolefin tubing has an adhesive lining that provides an environmentally and electrically sound connection. Together, tubing, adhesive and solder make for a connection of unsurpassed integrity. Call 1-888-SPC-TECH today for more information on this exciting product from SPC Technology.

### PHD Series **Flame Retardant Adhesive-Lined Polyolefin**



Flexible polyolefin thin wall tubing offers the advantages of an integral adhesive lining. Provides excellent environmental protection for electronic components, wire splices and harness breakouts. Meets MIL-DTL-23053/4 Class 2.

Shrink Ratio: 2:1    Shrink Temp: 121°C (250°F)    Operating Temp: -55°C (-67°F) ~ 110°C (230°F)

Dimensions				Standard Packages (Color: Black)					
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	4 Foot Lengths			6 Inch Lengths		
				Type No.	Pcs	Total Footage	Type No.	Pcs	Total Footage
				1/8"	.125"	.063"	.027"	PHD-008-4025-BLK	25
3/16"	.187"	.093"	.027"	PHD-012-4025-BLK	25	100 FT	PHD-012-6025-BLK	24	12 FT
1/4"	.250"	.125"	.030"	PHD-016-4025-BLK	25	100 FT	PHD-016-6020-BLK	20	10 FT
3/8"	.375"	.187"	.030"	PHD-024-4025-BLK	25	100 FT	PHD-024-6016-BLK	16	8 FT
1/2"	.500"	.250"	.032"	PHD-032-4005-BLK	5	20 FT	PHD-032-6014-BLK	14	7 FT
3/4"	.750"	.375"	.037"	PHD-048-4005-BLK	5	20 FT	PHD-048-6012-BLK	12	6 FT
1"	1.000"	.500"	.046"	PHD-064-4005-BLK	5	20 FT	PHD-064-6008-BLK	8	4 FT
1 1/2"	1.500"	.750"	.049"	PHD-096-4005-BLK	5	20 FT	PHD-096-6005-BLK	5	2.5 FT
2"	2.000"	1.000"	.060"	PHD-128-4002-BLK	2	8 FT	PHD-128-6002-BLK	2	1 FT

### PHS Series **High Shrink Ratio (3:1) Adhesive-Lined Polyolefin**



Flexible, adhesive-lined, flame retardant, thin wall polyolefin with an integral internal layer of special thermoplastic adhesive that bonds with a wide variety of rubber, plastics and metals, forming a permanent, non-drying, flexible and waterproof barrier. Offers superb environmental protection for electronic components, wire splices, wire bundles and breakouts. Meets MIL-DTL-23053/4 Class 3.

Shrink Ratio: 3:1    Shrink Temp: 121°C (250°F)    Operating Temp: -55°C (-67°F) ~ 110°C (230°F)

Dimensions				Standard Packages					
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall thickness	4 Foot Lengths			6 Inch Lengths		
				Type No.	Pcs	Total Footage	Type No.	Pcs	Total Footage
				1/8"	.125"	.062"	.020"	PHS-008-4025-BLK	25
3/16"	.187"	.093"	.020"	PHS-012-4025-BLK	25	100 FT	PHS-012-6024-BLK	24	12 FT
1/4"	.250"	.125"	.025"	PHS-016-4025-BLK	25	100 FT	PHS-016-6020-BLK	20	10 FT
3/8"	.375"	.187"	.025"	PHS-024-4025-BLK	25	100 FT	PHS-024-6016-BLK	16	8 FT
1/2"	.500"	.250"	.025"	PHS-032-4005-BLK	5	20 FT	PHS-032-6014-BLK	14	7 FT
3/4"	.750"	.375"	.030"	PHS-048-4005-BLK	5	20 FT	PHS-048-6012-BLK	12	6 FT
1"	1.000"	.500"	.035"	PHS-064-4005-BLK	5	20 FT	PHS-064-6008-BLK	8	4 FT
1 1/2"	1.500"	.750"	.040"	PHS-096-4005-BLK	5	20 FT	PHS-096-6005-BLK	5	2.5 FT

# Heat-Shrinkable Polyolefin Tubing

# VOLTREX®

## FPHS Series High Shrink Ratio (3:1) Flexible Polyolefin



A very flexible polyolefin tubing which is mechanically tough, chemically resistant and can be easily surface printed. Ideal for shrink-fit jacketing, insulating of flexible wire bundles, temperature sensitive components and end termination. Meets MIL-DTL-23053/5 Class 1.

Shrink Ratio: 3:1 Shrink Temp: 100°C (212°F) Operating Temp: -55°C (-67°F) ~ 135°C (275°F)

Dimensions				Standard Packages (Black)					
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	4 Foot Lengths			6 Inch Lengths		
				SPC Type No.	Pcs.	Total Footage	SPC Type No.	Pcs.	Total Footage
1/8"	.118"	.039"	.022"	FPHS-008-4025-BLK	25	100 FT	FPHS-008-6024	24	12 FT
1/4"	.236"	.079"	.026"	FPHS-016-4025-BLK	25	100 FT	FPHS-016-6020	20	10 FT
3/8"	.354"	.118"	.030"	FPHS-024-4025-BLK	25	100 FT	FPHS-024-6016	16	8 FT
1/2"	.472"	.157"	.030"	FPHS-032-4005-BLK	5	20 FT	FPHS-032-6014	14	7 FT
3/4"	.709"	.236"	.030"	FPHS-048-4005-BLK	5	20 FT	FPHS-048-6012	12	6 FT
1"	.945"	.315"	.039"	FPHS-060-4005-BLK	5	20 FT	FPHS-060-6008	8	4 FT
1 1/2"	1.535"	.512"	.045"	FPHS-096-4005-BLK	5	20 FT	FPHS-096-6005	5	2.5 FT

## SHS Series 4:1 Semi-Rigid Adhesive-Lined Polyolefin



High shrink ratio, semi-rigid, adhesive-lined, flame retardant, medium wall, polyolefin. This tubing has an integral adhesive-lined internal layer of special thermoplastic adhesive that solidifies forming a permanent, non-drying, flexible and water resistant barrier. Meets MIL-DTL-23053/4 outer wall only.

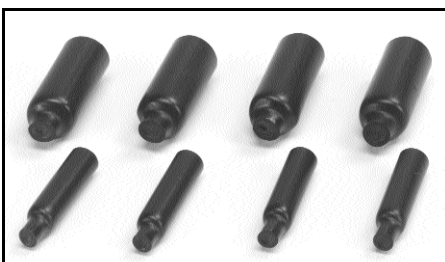
Shrink Ratio: 4:1 Shrink Temp: 121°C (250°F) Operating Temp: -55°C (-67°F) ~ 110°C (230°F)

Dimensions					Standard Packages (Black)					
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Melt Wall (Nominal)	Recovered Outer Wall (Min)	4 Foot Lengths			6 Inch Lengths		
					SPC Type No.	Pcs.	Total Footage	SPC Type No.	Pcs.	Total Footage
.350"	.350"	.080"	.038"	.033"	SHS-350-4012-BLK	12	48 FT	SHS-350-6020-BLK	20	10 FT
.450"	.400"	.105"	.043"	.053"	SHS-450-4012-BLK	12	48 FT	SHS-450-6016-BLK	16	8 FT
.700"	.700"	.175"	.060"	.055"	SHS-700-4005-BLK	5	20 FT	SHS-700-6012-BLK	12	6 FT

## Molded Polyolefin Shrink Caps (with Meltable Liner)

Cross-linked, heat-shrinkable polyolefin caps are easily installed with standard heat gun or torch. Excellent electrical and mechanical protection. Unaffected by most corrosive fuels, fluids and chemicals. On shrinking, an inner adhesive liner melts and bonds to the cable jacket to provide an environmental seal for telecommunication and power cables, pipes or other cylindrical objects.

Color: Black Min Shrink Temp: 135°C (275°F) Operating Temperature: -55°C (-67°F) ~ 110°C (230°F) Shrink Ratio: 3:1



Dimensions					Standard Packages	
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Length	Recovered Nominal Wall Thickness	SPC Type No.	Caps per Pkg.
1/8"	.125"	.023"	.87"	.048"	2782	10
3/16"	.187"	.060"	1.00"	.062"	2783	10
1/4"	.250"	.080"	1.12"	.078"	2784	10
3/8"	.375"	.080"	1.25"	.082"	2785	5
1/2"	.500"	.090"	1.50"	.10"	2786	5

### Medical Grade Non-Toxic Heat-Shrinkable Tubing

Medical grade non-toxic, flexible, acrylic, olefin heat-shrinkable tubing with superior dielectric properties required to meet stringent medical requirements. Resists a wide range of chemicals such as hexachlorophene(phisohex), saline solution, povidone-iodine(betadine), benzalkonium(zephiran) and alcohol, as well as moisture, sunlight and fungus.

- Shrink ratio 2:1
- -55°C (-67°F) to +121°C (250°F) operating temperature range
- Dielectric strength 1800/2000 VPM in air @ 500 KV/min rise
- Tensile strength 3200/3600 psi
- Recommended shrink temperature 121°C (250°F)
- Autoclavable

Dimensions				Standard Packages <i>(White)</i>			
Size	Expanded I.D. (Min)	Recovered I.D. (Max.)	Recovered Nominal Wall Thickness	SPC Type No.	Total Footage	SPC Type No.	Total Footage
1-16"	.063"	.031"	.017"	3564	25 FT	3568	100 FT
3/32"	.093"	.046"	.020"	3565	25 FT	3569	100 FT
1/8"	.125"	.062"	.020"	3566	25 FT	3570	100 FT
3/16"	.187"	.093"	.020"	3526	25 FT	3538	100 FT
1/4"	.250"	.125"	.025"	3527	25 FT	3539	100 FT
3/8"	.375"	.187"	.025"	3528	25 FT	3540	100 FT
1/2"	.500"	.250"	.025"	3529	25 FT	3541	100 FT

### Food Grade Non-Toxic Heat-Shrinkable Tubing

Food grade heat-shrinkable tubing meets the requirements of USFDA Reg. CFR 117.1330 for food contact, non-toxic material. It adheres to most substrates like glass and metal without the use of adhesives. It can't be removed without cutting, making it good for tamper proof applications. Resists a wide range of chemicals and oils, sunlight, moisture and fungus.

- Shrink ratio 2:1
- -55°C (-67°F) to +121°C (250°F) operating temperature range
- Forms a smooth, tight-fitting insulation for most applications with a high degree of flexibility
- Recommended shrink temperature: 121°C (250°F) with heat gun, infra-red or other sources
- Environmentally friendly. Breaks down to carbon dioxide and water when properly incinerated

Dimensions				Standard Packages <i>(Clear)</i>			
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	SPC Type No.	Total Footage	SPC Type No.	Total Footage
1/16"	.063"	.031"	.020"	3556	25 FT	3560	100 FT
3/32"	.093"	.046"	.020"	3557	25 FT	3561	100 FT
1/8"	.125"	.062"	.020"	3558	25 FT	3562	100 FT
3/16"	.187"	.093"	.020"	3520	25 FT	3532	100 FT
1/4"	.250"	.125"	.025"	3521	25 FT	3533	100 FT
3/8"	.375"	.187"	.025"	3522	25 FT	3534	100 FT
1/2"	.500"	.250"	.025"	3523	25 FT	3535	100 FT

### Heat-Shrinkable Polyolefin Tape

When taping is necessary, as in the case of a working line, heat-shrinkable tape is the most reliable choice for long life and superior electrical properties. This two layer tape automatically puts the correct amount of tension all around the joint. No extra technique or training needed. The meltable inner liner adheres to almost all clean surfaces for positive moisture protection.

Dimensions			Standard Packages	
Size	Nominal Backing Thickness	Nominal Adhesive Thickness	SPC Type No.	Feet Per Roll
3/4"	.016"	.035"	3509	50 FT
1"	.016"	.035"	3510	50 FT
1 1/2"	.016"	.035"	3511	50 FT

Color: Black Temperature Rating: -25°C (-13F) to +60°C (140°F)

# Heat-Shrinkable PVC Tubing



## PVS Series Non-Irradiated Flame Retardant PVC



Non-irradiated, low heat-shrink temperature tubing, highly flame retardant. Suited for production insulation, cable, bus bar and terminal jackets. Designed to increase productivity in a variety of applications while protecting sensitive substrates. Resists most chemicals and oils as well as sunlight, fungus, and moisture. Meets MIL-DTL-23053/2 Class 2, MIL-DTL-631D.

Shrink Ratio: 2:1 Shrink Temp: 100°C (212°F) Operating Temp: -20°C (-4°F) ~ 105°C (221°F)

Dimensions				Standard Packages (Black)							
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	SPC Type No.	Spool Size	SPC Type No.	Spool Size	SPC Type No.	Spool Size	SPC Type No.	Spool Size
				3/64"	.046"	.023"	.020"	PVS-003-1999-BLK	1000 FT	PVS-003-1500-BLK	500 FT
1/16"	.063"	.032"	.020"	PVS-004-1999-BLK	1000 FT	N/A	N/A	PVS-004-1100-BLK	100 FT	PVS-004-1025-BLK	25 FT
3/32"	.093"	.046"	.025"	PVS-006-1999-BLK	1000 FT	PVS-006-1200-BLK	200 FT	PVS-006-1100-BLK	100 FT	PVS-006-1025-BLK	25 FT
1/8"	.125"	.063"	.025"	PVS-008-1999-BLK	1000 FT	PVS-008-1200-BLK	200 FT	PVS-008-1100-BLK	100 FT	PVS-008-1025-BLK	25 FT
3/16"	.187"	.093"	.025"	PVS-012-1999-BLK	1000 FT	PVS-012-1200-BLK	200 FT	PVS-012-1100-BLK	100 FT	PVS-012-1025-BLK	25 FT
1/4"	.250"	.125"	.025"	PVS-016-1999-BLK	1000 FT	PVS-016-1200-BLK	200 FT	PVS-016-1100-BLK	100 FT	PVS-016-1025-BLK	25 FT
3/8"	.375"	.187"	.028"	N/A	N/A	PVS-024-1200-BLK	200 FT	PVS-024-1100-BLK	100 FT	PVS-024-1025-BLK	25 FT
1/2"	.500"	.250"	.028"	N/A	N/A	N/A	N/A	PVS-032-1100-BLK	100 FT	PVS-032-1025-BLK	25 FT
3/4"	.750"	.375"	.033"	N/A	N/A	N/A	N/A	PVS-048-1100-BLK	100 FT	PVS-048-1025-BLK	25 FT
1"	1.000"	.500"	.038"	N/A	N/A	N/A	N/A	PVS-064-1100-BLK	100 FT	PVS-064-1025-BLK	25 FT

## PVHR Series Irradiated PVC



Irradiated heat-shrink, cut-through and abrasion resistant. Suited for soldering applications. Will not shrink back or melt. Resist most chemicals and oils, as well as sunlight, moisture, and fungus. Shrinks quickly at 100°C (212°F), provides dielectric and mechanical protection without damage to enclosed or adjacent components. Allows ripple-free performance around sharp bends like appliance handles and bus bars. Meets MIL-DTL-23053/2 Class 1 (with the exception of longitudinal shrink). Color: Black

Shrink Ratio: 2:1 Shrink Temp: 100°C (212°F) Operating Temp: -20°C (-4°F) ~ 105°C (221°F)

Dimensions				Standard Packages (Black)					
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	SPC Type No.	Spool Size	SPC Type No.	Spool Size	SPC Type No.	Spool Size
				3/64"	.046"	.023"	.020"	PVHR-003-1999-BLK	1000 FT
1/16"	.063"	.032"	.020"	PVHR-004-1999-BLK	1000 FT	PVHR-004-1100-BLK	100 FT	PVHR-004-1025-BLK	25 FT
3/32"	.093"	.046"	.025"	PVHR-006-1999-BLK	1000 FT	PVHR-006-1100-BLK	100 FT	PVHR-006-1025-BLK	25 FT
1/8"	.125"	.063"	.025"	PVHR-008-1999-BLK	1000 FT	PVHR-008-1100-BLK	100 FT	PVHR-008-1025-BLK	25 FT
3/16"	.187"	.093"	.025"	PVHR-012-1999-BLK	1000 FT	PVHR-012-1100-BLK	100 FT	PVHR-012-1025-BLK	25 FT
1/4"	.250"	.125"	.025"	PVHR-016-1999-BLK	1000 FT	PVHR-016-110-BLK	100 FT	PVHR-016-1025-BLK	25 FT
3/8"	.375"	.187"	.028"	PVHR-024-1999-BLK	500 FT	PVHR-024-1100-BLK	100 FT	PVHR-024-1025-BLK	25 FT
1/2"	.500"	.250"	.028"	PVHR-032-1999-BLK	250 FT	PVHR-032-1100-BLK	100 FT	PVHR-032-1025-BLK	25 FT
3/4"	.750"	.375"	.033"	PVHR-048-1999-BLK	250 FT	PVHR-048-1100-BLK	100 FT	PVHR-048-1025-BLK	25 FT
1"	1.000"	.500"	.038"	PVHR-064-1999-BLK	250 FT	PVHR-064-1100-BLK	100 FT	PVHR-064-1025-BLK	25 FT
1"	1.500"	.075"	.403"	N/A	N/A	N/A	N/A	PVHR-096-1025-BLK	25 FT

### VPV1 Series **Adhesive-Lined Non-Irradiated PVC**

Adhesive-lined, non-irradiated, low heat-shrink temperature tubing. Bends with most substrate including PVC jacketed wire and cable. Will not deteriorate over time. Ideal for production insulation. Resists most chemicals and oils, as well as sunlight.

Shrink Ratio: 2:1    Shrink Temp: 100°C (212°F)    Operating Temp: -20°C (-4°F) ~ 105°C (221°F)

Dimensions					Standard Packages (Black)			
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	Recovered Melt Wall (Nom.)	SPC Type No.	Total Footage	SPC Type No.	Total Footage
3/16"	.187"	.093"	.035"	.005"	8475-0875	100 FT	3544	25 FT
1/4"	.250"	.125"	.035"	.005"	8475-0876	100 FT	3545	25 FT
3/8"	.375"	.187"	.035"	.005"	8475-0877	100 FT	3546	25 FT
1/2"	.500"	.250"	.035"	.005"	8475-0878	100 FT	3547	25 FT
3/4"	.750"	.375"	.040"	.005"	8475-0879	100 FT	3548	25 FT
1"	1.000"	.500"	.045"	.005"	8475-0880	100 FT	3549	25 FT

### VPV2 Series **UV Resistant Adhesive-Lined Irradiated PVC**

UV resistant, developed specifically to bond with most substrates, including PVC jacketed cable, to provide impermeable seal. Performance comparable to polyolefin tubing in flammability, dielectric strength, oil resistance, tensile strength and weatherability.

Shrink Ratio: 2:1    Shrink Temp: 100°C (212°F)    Operating Temp: -20°C (-4°F) ~ 105°C (221°F)

Dimensions					Standard Packages (Black)			
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	Recovered Melt Wall (Nominal)	SPC Type No.	Total Footage	SPC Type No.	Total Footage
3/16"	.187"	.093"	.035"	.005"	8475-0881	100 FT	3550	25 FT
1/4"	.250"	.125"	.035"	.005"	8475-0882	100 FT	3551	25 FT
3/8"	.375"	.187"	.035"	.005"	8475-0883	100 FT	3552	25 FT
1/2"	.500"	.250"	.035"	.005"	8475-0884	100 FT	3553	25 FT
3/4"	.750"	.375"	.040"	.005"	8475-0885	100 FT	3554	25 FT
1"	1.000"	.500"	.045"	.005"	8475-0886	100 FT	3555	25 FT

To order call Newark Electronics®: **1-800-2-Newark** (1-800-263-9275)  
 For Technical Assistance call: **1-888-SPC-TECH** (1-888-772-8324) or  
 e-mail: [techsupport@spctechnology.com](mailto:techsupport@spctechnology.com)  
[www.spctechnology.com](http://www.spctechnology.com)

## Layflat Heat-Shrinkable PVC Tubing



Layflat heat-shrinkable tubing is a thin wall PVC material offering good electrical and mechanical characteristics. When exposed to heat in excess of 300°F, the specially formulated polyvinyl chloride material will shrink rapidly and uniformly conforming to the shape of the object to be covered. Applications include insulation and jacketing of batteries, capacitors, and similar objects, protective covering of precision machine parts and cutting tools, wire and cable identification, a vast range of applications in the production of industrial equipment, toys, sporting goods, electronics, medical and consumer products. Unaffected by a wide range of chemicals such as oils, solvents, acids as well as fungus. UL VW-1, ASTM D-876, MIL-I-631.

Dimensions					Standard Packages		
Size	Flat Width Inches	O.D. Inches	I.D. Inches	Wall Thickness Inches	SPC Type No.	Color	Total Footage
7/16"	.728"	.438"	.430"	.004"	1693	White	100 FT
9/16"	.925"	.563"	.558"	.004"	1694	White	100 FT
3/4"	1.220"	.750"	.742"	.004"	1695	White	100 FT
7/8"	1.417"	.875"	.867"	.004"	1696	White	100 FT
1"	1.654"	1.000"	.992"	.004"	1697	White	100 FT
1 1/8"	1.850"	1.125"	1.117"	.004"	1698	White	100 FT
1 1/4"	2.047"	1.250"	1.242"	.004"	1699	White	100 FT
1 3/8"	2.244"	1.375"	1.367"	.004"	1700	White	100 FT
1 1/2"	2.441"	1.500"	1.492"	.004"	1701	White	100 FT
1 3/4"	2.835"	1.750"	1.742"	.004"	1702	White	100 FT

**Specifications: Physical Properties**

Elongation (Min): 90% ASTM D-876  
 Specific Gravity: 1.2 - 1.3 ASTM D-792  
 Tensile Strength: 3800 PSI ASTM D-876  
 Shrink Ratio: 2:1  
 Shrink Temperature: 149°C (300°F) to 177°C (350°F)  
 Flammability: Self-extinguishing  
 Water Absorbent: 0.5%

**Thermal:**

High temperature resistance: 200 Hrs. @ 85°C (185°F)  
 Heat Shock: 121°C (250°F), 1 Hr., no flowing, dripping, or cracks  
 Cold brittleness: -15°C (5°F)  
 Operating temperature: -15°C (5°F) to 105°C (221°F)

**Electrical:**

Dielectric strength (.004) 2000 Volts/Mil

**Storage:**

Under one month, store below 85°F.  
 Over one month, store below 78°F.  
 If stored away from heat and sunlight, product will remain serviceable for many years.

To order call Newark Electronics®: **1-800-2-Newark** (1-800-263-9275)  
 For Technical Assistance call: **1-888-SPC-TECH** (1-888-772-8324) or  
 e-mail: [techsupport@spctechnology.com](mailto:techsupport@spctechnology.com)  
[www.spctechnology.com](http://www.spctechnology.com)

### TFM Series “Double-Shrink” PTFE/FEP Teflon®

Constituted from a combination of two tubings: an exterior heat-shrinkable TFE Teflon®; and an inner lining of FEP Teflon®. This tubing can be slipped over connections such as wires, terminals, connectors and splices. When the tubing is heated, the TFE shrinks tightly over the covered section. At the same time the FEP melts and is squeezed into a near-solid encapsulation. This encapsulation provides protection from most environmental hazards involving strain or vibration. With a service temperature of 450°F TFM inner-melt can be used in electrical, chemical and mechanical applications.

Shrink Temp: 329°C (625°F)

Operating Temp: -73°C (-100°F) ~ 232°C (450°F)

Dimensions				Standard Packages (Natural)					
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	2 Foot Lengths			6 Inch Lengths		
				SPC Type No.	Pcs.	Total Footage	SPC Type No.	Pcs.	Total Footage
1/16"	.060"	.000"	.028"	TFM-004-2050-NAT	50	100 FT	TFM-004-6025-NAT	25	12.5 FT
1/8"	.130"	.000"	.032"	TFM-008-2050-NAT	50	100 FT	TFM-008-6025-NAT	25	12.5 FT
3/16"	.190"	.062"	.035"	TFM-012-2050-NAT	25	50 FT	TFM-012-6025-NAT	25	12.5 FT
1/4"	.250"	.125"	.035"	TFM-016-2050-NAT	25	50 FT	TFM-016-6010-NAT	10	5 FT
3/8"	.450"	.312"	.055"	TFM-024-2010-NAT	10	20 FT	TFM-024-6010-NAT	10	5 FT
3/4"	.700"	.440"	.055"	TFM-048-2005-NAT	5	10 FT	TFM-048-6005-NAT	5	2.5 FT

### SST Series General Purpose FEP Teflon®

Has the chemical and thermal characteristics of Teflon® but shrinks promptly over inserted objects when exposed to moderate heat. SST can be shrunk around soldered joints, and plastic, wood, or metal components that couldn't be protected due to the high temperatures required for shrinking. MIL-I-23053/11. FDA approved per title 21- Food & Drug #121.2555, Oct. 13, 1962.

Shrink Ratio: 1.67:1

Shrink Temp: 177°C (350°F)

Operating Temp: -73°C (-100°F) ~ 204°C (400°F)

Dimensions				Standard Packages (Clear)					
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	2 Foot Lengths			6 Inch Lengths		
				SPC Type No.	Pcs.	Total Footage	SPC Type No.	Pcs.	Total Footage
1/8"	.125"	.075"	.010"	SST-008-2050-CLR	50	100 FT	SST-008-6025-CLR	25	12.5 FT
3/16"	.188"	.115"	.010"	SST-012-2025-CLR	25	50 FT	SST-012-6025-CLR	25	12.5 FT
1/4"	.250"	.150"	.010"	SST-016-2025-CLR	25	50 FT	SST-012-6025-CLR	25	12.5 FT
3/8"	.375"	.225"	.012"	SST-024-2010-CLR	10	20 FT	SST-024-6010-CLR	10	5 FT
1/2"	.500"	.300"	.015"	SST-032-2010-CLR	10	20 FT	SST-032-6010-CLR	10	5 FT
3/4"	.750"	.450"	.020"	SST-048-2005-CLR	5	10 FT	SST-048-6010-CLR	10	5 FT
1"	1.000"	.600"	.025"	SST-064-2005-CLR	5	10 FT	SST-064-6010-CLR	10	5 FT
1 1/2"	1.500"	.900"	.030"	SST-096-2001-CLR	1	2 FT	SST-096-6005-CLR	5	2.5 FT
2"	2.000"	1.200"	.030"	SST-128-2001-CLR	1	2 FT	SST-128-6005-CLR	5	2.5 FT

Heat-Shrinkable  
Teflon® Tubing

# VOLTREX®

## TTS Series Thin-wall PTFE Teflon®

Teflon® tubing with an operating temperature rated for 500°F. Its stiffness and chemically inert qualities allow it to be used as a strain relief for high temperature electrical connections in contaminated environments. Provides permanent insulation covering when heated to above 625°F. FDA approved per title 21- Food & Drug #121.2555, Oct. 13, 1962.

Shrink Ratio: 2:1

Shrink Temp: 327°C (625°F)

Operating Temp: -73°C (-100°F) ~ 260°C (500°F)

Dimensions				Standard Packages (Natural)					
Size AWG	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	2 Foot Lengths			6 Inch Lengths		
				SPC Type No.	Pcs.	Total Footage	SPC Type No.	Pcs.	Total Footage
14	.120"	.072"	.012"	TTS-S14-2050-NAT	50	100 FT	TTS-S14-6014-NAT	14	7 FT
12	.150"	.089"	.012"	TTS-S12-2025-NAT	25	50 FT	TTS-S12-6014-NAT	14	7 FT
10	.191"	.112"	.012"	TTS-S10-2025-NAT	25	50 FT	TTS-S10-6012-NAT	12	6 FT
8	.240"	.141"	.015"	TTS-S08-2025-NAT	25	50 FT	TTS-S08-6010-NAT	10	5 FT
6	.302"	.178"	.015"	TTS-S06-2010-NAT	10	20 FT	TTS-S06-6008-NAT	8	4 FT
4	.370"	.224"	.015"	TTS-S04-2010-NAT	10	20 FT	TTS-S04-6006-NAT	6	3 FT
2	.430"	.278"	.015"	TTS-S02-2010-NAT	10	20 FT	TTS-S02-6004-NAT	4	2 FT
0	.470"	.347"	.015"	TTS-S00-2010-NAT	10	20 FT	TTS-S00-6003-NAT	3	3 FT

## SPTFE Series Semi-Rigid High Shrink Ratio (4:1) Teflon®

Semi-rigid high shrink ratio tubing is the most difficult of the four tubing materials to shrink because of the extreme shrink temperature. The most reliable way to shrink SPTFE is a controlled oven temperature. Shrink can be accomplished with heat gun or welding torch but is not recommended. It is very difficult to use these methods because they have a tendency to overheat the material in one area, while the remainder of the material is too cool to shrink. Extra care must be exercised in heating tubing during the shrink process, it will become completely clear when it reaches the gel state. Will completely recover to its specified size provided a slow cooling process is allowed. Meets MIL-I-23053/12 Class 5.

Shrink Ratio: 4:1

Shrink Temp: 327°C (625°F)

Operating Temp: -73°C (-100°F) ~ 260°C (500°F)

Dimensions				Standard Packages (Natural)					
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	2 Foot Lengths			6 Inch Lengths		
				SPC Type No.	Pcs.	Total Footage	SPC Type No.	Pcs.	Total Footage
1/8"	.125"	.037"	.010"	8416-0888	25	100 FT	3495	25	12.5 FT
3/16"	.188"	.050"	.012"	8416-0889	25	100 FT	3496	25	12.5 FT
1/4"	.250"	.063"	.012"	8416-0890	25	100 FT	3497	25	12.5 FT
5/16"	.313"	.078"	.012"	8416-0891	25	100 FT	3498	25	12.5 FT
3/8"	.375"	.096"	.012"	8416-0892	25	100 FT	3499	25	12.5 FT
7/16"	.438"	.112"	.015"	8416-0893	25	100 FT	3500	25	12.5 FT
1/2"	.500"	.144"	.015"	8416-0894	25	100 FT	3501	10	5 FT
5/8"	.625"	.178"	.015"	8416-0895	8	32 FT	3502	10	5 FT
3/4"	.750"	.224"	.015"	8416-0896	8	32 FT	3503	10	5 FT
7/8"	.875"	.244"	.015"	8416-0897	8	32 FT	3504	10	5 FT
1"	1.000"	.278"	.015"	8416-0898	8	32 FT	3505	5	2.5 FT
1 1/4"	1.250"	.347"	.015"	8416-0899	8	32 FT	3506	5	2.5 FT

## KYS Series General Purpose Kynar®



Thin wall polyvinylidene fluoride material with superior dielectric, abrasion, and cut-through properties. Its stiffness permits excellent strain relief while the thin wall accommodates high-density solder packs. Used as a component jacket for resistors and capacitors due to its flame-resistance and ability to operate continuously at temperatures up to 175°C. Kynar® is a registered trade name of the Penwalt Chemical Company. Meets MIL-DTL-23053/8, MIL-DTL-23053/18 Class 1, VW-1.

Shrink Ratio: 2:1

Shrink Temp: 175°C (347°F)

Operating Temp: -55°C (-67°F) ~ 175°C (347°F)

Dimensions				Standard Packages (Clear)					
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	4 Foot Lengths			6 Inch Lengths		
				SPC Type No.	Pcs.	Total Footage	SPC Type No.	Pcs.	Total Footage
				3/64"	.046"	.023"	.010"	KYS-003-4025-CLR	25
1/16"	.063"	.031"	.010"	KYS-004-4025-CLR	25	100 FT	KYS-004-6028-CLR	28	14 FT
3/32"	.093"	.046"	.010"	KYS-006-4025-CLR	25	100 FT	KYS-006-6024-CLR	24	12 FT
1/8"	.125"	.062"	.010"	KYS-008-4025-CLR	25	100 FT	KYS-008-6020-CLR	20	10 FT
3/16"	.187"	.093"	.010"	KYS-012-4025-CLR	25	100 FT	KYS-012-6016-CLR	16	8 FT
1/4"	.250"	.125"	.012"	KYS-016-4025-CLR	25	100 FT	KYS-016-6012-CLR	12	6 FT
3/8"	.375"	.187"	.012"	KYS-024-4025-CLR	25	100 FT	KYS-024-6008-CLR	8	4 FT
1/2"	.500"	.250"	.012"	KYS-032-4005-CLR	5	20 FT	KYS-032-6004-CLR	4	2 FT
3/4"	.750"	.375"	.017"	KYS-048-4005-CLR	5	20 FT	KYS-048-6002-CLR	2	1 FT

## NPS Series General Purpose Neoprene

Used for fabrication and repair of flexible rubber harnesses, wire bundles, and hydraulic hoses. Cut-through and abrasion resistance qualities allow heavy-duty applications such as drop lines and industrial cable. Oil resistant qualities make NPS ideal for automotive, helicopter, and construction equipment industries. It withstands environments with constant vibration. Meets MIL-DTL-23053/1 Class 1 & 2; MIL-R-46846A, Type 1, Class1.

Shrink Ratio: 2:1

Shrink Temp: 135°C (275°F)

Operating Temp: -70°C (-94°F) ~ 121°C (250°F)

Dimensions				Standard Packages (Black)			
Size	Expanded I.D. (Min)	Recovered I.D. (Max)	Recovered Nominal Wall Thickness	SPC Type No.	Spool Size	SPC Type No.	Spool Size
				1/4"	.250"	.125"	.035"
3/8"	.375"	.187"	.040"	NPS-024-1100-BLK	100 FT	NPS-024-1025-BLK	25 FT
1/2"	.500"	.250"	.048"	NPS-032-1100-BLK	100 FT	NPS-032-1025-BLK	25 FT
5/8"	.625"	.312"	.052"	NPS-040-1100-BLK	100 FT	NPS-040-1025-BLK	25 FT
3/4"	.750"	.375"	.057"	N/A	N/A	NPS-048-1025-BLK	25 FT
1"	1.000"	.500"	.070"	NPS-064-1100-BLK	100 FT	NPS-064-1025-BLK	25 FT
1 1/4"	1.250"	.612"	.087"	NPS-080-1050-BLK	50 FT	NPS-080-1025-BLK	25 FT
1 1/2"	1.500"	.750"	.095"	NPS-096-1050-BLK	50 FT	NPS-096-1025-BLK	25 FT

# Insulating PVC Tubing

# VOLTREX®

## PVI Series PVC-105 Insulating Tubing



This is a low cost, flexible, abrasion resistant, general purpose tubing. Passes UL VW-1 Flame Test. Meets MIL-I-631D Grade C.

Operating Temperature: -20°C (-4°F) ~ 105°C (221°F)    Dielectric Strength: 750 VPM    Tensile Strength: 2800 PSI

AWG Size	Inside Diameter			Nominal Wall Thickness	Spool Size	Colors	
	Nominal	Max	Min			Black-SPC Type No.	Clear-SPC Type No.
24	0.022	0.027	0.020	0.012	100 FT	PVI-S24-1100-BLK	PVI-S24-1100-CLR
22	0.027	0.032	0.025	0.012	100 FT	PVI-S22-1100-BLK	PVI-S22-1100-CLR
20	0.034	0.039	0.032	0.016	100 FT	PVI-S20-1100-BLK	PVI-S20-1100-CLR
19	0.038	0.044	0.036	0.016	100 FT	PVI-S19-1100-BLK	N/A
18	0.042	0.049	0.040	0.016	100 FT	PVI-S18-1100-BLK	PVI-S18-1100-CLR
17	0.047	0.055	0.045	0.016	100 FT	PVI-S17-1100-BLK	PVI-S17-1100-CLR
16	0.053	0.061	0.051	0.016	100 FT	PVI-S16-1100-BLK	PVI-S16-1100-CLR
15	0.059	0.066	0.057	0.016	100 FT	PVI-S15-1100-BLK	PVI-S15-1100-CLR
14	0.066	0.072	0.064	0.016	100 FT	PVI-S14-1100-BLK	PVI-S14-1100-CLR
13	0.076	0.080	0.072	0.016	100 FT	PVI-S13-1100-BLK	PVI-S13-1100-CLR
12	0.085	0.089	0.081	0.016	100 FT	PVI-S12-1100-BLK	PVI-S12-1100-CLR
11	0.095	0.101	0.091	0.016	100 FT	PVI-S11-1100-BLK	PVI-S11-1100-CLR
10	0.106	0.112	0.102	0.016	100 FT	PVI-S10-1100-BLK	PVI-S10-1100-CLR
9	0.118	0.124	0.114	0.020	100 FT	PVI-S09-1100-BLK	PVI-S09-1100-CLR
8	0.133	0.141	0.129	0.020	100 FT	PVI-S08-1100-BLK	PVI-S08-1100-CLR
7	0.148	0.158	0.144	0.020	100 FT	PVI-S07-1100-BLK	PVI-S07-1100-CLR
6	0.166	0.178	0.162	0.020	100 FT	PVI-S06-1100-BLK	PVI-S06-1100-CLR
5	0.186	0.198	0.182	0.020	100 FT	PVI-S05-1100-BLK	PVI-S05-1100-CLR
4	0.208	0.224	0.204	0.020	100 FT	PVI-S04-1100-BLK	PVI-S04-1100-CLR
3	0.234	0.249	0.229	0.020	100 FT	PVI-S03-1100-BLK	PVI-S03-1100-CLR
2	0.263	0.278	0.258	0.020	100 FT	PVI-S02-1100-BLK	PVI-S02-1100-CLR
1	0.294	0.311	0.289	0.020	100 FT	PVI-S01-1100-BLK	N/A
5/16"	0.313	0.334	0.313	0.025	100 FT	PVI-020-1100-BLK	PVI-020-1100-CLR
0	0.33	0.347	0.325	0.025	100 FT	PVI-S00-1100-BLK	PVI-S00-1100-CLR
3/8"	0.375	0.399	0.375	0.025	100 FT	PVI-024-1100-BLK	PVI-024-1100-CLR
7/16"	0.438	0.462	0.438	0.025	100 FT	PVI-028-1100-BLK	PVI-028-1100-CLR
1/2"	0.5	0.524	0.500	0.025	100 FT	PVI-032-1100-BLK	PVI-032-1100-CLR
5/8"	0.625	0.655	0.625	0.030	100 FT	PVI-040-1100-BLK	N/A
3/4"	0.75	0.786	0.750	0.035	50 FT	PVI-048-1050-BLK	N/A
1"	1	1.036	1.000	0.035	50 FT	PVI-064-1050-BLK	PVI-064-1050-CLR
2"	2	2.07	2.000	0.06	50 FT	PVI-128-1050-BLK	PVI-128-1050-CLR

Sizes 24AWG ~ 1AWG rated for 300V; sizes 5/16" ~ 2" rated for 600V

**Teflon® Insulating Tubing:** Chemically inert and designed for high temperature operation. This tubing is especially suited for electrical applications. The TTI and TSI series do not crack or become brittle. It remains flexible throughout its entire temperature range. The standard wall thickness provides extra dielectric and mechanical strength.

Operating Temp: -73°C (-100°F) ~ 260°C (500°F)    Dielectric Strength: 1400 V/MIL    Color: Natural

### TTI Series Thin Wall Teflon®

Size	Dimensions					SPC Type No.	Spool Size
	Inside Diameter			Wall Thickness			
	Nominal	Max.	Min.	Nominal	+/-		
28	.015"	.019"	.013"	.009"	.002"	TTI-S28-1100-NAT	100 FT
26	.018"	.022"	.016"	.009"	.002"	TTI-S26-1100-NAT	100 FT
24	.022"	.027"	.020"	.010"	.002"	TTI-S24-1100-NAT	100 FT
22	.028"	.032"	.025"	.010"	.002"	TTI-S22-1100-NAT	100 FT
20	.034"	.040"	.032"	.012"	.003"	TTI-S20-1100-NAT	100 FT
18	.042"	.049"	.046"	.012"	.003"	TTI-S18-1100-NAT	100 FT
16	.053"	.061"	.051"	.012"	.003"	TTI-S16-1100-NAT	100 FT
14	.066"	.074"	.064"	.012"	.003"	TTI-S14-1100-NAT	100 FT
12	.085"	.091"	.081"	.012"	.003"	TTI-S12-1100-NAT	100 FT
10	.106"	.112"	.102"	.012"	.003"	TTI-S10-1100-NAT	100 FT
8	.133"	.141"	.129"	.015"	.004"	TTI-S08-1100-NAT	100 FT
6	.166"	.178"	.162"	.015"	.004"	TTI-S06-1100-NAT	100 FT
0	.330"	.347"	.325"	.015"	.004"	TTI-S00-1100-NAT	100 FT

### TSI Series Standard Wall Teflon®

Size	Dimensions					SPC Type No.	Spool Size
	Inside Diameter			Wall Thickness			
	Nominal	Max.	Min.	Nominal	+/-		
24	.022"	.027"	.020"	.012"	.002"	TSI-S24-1100-NAT	100 FT
22	.028"	.032"	.025"	.012"	.002"	TSI-S22-1100-NAT	100 FT
20	.034"	.040"	.032"	.016"	.003"	TSI-S20-1100-NAT	100 FT
18	.042"	.049"	.040"	.016"	.003"	TSI-S18-1100-NAT	100 FT
16	.053"	.061"	.051"	.016"	.003"	TSI-S20-1100-NAT	100 FT
14	.066"	.074"	.064"	.016"	.003"	TSI-S14-1100-NAT	100 FT
12	.085"	.091"	.081"	.016"	.003"	TSI-S12-1100-NAT	100 FT
10	.106"	.112"	.102"	.016"	.003"	TSI-S10-1100-NAT	100 FT
8	.133"	.141"	.128"	.020"	.004"	TSI-S08-1100-NAT	100 FT
7	.148"	.158"	.144"	.020"	.004"	TSI-S07-1100-NAT	100 FT
6	.166"	.178"	.162"	.020"	.004"	TSI-S06-1100-NAT	100 FT
4	.208"	.224"	.204"	.020"	.004"	TSI-S04-1100-NAT	100 FT

# Expandable Braided Sleeving

# VOLTREX®

## Expandable Braided Sleeving



Expandable sleeving is a lightweight, woven, polyester monofilament tubing designed to encapsulate and protect cable bundles and wire harnesses. Perfect for many aerospace, computer, automotive, electronics, and industrial applications. Self-fitting, adjusts to irregular surfaces and contours. Provides abrasion and fungus resistance in addition to being unaffected by most chemical environments and common solvents. (Use of "hot knife" is recommended for cutting.) Wall thickness: 0.025". Standard operating temperature: -75°C (-103°F) to 125°C (257°F).

### Flame Retardant Braided Sleeving (meets UL VW-1)

Melt Temp: 250°C (482°F) Color: Black w/White Tracer

Size	Usable I.D. Range	Nominal I.D.	Expanded I.D.	SPC Type No.	Spool
1/8"	3/32" to 1/8"	.093"	.125"	8465-0220	100 FT
1/4"	1/8" to 3/8"	.125"	.375"	8465-0221	100 FT
1/2"	1/4" to 3/4"	.250"	.750"	8465-0222	100 FT
3/4"	1/2" to 1-1/4"	.500"	1.250"	8465-0223	50 FT
1 1/4"	3/4" to 1-1/2"	.750"	1.500"	8465-0224	50 FT
1 3/4"	1-1/4" to 2-1/2"	1.250"	2.500"	8465-0225	25 FT
2"	1-1/2" to 3"	1.500"	3.000"	8465-0226	25 FT
2 1/2"	1-3/4" to 3-1/2"	1.750"	3.500"	8465-0227	25 FT

### Standard Braided Sleeving

Melt Temp: 230°C (446°F) Color: Black

Size	Usable I.D. Range	Nominal I.D.	Expanded I.D.	SPC Type No.	Spool
1/8"	3/32" to 1/8"	.093"	.125"	8465-0228	100 FT
1/4"	1/8" to 3/8"	.125"	.375"	8465-0229	100 FT
3/8"	3/16" to 1/2"	.187"	.625"	8465-0230	100 FT
1/2"	1/4" to 3/4"	.250"	.750"	8465-0231	100 FT
3/4"	1/2" to 1-1/4"	.500"	1.250"	8465-0232	50 FT
1 1/4"	3/4" to 1-1/2"	.750"	1.500"	8465-0233	50 FT
1 1/2"	1-3/4" to 2"	1.750"	2.000"	8465-0234	50 FT
1 3/4"	1-1/4" to 2-1/2"	1.250"	2.500"	8465-0235	25 FT
2"	1-1/2" to 3"	1.500"	3.000"	8465-0236	25 FT
2 1/2"	1-3/4" to 3-1/2"	1.750"	3.500"	8465-0237	25 FT

## Fray Resistant Expandable Braided Sleeving

Possessing many of the same qualities as the standard expandable sleeving, our fray resistant sleeving provides an innovative covering for wire, cable and hose assemblies. Fray resistant sleeving offers easy field installation without the need for a hot knife. Wall thickness .036".

### Flame Retardant Fray-Resistant Sleeving

Melt Temp: 250°C (482°F) Color: Black w/White Tracer



Size	Expansion		Spool Length	SPC Type No.
	Min	Max		
1/8"	1/8"	1/4"	100 FT	SPC5154
1/4"	5/32"	7/16"	100 FT	SPC5155
3/8"	3/16"	5/8"	100 FT	SPC5156
1/2"	1/4"	3/4"	100 FT	SPC5157
3/4"	5/8"	1"	50 FT	SPC5158
1"	3/4"	1 3/16"	50 FT	SPC5159
1 1/4"	1"	1 1/2"	50 FT	SPC5160
1 1/2"	1 1/4"	2"	50 FT	SPC5161



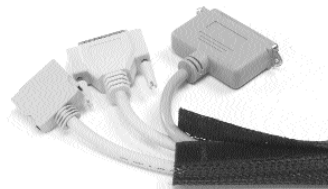
### Standard Fray-Resistant Sleeving

Melt Temp: 230°C (446°F) Color: Black

Size	Expansion		Spool Length	SPC Type No.
	Min	Max		
1/8"	1/8"	1/4"	100 FT	SPC5146
1/4"	5/32"	7/16"	100 FT	SPC5147
3/8"	3/16"	5/8"	100 FT	SPC5148
1/2"	1/4"	3/4"	100 FT	SPC5149
3/4"	5/8"	1"	50 FT	SPC5150
1"	3/4"	1 3/16"	50 FT	SPC5151
1 1/4"	1"	1 1/2"	50 FT	SPC5152
1 1/2"	1 1/4"	2"	50 FT	SPC5153

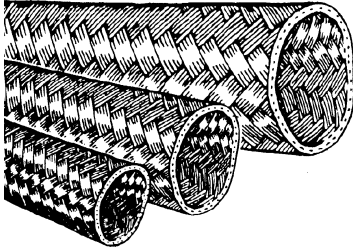
## Hook & Loop Wrap Braided Sleeving

Lightweight, expandable, braided monofilament sleeving with hook & loop fastening system is designed to allow easy bundling and protection for wires, cables, hoses and tubes. Monofilaments are constructed from durable P.E.T. providing continuous protection against abrasion, fungus, and rotting in addition to being unaffected by most chemical environments, and solvents. Meets UL VW-1 standard. Standard operating temperature: -75°C (-103°F) to 125°C (257°F). Color: black



Size	Nom. I.D.	SPC Type No.	Total Footage
1/2"	.50	8465-0238	25 FT
3/4"	.75	8465-0239	25 FT
1 1/4"	1.25	8465-0240	25 FT
2"	2	8465-0241	25 FT
1 1/4"	1.250	SPC5162	3 FT

### Heat Treated Fiberglass Electrical Sleeving



- Braided fiberglass
- Class 240C insulation
- Heat annealed
- Operating temp. -60°C to 649°C
- Color: Natural & Tan
- UL recognized

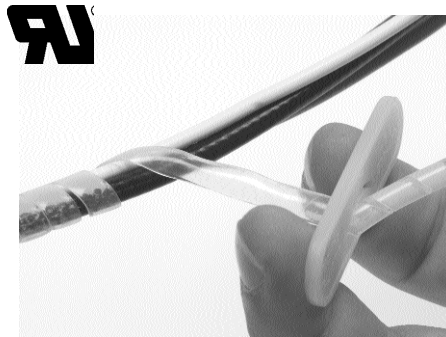
Consists of tightly braided fiberglass designated Class 240C insulation that is heat annealed to remove organic impurities, improve handling and reduce end fraying. The sleeving is compatible with varnishes, epoxies and bonding agents where maximum reinforcement between the glass and encapsulant is needed. Utilizes primary and secondary insulation for motor leads, small appliances, brush assemblies, electric resistance heating elements and similar low voltage applications. It is the ideal choice for abrasion and cut-through protection over insulated leads. The addition of a tan-colored, high-temperature resin dye affords additional fray resistance and firmness for cutting and installation. Both colors sold in spools of 100 FT.

Size	Nominal I.D.	Nominal Wall Thickness	SPC Type No. Color: Natural	SPC Type No. Color: Tan
24	.022"	.012"	SPC4913	GSX-S24-1100-NAT
22	.027"	.012"	SPC4914	GSX-S22-1100-NAT
20	.034"	.012"	SPC4915	GSX-S20-1100-NAT
18	.042"	.012"	SPC4916	GSX-S18-1100-NAT
16	.053"	.013"	SPC4917	GSX-S16-1100-NAT
14	.066"	.015"	SPC4918	GSX-S14-1100-NAT
12	.085"	.015"	SPC4919	GSX-S12-1100-NAT
10	.106"	.015"	SPC4920	GSX-S10-1100-NAT
8	.133"	.015"	SPC4921	GSX-S08-1100-NAT
6	.166"	.015"	SPC4922	GSX-S06-1100-NAT
4	.208"	.015"	SPC4923	GSX-S04-1100-NAT
2	.263"	.018"	SPC4924	GSX-S02-1100-NAT
0	.330"	.018"	SPC4925	GSX-S00-1100-NAT
3/8"	.375"	.022"	SPC4926	GSX-024-1100-NAT
7/16"	.438"	.022"	SPC4927	GSX-028-1100-NAT
1/2"	.500"	.022"	SPC4928	GSX-032-1100-NAT
5/8"	.625"	.022"	SPC4929	GSX-040-1100-NAT
3/4"	.750"	.022"	SPC4930	GSX-048-1100-NAT
7/8"	.875"	0.022	SPC4931	NA
1"	1.00"	.022"	SPC4932	GSX-064-1100-NAT

### Spiral Cut Harness Wrap

- Easy to apply & remove
- Reusable and flexible
- Strong and versatile
- Color: Natural

Protects and contains groups of conductors, cables or hoses. Can be used for temporary or permanent installations. Useful for harnesses which carry wiring around sharp corners. Leads can be broken out at any point to make a "tailor-made", tight-fitting harness. Type **HWN** is nylon. Type **HWP** is polyethylene. UL94HB Flammability rating (nylon only).



Bundle Range	O.D.	SPC Type No.	Spool
1/16" to 1/2"	1/8"	HWN-02	100 FT
1/8" to 1"	3/16"	HWN-03	100 FT
3/16" to 1-1/2"	1/4"	HWN-04	100 FT
5/16" to 2"	3/8"	HWN-06	100 FT
3/4" to 4"	1/2"	HWN-08	100 FT
1/16" to 1/2"	1/8"	HWP-02P	100 FT
1/8" to 1"	3/16"	HWP-03P	100 FT
3/16" to 1-1/2"	1/4"	HWP-04P	100 FT
5/16" to 2"	3/8"	HWP-06P	100 FT
3/4" to 4"	1/2"	HWP-08P	100 FT

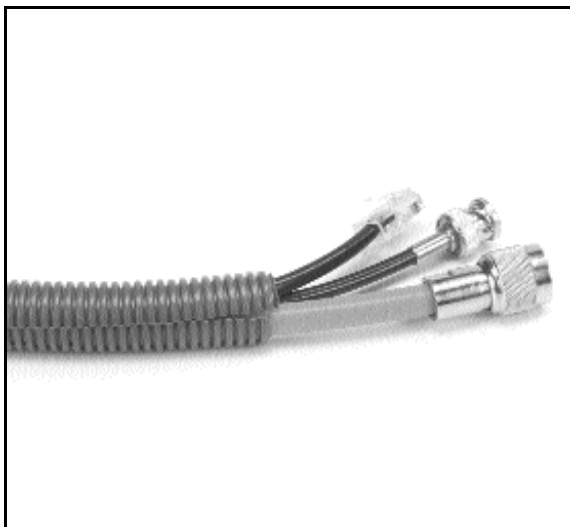
## DID YOU KNOW?

Did you know that the most widely used method of securing insulating tubing, braided sleeving, split-loom tubing and spiral wrap tubing onto wire bundles is the common cable tie? Did you know that SPC Technology offers a wide variety of Voltrex brand cable ties in a multitude of lengths, styles, colors, and materials, ready to meet all of your tubing securement or wire bundling applications? See page 29 for more details.

## Flexible Split Loom Tubing

Convuluted polyethylene and flexible nylon split loom tubing is designed for quick, easy installation as a harness protective covering. Split loom tubing provides easy opening seam for fast wire insertion and removal. Since seam is not permanently sealed; it economically reduces service time. Product is temperature, weather and corrosion resistant. Colors: Nylon and polyethylene tubing is black; flame retardant polyethylene tubing is gray.

- **Durable polyethylene & nylon materials**
- **Flame retardant, polyethylene UL94V-1**
- **Flexible convoluted design**
- **Easy-open seam**
- **Colors: Gray & Black**



### Standard Nylon Split Loom Tubing Operating Temp: -40°C (-40°F) ~ 149°C (300°F)

Dimensions			Standard Package		
Size	Nominal I.D.	Maximum I.D.	SPC Type No.	Color	Total Footage
1/4"	.258"	.389"	1441	Black	100 FT
3/8"	.363"	.507"	1442	Black	100 FT
1/2"	.493"	.678"	1443	Black	100 FT
5/8"	.613"	.817"	1444	Black	50 FT
3/4"	.734"	.966"	1445	Black	50 FT
1"	.991"	1.274"	1446	Black	50 FT

### Standard Polyethylene Split Loom Tubing Operating Temp: -40°C (-40°F) ~ 94°C (200°F)

Dimensions			Standard Package		
Size	Nominal I.D.	Maximum I.D.	SPC Type No.	Color	Total Footage
1/4"	.258"	.389"	1435	Black	100 FT
3/8"	.363"	.507"	1436	Black	100 FT
1/2"	.493"	.678"	1437	Black	100 FT
5/8"	.613"	.817"	1438	Black	50 FT
3/4"	.739"	.966"	1439	Black	50 FT
1"	.991"	1.274"	1440	Black	50 FT

### Flame Retardant Polyethylene Split Loom Tubing Operating Temp: -40°C (-40°F) ~ 135°C (275°F)

Dimensions			Standard Package		
Size	Nominal I.D.	Maximum I.D.	SPC Type No.	Color	Total Footage
1/4"	.258"	.389"	1429	Gray	100 FT
3/8"	.363"	.507"	1430	Gray	100 FT
1/2"	.493"	.678"	1431	Gray	100 FT
5/8"	.613"	.817"	1432	Gray	50 FT
3/4"	.739"	.996"	1433	Gray	50 FT
1"	.991"	1.274"	1434	Gray	50 FT

### Engineer's Heat-Shrinkable Tubing Kits

These kits contain a large assortment of tubing materials and sizes. This assortment kit enables engineers to decide which tubing is best for each application before putting prototypes into production. The parts come in a high impact, polystyrene, sectioned box for convenient storage. A handy Voltrex Quick-Scan Property Chart is included.



#### Kits Include:

- PVS: non-irradiated PVC
- FPS: flexible polyolefin
- FPF: flame-retardant, flexible polyolefin
- KYS: Kynar®
- PHD: multiple wall, flexible polyolefin
- SRM: semi-rigid adhesive-lined, multi-wall polyolefin
- LTP: very flexible polyolefin
- PHS: flexible, high-rated, adhesive-lined, flame retardant, thin wall polyolefin
- PVHR: irradiated PVC
- TTS: Teflon®, 2:1 shrink ratio
- SST: Teflon®, 1.67:1 shrink ratio
- TFM: Teflon®, color translucent

**SPC Type No. SPC10858 Basic Kit (88 6"-Pieces)**

Size Range	SPC Type No.	Number of Sizes	Pcs.
3/6" to 3/4"	PVS	9	18
3/64" to 3/4"	FPS	9	18
3/64" to 3/4"	FPF	9	18
3/64" to 1/2"	KYS	9	15
3/16" to 3/4"	PHD	6	9
1/8" to 3/4"	SRM	6	10

**SPC Type No. SPC10857 Advanced Kit (174 3"-Pieces)**

Size Range	SPC Type No.	Number of Sizes	Pcs.
3/64" to 3/4"	PVS	9	18
3/64" to 3/4"	FPS	9	18
3/64" to 3/4"	LTP	9	18
3/64" to 3/4"	FPF	9	18
3/64" to 3/4"	KYS	9	16
#16 to #6	TTS	6	12
1/8" to 3/4"	SRM	6	10
3/32" to 1"	SST	8	14
3/16" to 1"	PHS	6	10
1/32" to 3/8"	TFM	6	12
3/16" to 1"	SHD	6	10
3/16" to 3/4"	PVHR	9	18

### General Purpose Flexible Polyolefin Kit

102 piece kit includes general purpose polyolefin heat-shrinkable tubing in six inch lengths. This kit offers an outstanding balance of electrical, physical, and chemical properties for a wide variety of industrial and military applications. Rated at 135°C for continuous operation. Tubing is typically used as a shrinkfit electrical insulation over cable splices and terminations. Also used for lightweight wire harness covering, wire marking and wire bundling. 2:1 shrink ratio. Meets all MIL-DTL-23053/5 Class 1 and Class 2 specifications. Color: Black. UL recognized, CSA certified.

**SPC Type No. 2778**

Size	Pieces per Kit
1/16"	30
1/8"	25
3/16"	20
1/4"	15
3/8"	7
1/2"	5

### General Purpose Flexible Polyolefin Kit

Size	SPC Type No.	Pieces per Kit
3/64" to 3/16"	FPFA-003-6030-AST	30
1/4" to 3/4"	FPFA-016-6016-AST	16
1" to 4"	FPFA-064-6010-AST	10

Resistant to fungus and chemicals. Used as electrical insulation over cable splices and termination, lightweight harness covering, wire bundling, and fire resistant covering. 2:1 uniform shrink ratio. -55°C to +135°C operating temperature, and 100°C (212°F) Min shrink temp. Meets MIL-DTL-23053/5, Class 1 and AMS 3637 requirements. All colors except clear are UL recognized. (FPA-003 & FPA-016 contain assorted colors. FPA-064 is black only.)

## Engineer's Heat-Shrinkable Assortment Kits Flame-Retardant Flexible Polyolefin Tubing Kits

These kits offer product with great electrical, physical, and chemical qualities. In addition, the FPF product contained in this kit exhibits superior flame resistance. Used for fire-resistant component coverings and flammable wire assemblies, as well as lightweight harness covering, wire marking, and wire bundling. Meets MIL-DTL-23053/5, Class 3 requirement. UL recognized VW-1 and CSA certified at 600V @ 125°C (257°F). Color: Black

Size	Type No.	Lengths per Kit	Total Footage
3/64" to 3/16"	FPFA-003-6030-AST	30	10'
1/4" to 3/4"	FPFA-016-6016-AST	16	8'
1" to 4"	FPFA-064-6010-AST	10	5'

## Multiple Wall Non-Irradiated PVC Tubing Kit

Size	Pieces Per Kit
3/16"	20
1/4"	15
3/8"	10

45 piece kit includes PVS and VPV1 series tubing. Both types are ideal for production insulation and jacketing of cables, splices and terminations. Both resist most chemicals and oils, as well as fungus, sunlight, and moisture. Capable of 2:1 shrink ratio. Standard operating temperature range: -20°C (-4°F) to 105°C (221°F). Minimum shrink temperature: 100°C. VPV1 features adhesive inner liner. Meets MIL-DTL-23053/2, ASTM D 922, MIL-I-631D, and AMS 3579 requirements. All PVC tubing is in accordance with UL requirements. Color: Black. **SPC Type No. 2777.**

## Teflon® Tubing Kit

40 piece kit includes: eight, six inch lengths of Teflon® heat-shrinkable tubing in five sizes. Teflon® heat-shrinkable tubing possess excellent characteristics for use in high temperature applications, corrosive atmospheres, and as electrical insulation. Teflon® has the lowest coefficient of friction of any known solid and is used widely because of its anti-stick properties. Non-wetting and self-lubricating it offers excellent chemical-resistance qualities and is unaffected by weathering due to outdoor exposure. Features the widest working range of any plastic material, -250°C (-418°F) to +260°C (500°F). Shrink ratio: 2:1. Product meets MIL-DTL-28053/12. UL recognized. **SPC Type No. 2781.**

Size	Pieces Per Kit
3/32"	8
1/8"	8
3/16"	8
1/4"	8
3/8"	8

## Heat-Shrinkable Terminal Kits

### Solderless Terminal Kit

115 piece funnel-entry solderless wire terminal kit includes ring tongue terminals, spade tongue terminals, butt splices, male couplers, and female couplers for wire gauge sizes 22-18, 16-14, 12-10. Terminals insulated with heat shrink tubing. **SPC Type No. 1686**

### Heat-Sealable Terminal Kit

48 piece all-weather, heat-sealable terminal kit includes ring tongue terminals, spade tongue terminals, butt splices and eight 1" strips of tubing. Terminals solder and seal 24-22 gauge connections in one operation. **SPC Type No. 1691**



### Economy High Temperature Heat Gun

Economical, flameless, high-temperature heat gun is designed for shrinking Voltrex tubing in general heat-shrink applications. It's quiet. Lightweight, durable, efficient, multi-functional qualities help reduce operator fatigue and increase production. The body frame is manufactured of a durable impact resistant plastic. Has a dual temperature setting (low-high). Unique encapsulated heat element protects coil breakage, reduces internal heat concentration, prolongs coil life and concentrates air flow. Temperature settings: Low 500°F to 700°F. High 700°F to 1100°F. UL Listed. **SPC Type No. 3507**



- **Construction: Stainless steel nozzle, high impact polymer case**
- **Motor: Maintenance - free, brushless**
- **Dimensions: Height: 7.5"; Length: 8.25"; Width: 3.125"**
- **Power Requirement: 120 Volts, 50/60Hz, 15A**
- **Temperature Range: 500°F-1100°F**
- **UL Approved 8 foot cord with grounding plug**
- **UL Listed**

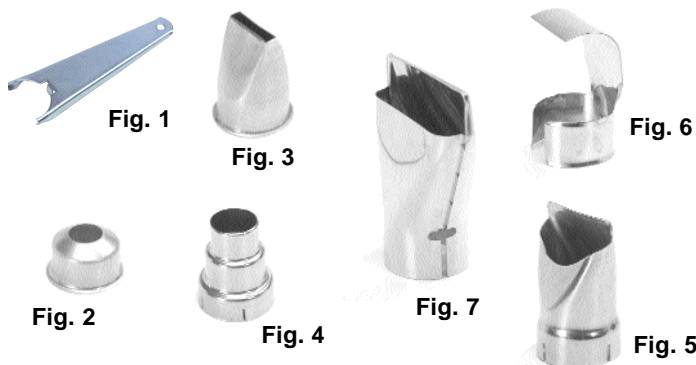
### Industrial High Temperature Heat Gun

Industrial grade flameless, high-temperature heat gun is designed for shrinking Voltrex tubing in general heat-shrink applications. It's quiet. Lightweight, durable, efficient, multi-functional qualities help reduce operator fatigue and increase production. The body frame is manufactured of a durable impact resistant plastic. Has a dual temperature setting (low-high) and electronic variable temperature control found on the barrel end. It can be adjusted to one of five LED indicator settings. Unique encapsulated heat element protects coil breakage, reduces internal heat concentration, prolongs coil life and concentrates air flow. Temperature settings: Low 500°F to 700°F. High 700°F to 1100°F. UL Listed. **SPC Type No. 3508**

- **Electronic variable temperature control with LED indicator**
- **Motor: Maintenance - free brushless**
- **Dimensions: Height: 7.50"; Length: 9.75"; Width: 2.75"**
- **Power Requirement: 120 Volts, 50/60Hz, 15A**
- **Temperature Range: 500°F - 1100°F**
- **UL Approved 8 foot cord with grounding plug**
- **UL Listed**



### Nozzle Attachments for Economy/Industrial Heat Guns



SPC Type No.	Figure	Description
3512	1	Removal tool
3513	2	Concentrator
3514	3	Flare Nozzle
3515	4	Concentrator
3516	5	Deflector Nozzle
3517	6	Hook
3518	7	Glass Protection Nozzle
3519	Not shown	Carrying Case

## Deluxe High Temperature Heat Gun by Steinel for SPC Technology

- Automatic temperature control & cool air stage
- Continuously adjustable, electronically monitored hot air 50°C (120°F), for cleaning or cooling
- Built-in temperature sensor regulates and monitors temperature electronically, allowing the user to select a specified temperature in the 120-1100°F range
- Different applications require variable temperature settings. The electronically regulated temperature feature makes this a very flexible tool
- Extensive range of accessories enlarges this gun's scope of applications. The accessories include special nozzles, auxiliary tools, spatulas and scrapers



**Technical Specifications**  
**Voltage:** 120 V AC  
**Output:** 1,500 watts  
**Temperature:**  
 Stage 1: 120°F  
 Stage 2: 120°F-1100°F  
 Stage 3: 120°F-1100°F  
**Air Flow:**  
 Stage 1: 8.8 cfm  
 Stage 2: 9.5 cfm  
 Stage 3: 17.6 cfm  
**Weight:** 30.7 oz.  
**Noise:** <70 dB

**SPC Type No. 2390**



## Nozzle Attachments for Deluxe Heat Gun

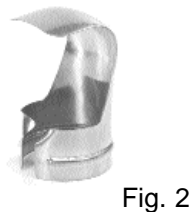
### Nozzle Attachments Descriptions

**3/8" (10mm) Reflector Nozzle (2394):** For small diameter shrink tubing applications.

**5/8" (16mm) Reflector Nozzle (2393):** Specially designed tip to provide efficient and quick heat to solder sink wire connectors.

**1 1/4" (32mm) Reflector Nozzle (2392):** Reflects heat around small diameter heat shrink tubing.

**3" (76mm) Reflector Nozzle (2391):** Reflects heat around larger diameter heat shrink tubing.



SPC Type No.	Figure	Description
2391	1	3" Reflector Nozzle
2392	2	1 1/4" Reflector Nozzle
2393	3	5/8" Reflector Nozzle
2394	4	3/8" Reflector Nozzle

### Wrap-a-Shield

SPC's **Wrap-a-Shield** is a combination of a flame-retardant polyurethane jacket bonded to a light-weight aluminum foil/polyester shield for maximum shielding (100 dB avg.) **Wrap-a-Shield** is ideal for flat or round cables where shielding is needed and re-entry is not required. It is stocked in three sizes: 1/2", 1" and 2". All three sizes are stocked in 10-foot lengths.

Meets UL224, VW-1. Temp. Rating -60°C (-78°F) to 107°C (225°F)

Dielectric Strength: 900V/PM



Shielding Material	Insulator Material	Shielding Attenuation	Solvent Resistance	Color
.001" Alum. Foil/Polyester	F.R. PFR-10	100 db (Average) (10MHz ~ 20GHz)	Excellent	Black

Size (Dia.)	Size (Flat)	SPC Type No.
1/2"	.78"	SPC5092
1"	1.55"	SPC5093
2"	3.14"	SPC5094

### Shrink-a-Shield Heat-Shrinkable Shielding

**Shrink-a-Shield** is an advanced concept in wire management that combines an efficient shield and a shrink-fit jacket in a single product. This should be the ideal product where short lengths and small diameters are needed. Cables and wire bundles from 1/8" to 7/8" diameter can be shielded. The unique advantages of the soft flexible shielding liner, coupled with the conforming shrink-fit jacket (2:1 shrink ratio) offer answers in many applications where tight physical tolerances are required.

**Shrink-a-Shield** is sold in 1-foot lengths and includes a 3-foot drain wire.



Shielding Material	Insulator Material	Shielding Attenuation	Solvent Resistance	Color
Ni/Cu Plated Polyester	Polyolefin (Mil-I-23053/5 Class 1)	85 db (10MHz~20Ghz) E-Field Avg. Attn.	Excellent	Black

Meets UL224, VW-1 Temp. Rating -40°C (-40°F) to 121°C (250°F)

Size (Flat)	SPC Type No.
3/16"	SPC5086
1/4"	SPC5087
3/8"	SPC5088
1/2"	SPC5089
3/4"	SPC5090
1"	SPC5091

To order call Newark Electronics®: **1-800-2-Newark** (1-800-263-9275)

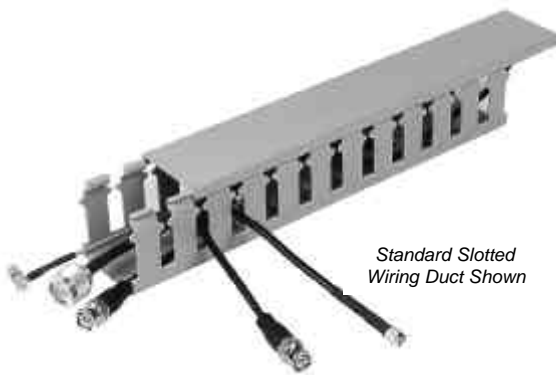
For Technical Assistance call: **1-888-SPC-TECH** (1-888-772-8324) or

e-mail: [techsupport@spctechnology.com](mailto:techsupport@spctechnology.com)

[www.spctechnology.com](http://www.spctechnology.com)

# VOLTREX®

## Wiring Duct & Cable Ties



### Slotted Wiring Duct

Slotted wall design enables numerous wire breakouts. Double-scored breakaway duct fingers make larger breakouts easy. Made of high-impact PVC, gray in color.

Rated at UL94V-0. UL recognized and CSA certified. Sold in packages of four 6 ft. lengths. Covers sold separately.

### High-Density Slotted Wiring Duct

High-density slotted wall ducts come with narrow fingers, equaling a 2-to-1 ratio compared to standard slotted wiring ducts. Made of high-impact PVC, gray in color. Rated at UL94V-0. UL recognized and CSA certified. Sold in packages of four 6 ft. lengths. Covers sold separately.

### Solid Wall Wiring Ducts

Solid wall design for straight wire runs where no breakouts are required.

Made of high-impact PVC, gray in color. Rated at UL94V-0. UL recognized and CSA certified. Sold in packages of four 6 ft. lengths. Covers sold separately.

Size (Inches) W x H	SPC Type No.
1 x 1	WDLT-0404-72
1 x 1.5	WDLT-0406-72
1 x 2	WDLT-0408-72
1 x 3	WDLT-0412-72
1.5 x 1	WDLT-0604-72
1.5 x 1.5	WDLT-0606-72
1.5 x 2	WDLT-0608-72
1.5 x 3	WDLT-0612-72
1.5 x 4	WDLT-0616-72
2 x 1	WDLT-0804-72
2 x 2	WDLT-0808-72
2 x 3	WDLT-0812-72
2 x 4	WDLT-0816-72
3 x 1	WDLT-1204-72
3 x 2	WDLT-1208-72
3 x 3	WDLT-1212-72
3 x 4	WDLT-1216-72
3 x 5	8443-0336
4 x 2	WDLT-1608-72
4 x 3	WDLT-1612-72
4 x 4	WDLT-1616-72
4 x 5	8443-0337

Size (Inches) W x H	SPC Type No.
1 x 1	DHD-1X1
1 x 1.5	DHD-1X1.5
1 x 2	DHD-1X2
1 x 3	DHD-1X3
1 x 4	DHD-1X4
1.5 x 1	DHD-1.5X1
1.5 x 1.5	DHD-1.5X1.5
1.5 x 2	DHD-1.5X2
1.5 x 3	DHD-1.5X3
1.5 x 4	DHD-1.5X4
2 x 1	DHD-2X1
2 x 2	DHD-2X2
2 x 3	DHD-2X3
2 x 4	DHD-2X4
3 x 1	DHD-3X1
3 x 2	DHD-3X2
3 x 3	DHD-3X3
3 x 4	DHD-3X4
4 x 2	DHD-4X2
4 x 3	DHD-4X3
4 x 4	DHD-4X4

Size (Inches) W x H	SPC Type No.
0.5 x 0.5	WDWT-0202-72
0.5 x 1	WDWT-0204-72
0.75 x 0.75	WDWT-0303-72

### Wiring Duct Covers

Designed for slotted, high-density slotted and solid wiring ducts. Made of high-impact PVC, gray in color. Rated at UL94V-0. UL recognized and CSA certified. Sold in packages of four 6 ft. lengths.

Duct Width (Inches)	SPC Type No.
0.50	WDCT-02-72
0.75	WDCT-03-72
1.00	WDCT-04-72
1.50	WDCT-06-72
2.00	WDCT-08-72
3.00	WDCT-12-72
4.00	WDCT-16-72



### 650 Piece Cable Tie Assortment

Contains 4", 8" and 11" lengths in a variety of colors. Comes in handy screw top storage canister.

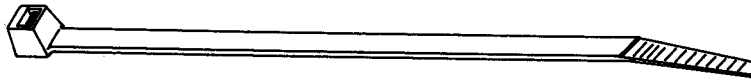
SPC Type No.: 8433-1020-T



### Cable Tie Assortment

Contains 100 ea. 18lb. 4", 30lb. 6" and 50lb 6" cable ties, 50 4-way adhesive mounts and pocket-sized installation tool.

SPC Type No.: CWTK-362



## VRT Series

w General Purpose indoor applications  
w Material: Nylon 6/6  
w Rated: UL94V-2  
w Oper. Temp: -40°C ~ 85°C  
w Color: Natural

Bundle Diameter (Inches)	Tensile Strength (PSI)	Length (Inches)	Width (Inches)	SPC Type No.	Package Quantity
5/8	18	3 3/8	0.08	VRT-05M-C	100
3/4	18	4	0.10	VRT-06M-C	100
1 1/4	18	5 3/4	0.10	VRT-101M-C	100
2	18	8	0.10	VRT-11M-C	100
1 1/4	30	6	0.14	VRT-10I-C	100
2	40	8 1/2	0.15	VRT-16S-C	100
3	40	11 1/2	0.15	8409-0379	100
4	40	14 1/2	0.15	8409-0385	100
1 3/4	50	8	0.18	VRT-16I-C	100
3	50	11 3/4	0.18	VRT-22S-C	100
4	50	15 1/2	0.18	VRT-36S-C	100
4	120	15 1/4	0.30	VRT-34H-L	50
6	150	21	0.35	8409-0340	25
8 3/4	120	29 3/4	0.30	8409-0338	50

## VUVT Weather-Resistant Series

w General Purpose Outdoor Applications  
w Material: Nylon 6/6  
w Rated: UL94V-2  
w Oper. Temp: -40°C ~ 85°C  
w Color: Black  
w UV Stabilized

Bundle Diameter (Inches)	Tensile Strength (PSI)	Length (Inches)	Width (Inches)	SPC Type No.	Package Quantity
5/8	18	3 3/8	0.10	VUVT-05M-C	100
3/4	18	4	0.10	VUVT-06M-C	100
2	18	8	0.10	VUVT-11M-C	100
1 1/4	30	6	0.14	VUVT-10I-C	100
2	40	8 1/2	0.15	VUVT-16S-C	100
3	40	11 1/2	0.15	8409-0380	100
4	40	14 1/2	0.15	8409-0386	100
1 3/4	50	8	0.18	VUVT-16I-C	100
3	50	11 1/4	0.18	VUVT-22S-C	100
4	50	15 1/2	0.18	VUVT-36S-C	100
4	120	15 1/4	0.30	VUVT-34H-L	50
8 3/4	120	29 3/4	0.30	8409-0339	50

## VHST Heat Stabilized Series

w Higher Temperature Indoor Applications  
w Material: Nylon 6/6  
w Rated: UL94V-2  
w Oper. Temp: -40°C ~ 105°C  
w Color: Black

Bundle Diameter (Inches)	Tensile Strength (PSI)	Length (Inches)	Width (Inches)	SPC Type No.	Package Quantity
5/8	18	3 3/8	0.08	8409-0365	100
3/4	18	4	0.10	8409-0367	100
1 1/4	18	5 3/4	0.10	8409-0369	100
2	18	8	0.10	8409-0372	100
1 1/4	30	6	0.14	8409-0375	100
2	40	8 1/2	0.15	8409-0377	100
3	40	11 1/2	0.15	8409-0381	100
4	40	14 1/2	0.15	8409-0387	100
1 3/4	50	8	0.18	8409-0391	100
3	50	11 3/4	0.18	8409-0393	100
4	50	15 1/2	0.18	8409-0395	100

## VTZT Tefzel® Series

w High Temp. Applications  
w Excellent Protection against radiation, UV and a wide range of chemicals.  
w Rated: UL94V-0  
w Oper. Temp: -46°C ~ 150°C  
w Color: Blue

Bundle Diameter (Inches)	Tensile Strength (PSI)	Length (Inches)	Width (Inches)	SPC Type No.	Package Quantity
7/8	9	4	0.10	8409-0360	100
1 3/4	30	8	0.18	8409-0361	100

## VHRT Halar® Series

w Plenum Wiring Applications  
w Meet NEC regulations  
w Oper. Temp: -46°C ~ 140°C  
w Color: Red  
w Rated: UL94V-0

Bundle Diameter (Inches)	Tensile Strength (PSI)	Length (Inches)	Width (Inches)	SPC Type No.	Package Quantity
7/8	14	4	0.10	8409-0358	100
1 3/4	40	8	0.18	8409-0359	100

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SPC	3M	Alpha	Raychem	Insultab	Sumitomo	Mil Spec (SPC Only)
<b>Thin Wall Tubing</b>						
FPS FPA	FP-301	FIT 221	RNF-100	HS-101	F2, B2, A2	MIL-I-23053/5, CL1 & 2
FPF FPFA	FP-301-VW	FIT-221V	Versafit MIL-LT		F2, B2, F5	MIL-I-23053/5, CL3
LTP	VFP-876	FIT-221	RT-876	HS-876	F2, B2	Mil-R-46846, Type V
SRS	SR-350	FIT-295	CRN	HS-101-SR	B8, D	MIL-I-23053/6, CL 1 & 2
FPHS	SFTW-203		RNF-3000		B2(3X)	MIL-I-23053/5 CL 1
FPG	SFTW-202 GYS	FIT-260	DCPT		B2(Y/G)	MIL-I-23053/5, CL 1
<b>Adhesive Lined Tubing</b>						
SRM	MW	FIT-300	SCL	HS-101-MW	W5DL	MIL-I-23053/4, CL 1
PHD	EPS-200	FIT-750	TAT-125	HS-101-MW 2:1	O2F2, O2B2	MIL-I-23053/4, CL 2
PHS	EPS-300	FIT-321	ATUM 3:1	HS-010-MW 3:1	W3F2	MIL-I-23053/4, CL 3
SHS	EPS-400		ATUM 4:1	HS-101-MW 4:1	W3B2(4X)	
<b>Special Purpose Tubing</b>						
KYS	KYNAR	FIT-350	KYNAR	HSK-600	K, K2	MIL-I-23053/8
NPS	NST	FIT-600	NT, NT-FR	HSN-100	R10	MIL-I-23053/1, CL 1 & 2
n/a	VTN-200	FIT-650	VPB, Viton*	HS-VTN		MIL-I-23053/1, CL 1 & 2
n/a	PSTH		DR 25		R120	MIL-I-23053/13
<b>Head Wall Tubing</b>						
n/a	MDT	FIT-700	SST, MWMTM	CTV		MIL-I-23053/15, CL 2
n/a	HDT	FIT-700	FCSM	CTHV		MIL-I-23053/15, CL 1
n/a	CCT	FIT-650	TSC, SST			

SPC	Cole-Flex	ICO-Rally	Canusa	Panduit	UL	CSA	Mil Spec (SPC Only)
<b>Thin Wall Tubing</b>							
FPS FPA	ST221, STS221	HIX	CPX100	HSTT	Yes	Yes	MIL-I-23053/5, CL1 & 2
FPF FPFA	STV221, STSV221			HSTTV	Yes	Yes	MIL-I-23053/5, CL3
LTP	ST219	HXT	CPX876	HSTTM	Yes	Yes	Mil-R-46846, Type V
SRS	ST295	HRK		HSTTR	Yes		MIL-I-23053/6, CL 1 & 2
FPHS					Yes	Yes	MIL-I-23053/5 CL 1
FPG	ST260				Yes	Yes	MIL-I-23053/5, CL 1
<b>Adhesive Lined Tubing</b>							
SRM	ST300	HIM	CFM	HSTTRA	Yes		MIL-I-23053/4, CL 1
PHD	ST302		CPA100	HSTTVA	Yes		MIL-I-23053/4, CL 2
PHS	ST303			HSTTA	Yes		MIL-I-23053/4, CL 3
SHS					Yes		
<b>Special Purpose Tubing</b>							
KYS	ST350	HKX		HSTTK	Yes	Yes	MIL-I-23053/8
NPS	ST700	HNT		HSTTN			MIL-I-23053/1, CL 1 & 2
n/a	ST650						MIL-I-23053/1, CL 1 & 2
n/a							MIL-I-23053/13
<b>Head Wall Tubing</b>							
n/a	SPCM						MIL-I-23053/15, CL 2
n/a	SPC		CPE/CTW				MIL-I-23053/15, CL 1
n/a			CFTV				

Recommendations contained in this competitive cross reference chart related to the Seller's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before utilizing the product, the user should determine the suitability of the product for its intended use.

\*"Versafit" is a registered trade name of Raychem.

"Kynar" is a registered trademark of ELF Atochem North America, Inc.

"Viton" is a registered trademark of E.I. du Pont de Nemours & Co., Inc.

### Chemical Resistance Chart

Chemical	PVC-105 PVC-125	Flexible Polyolefin	Semi-Rigid Polyolefin	KYNAR*	Neoprene	Teflon**
Acetates (esters)	T	T	T	T	T	R
Acetates (water sol. salts)	T	T	T	T	T	R
Acetone	T	T	T	N	T	R
Acids-Inorganic (dil.)	T	R	R	R	R	R
Acids-Inorganic (conc.)	T	T	T	R	R	R
Acids-Organic	T	T	T	T	T	R
Alcohols	T	R	R	R	R	R
Aldehydes	T	T	T	T	T	R
Aliphatic Hydrocarbons	T	T	T	R	T	R
Alkali Solutions (dil.)	T	R	R	R	R	R
Alkali Solutions (conc.)	T	T	T	R	T	R
Aromatic Hydrocarbons	T	T	T	T	N	R
Bromine	T	T	T	R	T	R
Carbon Tetrachloride	T	T	T	R	N	R
Chlorine-wet	T	T	T	R	T	R
Chlorine-dry	T	T	T	R	T	R
Esters	T	T	T	T	T	R
Ethylene Dichloride	T	T	T	T	T	R
Ethylene Glycol	T	T	T	T	R	R
Freon	T	T	T	R	T	R
Gasoline	T	R	R	R	R	R
Glucose	T	R	R	R	T	R
Glycerine	T	T	T	T	T	R
Hydrogen Peroxide-dil.	T	T	T	R	T	R
Hydrogen Peroxide-conc.	T	T	T	T	T	R
Hydrogen Sulfide	T	T	T	T	T	R
Kerosene	T	R	R	R	R	R
Lacquer Thinners	T	T	T	R	T	R
Linseed Oil	T	T	T	T	R	R
Mineral Spirits	T	R	R	T	T	R
Nitrogen	T	T	T	T	T	R
Oils	T	T	T	T	R	R
Soap Solutions	T	T	T	T	R	R
Sulfur Dioxide	T	T	T	T	T	R
Turpentine	T	T	T	T	R	R
Urea	T	T	T	T	T	R
Ketones	T	T	T	N	T	R
JP-4	T	R	R	R	T	R

**Key: R = Recommended**  
**T = Should be tested before use**  
**N = Not Recommended**

\* Penwalt Reg. T.M.  
 \*\* Du Pont Reg. T.M.