

# PAN-SHRINK™ Catalog

## SA# 101N48F-AIS

**PANDUIT®** DRY-SHRINK™, DAMP-SHRINK™ and WET-SHRINK™  
Heat Shrink and Abrasion Protection Products

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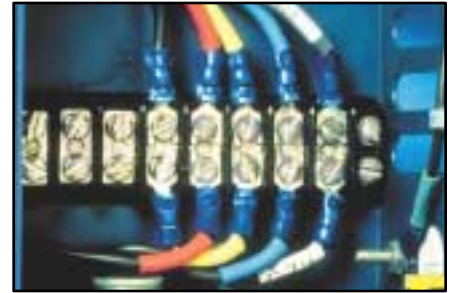
# **PANDUIT DRY-SHRINK™, DAMP-SHRINK™ and WET-SHRINK™** Heat Shrink & Abrasion Protection Products

*PANDUIT® DRY-SHRINK, DAMP-SHRINK and WET-SHRINK* Heat Shrink Tubing provide an economical and easy way to insulate, protect, harness and identify electrical and electronic components in a wide variety of applications.

## **INSULATE**



## **IDENTIFY**



## **PROTECT**



## **HARNESS**



## **ACCESSORIES**



## **5 Types of Packaging**

### **6" Pieces**



### **4' Lengths**



### **Custom Cut Pieces** (cut to your specifications)



### **Small Reels**



### **Large Reels**



**For Technical Assistance, call 866-405-6662**  
(Outside the U.S., see inside back cover for International Directory)

# PANDUIT® Heat Shrink Tubing — Heat Shrink Tubing Quick Selection Guide

Quick reference for PANDUIT Heat Shrink Tubing for specific location applications

## CHARACTERISTICS

|                                 | DRY SHRINK <sub>HEAT SHRINK</sub> |       |       |       | DAMP SHRINK <sub>HEAT SHRINK</sub> |       |         |       | WET SHRINK <sub>HEAT SHRINK</sub> |       |        |       |     |
|---------------------------------|-----------------------------------|-------|-------|-------|------------------------------------|-------|---------|-------|-----------------------------------|-------|--------|-------|-----|
|                                 | HSTT                              | HSTTV | HSTTR | HSTTN | HSTTK                              | HSTTT | HSTTT4X | HSTTF | HSTTP                             | HSTTV | HSTTRA | HSTTA | HST |
| U.L. Listed                     |                                   |       |       |       |                                    |       |         |       |                                   |       |        |       | X   |
| UL Recognized                   | X‡                                | X     |       |       |                                    | X     |         |       | X                                 |       |        |       |     |
| CSA Certified                   | X‡                                | X     |       |       |                                    |       |         |       | X                                 |       |        |       | X** |
| VW-1 Rated                      |                                   | X     |       |       | X                                  |       |         |       | X                                 |       |        |       |     |
| Very Flexible                   |                                   | X     |       | X     |                                    |       |         |       |                                   |       |        |       |     |
| Flexible                        | X                                 |       |       |       |                                    |       |         |       | X                                 | X     |        | X     |     |
| Semi-Rigid                      |                                   |       | X     |       | X                                  | X     | X       | X     |                                   |       | X      |       | X   |
| Thin Wall                       | X                                 | X     | X     | X     | X                                  | X     | X       | X     | X                                 | X     | X      | X     |     |
| Thick Wall                      |                                   |       |       |       |                                    |       |         |       |                                   |       |        |       | X   |
| Cross-Linked Material           | X                                 | X     | X     | X     | X                                  |       |         |       | X                                 | X     | X      | X     | X   |
| Colors Available                | X                                 | X     |       |       |                                    |       |         |       |                                   |       |        |       | X*  |
| High Shrink Ratio               |                                   |       |       |       |                                    |       | 4:1     |       |                                   |       | 2.5:1  | 3:1   | 3:1 |
| Flame Retardant                 | X‡                                | X     | X     | X     | X                                  | X     | X       | X     | X                                 | X     | X      | X     | X   |
| Adhesive Lined (Dual Wall)      |                                   |       |       |       |                                    |       |         |       |                                   | X     | X      | X     | X   |
| Meets Military Specification    | X                                 | X     | X     | X     | X                                  | X     | X       | X     |                                   | X     | X      | X     | X   |
| Below Ground Application        |                                   |       |       |       |                                    |       |         |       |                                   |       |        |       | X   |
| High Temp Applications (>250°F) |                                   |       |       |       | X                                  | X     | X       | X     |                                   |       |        |       |     |
| Highly Chemical Resistant       |                                   |       |       |       | X                                  | X     | X       | X     |                                   |       |        |       |     |
| Low Coefficient of Friction     |                                   |       |       |       |                                    | X     | X       | X     |                                   |       |        |       |     |
| Custom Cut Lengths              | X                                 | X     | X     | X     | X                                  | X     | X       | X     | X                                 | X     | X      | X     | X   |
| Standard 6" pieces              | X                                 | X     |       |       |                                    |       |         |       |                                   | X     |        | X     |     |
| Standard 4' lengths             | X                                 | X     | X     |       | X                                  | X     | X       | X     |                                   | X     | X      | X     | X   |
| Small 25' Reels                 | X                                 | X     |       | X     |                                    |       |         |       | X                                 |       |        |       |     |
| Large Reels                     | X                                 | X     |       | X     |                                    |       |         |       | X                                 |       |        |       |     |
| IP Rating                       | 62                                | 62    | 62    | 62    | 62                                 | —     | —       | —     | 62                                | 66    | 66     | 66    | 68  |
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See [page 29](#) for IP Technical information

\* Black/Red

\*\*Except red

‡Except Clear

## Thin Wall Heat Shrink Part Number System

| Type                                     | Expanded Diameter     | Tube Length | Package Quantity<br>(If Tube Length Specified) | Color             |
|------------------------------------------|-----------------------|-------------|------------------------------------------------|-------------------|
| HSTT - Thin Wall                         | 05 • 3/64" (1.2mm)    | 48" (1.2M)  | 2 • 2 Pcs.                                     | NONE • Black      |
| HSTTD - Thin Wall Display                | 06 • 1/16" (1.6mm)    | NONE • REEL | 5 • 5 Pcs.                                     | C • Clear         |
| HSTTV - Thin Wall VW-1                   | 09 • 3/32" (2.4mm)    |             | Q • 25 Pcs.                                    | 2 • Red           |
| HSTTR - Thin Wall Semi-Rigid             | 12 • 1/8" (3.2mm)     |             | LQ • 75 Pcs.                                   | 4 • Yellow        |
| HSTTN - Thin Wall Neoprene               | 19 • 3/16" (4.8mm)    |             | CQ • 125 Pcs.                                  | 5 • Green         |
| HSTTK - Thin Wall KYNAR▲                 | 25 • 1/4" (6.4mm)     |             | T • 200 Pcs.                                   | 6 • Blue          |
| HSTTT - Thin Wall TFE TEFLON■            | 38 • 3/8" (9.5mm)     |             | TL • 250 Pcs.                                  | 10 • White        |
| HSTTT4X - Thin Wall TEFLON■<br>4:1 Ratio | 50 • 1/2" (12.7mm)    |             |                                                | 45 • Yellow/Green |
| HSTTF - Thin Wall TEFLON■ FEP            | 75 • 3/4" (19.0mm)    |             |                                                |                   |
| HSTTP - Thin Wall PVC                    | 100 • 1" (25.4mm)     |             |                                                |                   |
| HSTTV - Flexible Adhesive Lined          | 150 • 1-1/2" (38.1mm) |             |                                                |                   |
| HSTTRA - Semi-Rigid Adhesive Lined       | 200 • 2" (50.5mm)     |             |                                                |                   |
| HSTTA - Thin Wall Adhesive Lined         | 300 • 3" (76.2mm)     |             |                                                |                   |
|                                          | 400 • 4" (101.6mm)    |             |                                                |                   |
|                                          |                       |             | Reels (If No Tube Length Specified)            |                   |
|                                          |                       |             | Q • 25' (7.6M)                                 |                   |
|                                          |                       |             | L • 50' (15.2M)                                |                   |
|                                          |                       |             | C • 100' (30.5M)                               |                   |
|                                          |                       |             | T • 200' (61.0M)                               |                   |
|                                          |                       |             | D • 500' (152.4M)                              |                   |
|                                          |                       |             | M • 1000' (304.8M)                             |                   |

For Standard Packages containing 6" lengths, refer to individual pages for complete part number offering.

Note: The above information is to be used as a guide. For specific part number offerings review individual pages for verification.

# Flexible Polyolefin **DRY-SHRINK™** Heat Shrink Tubing

## HSTT Heat Shrink in 4' (1.2M) Pieces and Reels

- General purpose heat shrink tubing for dry locations
- Applications include insulating, protecting, harnessing and identifying wires



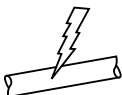
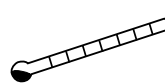
### Ordering Information — HSTT in Bulk Packages — Large Reels and 4' (1.2M) Pcs. (3/64" to 3/4" Expanded I.D.)

| Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length                                                                   | Bulk Pkg. Qty.*                         | Bulk Ctn. Qty.                | Black                                               |
|----------------------|--------------------------------|---------------------------------|-------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------|-------------------------------|-----------------------------------------------------|
| 3/64"                | .046" (1.2)                    | .023" (0.6)                     | .016" (0.4)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M)<br>1 Reel, 1000' (304.8M) | 25 Pcs.<br>250 Pcs.<br>1 Reel<br>1 Reel | —<br>—<br>10 Reels<br>2 Reels | HSTT05-48-Q<br>HSTT05-48-TL<br>HSTT05-C<br>HSTT05-M |
| 1/16"                | .063" (1.6)                    | .031" (0.8)                     | .017" (0.4)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M)<br>1 Reel, 1000' (304.8M) | 25 Pcs.<br>250 Pcs.<br>1 Reel<br>1 Reel | —<br>—<br>10 Reels<br>2 Reels | HSTT06-48-Q<br>HSTT06-48-TL<br>HSTT06-C<br>HSTT06-M |
| 3/32"                | .093" (2.4)                    | .046" (1.2)                     | .020" (0.5)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M)<br>1 Reel, 1000' (304.8M) | 25 Pcs.<br>250 Pcs.<br>1 Reel<br>1 Reel | —<br>—<br>10 Reels<br>2 Reels | HSTT09-48-Q<br>HSTT09-48-TL<br>HSTT09-C<br>HSTT09-M |
| 1/8"                 | .125" (3.2)                    | .062" (1.6)                     | .020" (0.5)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M)<br>1 Reel, 1000' (304.8M) | 25 Pcs.<br>250 Pcs.<br>1 Reel<br>1 Reel | —<br>—<br>10 Reels<br>2 Reels | HSTT12-48-Q<br>HSTT12-48-TL<br>HSTT12-C<br>HSTT12-M |
| 3/16"                | .187" (4.8)                    | .093" (2.4)                     | .020" (0.5)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M)<br>1 Reel, 1000' (304.8M) | 25 Pcs.<br>250 Pcs.<br>1 Reel<br>1 Reel | —<br>—<br>10 Reels<br>2 Reels | HSTT19-48-Q<br>HSTT19-48-TL<br>HSTT19-C<br>HSTT19-M |
| 1/4"                 | .250" (6.4)                    | .125" (3.2)                     | .025" (0.6)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M)<br>1 Reel, 500' (152.4M)  | 25 Pcs.<br>250 Pcs.<br>1 Reel<br>1 Reel | —<br>—<br>10 Reels<br>2 Reels | HSTT25-48-Q<br>HSTT25-48-TL<br>HSTT25-C<br>HSTT25-D |
| 3/8"                 | .375" (9.5)                    | .187" (4.8)                     | .025" (0.6)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel 100' (30.5M)<br>1 Reel, 200' (61.0M)    | 25 Pcs.<br>250 Pcs.<br>1 Reel<br>1 Reel | —<br>—<br>10 Reels<br>2 Reels | HSTT38-48-Q<br>HSTT38-48-TL<br>HSTT38-C<br>HSTT38-T |
| 1/2"                 | .500" (12.7)                   | .250" (6.4)                     | .025" (0.6)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel 100' (30.5M)<br>1 Reel, 200' (61.0M)    | 25 Pcs.<br>200 Pcs.<br>1 Reel<br>1 Reel | —<br>—<br>10 Reels<br>2 Reels | HSTT50-48-Q<br>HSTT50-48-T<br>HSTT50-C<br>HSTT50-T  |
| 3/4"                 | .750" (19.0)                   | .375" (9.5)                     | .030" (0.8)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel 100' (30.5M)<br>1 Reel, 200' (61.0M)    | 5 Pcs.<br>125 Pcs.<br>1 Reel<br>1 Reel  | —<br>—<br>10 Reels<br>2 Reels | HSTT75-48-5<br>HSTT75-48-CQ<br>HSTT75-C<br>HSTT75-T |

\*Order in multiples of Bulk Pkg. Qty. Consult factory for colors not listed.

See [page 29](#) for IP Technical Information

# Flexible Polyolefin *DRY-SHRINK*™ Heat Shrink Tubing

| Type                                                                                          | Materials                                                                                                               |                                                                                                                            |                                                                                                        |
|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| HSTT                                                                                          |  Polyolefin Cross-Linked               |                                                                                                                            |                                                                                                        |
| <br>600V     | <br>-67°F to 275°F<br>(-55°C to 135°C) | <br>AMS-DTL-23053/5<br>Class 1 or Class 2 | <br>Variety of Colors |
| <br>Flexible | <br>Shrink Ratio:<br>2:1               | <br>Flame Retardant<br>(Except Clear)     |                                                                                                        |

‡ Maximum UL temperature range is 125°C



Need help selecting a heat shrink type or size? Request a Heat Shrink Selection Guide, SA 102N66-AIS.

| Clear                                                   | Red                                          | Yellow                               | Green                                | Blue                                 | White                                  | Yellow/<br>Green                       |
|---------------------------------------------------------|----------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|----------------------------------------|----------------------------------------|
| HSTT05-48-QC<br>HSTT05-48-TLC<br>HSTT05-CC<br>HSTT05-MC | HSTT05-48-Q2<br>—<br>HSTT05-C2<br>HSTT05-M2  | HSTT05-48-Q4<br>—<br>—<br>HSTT05-M4  | HSTT05-48-Q5<br>—<br>—<br>HSTT05-M5  | HSTT05-48-Q6<br>—<br>—<br>HSTT05-M6  | HSTT05-48-Q10<br>—<br>—<br>HSTT05-M10  | —<br>—<br>—<br>—                       |
| HSTT06-48-QC<br>HSTT06-48-TLC<br>HSTT06-CC<br>HSTT06-MC | HSTT06-48-Q2<br>—<br>HSTT06-C2<br>HSTT06-M2  | HSTT06-48-Q4<br>—<br>—<br>HSTT06-M4  | HSTT06-48-Q5<br>—<br>—<br>HSTT06-M5  | HSTT06-48-Q6<br>—<br>—<br>HSTT06-M6  | HSTT06-48-Q10<br>—<br>—<br>HSTT06-M10  | —<br>—<br>—<br>—                       |
| HSTT09-48-QC<br>HSTT09-48-TLC<br>HSTT09-CC<br>HSTT09-MC | HSTT09-48-Q2<br>—<br>HSTT09-C2<br>HSTT09-M2  | HSTT09-48-Q4<br>—<br>—<br>HSTT09-M4  | HSTT09-48-Q5<br>—<br>—<br>HSTT09-M5  | HSTT09-48-Q6<br>—<br>—<br>HSTT09-M6  | HSTT09-48-Q10<br>—<br>—<br>HSTT09-M10  | —<br>—<br>—<br>—                       |
| HSTT12-48-QC<br>HSTT12-48-TLC<br>HSTT12-CC<br>HSTT12-MC | HSTT12-48-Q2<br>—<br>HSTT12-C2<br>HSTT12-M2  | HSTT12-48-Q4<br>—<br>—<br>HSTT12-M4  | HSTT12-48-Q5<br>—<br>—<br>HSTT12-M5  | HSTT12-48-Q6<br>—<br>—<br>HSTT12-M6  | HSTT12-48-Q10<br>—<br>—<br>HSTT12-M10  | HSTT12-48-Q45<br>—<br>—<br>HSTT12-M45  |
| HSTT19-48-QC<br>HSTT19-48-TLC<br>HSTT19-CC<br>HSTT19-MC | HSTT19-48-Q2<br>—<br>HSTT19-C2<br>HSTT19-M2  | HSTT19-48-Q4<br>—<br>—<br>HSTT19-M4  | HSTT19-48-Q5<br>—<br>—<br>HSTT19-M5  | HSTT19-48-Q6<br>—<br>—<br>HSTT19-M6  | HSTT19-48-Q10<br>—<br>—<br>HSTT19-M10  | HSTT19-48-Q45<br>—<br>—<br>HSTT19-M45  |
| HSTT25-48-QC<br>HSTT25-48-TLC<br>HSTT25-CC<br>HSTT25-DC | HSTT25-48-Q2<br>—<br>HSTT25-C2<br>HSTT25-D2  | HSTT25-48-Q4<br>—<br>—<br>HSTT25-D4  | HSTT25-48-Q5<br>—<br>—<br>HSTT25-D5  | HSTT25-48-Q6<br>—<br>—<br>HSTT25-D6  | HSTT25-48-Q10<br>—<br>—<br>HSTT25-D10  | HSTT25-48-Q45<br>—<br>—<br>HSTT25-D45  |
| HSTT38-48-QC<br>HSTT38-48-TLC<br>HSTT38-CC<br>HSTT38-TC | HSTT38-48-Q2<br>—<br>HSTT38-C2<br>HSTT38-T2  | HSTT38-48-Q4<br>—<br>—<br>HSTT38-T4  | HSTT38-48-Q5<br>—<br>—<br>HSTT38-T5  | HSTT38-48-Q6<br>—<br>—<br>HSTT38-T6  | HSTT38-48-Q10<br>—<br>—<br>HSTT38-T10  | HSTT38-48-Q45<br>—<br>—<br>HSTT38-T45  |
| HSTT50-48-QC<br>HSTT50-48-TC<br>HSTT50-CC<br>HSTT50-TC  | HSTT50-48-Q2<br>—<br>HSTT50-C2<br>HSTT50-T2  | HSTT50-48-Q4<br>—<br>—<br>HSTT50-T4  | HSTT50-48-Q5<br>—<br>—<br>HSTT50-T5  | HSTT50-48-Q6<br>—<br>—<br>HSTT50-T6  | HSTT50-48-Q10<br>—<br>—<br>HSTT50-T10  | HSTT50-48-Q45<br>—<br>—<br>HSTT50-T45  |
| HSTT75-48-5C<br>HSTT75-48-CQC<br>HSTT75-CC<br>HSTT75-TC | HSTT75-48-5-2<br>—<br>HSTT75-C2<br>HSTT75-T2 | HSTT75-48-5-4<br>—<br>—<br>HSTT75-T4 | HSTT75-48-5-5<br>—<br>—<br>HSTT75-T5 | HSTT75-48-5-6<br>—<br>—<br>HSTT75-T6 | HSTT75-48-5-10<br>—<br>—<br>HSTT75-T10 | HSTT75-48-5-45<br>—<br>—<br>HSTT75-T45 |

# Flexible Polyolefin *DRY-SHRINK*™ Heat Shrink Tubing

## HSTT Heat Shrink in 4' (1.2M) Pieces and Reels continued

- General purpose heat shrink tubing for dry locations
- Applications include insulating, protecting, harnessing and identifying wires



### Ordering Information — HSTT in Bulk Packages — Large Reels and 4' (1.2M) Pcs. (1" to 4" Expanded I.D.)

| Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length                                         | Bulk Pkg. Qty.*             | Bulk Ctn. Qty.    | Black                                      |
|----------------------|--------------------------------|---------------------------------|-------------------------------------------|------------------------------------------------|-----------------------------|-------------------|--------------------------------------------|
| 1"                   | 1.00" (25.4)                   | .500" (12.7)                    | .035" (0.9)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M) | 5 Pcs.<br>75 Pcs.<br>1 Reel | —<br>—<br>2 Reels | HSTT100-48-5<br>HSTT100-48-LQ<br>HSTT100-C |
| 1 1/2"               | 1.50" (38.1)                   | .750" (19.0)                    | .040" (1.0)                               | 4' (1.2M)<br>1 Reel, 100' (30.5M)              | 5 Pcs.<br>1 Reel            | —<br>2 Reels      | HSTT150-48-5<br>HSTT150-C                  |
| 2"                   | 2.00" (50.8)                   | 1.00" (25.4)                    | .045" (1.1)                               | 4' (1.2M)<br>1 Reel, 50' (15.2M)               | 5 Pcs.<br>1 Reel            | —<br>2 Reels      | HSTT200-48-5<br>HSTT200-L                  |
| 3"                   | 3.00" (76.2)                   | 1.50" (38.1)                    | .050" (1.3)                               | 4' (1.2M)<br>1 Reel, 50' (15.2M)               | 2 Pcs.<br>1 Reel            | —<br>—            | HSTT300-48-2<br>HSTT300-L                  |
| 4"                   | 4.00" (101.6)                  | 2.00" (50.8)                    | .055" (1.4)                               | 4' (1.2M)<br>1 Reel, 50' (15.2M)               | 2 Pcs.<br>1 Reel            | —<br>—            | HSTT400-48-2<br>HSTT400-L                  |

\* Order in multiples of Bulk Pkg. Qty. Consult factory for colors not listed.

Note: HSTT300-48-2, HSTT300-48-2C, HSTT400-48-2 and HSTT400-48-2C are classified as standard packaged items rather than bulk packaged.

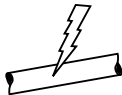
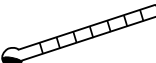
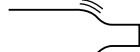
## HSTT Heat Shrink on 25' (7.5M) Reels

### Ordering Information — HSTT in Standard Packages

| Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length             | Std. Pkg. Qty.* | Std. Ctn. Qty. | Black    |
|----------------------|--------------------------------|---------------------------------|-------------------------------------------|--------------------|-----------------|----------------|----------|
| 3/64"                | .046" (1.2)                    | .023" (0.6)                     | .016" (0.4)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       | HSTT05-Q |
| 1/16"                | .063" (1.6)                    | .031" (0.8)                     | .017" (0.4)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       | HSTT06-Q |
| 3/32"                | .093" (2.4)                    | .046" (1.2)                     | .020" (0.5)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       | HSTT09-Q |
| 1/8"                 | .125" (3.2)                    | .062" (1.6)                     | .020" (0.5)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       | HSTT12-Q |
| 3/16"                | .187" (4.8)                    | .093" (2.4)                     | .020" (0.5)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       | HSTT19-Q |
| 1/4"                 | .250" (6.4)                    | .125" (3.2)                     | .025" (0.6)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       | HSTT25-Q |
| 3/8"                 | .375" (9.5)                    | .187" (4.8)                     | .025" (0.6)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       | HSTT38-Q |
| 1/2"                 | .500" (12.7)                   | .250" (6.4)                     | .025" (0.6)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       | HSTT50-Q |
| 3/4"                 | .750" (19.0)                   | .375" (9.5)                     | .030" (0.8)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       | HSTT75-Q |

\* Order in multiples of Std. Pkg. Qty.

# Flexible Polyolefin *DRY-SHRINK*™ Heat Shrink Tubing

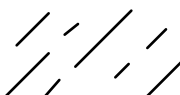
| Type                                                                                          | Materials                                                                                                                             |                                                                                                                            |                                                                                                        |  |
|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--|
| HSTT                                                                                          |  Polyolefin Cross-Linked                             |                                                                                                                            |                                                                                                        |  |
| <br>600V     | <br>-67°F to 275°F<br>(-55°C to 135°C <sup>†</sup> ) | <br>AMS-DTL-23053/5<br>Class 1 or Class 2 | <br>(Except Clear)    |  |
| <br>Flexible | <br>Shrink Ratio:<br>2:1                             | <br>Flame Retardant<br>(Except Clear)     | <br>Variety of Colors |  |

† Maximum UL temperature range is 125°C



"Q-Box" (25' (7.5M) / Box)  
Unique Self-Dispensing Features

| <br>Clear | Red                               | Yellow                            | Green                             | Blue                              | White                               | Yellow/<br>Green                    |
|--------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|
| HSTT100-48-5C<br>HSTT100-48-LQC<br>HSTT100-CC                                              | HSTT100-48-5-2<br>—<br>HSTT100-C2 | HSTT100-48-5-4<br>—<br>HSTT100-C4 | HSTT100-48-5-5<br>—<br>HSTT100-C5 | HSTT100-48-5-6<br>—<br>HSTT100-C6 | HSTT100-48-5-10<br>—<br>HSTT100-C10 | HSTT100-48-5-45<br>—<br>HSTT100-C45 |
| HSTT150-48-5C<br>HSTT150-CC                                                                | HSTT150-48-5-2<br>HSTT150-C2      | HSTT150-48-5-4<br>HSTT150-C4      | —<br>—                            | HSTT150-48-5-6<br>HSTT150-C6      | HSTT150-48-5-10<br>HSTT150-C10      | —<br>—                              |
| HSTT200-48-5C<br>HSTT200-LC                                                                | HSTT200-48-5-2<br>HSTT200-L2      | HSTT200-48-5-4<br>HSTT200-L4      | —<br>—                            | HSTT200-48-5-6<br>HSTT200-L6      | HSTT200-48-5-10<br>HSTT200-L10      | —<br>—                              |
| HSTT300-48-2C<br>—                                                                         | —<br>—                            | —<br>—                            | —<br>—                            | —<br>—                            | —<br>—                              | —<br>—                              |
| HSTT400-48-2C<br>—                                                                         | —<br>—                            | —<br>—                            | —<br>—                            | —<br>—                            | —<br>—                              | —<br>—                              |

| <br>Clear | Red       | Yellow    | Green     | Blue      | White      | Yellow/<br>Green |
|----------------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|------------|------------------|
| HSTT05-QC                                                                                    | HSTT05-Q2 | HSTT05-Q4 | HSTT05-Q5 | HSTT05-Q6 | HSTT05-Q10 | —                |
| HSTT06-QC                                                                                    | HSTT06-Q2 | HSTT06-Q4 | HSTT06-Q5 | HSTT06-Q6 | HSTT06-Q10 | —                |
| HSTT09-QC                                                                                    | HSTT09-Q2 | HSTT09-Q4 | HSTT09-Q5 | HSTT09-Q6 | HSTT09-Q10 | —                |
| HSTT12-QC                                                                                    | HSTT12-Q2 | HSTT12-Q4 | HSTT12-Q5 | HSTT12-Q6 | HSTT12-Q10 | HSTT12-Q45       |
| HSTT19-QC                                                                                    | HSTT19-Q2 | HSTT19-Q4 | HSTT19-Q5 | HSTT19-Q6 | HSTT19-Q10 | HSTT19-Q45       |
| HSTT25-QC                                                                                    | HSTT25-Q2 | HSTT25-Q4 | HSTT25-Q5 | HSTT25-Q6 | HSTT25-Q10 | HSTT25-Q45       |
| HSTT38-QC                                                                                    | HSTT38-Q2 | HSTT38-Q4 | HSTT38-Q5 | HSTT38-Q6 | HSTT38-Q10 | HSTT38-Q45       |
| HSTT50-QC                                                                                    | HSTT50-Q2 | HSTT50-Q4 | HSTT50-Q5 | HSTT50-Q6 | HSTT50-Q10 | HSTT50-Q45       |
| HSTT75-QC                                                                                    | HSTT75-Q2 | HSTT75-Q4 | HSTT75-Q5 | HSTT75-Q6 | HSTT75-Q10 | HSTT75-Q45       |

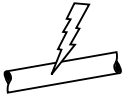
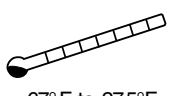
# Flexible Polyolefin *DRY-SHRINK™* Heat Shrink Tubing

## HSTT Heat Shrink Standard Packs of Heat Shrink — 6" (152.4mm) Pieces

Small package holds unused tube and fits easily  
in a tool box

- General purpose heat shrink tubing for dry locations
- Applications include insulating, protecting, harnessing and identifying wires



| Type                                                                                          | Materials                                                                                                                |                                                                                                                            |                                                                                                        |
|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| HSTT                                                                                          | Polyolefin Cross-Linked                                                                                                  |                                                                                                                            |                                                                                                        |
| <br>600V     | <br>-67°F to 275°F<br>(-55°C to 135°C‡) | <br>AMS-DTL-23053/5<br>Class 1 or Class 2 | <br>(Except Clear)    |
| <br>Flexible | <br>Shrink Ratio:<br>2:1                | <br>Flame Retardant<br>(Except Clear)     | <br>Variety of Colors |



‡ Maximum UL temperature range is 125°C

## Ordering Information — HSTT in Standard Packages

| Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length             | Total No. Pcs. | Std. Pkg. Qty.* | Std. Ctn. Qty. | Black       |
|----------------------|--------------------------------|---------------------------------|-------------------------------------------|--------------------|----------------|-----------------|----------------|-------------|
| 1/16"                | .063" (1.6)                    | .031" (0.8)                     | .017" (0.4)                               | 1 Pc. 6" (152.4mm) | 26             | 1 Pkg.          | 10 Pkgs.       | HSTT06-Y**  |
| 3/32"                | .093" (2.4)                    | .046" (1.2)                     | .020" (0.5)                               | 1 Pc. 6" (152.4mm) | 24             | 1 Pkg.          | 10 Pkgs.       | HSTT09-Y**  |
| 1/8"                 | .125" (3.2)                    | .062" (1.6)                     | .020" (0.5)                               | 1 Pc. 6" (152.4mm) | 20             | 1 Pkg.          | 10 Pkgs.       | HSTT12-Y**  |
| 3/16"                | .187" (4.8)                    | .093" (2.4)                     | .020" (0.5)                               | 1 Pc. 6" (152.4mm) | 18             | 1 Pkg.          | 10 Pkgs.       | HSTT19-Y**  |
| 1/4"                 | .250" (6.4)                    | .125" (3.2)                     | .025" (0.6)                               | 1 Pc. 6" (152.4mm) | 14             | 1 Pkg.          | 10 Pkgs.       | HSTT25-Y**  |
| 3/8"                 | .375" (9.5)                    | .187" (4.8)                     | .025" (0.6)                               | 1 Pc. 6" (152.4mm) | 12             | 1 Pkg.          | 10 Pkgs.       | HSTT38-Y**  |
| 1/2"                 | .500" (12.7)                   | .250" (6.4)                     | .025" (0.6)                               | 1 Pc. 6" (152.4mm) | 10             | 1 Pkg.          | 10 Pkgs.       | HSTT50-Y**  |
| 3/4"                 | .750" (19.0)                   | .375" (9.5)                     | .030" (0.8)                               | 1 Pc. 6" (152.4mm) | 8              | 1 Pkg.          | 10 Pkgs.       | HSTT75-Y**  |
| 1"                   | 1.00" (25.4)                   | .500" (12.7)                    | .035" (0.9)                               | 1 Pc. 6" (152.4mm) | 6              | 1 Pkg.          | 10 Pkgs.       | HSTT100-Y** |

\*Order in multiples of Std. Pkg. Qty.

\*\*For Colors, add C (Clear), 2 (Red), 4 (Yellow), 5 (Green), 6 (Blue) and 10 (White) to end of part number package suffix (Example: HSTT06-YC).

## Standard Packs of Heat Shrink — 6" (152.4mm) Pieces

Small package holds unused tube and fits easily in a tool box

- Assorted colors and diameters available



### HSTT– Combination: Black and Colors — Single Diameter

| Part Number | Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Total No. Pcs. | Black No. Pcs. | Each Color No. Pcs. | Std. Pkg. Qty.* | Std. Ctn. Qty. |
|-------------|----------------------|--------------------------------|---------------------------------|----------------|----------------|---------------------|-----------------|----------------|
| HSTT06-YK1  | 1/16"                | .063" (1.6)                    | .031" (0.8)                     | 26             | 8              | 3                   | 1 Pkg.          | 10 Pkgs.       |
| HSTT09-YK1  | 3/32"                | .093" (2.4)                    | .046" (1.2)                     | 24             | 6              | 3                   | 1 Pkg.          | 10 Pkgs.       |
| HSTT12-YK1  | 1/8"                 | .125" (3.2)                    | .062" (1.6)                     | 20             | 2              | 3                   | 1 Pkg.          | 10 Pkgs.       |
| HSTT19-YK1  | 3/16"                | .187" (4.8)                    | .093" (2.4)                     | 18             | 6              | 2                   | 1 Pkg.          | 10 Pkgs.       |
| HSTT25-YK1  | 1/4"                 | .250" (6.4)                    | .125" (3.2)                     | 14             | 2              | 2                   | 1 Pkg.          | 10 Pkgs.       |
| HSTT38-YK1  | 3/8"                 | .375" (9.5)                    | .187" (4.8)                     | 12             | 6              | 1                   | 1 Pkg.          | 10 Pkgs.       |
| HSTT50-YK1  | 1/2"                 | .500" (12.7)                   | .250" (6.4)                     | 10             | 4              | 1                   | 1 Pkg.          | 10 Pkgs.       |
| HSTT75-YK1  | 3/4"                 | .750" (19.0)                   | .375" (9.5)                     | 8              | 2              | 1                   | 1 Pkg.          | 10 Pkgs.       |
| HSTT100-YK1 | 1"                   | 1.00" (25.4)                   | .500" (12.7)                    | 7              | 1              | 1                   | 1 Pkg.          | 10 Pkgs.       |

\*Order in multiples of Std. Pkg. Qty.

NOTE: Colors include Clear, Red, Yellow, Green, Blue and White

### HSTT– Black Only — Multiple Diameters

| Part Number | Nominal Diameter In.   | Total Number of Pieces | Black Number of Pieces by Diameter                        | Std. Pkg. Qty.* | Std. Ctn. Qty. |
|-------------|------------------------|------------------------|-----------------------------------------------------------|-----------------|----------------|
| HSTT-YK1    | Various; Smaller Range | 14                     | (2) pcs. each 1/8", 1/16", 3/16", 3/32", 1/4", 1/2", 3/8" | 1 Pkg.          | 10 Pkgs.       |
| HSTT-YK2    | Various; Larger Range  | 8                      | (2) pcs. each 3/8", 1/2", 3/4", 1"                        | 1 Pkg.          | 10 Pkgs.       |

\*Order in multiples of Std. Pkg. Qty.



### HSTT– Yellow/Green Stripe — Multiple Diameters

| Part Number | Nominal Diameter In.   | Total Number of Pieces | Number of Pieces by Diameter          | Std. Pkg. Qty.* | Std. Ctn. Qty. |
|-------------|------------------------|------------------------|---------------------------------------|-----------------|----------------|
| HSTT-YK1-45 | Various; Smaller Range | 8                      | (2) pcs. each 1/8", 3/16", 1/4", 3/8" | 1 Pkg.          | 10 Pkgs.       |
| HSTT-YK2-45 | Various; Larger Range  | 6                      | (2) pcs. each 3/8", 1/2", 3/4"        | 1 Pkg.          | 10 Pkgs.       |

\*Order in multiples of Std. Pkg. Qty.



# Flexible Polyolefin *DRY-SHRINK*™ Heat Shrink Tubing

## HSTTD Heat Shrink in 4' (1.2M) Pieces with Bar Coded Tags for Distributor Display Areas

- General purpose heat shrink tubing for dry locations
- Applications include insulating, protecting, harnessing and identifying wires



(Except Clear)



(Except Clear)

### Ordering Information — HSTTD in Standard Packages

| Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | PC Length | Std. Pkg. Qty.* | Black            |
|----------------------|--------------------------------|---------------------------------|-------------------------------------------|-----------|-----------------|------------------|
| 3/64"                | .046" (1.2)                    | .023" (0.6)                     | .016" (0.4)                               | 4' (1.2M) | 25 Pcs.         | HSTTD05-48-Q     |
| 1/16"                | .063" (1.6)                    | .031" (0.8)                     | .017" (0.4)                               | 4' (1.2M) | 25 Pcs.         | HSTTD06-48-Q**   |
| 3/32"                | .093" (2.4)                    | .046" (1.2)                     | .020" (0.5)                               | 4' (1.2M) | 25 Pcs.         | HSTTD09-48-Q**   |
| 1/8"                 | .125" (3.2)                    | .062" (1.6)                     | .020" (0.5)                               | 4' (1.2M) | 25 Pcs.         | HSTTD12-48-Q**   |
| 3/16"                | .187" (4.8)                    | .093" (2.4)                     | .020" (0.5)                               | 4' (1.2M) | 25 Pcs.         | HSTTD19-48-Q**   |
| 1/4"                 | .250" (6.4)                    | .125" (3.2)                     | .025" (0.6)                               | 4' (1.2M) | 25 Pcs.         | HSTTD25-48-Q**   |
| 3/8"                 | .375" (9.5)                    | .187" (4.8)                     | .025" (0.6)                               | 4' (1.2M) | 25 Pcs.         | HSTTD38-48-Q**   |
| 1/2"                 | .500" (12.7)                   | .250" (6.4)                     | .025" (0.6)                               | 4' (1.2M) | 25 Pcs.         | HSTTD50-48-Q**   |
| 3/4"                 | .750" (19.0)                   | .375" (9.5)                     | .030" (0.8)                               | 4' (1.2M) | 5 Pcs.          | HSTTD75-48-5**   |
| 1"                   | 1.00" (25.4)                   | .500" (12.7)                    | .035" (0.9)                               | 4' (1.2M) | 5 Pcs.          | ‡HSTTD100-48-5** |

\*Order in multiples of Std. Pkg. Qty.

\*\*For Colors, add C (Clear), 2 (Red), 4 (Yellow), 5 (Green), 6 (Blue) and 10 (White) to end of part number package suffix (Example: HSTTD05-48-QC).

‡ For Colors, add C (Clear), 2 (Red) and 10 (White) to end of part number package suffix (Example: HSTTD100-48-5C)

### Ordering Information — HSTT in Pre-Packaged Cut Pieces (Bulk Qty. Only)

#### 1/2" (12.7mm) Lengths

| Nominal Diameter In. | Bulk Pkg. Qty.* | Bulk Ctn. Qty. | Black     | Clear      |
|----------------------|-----------------|----------------|-----------|------------|
| 1/8"                 | 10,000 Pcs.     | —              | HSTT12-5K | HSTT12-5KC |
| 3/16"                | 10,000 Pcs.     | —              | HSTT19-5K | HSTT19-5KC |
| 1/4"                 | 5,000 Pcs.      | —              | HSTT25-5F | HSTT25-5FC |

\*Order in multiples of Bulk Pkg. Qty.

#### 1" (25.4mm) Lengths

| Nominal Diameter In. | Bulk Pkg. Qty.* | Bulk Ctn. Qty. | Black     | Clear      |
|----------------------|-----------------|----------------|-----------|------------|
| 1/8"                 | 10,000 Pcs.     | —              | HSTT12-1K | HSTT12-1KC |
| 3/16"                | 10,000 Pcs.     | —              | HSTT19-1K | HSTT19-1KC |
| 1/4"                 | 5,000 Pcs.      | —              | HSTT25-1F | HSTT25-1FC |

\*Order in multiples of Bulk Pkg. Qty.



# Flexible Polyolefin VW-1 *DRY-SHRINK™* Heat Shrink Tubing

## HSTTV Heat Shrink in 4' (1.2M) Pieces

- For dry locations
- Highly flame retardant
- Meets UL VW-1 rating
- Fast Shrink Time



**IP62**

| Type         | Materials                              |                                    |              |
|--------------|----------------------------------------|------------------------------------|--------------|
| HSTTV        | Polyolefin Cross-Linked                |                                    |              |
| <br>600V     | <br>-67°F to 257°F<br>(-55°C to 125°C) | <br>AMS-DTL-23053/5<br>Class 3     | <br>VW-1 OFT |
| <br>Flexible | <br>Shrink Ratio:<br>2:1               | <br>Highly Flame<br>Retardant VW-1 |              |



## HSTTV in Bulk Packages — Small Reels & 4' (1.2M) Pcs.

| Part Number                                   | Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length                                         | Bulk Pkg. Qty.*               | Bulk Ctn. Qty.     |
|-----------------------------------------------|----------------------|--------------------------------|---------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------|--------------------|
| HSTTV05-48-Q<br>HSTTV05-48-TL<br>HSTTV05-C    | 3/64"                | .046" (1.2)                    | .023" (0.6)                     | .020" (0.5)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M) | 25 Pcs.<br>250 Pcs.<br>1 Reel | —<br>—<br>10 Reels |
| HSTTV06-48-Q<br>HSTTV06-48-TL<br>HSTTV06-C    | 1/16"                | .063" (1.6)                    | .031" (0.8)                     | .020" (0.5)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M) | 25 Pcs.<br>250 Pcs.<br>1 Reel | —<br>—<br>10 Reels |
| HSTTV09-48-Q<br>HSTTV09-48-TL<br>HSTTV09-C    | 3/32"                | .093" (2.4)                    | .046" (1.2)                     | .020" (0.5)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M) | 25 Pcs.<br>250 Pcs.<br>1 Reel | —<br>—<br>10 Reels |
| HSTTV12-48-Q<br>HSTTV12-48-TL<br>HSTTV12-C    | 1/8"                 | .125" (3.2)                    | .062" (1.6)                     | .020" (0.5)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M) | 25 Pcs.<br>250 Pcs.<br>1 Reel | —<br>—<br>10 Reels |
| HSTTV19-48-Q<br>HSTTV19-48-TL<br>HSTTV19-C    | 3/16"                | .187" (4.8)                    | .093" (2.4)                     | .020" (0.5)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M) | 25 Pcs.<br>250 Pcs.<br>1 Reel | —<br>—<br>10 Reels |
| HSTTV25-48-Q<br>HSTTV25-48-TL<br>HSTTV25-C    | 1/4"                 | .250" (6.4)                    | .125" (3.2)                     | .025" (0.6)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M) | 25 Pcs.<br>250 Pcs.<br>1 Reel | —<br>—<br>10 Reels |
| HSTTV38-48-Q<br>HSTTV38-48-TL<br>HSTTV38-C    | 3/8"                 | .375" (9.5)                    | .187" (4.8)                     | .025" (0.6)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M) | 25 Pcs.<br>250 Pcs.<br>1 Reel | —<br>—<br>10 Reels |
| HSTTV50-48-Q<br>HSTTV50-48-T<br>HSTTV50-C     | 1/2"                 | .500" (12.7)                   | .250" (6.4)                     | .025" (0.6)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M) | 25 Pcs.<br>200 Pcs.<br>1 Reel | —<br>—<br>10 Reels |
| HSTTV75-48-5<br>HSTTV75-48-CQ<br>HSTTV75-C    | 3/4"                 | .750" (19.0)                   | .375" (9.5)                     | .030" (0.8)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M) | 5 Pcs.<br>125 Pcs.<br>1 Reel  | —<br>—<br>10 Reels |
| HSTTV100-48-5<br>HSTTV100-48-LQ<br>HSTTV100-C | 1"                   | 1.00" (25.4)                   | .500" (12.7)                    | .035" (0.9)                               | 4' (1.2M)<br>4' (1.2M)<br>1 Reel, 100' (30.5M) | 5 Pcs.<br>75 Pcs.<br>1 Reel   | —<br>—<br>2 Reels  |
| HSTTV150-48-5<br>HSTTV150-C                   | 1 1/2"               | 1.50" (38.1)                   | .750" (19.0)                    | .040" (1.0)                               | 4' (1.2M)<br>1 Reel, 100' (30.5M)              | 5 Pcs.<br>1 Reel              | —<br>2 Reels       |

\* Order in multiples of Bulk Pkg. Qty.

‡ Maximum UL Temperature Range is 125° C

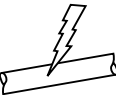
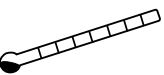
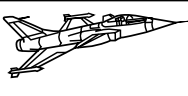
# Flexible Polyolefin VW-1 *DRY-SHRINK*™ Heat Shrink Tubing

## HSTTV Heat Shrink Reels

- For dry locations
- Highly flame retardant
- Meets UL VW-1 rating
- Fast Shrink Time



**IP62**

| Type                                                                                         | Materials                                                                                                                             |                                                                                                                     |                                                                                               |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>HSTTV</b>                                                                                 |  <b>Polyolefin Cross-Linked</b>                      |                                                                                                                     |                                                                                               |
| <br>600V    | <br>-67°F to 257°F<br>(-55°C to 125°C <sup>‡</sup> ) | <br>AMS-DTL-23053/5<br>Class 3     | <br>VW-1 OFT |
| <br>Flexible | <br>Shrink Ratio:<br>2:1                             | <br>Highly Flame<br>Retardant VW-1 |                                                                                               |



## HSTTV in Bulk Packages — Large Reels

| Nominal Diameter In. | Length                 | Black     | Red        | Yellow     | Blue       | White       | Bulk Pkg. Qty.* | Bulk Ctn. Qty. |
|----------------------|------------------------|-----------|------------|------------|------------|-------------|-----------------|----------------|
| 3/64"                | 1 Reel, 1000' (304.8M) | HSTTV05-M | HSTTV05-M2 | HSTTV05-M4 | HSTTV05-M6 | HSTTV05-M10 | 1 Reel          | 2 Reels        |
| 1/16"                | 1 Reel, 1000' (304.8M) | HSTTV06-M | HSTTV06-M2 | HSTTV06-M4 | HSTTV06-M6 | HSTTV06-M10 | 1 Reel          | 2 Reels        |
| 3/32"                | 1 Reel, 1000' (304.8M) | HSTTV09-M | HSTTV09-M2 | HSTTV09-M4 | HSTTV09-M6 | HSTTV09-M10 | 1 Reel          | 2 Reels        |
| 1/8"                 | 1 Reel, 1000' (304.8M) | HSTTV12-M | HSTTV12-M2 | HSTTV12-M4 | HSTTV12-M6 | HSTTV12-M10 | 1 Reel          | 2 Reels        |
| 3/16"                | 1 Reel, 1000' (304.8M) | HSTTV19-M | HSTTV19-M2 | HSTTV19-M4 | HSTTV19-M6 | HSTTV19-M10 | 1 Reel          | 2 Reels        |
| 1/4"                 | 1 Reel, 500' (152.4M)  | HSTTV25-D | HSTTV25-D2 | HSTTV25-D4 | HSTTV25-D6 | HSTTV25-D10 | 1 Reel          | 2 Reels        |
| 3/8"                 | 1 Reel, 200' (61.0M)   | HSTTV38-T | HSTTV38-T2 | HSTTV38-T4 | HSTTV38-T6 | HSTTV38-T10 | 1 Reel          | 2 Reels        |
| 1/2"                 | 1 Reel, 200' (61.0M)   | HSTTV50-T | HSTTV50-T2 | HSTTV50-T4 | HSTTV50-T6 | HSTTV50-T10 | 1 Reel          | 2 Reels        |
| 3/4"                 | 1 Reel, 200' (61.0M)   | HSTTV75-T | HSTTV75-T2 | HSTTV75-T4 | HSTTV75-T6 | HSTTV75-T10 | 1 Reel          | 2 Reels        |

\* Order in multiples of Bulk Pkg. Qty.

‡ Maximum UL Temperature Range is 125° C.

## HSTTV Heat Shrink in 25' (7.5M) Reels



**IP62**

### Ordering Information

#### HSTTV in Standard Packages of 25' (7.5M) Reels — Black Only

| Part Number | Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length             | Std. Pkg. Qty.* | Std. Ctn. Qty. |
|-------------|----------------------|--------------------------------|---------------------------------|-------------------------------------------|--------------------|-----------------|----------------|
| HSTTV05-Q   | 3/64"                | .046" (1.2)                    | .023" (0.6)                     | .020" (0.5)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       |
| HSTTV06-Q   | 1/16"                | .063" (1.6)                    | .031" (0.8)                     | .020" (0.5)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       |
| HSTTV09-Q   | 3/32"                | .093" (2.4)                    | .046" (1.2)                     | .020" (0.5)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       |
| HSTTV12-Q   | 1/8"                 | .125" (3.2)                    | .062" (1.6)                     | .020" (0.5)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       |
| HSTTV19-Q   | 3/16"                | .187" (4.8)                    | .093" (2.4)                     | .020" (0.5)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       |
| HSTTV25-Q   | 1/4"                 | .250" (6.4)                    | .125" (3.2)                     | .025" (0.6)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       |
| HSTTV38-Q   | 3/8"                 | .375" (9.5)                    | .187" (4.8)                     | .025" (0.6)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       |
| HSTTV50-Q   | 1/2"                 | .500" (12.7)                   | .250" (6.4)                     | .025" (0.6)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       |
| HSTTV75-Q   | 3/4"                 | .750" (19.0)                   | .375" (9.5)                     | .030" (0.8)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 10 Reels       |
| HSTTV100-Q  | 1"                   | 1.00" (25.4)                   | .500" (12.7)                    | .035" (0.9)                               | 1 Reel, 25' (7.5M) | 1 Reel          | 2 Reels        |

\* Order in multiples of Std. Pkg. Qty.

## Standard Packs of Heat Shrink — 6" (152.4mm) Pieces



**IP62**

### Ordering Information

#### HSTTV — Single Diameter — Black Only

| Part Number | Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Total No. Pcs. | Black No. Pcs. | Std. Pkg. Qty.* | Std. Ctn. Qty. |
|-------------|----------------------|--------------------------------|---------------------------------|----------------|----------------|-----------------|----------------|
| HSTTV05-Y   | 3/64"                | .046" (1.2)                    | .023" (0.6)                     | 26             | 26             | 1 Pkg.          | 10 Pkgs.       |
| HSTTV06-Y   | 1/16"                | .063" (1.6)                    | .031" (0.8)                     | 26             | 26             | 1 Pkg.          | 10 Pkgs.       |
| HSTTV09-Y   | 3/32"                | .093" (2.4)                    | .046" (1.2)                     | 24             | 24             | 1 Pkg.          | 10 Pkgs.       |
| HSTTV12-Y   | 1/8"                 | .125" (3.2)                    | .062" (1.6)                     | 20             | 20             | 1 Pkg.          | 10 Pkgs.       |
| HSTTV19-Y   | 3/16"                | .187" (4.8)                    | .093" (2.4)                     | 18             | 18             | 1 Pkg.          | 10 Pkgs.       |
| HSTTV25-Y   | 1/4"                 | .250" (6.4)                    | .125" (3.2)                     | 14             | 14             | 1 Pkg.          | 10 Pkgs.       |
| HSTTV38-Y   | 3/8"                 | .375" (9.5)                    | .187" (4.8)                     | 12             | 12             | 1 Pkg.          | 10 Pkgs.       |
| HSTTV50-Y   | 1/2"                 | .500" (12.7)                   | .250" (6.4)                     | 10             | 10             | 1 Pkg.          | 10 Pkgs.       |
| HSTTV75-Y   | 3/4"                 | .750" (19.0)                   | .375" (9.5)                     | 8              | 8              | 1 Pkg.          | 10 Pkgs.       |
| HSTTV100-Y  | 1"                   | 1.00" (25.4)                   | .500" (12.7)                    | 6              | 6              | 1 Pkg.          | 10 Pkgs.       |

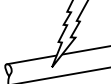
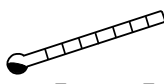
\* Order in multiples of Std. Pkg. Qty.

# Semi-Rigid Polyolefin *DRY-SHRINK*™ Heat Shrink Tubing

## HSTTR Heat Shrink

- For dry locations
- Semi-rigid tubing offers excellent protection for delicate components
- Provides strain relief for soldered and crimped connections



| Type                                                                                            | Materials                                                                                                               |                                                                                                                 |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| HSTTR                                                                                           |  Polyolefin Cross-Linked               |                                                                                                                 |
| <br>600V       | <br>-67°F to 275°F<br>(-55°C to 135°C) | <br>AMS-DTL-23053/6<br>Class 1 |
| <br>Semi-Rigid | <br>Shrink Ratio:<br>2:1               | <br>Flame Retardant            |



## Ordering Information — HSTTR in Standard Packages — 4' (1.2M) Pieces

| Part Number   | Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length           | Std. Pkg. Qty.* |
|---------------|----------------------|--------------------------------|---------------------------------|-------------------------------------------|------------------|-----------------|
| HSTTR05-48-Q  | 3/64"                | .046" (1.2)                    | .023" (0.6)                     | .020" (0.5)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTR06-48-Q  | 1/16"                | .063" (1.6)                    | .031" (0.8)                     | .020" (0.5)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTR09-48-Q  | 3/32"                | .093" (2.4)                    | .046" (1.2)                     | .020" (0.5)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTR12-48-Q  | 1/8"                 | .125" (3.2)                    | .062" (1.6)                     | .020" (0.5)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTR19-48-Q  | 3/16"                | .187" (4.8)                    | .093" (2.4)                     | .025" (0.6)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTR25-48-Q  | 1/4"                 | .250" (6.4)                    | .125" (3.2)                     | .025" (0.6)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTR38-48-Q  | 3/8"                 | .375" (9.5)                    | .187" (4.8)                     | .030" (0.8)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTR50-48-5  | 1/2"                 | .500" (12.7)                   | .250" (6.4)                     | .030" (0.8)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTR75-48-5  | 3/4"                 | .750" (19.0)                   | .375" (9.5)                     | .030" (0.8)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTR100-48-5 | 1"                   | 1.00" (25.4)                   | .500" (12.7)                    | .035" (0.9)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |

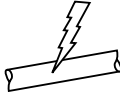
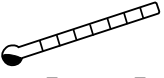
\* Order in multiples of Std. Pkg. Qty.

## HSTTP Heat Shrink

- For dry locations
- Flexible, highly flame retardant tubing
- Good resistance to most fuels and oils
- Good cut through and solder resistance



**IP62**

| Type                                                                                          | Materials                                                                                                              |                                                                                                                  |
|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| HSTTP                                                                                         |  Polyvinyl Chloride Cross-Linked      |                                                                                                                  |
| <br>600V     | <br>-4°F to 221°F<br>(-20°C to 105°C) |                                 |
| <br>Flexible | <br>Shrink Ratio:<br>2:1              | <br>Highly Flame Retardant VW-1 |



### Ordering Information — HSTTP in Standard Packages — Reels

| Part Number                         | Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length                                                               | Std. Pkg. Qty.*            | Std. Ctn. Qty.                 |
|-------------------------------------|----------------------|--------------------------------|---------------------------------|-------------------------------------------|----------------------------------------------------------------------|----------------------------|--------------------------------|
| HSTTP05-Q<br>HSTTP05-C<br>HSTTP05-M | 3/64"                | .046" (1.2)                    | .023" (0.6)                     | .020" (0.5)                               | 1 Reel, 25' (7.5M)<br>1 Reel, 100' (30.5M)<br>1 Reel, 1000' (304.8M) | 1 Reel<br>1 Reel<br>1 Reel | 10 Reels<br>2 Reels<br>2 Reels |
| HSTTP06-Q<br>HSTTP06-C<br>HSTTP06-M | 1/16"                | .063" (1.6)                    | .031" (0.8)                     | .020" (0.5)                               | 1 Reel, 25' (7.5M)<br>1 Reel, 100' (30.5M)<br>1 Reel, 1000' (304.8M) | 1 Reel<br>1 Reel<br>1 Reel | 10 Reels<br>2 Reels<br>2 Reels |
| HSTTP09-Q<br>HSTTP09-C<br>HSTTP09-M | 3/32"                | .093" (2.4)                    | .046" (1.2)                     | .025" (0.6)                               | 1 Reel, 25' (7.5M)<br>1 Reel, 100' (30.5M)<br>1 Reel, 1000' (304.8M) | 1 Reel<br>1 Reel<br>1 Reel | 10 Reels<br>2 Reels<br>2 Reels |
| HSTTP12-Q<br>HSTTP12-C<br>HSTTP12-M | 1/8"                 | .125" (3.2)                    | .062" (1.6)                     | .025" (0.6)                               | 1 Reel, 25' (7.5M)<br>1 Reel, 100' (30.5M)<br>1 Reel, 1000' (304.8M) | 1 Reel<br>1 Reel<br>1 Reel | 10 Reels<br>2 Reels<br>2 Reels |
| HSTTP19-Q<br>HSTTP19-C<br>HSTTP19-M | 3/16"                | .187" (4.8)                    | .093" (2.4)                     | .025" (0.6)                               | 1 Reel, 25' (7.5M)<br>1 Reel, 100' (30.5M)<br>1 Reel, 1000' (304.8M) | 1 Reel<br>1 Reel<br>1 Reel | 10 Reels<br>2 Reels<br>2 Reels |
| HSTTP25-Q<br>HSTTP25-C<br>HSTTP25-D | 1/4"                 | .250" (6.4)                    | .125" (3.2)                     | .025" (0.6)                               | 1 Reel, 25' (7.5M)<br>1 Reel, 100' (30.5M)<br>1 Reel, 500' (152.4M)  | 1 Reel<br>1 Reel<br>1 Reel | 10 Reels<br>2 Reels<br>2 Reels |
| HSTTP38-Q<br>HSTTP38-C<br>HSTTP38-T | 3/8"                 | .375" (9.5)                    | .187" (4.8)                     | .030" (0.8)                               | 1 Reel, 25' (7.5M)<br>1 Reel, 100' (30.5M)<br>1 Reel, 200' (61.0M)   | 1 Reel<br>1 Reel<br>1 Reel | 10 Reels<br>2 Reels<br>2 Reels |
| HSTTP50-Q<br>HSTTP50-C              | 1/2"                 | .500" (12.7)                   | .250" (6.4)                     | .030" (0.8)                               | 1 Reel, 25' (7.5M)<br>1 Reel, 100' (30.5M)                           | 1 Reel<br>1 Reel           | 10 Reels<br>2 Reels            |
| HSTTP75-Q<br>HSTTP75-C              | 3/4"                 | .750" (19.0)                   | .375" (9.5)                     | .035" (0.9)                               | 1 Reel, 25' (7.5M)<br>1 Reel, 100' (30.5M))                          | 1 Reel<br>1 Reel           | 10 Reels<br>2 Reels            |
| HSTTP100-Q<br>HSTTP100-C            | 1"                   | 1.00" (25.4)                   | .500" (12.7)                    | .040" (1.0)                               | 1 Reel, 25' (7.5M)<br>1 Reel, 100' (30.5M)                           | 1 Reel<br>1 Reel           | 2 Reels<br>2 Reels             |
| HSTTP150-Q<br>HSTTP150-C            | 1 1/2"               | 1.50" (38.1)                   | .750" (19.0)                    | .045" (1.1)                               | 1 Reel, 25' (7.5M)<br>1 Reel, 100' (30.5M)                           | 1 Reel<br>1 Reel           | 2 Reels<br>2 Reels             |
| HSTTP200-X<br>HSTTP200-Q            | 2"                   | 2.00" (50.8)                   | 1.00" (25.4)                    | .050" (1.3)                               | 1 Reel, 10' (3.0m)<br>1 Reel, 25' (7.5M)                             | 1 Reel<br>1 Reel           | 2 Reels<br>2 Reels             |

\* Order in multiples of Std. Pkg. Qty.

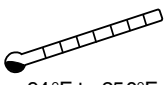
# Neoprene **DRY-SHRINK™** Heat Shrink Tubing

## HSTTN Heat Shrink

- For dry locations
- Highly flexible tubing
- Offers excellent chemical resistance, especially to fuels and oils



**IP62**

| Type                                                                                                 | Materials                                                                                                               |                                                                                                                 |
|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| HSTTN                                                                                                |                                        | Elastomer Neoprene Cross-Linked                                                                                 |
| <br>600V            | <br>-94°F to 250°F<br>(-70°C to 121°C) | <br>AMS-DTL-23053/1<br>Class 2 |
| <br>Highly Flexible | <br>Shrink Ratio▲:<br>2:1              | <br>Highly Flame Retardant     |



## Ordering Information — HSTTN in Standard Packages — 25' (7.5M) and 100' (30.5M) Reels

| Part Number | Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length               | Std. Pkg. Qty.* | Std. Ctn. Qty. |
|-------------|----------------------|--------------------------------|---------------------------------|-------------------------------------------|----------------------|-----------------|----------------|
| HSTTN25-C   | 1/4"                 | .250" (6.4)                    | .143" (3.6)                     | .035" (0.9)                               | 1 Reel, 100' (30.5M) | 1 Reel          | 2 Reels        |
| HSTTN38-C   | 3/8"                 | .375" (9.5)                    | .211" (5.4)                     | .040" (1.0)                               | 1 Reel, 100' (30.5M) | 1 Reel          | 2 Reels        |
| HSTTN50-C   | 1/2"                 | .500" (12.7)                   | .286" (7.3)                     | .048" (1.2)                               | 1 Reel, 100' (30.5M) | 1 Reel          | 2 Reels        |
| HSTTN63-C   | 5/8"                 | .625" (15.9)                   | .357" (9.1)                     | .052" (1.3)                               | 1 Reel, 100' (30.5M) | 1 Reel          | 2 Reels        |
| HSTTN75-C   | 3/4"                 | .750" (19.0)                   | .428" (10.9)                    | .057" (1.5)                               | 1 Reel, 100' (30.5M) | 1 Reel          | 2 Reels        |
| HSTTN88-C   | 7/8"                 | .875" (22.2)                   | .500" (12.7)                    | .065" (1.7)                               | 1 Reel, 100' (30.5M) | 1 Reel          | 2 Reels        |
| HSTTN100-C  | 1"                   | 1.00" (25.4)                   | .570" (14.5)                    | .070" (1.8)                               | 1 Reel, 100' (30.5M) | 1 Reel          | 2 Reels        |
| HSTTN125-C  | 1 1/4"               | 1.25" (31.8)                   | .714" (18.1)                    | .087" (2.2)                               | 1 Reel, 100' (30.5M) | 1 Reel          | 2 Reels        |
| HSTTN150-C  | 1 1/2"               | 1.50" (38.1)                   | .857" (21.8)                    | .095" (2.4)                               | 1 Reel, 100' (30.5M) | 1 Reel          | 2 Reels        |
| HSTTN175-C  | 1 3/4"               | 1.75" (44.5)                   | 1.00" (25.4)                    | .107" (2.7)                               | 1 Reel, 100' (30.5M) | 1 Reel          | 2 Reels        |
| HSTTN200-Q  | 2"                   | 2.00" (50.8)                   | 1.140" (29.0)                   | .110" (2.8)                               | 1 Reel, 25' (7.5M)   | 1 Reel          | 2 Reels        |
| HSTTN300-Q  | 3"                   | 3.00" (76.2)                   | 1.710" (43.4)                   | .125" (3.8)                               | 1 Reel, 25' (7.5M)   | 1 Reel          | 2 Reels        |

\* Order in multiples of Std. Pkg. Qty.

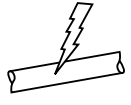
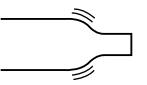
▲ Shrink ratios are approximations; please refer to above ordering information for the exact Min. Expanded and Max. Recovered I.D.'s.

## HSTTT (TFE) Heat Shrink



- For dry locations
- Semi-rigid, highly heat resistant
- Offers the widest temperature range of any plastic material
- Also available with 4:1 shrink ratio
- Color is milky clear

NOTE: Special instructions on [page 28](#)

| Type                                                                                            | Materials                                                                                                               |                                                                                                                               |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| HSTTT<br>HSTTT4X                                                                                |  Polytetrafluoroethylene               |                                                                                                                               |
| <br>600V       | <br>-88°F to 482°F<br>(-67°C to 250°C) | <br>AMS-DTL-23053/12<br>Class 3 or Class 5 |
| <br>Semi-Rigid | <br>Shrink Ratio▲:<br>2:1 or 4:1       | <br>Non-Flammable                          |



### Ordering Information — 2:1 Shrink Ratio (Class 3) — HSTTT in Standard Packages — 4' (1.2M) Pcs.

| Part Number   | Nominal Diameter | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length           | Std. Pkg. Qty.* |
|---------------|------------------|--------------------------------|---------------------------------|-------------------------------------------|------------------|-----------------|
| HSTTT03-48-Q  | 30 AWG           | .034" (0.9)                    | .015" (0.4)                     | .009" (0.2)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT04-48-Q  | 28 AWG           | .038" (1.0)                    | .018" (0.5)                     | .009" (0.2)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT046-48-Q | 26 AWG           | .046" (1.2)                    | .022" (0.5)                     | .010" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT05-48-Q  | 24 AWG           | .050" (1.3)                    | .027" (0.7)                     | .010" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT055-48-Q | 22 AWG           | .055" (1.4)                    | .032" (0.8)                     | .012" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT06-48-Q  | 20 AWG           | .060" (1.5)                    | .039" (1.0)                     | .012" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT08-48-Q  | 18 AWG           | .076" (1.9)                    | .049" (1.2)                     | .012" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT09-48-Q  | 16 AWG           | .093" (2.3)                    | .061" (1.6)                     | .012" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT12-48-Q  | 14 AWG           | .120" (3.0)                    | .072" (1.8)                     | .012" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT15-48-Q  | 12 AWG           | .150" (3.8)                    | .089" (2.3)                     | .012" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT19-48-Q  | 10 AWG           | .191" (4.9)                    | .112" (2.8)                     | .012" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT24-48-Q  | 8 AWG            | .240" (6.0)                    | .141" (3.6)                     | .015" (0.4)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT30-48-Q  | 6 AWG            | .302" (7.7)                    | .178" (4.5)                     | .015" (0.4)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT37-48-Q  | 4 AWG            | .370" (9.4)                    | .224" (5.7)                     | .015" (0.4)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT43-48-Q  | 2 AWG            | .430" (10.9)                   | .278" (7.0)                     | .015" (0.4)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT47-48-Q  | 0 AWG            | .470" (11.9)                   | .347" (8.8)                     | .015" (0.4)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT56-48-5  | 9/16"            | .560" (14.2)                   | .399" (10.1)                    | .015" (0.4)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTT66-48-5  | 5/8"             | .655" (16.6)                   | .462" (11.7)                    | .018" (0.5)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTT75-48-5  | 3/4"             | .750" (19.0)                   | .524" (13.3)                    | .018" (0.5)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTT93-48-5  | 15/16"           | .930" (23.6)                   | .655" (16.6)                    | .020" (0.5)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTT112-48-5 | 1 1/8"           | 1.125" (28.6)                  | .786" (20.0)                    | .025" (0.6)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTT131-48-2 | 1 5/16"          | 1.310" (33.3)                  | .911" (23.1)                    | .030" (0.8)                               | 1 Pc., 4' (1.2M) | 2 Pcs.          |
| HSTTT150-48-2 | 1 1/2"           | 1.500" (38.1)                  | 1.036" (26.3)                   | .030" (0.8)                               | 1 Pc., 4' (1.2M) | 2 Pcs.          |

### Ordering Information — 4:1 Shrink Ratio (Class 5) — HSTTT4X in Standard Packages — 4' (1.2M) Pcs.

| Part Number     | Nominal Diameter In. (mm) | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length           | Std. Pkg. Qty.* |
|-----------------|---------------------------|--------------------------------|---------------------------------|-------------------------------------------|------------------|-----------------|
| HSTTT4X08-48-Q  | 5/64" (2.0)               | .078" (2.0)                    | .025" (0.6)                     | .009" (0.2)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT4X12-48-Q  | 1/8" (3.3)                | .125" (3.2)                    | .037" (0.9)                     | .012" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT4X25-48-Q  | 1/4" (6.3)                | .250" (6.4)                    | .063" (1.6)                     | .012" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT4X38-48-Q  | 3/8" (9.5)                | .375" (9.5)                    | .096" (2.4)                     | .012" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTT4X50-48-5  | 1/2" (12.7)               | .500" (12.7)                   | .144" (3.7)                     | .015" (0.4)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTT4X63-48-5  | 5/8" (15.9)               | .625" (15.9)                   | .178" (4.5)                     | .015" (0.4)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTT4X75-48-5  | 3/4" (19.1)               | .750" (19.1)                   | .224" (5.7)                     | .015" (0.4)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTT4X88-48-5  | 7/8" (22.2)               | .875" (22.2)                   | .244" (6.2)                     | .015" (0.4)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTT4X100-48-5 | 1" (25.4)                 | 1.00" (25.4)                   | .278" (7.0)                     | .015" (0.4)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTT4X125-48-5 | 1 1/4" (31.8)             | 1.25" (31.8)                   | .347" (8.8)                     | .015" (0.4)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |

\* Order in multiples of Std. Pkg. Qty.

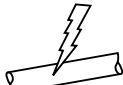
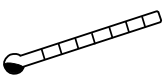
▲ Shrink ratios are approximations; please refer to above ordering information for the exact Min. Expanded and Max. Recovered I.D.'s.

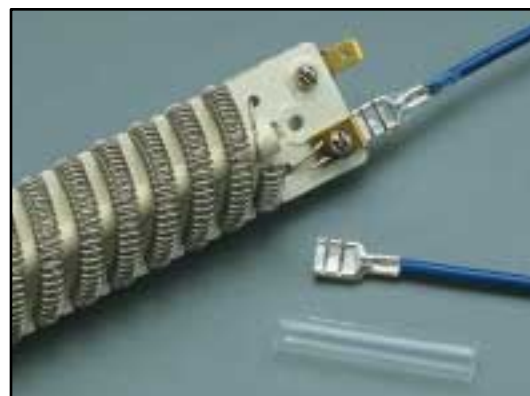
# FEP TEFLON<sup>‡</sup> DRY-SHRINK<sup>™</sup> Heat Shrink Tubing

## HSTTF (FEP) Heat Shrink

- For dry locations
- Semi-rigid, highly heat resistant tubing
- Offers most of the same characteristics of HSTTT found on [page 17](#), but has a lower shrink temperature
- Tubing can be welded and tube ends sealed by melting
- Color is clear



| Type                                                                                            | Materials                                                                                                               |                                                                                                           |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| HSTTF                                                                                           |                                        | Fluorinated Ethylene Propylene                                                                            |
| <br>600V       | <br>-88°F to 392°F<br>(-67°C to 200°C) | <br>AMS-DTL-23053/<br>11 |
| <br>Semi-Rigid | <br>Shrink Ratio▲:<br>1.3:1            | <br>Non-Flammable        |



## Ordering Information — HSTTF in Standard Packages — 4' (1.2M) Pieces

| Part Number   | Nominal Diameter | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length           | Std. Pkg. Qty.* |
|---------------|------------------|--------------------------------|---------------------------------|-------------------------------------------|------------------|-----------------|
| HSTTF03-48-Q  | 24 AWG           | .031" (0.8)                    | .027" (0.7)                     | .008" (0.2)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF04-48-Q  | 22 AWG           | .036" (0.9)                    | .032" (0.8)                     | .008" (0.2)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF05-48-Q  | 20 AWG           | .045" (1.1)                    | .039" (1.0)                     | .008" (0.2)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF06-48-Q  | 18 AWG           | .060" (1.5)                    | .049" (1.2)                     | .008" (0.2)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF08-48-Q  | 16 AWG           | .075" (1.9)                    | .061" (1.5)                     | .009" (0.2)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF09-48-Q  | 14 AWG           | .092" (2.3)                    | .072" (1.8)                     | .009" (0.2)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF12-48-Q  | 12 AWG           | .115" (2.9)                    | .089" (2.2)                     | .009" (0.2)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF14-48-Q  | 10 AWG           | .141" (3.6)                    | .114" (2.9)                     | .010" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF16-48-Q  | 9 AWG            | .158" (4.0)                    | .124" (3.2)                     | .010" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF18-48-Q  | 8 AWG            | .180" (4.6)                    | .143" (3.6)                     | .010" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF20-48-Q  | 7 AWG            | .197" (5.0)                    | .158" (4.0)                     | .011" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF23-48-Q  | 6 AWG            | .225" (5.7)                    | .180" (4.6)                     | .011" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF25-48-Q  | 5 AWG            | .248" (6.3)                    | .198" (5.0)                     | .011" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF29-48-Q  | 4 AWG            | .290" (7.4)                    | .226" (5.7)                     | .011" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF31-48-Q  | 3 AWG            | .310" (7.9)                    | .249" (6.3)                     | .011" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF36-48-Q  | 2 AWG            | .365" (9.3)                    | .280" (7.1)                     | .012" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF40-48-Q  | 1 AWG            | .400" (10.2)                   | .311" (7.9)                     | .012" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF44-48-Q  | 0 AWG            | .440" (11.2)                   | .349" (8.9)                     | .012" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTF50-48-5  | 1/2"             | .500" (12.7)                   | .383" (9.7)                     | .015" (0.4)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTF66-48-5  | 5/8"             | .666" (16.9)                   | .510" (13.0)                    | .020" (0.5)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTF100-48-5 | 1"               | 1.00" (25.4)                   | .764" (19.4)                    | .030" (0.8)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTF133-48-2 | 1 1/3"           | 1.33" (33.8)                   | 1.02" (25.9)                    | .035" (0.9)                               | 1 Pc., 4' (1.2M) | 2 Pcs.          |
| HSTTF200-48-2 | 2"               | 2.00" (50.8)                   | 1.52" (38.6)                    | .035" (0.9)                               | 1 Pc., 4' (1.2M) | 2 Pcs.          |

\* Order in multiples of Std. Pkg. Qty.

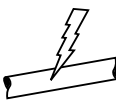
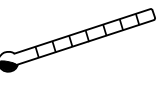
▲ Shrink ratios are approximations; please refer to above ordering information for the exact Min. Expanded and Max. Recovered I.D.'s.

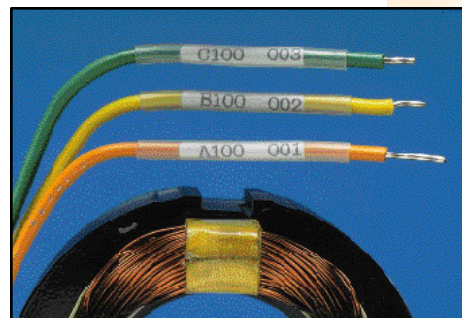
## HSTTK KYNAR‡ Heat Shrink

- For dry locations
- Semi-rigid, highly heat resistant
- Offers excellent chemical and abrasion resistance
- Use in high temperature or solvent rich environment
- Color is clear



IP62

| Type                                                                                            | Material                                                                                                                |                                                                                                                     |                                                                                           |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| HSTTK                                                                                           |  Polyvinylidene Fluoride               |                                                                                                                     |                                                                                           |
| <br>600V       | <br>-67°F to 347°F<br>(-55°C to 175°C) | <br>AMS-DTL-23053/8                | <br>VW-1 |
| <br>Semi-Rigid | <br>Shrink Ratio▲:<br>2:1              | <br>Highly Flame<br>Retardant VW-1 |                                                                                           |



### Ordering Information — HSTTK in Standard Packages — 4' (1.2M) Pieces

| Part Number   | Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length           | Std. Pkg. Qty.* |
|---------------|----------------------|--------------------------------|---------------------------------|-------------------------------------------|------------------|-----------------|
| HSTTK05-48-Q  | 3/64"                | .046" (1.2)                    | .023" (0.6)                     | .010" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTK06-48-Q  | 1/16"                | .063" (1.6)                    | .031" (0.8)                     | .010" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTK09-48-Q  | 3/32"                | .093" (2.4)                    | .046" (1.2)                     | .010" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTK12-48-Q  | 1/8"                 | .125" (3.2)                    | .062" (1.6)                     | .010" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTK19-48-Q  | 3/16"                | .187" (4.8)                    | .093" (2.4)                     | .010" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTK25-48-Q  | 1/4"                 | .250" (6.4)                    | .125" (3.2)                     | .010" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTK38-48-Q  | 3/8"                 | .375" (9.5)                    | .187" (4.8)                     | .012" (0.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTK50-48-5  | 1/2"                 | .500" (12.7)                   | .250" (6.4)                     | .012" (0.3)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTK75-48-5  | 3/4"                 | .750" (19.0)                   | .375" (9.5)                     | .017" (0.4)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTK100-48-5 | 1"                   | 1.00" (25.4)                   | .500" (12.7)                    | .019" (0.5)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |

\* Order in multiples of Std. Pkg. Qty.

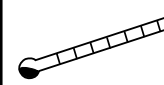
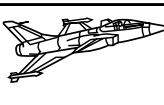
▲ Shrink ratios are approximations; please refer to above ordering information for the exact Min. Expanded and Max. Recovered I.D.'s.

# Dual Wall Polyolefin *DAMP-SHRINK™* Heat Shrink Tubing

## HSTTVA Heat Shrink

- For damp locations
- Flexible tubing with an adhesive inner wall which seals and protects components from moisture and corrosion
- For use when a flexible adhesive lined tubing is needed



| Type                                                                                         | Materials                                                                                                                      |                                                                                                                    |
|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| HSTTVA                                                                                       |  <b>Polyolefin Cross-Linked with Adhesive</b> |                                                                                                                    |
| <br>600V    | <br>-67°F to 230°F<br>(-55°C to 110°C)        | <br>AMS-DTL-23053/4<br>Class 2    |
| <br>Flexible | <br>Shrink Ratio:<br>2:1                      | <br>Outer Wall<br>Flame Retardant |



## Ordering Information — HSTTVA in Standard Packages — 4' (1.2M) Pieces

| Part Number    | Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length           | Std. Pkg. Qty.* |
|----------------|----------------------|--------------------------------|---------------------------------|-------------------------------------------|------------------|-----------------|
| HSTTVA12-48-Q  | 1/8"                 | .125" (3.2)                    | .062" (1.6)                     | .020" (0.5)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTVA19-48-Q  | 3/16"                | .187" (4.8)                    | .093" (2.4)                     | .022" (0.6)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTVA25-48-Q  | 1/4"                 | .250" (6.4)                    | .125" (3.2)                     | .030" (0.8)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTVA38-48-Q  | 3/8"                 | .375" (9.5)                    | .187" (4.8)                     | .031" (0.8)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTVA50-48-5  | 1/2"                 | .500" (12.7)                   | .250" (6.4)                     | .032" (0.8)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTVA75-48-5  | 3/4"                 | .750" (19.0)                   | .375" (9.5)                     | .037" (0.9)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTVA100-48-5 | 1"                   | 1.00" (25.4)                   | .500" (12.7)                    | .046" (1.2)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTVA150-48-5 | 1 1/2"               | 1.50" (38.1)                   | .750" (19.0)                    | .049" (1.2)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |

\* Order in multiples of Std. Pkg. Qty.

## Standard Packs of HSTTVA Heat Shrink — 6" (152.4mm) Pieces

HSTTVA— 2:1 Adhesive Lined – Black Only – Single Diameter

| Part Number | Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Total No. of Pieces | Std. Pkg. Qty.* | Std. Ctn. Qty. |
|-------------|----------------------|--------------------------------|---------------------------------|---------------------|-----------------|----------------|
| HSTTVA12-Y  | 1/8"                 | .125" (3.2)                    | .062" (1.6)                     | 7                   | 1 Pkg.          | 10 Pkgs.       |
| HSTTVA19-Y  | 3/16"                | .187" (4.8)                    | .093" (2.4)                     | 7                   | 1 Pkg.          | 10 Pkgs.       |
| HSTTVA25-Y  | 1/4"                 | .250" (6.4)                    | .125" (3.2)                     | 5                   | 1 Pkg.          | 10 Pkgs.       |
| HSTTVA38-Y  | 3/8"                 | .375" (9.5)                    | .187" (4.8)                     | 4                   | 1 Pkg.          | 10 Pkgs.       |
| HSTTVA50-Y  | 1/2"                 | .500" (12.7)                   | .250" (6.4)                     | 4                   | 1 Pkg.          | 10 Pkgs.       |
| HSTTVA75-Y  | 3/4"                 | .750" (19.0)                   | .375" (9.5)                     | 3                   | 1 Pkg.          | 10 Pkgs.       |
| HSTTVA100-Y | 1"                   | 1.00" (25.4)                   | .500" (12.7)                    | 2                   | 1 Pkg.          | 10 Pkgs.       |

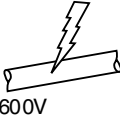
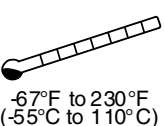
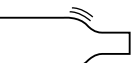
\*Order in multiples of Std. Pkg. Qty.

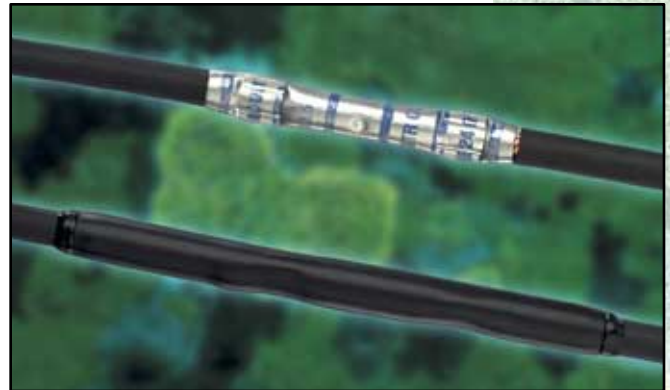


## HSTTA Heat Shrink

- For damp locations
- Flexible tubing with adhesive inner wall, seals and protects components from moisture and corrosion
- The 3:1 shrink ratio is a benefit when working with connector to cable transitions



| Type                                                                                          | Materials                                                                                                               |                                                                                                                    |
|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| HSTTA                                                                                         | Polyolefin Cross-Linked with Adhesive                                                                                   |                                                                                                                    |
| <br>600V     | <br>-67°F to 230°F<br>(-55°C to 110°C) | <br>AMS-DTL-23053/4<br>Class 3    |
| <br>Flexible | <br>Shrink Ratio:<br>3:1               | <br>Outer Wall<br>Flame Retardant |



### Ordering Information — HSTTA in Standard and Bulk Packages — 4' (1.2M) Pieces

| Part Number   | Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length           | Std. Pkg. Qty.* |
|---------------|----------------------|--------------------------------|---------------------------------|-------------------------------------------|------------------|-----------------|
| HSTTA19-48-Q  | 3/16"                | .187" (4.8)                    | .062" (1.6)                     | .040" (1.0)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTA25-48-Q  | 1/4"                 | .250" (6.4)                    | .080" (2.0)                     | .040" (1.0)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTA25-48-TL | 1/4"                 | .250" (6.4)                    | .080" (2.0)                     | .040" (1.0)                               | 1 Pc., 4' (1.2M) | 250 Pcs.        |
| HSTTA38-48-Q  | 3/8"                 | .375" (9.5)                    | .120" (3.0)                     | .055" (1.4)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTA38-48-TL | 3/8"                 | .375" (9.5)                    | .120" (3.0)                     | .055" (1.4)                               | 1 Pc., 4' (1.2M) | 250 Pcs.        |
| HSTTA50-48-5  | 1/2"                 | .500" (12.7)                   | .160" (4.1)                     | .070" (1.8)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTA50-48-T  | 1/2"                 | .500" (12.7)                   | .160" (4.1)                     | .070" (1.8)                               | 1 Pc., 4' (1.2M) | 200 Pcs.        |
| HSTTA75-48-5  | 3/4"                 | .750" (19.0)                   | .250" (6.4)                     | .085" (2.2)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTA75-48-C  | 3/4"                 | .750" (19.0)                   | .250" (6.4)                     | .085" (2.2)                               | 1 Pc., 4' (1.2M) | 100 Pcs.        |
| HSTTA100-48-5 | 1"                   | 1.00" (25.4)                   | .320" (8.1)                     | .100" (2.5)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTA100-48-L | 1"                   | 1.00" (25.4)                   | .320" (8.1)                     | .100" (2.5)                               | 1 Pc., 4' (1.2M) | 50 Pcs.         |
| HSTTA150-48-5 | 1 1/2"               | 1.50" (38.1)                   | .510" (12.9)                    | .100" (2.5)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTA150-48-Q | 1 1/2"               | 1.50" (38.1)                   | .510" (12.9)                    | .100" (2.5)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |

\* Order in multiples of Std. Pkg. Qty.

▲ Shrink ratios are approximations; please refer to above ordering information for the exact Min. Expanded and Max. Recovered I.D.'s.

### Standard Packs of HSTTA Heat Shrink — 6" (152.4mm) Pieces

#### HSTTA— Black Only – Single Diameter

| Part Number | Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Total No. of Pieces | Std. Pkg. Qty.* | Std. Ctn. Qty. |
|-------------|----------------------|--------------------------------|---------------------------------|---------------------|-----------------|----------------|
| HSTTA19-Y   | 3/16"                | .187" (4.8)                    | .062" (1.6)                     | 6                   | 1 Pkg.          | 10 Pkgs.       |
| HSTTA25-Y   | 1/4"                 | .250" (6.4)                    | .080" (2.0)                     | 4                   | 1 Pkg.          | 10 Pkgs.       |
| HSTTA38-Y   | 3/8"                 | .375" (9.5)                    | .120" (3.0)                     | 3                   | 1 Pkg.          | 10 Pkgs.       |
| HSTTA50-Y   | 1/2"                 | .500" (12.7)                   | .160" (4.1)                     | 3                   | 1 Pkg.          | 10 Pkgs.       |
| HSTTA75-Y   | 3/4"                 | .750" (19.0)                   | .250" (6.4)                     | 2                   | 1 Pkg.          | 10 Pkgs.       |
| HSTTA100-Y  | 1"                   | 1.00" (25.4)                   | .320" (8.1)                     | 2                   | 1 Pkg.          | 10 Pkgs.       |
| HSTTA150-Y  | 1 1/2"               | 1.50" (38.1)                   | .510" (12.9)                    | 1                   | 1 Pkg.          | 10 Pkgs.       |

\*Order in multiples of Std. Pkg. Qty.

▲ Shrink ratios are approximations; please refer to above ordering information for the exact Min. Expanded and Max. Recovered I.D.'s.

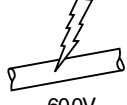
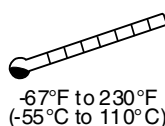
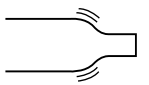


# Dual Wall Polyolefin *DAMP-SHRINK™* Heat Shrink Tubing

## HSTTRA Heat Shrink

- For damp locations
- Semi-rigid tubing
- Adhesive inner wall which seals and protects components from moisture and corrosion
- Provides a rugged seal from the elements



| Type                                                                                            | Materials                                                                                                                      |                                                                                                                 |
|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| HSTTRA                                                                                          |  <b>Polyolefin Cross-Linked with Adhesive</b> |                                                                                                                 |
| <br>600V       | <br>-67°F to 230°F<br>(-55°C to 110°C)        | <br>AMS-DTL-23053/4<br>Class 1 |
| <br>Semi-Rigid | <br>Shrink Ratio▲:<br>2.5:1                   |                                                                                                                 |



## Ordering Information — HSTTRA in Standard Packages — 4' (1.2M) Pieces

| Part Number    | Nominal Diameter In. | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Length           | Std. Pkg. Qty.* |
|----------------|----------------------|--------------------------------|---------------------------------|-------------------------------------------|------------------|-----------------|
| HSTTRA12-48-Q  | 1/8"                 | .125" (3.2)                    | .023" (0.6)                     | .038" (1.0)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTRA19-48-Q  | 3/16"                | .187" (4.8)                    | .060" (1.5)                     | .043" (1.1)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTRA25-48-Q  | 1/4"                 | .250" (6.4)                    | .080" (2.0)                     | .047" (1.2)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTRA38-48-Q  | 3/8"                 | .375" (9.5)                    | .135" (3.4)                     | .050" (1.3)                               | 1 Pc., 4' (1.2M) | 25 Pcs.         |
| HSTTRA50-48-5  | 1/2"                 | .500" (12.7)                   | .195" (5.0)                     | .059" (1.5)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTRA75-48-5  | 3/4"                 | .750" (19.0)                   | .313" (8.0)                     | .065" (1.7)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |
| HSTTRA100-48-5 | 1"                   | 1.00" (25.4)                   | .400" (10.6)                    | .075" (1.9)                               | 1 Pc., 4' (1.2M) | 5 Pcs.          |

\* Order in multiples of Std. Pkg. Qty.

▲ Shrink ratios are approximations; please refer to above ordering information for the exact Min. Expanded and Max. Recovered I.D.'s.

# Thick Wall Polyolefin *WET-SHRINK™* Heat Shrink Tubing

## HST Thick Wall Heat Shrink

- Suitable for wet locations and direct burial according to UL 486D
- Provides excellent protection above or below ground level
- Adhesive lined inner wall seals and protects against moisture



| Type      | Material                               |                                       |  |
|-----------|----------------------------------------|---------------------------------------|--|
| HST       |                                        | Polyolefin Cross-Linked with Adhesive |  |
| <br>600V  | <br>-85°F to 230°F<br>(-65°C to 110°C) | <br>AMS-DTL-23053/15<br>(HST only)    |  |
| <br>Rigid | <br>Shrink Ratio▲:<br>3:1              | <br>Flame Retardant                   |  |

(Black Only)  
Including HST3.0

Listed 6R72  
(except HST3.0)



## Thick Wall Heat Shrink Part Number System

| HST 0.4 - 3 - Q 2 |                      |                    |                  |              |
|-------------------|----------------------|--------------------|------------------|--------------|
| Type              | Expanded Diameter    | PC Length          | Package Quantity | Color        |
| HST               | 0.4 - .40" (10.2mm)  | 3 - 3" (76.2mm)    | 1 - 1 Pc.        | None - Black |
|                   | 0.8 - .80" (20.3mm)  | 6 - 6" (152.4mm)   | 2 - 2 Pcs.       | 2 - Red      |
|                   | 1.1 - 1.10" (27.9mm) | 9 - 9" (228.6mm)   | 3 - 3 Pcs.       |              |
|                   | 1.5 - 1.50" (38.1mm) | 12 - 12" (304.8mm) | 5 - 5 Pcs.       |              |
|                   | 2.0 - 2.00" (50.8mm) | 48 - 4' (1.2M)     | X - 10 Pcs.      |              |
|                   | 3.0 - 3.00" (76.2mm) |                    | Q - 25 Pcs.      |              |

## Ordering Information — HST in Standard Packages

| Part Number                                                                            | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Conductor Size Range AWG/MCM (mm²) | Minimum Cable O.D. In. (mm) | Maximum Connector O.D. In. (mm) | Tube Length In. (mm)                                                             | Std. Pkg. Qty.*                                            | Std. Ctn. Qty.                                                   |
|----------------------------------------------------------------------------------------|--------------------------------|---------------------------------|-------------------------------------------|------------------------------------|-----------------------------|---------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------------|
| HST0.4-3-Q‡<br>HST0.4-6-3<br>HST0.4-6-X‡<br>HST0.4-48-5‡                               | .40" (10.1)                    | .15" (3.8)                      | .09" (2.3)                                | #12-#6<br>(4-10)                   | 0.170" (4.3)                | .350" (8.9)                     | 3" (76.2)<br>6" (152.4)<br>6" (152.4)<br>4' (1.2M)                               | 25 Pcs.<br>3 Pcs.<br>10 Pcs.<br>5 Pcs.                     | 100 Pcs.<br>30 Pcs.<br>100 Pcs.<br>20 Pcs.                       |
| HST0.8-6-3<br>HST0.8-6-X‡<br>HST0.8-9-X‡<br>HST0.8-12-5‡<br>HST0.8-48-5‡               | .80" (20.3)                    | .20" (5.1)                      | .11" (2.8)                                | #8-#1/0<br>(10-50)                 | .240" (6.1)                 | .650" (16.5)                    | 6" (152.4)<br>6" (152.4)<br>9" (228.6)<br>12" (304.8)<br>4' (1.2M)               | 3 Pcs.<br>10 Pcs.<br>10 Pcs.<br>5 Pcs.<br>5 Pcs.           | 30 Pcs.<br>100 Pcs.<br>100 Pcs.<br>50 Pcs.<br>20 Pcs.            |
| HST1.1-6-3<br>HST1.1-6-X‡<br>HST1.1-9-2<br>HST1.1-9-X‡<br>HST1.1-12-5‡<br>HST1.1-48-5‡ | 1.10" (27.9)                   | .37" (9.4)                      | .12" (3.0)                                | #2-#4/0<br>(35-95)                 | .400" (10.1)                | .875" (22.2)                    | 6" (152.4)<br>6" (152.4)<br>9" (228.6)<br>9" (228.6)<br>12" (304.8)<br>4' (1.2M) | 3 Pcs.<br>10 Pcs.<br>2 Pcs.<br>10 Pcs.<br>5 Pcs.<br>5 Pcs. | 30 Pcs.<br>100 Pcs.<br>20 Pcs.<br>100 Pcs.<br>50 Pcs.<br>20 Pcs. |
| HST1.5-9-X<br>HST1.5-12-1<br>HST1.5-12-5<br>HST1.5-48-5                                | 1.50" (38.1)                   | .50" (12.7)                     | .17" (4.3)                                | #3/0-400 MCM<br>(95-185)           | .600" (15.2)                | 1.190" (30.2)                   | 9" (228.6)<br>12" (304.8)<br>12" (304.8)<br>4' (1.2M)                            | 10 Pcs.<br>1 Pc.<br>5 Pcs.<br>5 Pcs.                       | 100 Pcs.<br>10 Pcs.<br>50 Pcs.<br>20 Pcs.                        |
| HST2.0-9-5<br>HST2.0-12-2<br>HST2.0-48-2                                               | 2.00" (50.8)                   | .65" (16.5)                     | .17" (4.3)                                | 250-750 MCM<br>(240-500)           | .750" (19.1)                | 1.600" (40.6)                   | 9" (228.6)<br>12" (304.8)<br>4' (1.2M)                                           | 5 Pcs.<br>2 Pcs.<br>2 Pcs.                                 | 50 Pcs.<br>20 Pcs.<br>8 Pcs.                                     |
| HST3.0-12-2<br>HST3.0-48-2                                                             | 3.00" (76.2)                   | 1.00" (25.4)                    | .17" (4.3)                                | 600-1250 MCM<br>(300-625)          | 1.20" (30.5)                | 2.250" (57.2)                   | 12" (304.8)<br>4' (1.2M)                                                         | 2 Pcs.<br>2 Pcs.                                           | 20 Pcs.<br>8 Pcs.                                                |

\* Order in multiples of Std Pkg. Qty.

‡ For Red, add 2 to end of part number package suffix (Example HST0.4-3-Q2).

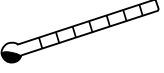
▲ Shrink ratios are approximations; please refer to above ordering information for the exact Min. Expanded and Max. Recovered I.D.'s.

# Polyolefin **WET-SHRINK™** Thick Wall End Caps

## HSEC Thick Wall End Caps

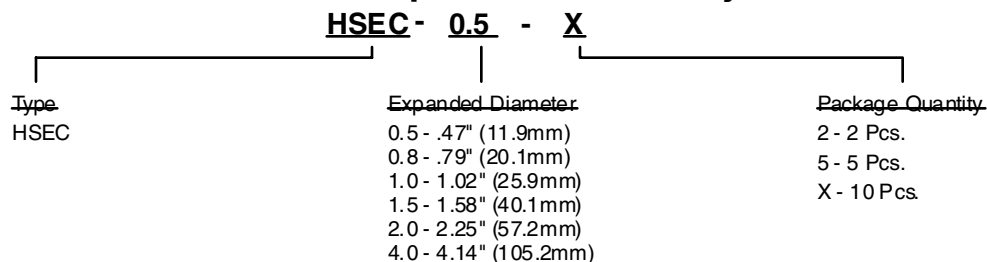
- For wet locations
- Provides excellent protection for sealing ends of wire or cable
- Adhesive lined inner wall seals and protects against moisture



| Type                                                                                       | Materials                                                                                                               |                                    |
|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| HSEC                                                                                       |  Polyolefin Cross-Linked with Adhesive |                                    |
| <br>600V  |                                        | -67°F to 221°F<br>(-55°C to 105°C) |
| <br>Rigid |                                        | Shrink Ratio▲:<br>3:1              |



## Thick Wall End Caps Part Number System



## Ordering Information — Thick Wall End Caps in Standard Packages

| Part Number | Minimum Expanded I.D. In. (mm) | Maximum Recovered I.D. In. (mm) | Nominal Recovered Wall Thickness In. (mm) | Conductor Size                                 | Cap Length In. (mm) | Std. Pkg. Qty.* | Std. Ctn. Qty. |
|-------------|--------------------------------|---------------------------------|-------------------------------------------|------------------------------------------------|---------------------|-----------------|----------------|
| HSEC0.5-X   | .47" (11.9)                    | .18" (4.6)                      | .10" (2.5)                                | #8 TO #4 AWG (10 TO 25mm <sup>2</sup> )        | 1.38" (35.1)        | 10 Pcs.         | 100 Pcs.       |
| HSEC0.8-X   | .79" (20.1)                    | .30" (7.6)                      | .10" (2.5)                                | #4 TO 3/0 AWG (25 TO 95mm <sup>2</sup> )       | 2.13" (54.1)        | 10 Pcs.         | 100 Pcs.       |
| HSEC1.0-X   | 1.02" (25.9)                   | .45" (11.4)                     | .10" (2.5)                                | #2 TO 4/0 AWG (35 TO 95mm <sup>2</sup> )       | 3.23" (82.0)        | 10 Pcs.         | 100 Pcs.       |
| HSEC1.5-5   | 1.58" (40.1)                   | .68" (17.3)                     | .11" (2.8)                                | 250 TO 500 MCM (120 TO 240mm <sup>2</sup> )    | 3.86" (98.0)        | 5 Pcs.          | 50 Pcs.        |
| HSEC2.0-5   | 2.25" (57.2)                   | .87" (22.1)                     | .15" (3.8)                                | 600 TO 1000 MCM (300 TO 500mm <sup>2</sup> )   | 5.52" (140.2)       | 5 Pcs.          | 50 Pcs.        |
| HSEC4.0-2   | 4.14" (105.2)                  | 1.78" (45.2)                    | .15" (3.8)                                | 1500 TO 2000 MCM (720 TO 1000mm <sup>2</sup> ) | 6.90" (175.3)       | 2 Pcs.          | 10 Pcs.        |

\* Order in multiples of Std. Pkg. Qty.

▲ Shrink ratios are approximations; please refer to above ordering information for the exact Min. Expanded and Max. Recovered I.D.'s.

# Heat Shrink Tubing Kits

## Plastic Kit Boxes

- Provides organized storage for a wide variety of parts in one convenient location
- Informative label eliminates guess work:
  - Specifies correct heat shrink usage based on wire range and connector size
  - Provides reorder part number information
- Once top is closed, loose pieces remain in their 6 compartments
- Available with non-adhesive or adhesive lined heat shrink tubing for dry and damp locations



| KP-HSTT1 Contents                                                                                                  | For Dry Locations                                                                 |                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| BLACK POLYOLEFIN <i>DRY-SHRINK</i> ™ HEAT SHRINK TUBING (TYPE HSTT)<br>IN 6" (152.4mm) LENGTHS<br>2:1 SHRINK RATIO |                                                                                   |                                                                                                                |
|                                   |  |  AMS-DTL-23053/5<br>CLASS 1 |
| 35 EACH<br>HSTT09 3/32" (2.4mm) I.D.<br>HSTT12 1/8" (3.2mm) I.D.                                                   | 21 EACH<br>HSTT19 3/16" (4.8mm) I.D.<br>HSTT25 1/4" (6.4mm) I.D.                  | 7 EACH<br>HSTT38 3/8" (9.5mm) I.D.<br>HSTT50 1/2" (12.7mm) I.D.                                                |



| KP-HSTT2 Contents                                                                                                         |                                                                                                       | For Dry Locations                                                                                       |                                |
|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|--------------------------------|
| MULTIPLE COLOR POLYOLEFIN <i>DRY-SHRINK</i> HEAT SHRINK TUBING (TYPE HSTT)<br>IN 6" (152.4mm) LENGTHS<br>2:1 SHRINK RATIO |                                                                                                       |                                                                                                         |                                |
|                                        | <br>(Except Clear) | <br>(Except Clear) | AMS-DTL-23053/5<br>CLASS 1 & 2 |
| 35 EACH<br>HSTT09 3/32" (2.4mm) I.D.<br>- 7 COLORS<br><br>HSTT12 1/8" (3.2mm) I.D.<br>- 7 COLORS                          | 21 EACH<br>HSTT19 3/16" (4.8mm) I.D.<br>- 7 COLORS<br><br>HSTT25 1/4" (6.4mm) I.D.<br>- 7 COLORS      | 7 EACH<br>HSTT38 3/8" (9.5mm) I.D.<br>- 7 COLORS<br><br>HSTT50 1/2" (12.7mm) I.D.<br>- 7 COLORS         |                                |

Note: Colors include: Red, Yellow, Green, Blue, White, Clear and Black



| KP-HSTTA Contents                                                                                                                   |                                      | For Damp Locations                   |  |
|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------|--|
| ADHESIVE LINED BLACK POLYOLEFIN <i>DAMP-SHRINK</i> ™ HEAT SHRINK TUBING (TYPE HSTTA)<br>IN 6" (152.4mm) LENGTHS<br>3:1 SHRINK RATIO |                                      |                                      |  |
|                                                  |                                      | AMS-DTL-23053/4<br>CLASS 3           |  |
| 14 EACH<br>HSTTA19 3/16" (4.8mm) I.D.                                                                                               | 10 EACH<br>HSTTA38 3/8" (9.5mm) I.D. | 3 EACH<br>HSTTA75 3/4" (19.0mm) I.D. |  |
| 12 EACH<br>HSTTA25 1/4" (6.4mm) I.D.                                                                                                | 6 EACH<br>HSTTA50 1/2" (12.7mm) I.D. | 2 EACH<br>HSTTA100 1" (25.4mm) I.D.  |  |

Order number of kits required.

## Metal Kit Boxes

- Provides organized storage for a wide variety of parts in one convenient location
- Informative label eliminates guesswork:
  - Specifies correct heat shrink usage based on wire range and connector size
  - Provides reorder part number information
- Once top is closed, loose pieces remain in their 8 compartments
- Available with non-adhesive or adhesive lined heat shrink tubing for dry and damp locations



| K-HSTT1 Contents                                                                                                |                                                                                                                    | For Dry Locations                                                                            |  |
|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--|
| BLACK POLYOLEFIN <i>DRY-SHRINK™</i> HEAT SHRINK TUBING (TYPE HSTT)<br>IN 6" (152.4mm) LENGTHS<br>2:1SHRINKRATIO |                                                                                                                    |                                                                                              |  |
|                                                                                                                 |                                                                                                                    | AMS-DTL-23053/5<br>CLASS 1                                                                   |  |
|                                |                                                                                                                    |           |  |
|                                                                                                                 |                                                                                                                    |           |  |
| 42 EACH<br>HSTT06 1/16" (1.6mm) I.D.<br>HSTT12 1/8" (3.2mm) I.D.                                                | 28 EACH<br>HSTT19 3/16" (4.8mm) I.D.<br>21 EACH<br>HSTT25 1/4" (6.4mm) I.D.<br>14 EACH<br>HSTT38 3/8" (9.5mm) I.D. | 7 EACH<br>HSTT50 1/2" (12.7mm) I.D.<br>HSTT75 3/4" (19.0mm) I.D.<br>HSTT100 1" (25.4mm) I.D. |  |



| K-HSTT2 Contents                                                                                                          |  | For Dry Locations                                                                                                                                            |  |
|---------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| MULTIPLE COLOR POLYOLEFIN <i>DRY-SHRINK</i> HEAT SHRINK TUBING (TYPE HSTT)<br>IN 6" (152.4mm) LENGTHS<br>2:1 SHRINK RATIO |  |                                                                                                                                                              |  |
|                                        |  | <br>(Except Clear)                                                      |  |
|                                                                                                                           |  | <br>(Except Clear)                                                      |  |
| 42 EACH<br>HSTT06 1/16" (1.6mm) I.D.<br>- 7 COLORS<br><br>HSTT12 1/8" (3.2mm) I.D.<br>- 7 COLORS                          |  | 28 EACH<br>HSTT19 3/16" (4.8mm) I.D.<br>- 7 COLORS<br>21 EACH<br>HSTT25 1/4" (6.4mm) I.D.<br>- 7 COLORS<br>14 EACH<br>HSTT38 3/8" (9.5mm) I.D.<br>- 7 COLORS |  |
|                                                                                                                           |  | 7 EACH<br>HSTT50 1/2" (12.7mm) I.D.<br>- 7 COLORS<br>HSTT75 3/4" (19.0mm) I.D.<br>- 7 COLORS<br>HSTT100 1" (25.4mm) I.D.<br>- 7 COLORS                       |  |

Note: Colors include: Red, Yellow, Green, Blue, White, Clear and Black



| K-HSTTA Contents                                                                                                                   |                                       | For Damp Locations                      |  |
|------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------|--|
| ADHESIVE LINED BLACK POLYOLEFIN <i>DAMP-SHRINK™</i> HEAT SHRINK TUBING (TYPE HSTTA)<br>IN 6" (152.4mm) LENGTHS<br>3:1 SHRINK RATIO |                                       |                                         |  |
|                                                 |                                       | AMS-DTL-23053/4<br>CLASS 3              |  |
| 24 EACH<br>HSTTA19 3/16" (4.8mm) I.D.                                                                                              | 14 EACH<br>HSTTA38 3/8" (9.5mm) I.D.  | 6 EACH<br>HSTTA75 3/4" (19.0mm) I.D.    |  |
| 20 EACH<br>HSTTA25 1/4" (6.4mm) I.D.                                                                                               | 10 EACH<br>HSTTA50 1/2" (12.7mm) I.D. | 4 EACH<br>HSTTA100 1" (25.4mm) I.D.     |  |
|                                                                                                                                    |                                       | 2 EACH<br>HSTTA150 1 1/2" (38.1mm) I.D. |  |

Order number of kits required.



Mica insulation in the heat element provides extended life to HSG Heat Tools.



HSG Heat tool with stand



Heat Reflector Accessory slips onto heat tools



Heat Concentrator Accessory directs heat to reduce shrink time



DCT — Cutting Tool



Carrying Case

## Heat Tools

| Part Number  | <div>  <div> Listed 826N<br/>(Heat Tools only) </div> <div>  <div> (Heat Tools only) </div> </div> </div>                                                                                                                                                                                                 | Std. Pkg. Qty |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| HSG-115V-650 | <div> <b>Description</b> <ul style="list-style-type: none"> <li>High temperature tool — For use on <i>PANDUIT</i> HSTT, HSTTF, HSTTR, HSTTK, HSTTRA, HST and HSEC</li> <li>Air intake regulator varies temperature from 650°F (344°C) to 900°F (482°C) 115 Volt, 10 AMP</li> <li>Neoprene jacketed cord with molded strain relief</li> <li>Adjustable stand included</li> <li>Replaceable bearings, brushes and heating elements</li> </ul> </div>                            | 1             |
| HSG-115V-500 | <div> <b>Description</b> <ul style="list-style-type: none"> <li>General purpose tool — For use on all types of heat shrink except <i>PANDUIT</i> HSTTT, HSTTF and HSTTK</li> <li>Air intake regulator varies temperature from 500°F (260°C) to 650°F (344°C) 115 Volt, 8 AMP</li> <li>Neoprene jacketed cord with molded strain relief</li> <li>Adjustable stand included</li> <li>Replaceable bearings, brushes and heating elements</li> </ul> </div>                       | 1             |
| HSG-115V-300 | <div> <b>Description</b> <ul style="list-style-type: none"> <li>Low temperature tool — For use on small sizes of heat shrink when heat sensitive items are under or near the heat shrink tube</li> <li>Air intake regulator varies temperature from 300°F (145°C) to 450°F (232°C) 115 Volt, 6 AMP</li> <li>Neoprene jacketed cord with molded strain relief</li> <li>Adjustable stand included</li> <li>Replaceable bearings, brushes and heating elements</li> </ul> </div> | 1             |

## Accessories

| Part Number | Description                                                                                                                                                                   | Std. Pkg. Qty |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| HSG-A1      | <ul style="list-style-type: none"> <li>Shrink tube reflector for tubing up to 3/4" inside diameter</li> <li>Directs heat around the tubing to reduce shrink time</li> </ul>   | 1             |
| HSG-A2      | <ul style="list-style-type: none"> <li>Shrink tube reflector for tubing up to 1 1/2" inside diameter</li> <li>Directs heat around the tubing to reduce shrink time</li> </ul> | 1             |
| HSG-A3      | <ul style="list-style-type: none"> <li>Shrink tube concentrator</li> <li>Directs heat toward tubing and away from heat sensitive items</li> </ul>                             | 1             |
| HSG-A4      | <ul style="list-style-type: none"> <li>Black polyethylene carrying case</li> <li>Stores heat tool, stand and all three accessories</li> </ul>                                 | 1             |
| DCT         | <ul style="list-style-type: none"> <li>Cutting tool for use with HST Thick Wall Heat Shrink Tubing only</li> </ul>                                                            | 1             |

## Replacement Parts

| Part Number | Description                                                                              | Std. Pkg. Qty |
|-------------|------------------------------------------------------------------------------------------|---------------|
| HSG-P1      | <ul style="list-style-type: none"> <li>Brush/Spring Kit</li> </ul>                       | 1             |
| HSG-P2      | <ul style="list-style-type: none"> <li>Switch 20 Amp</li> </ul>                          | 1             |
| HSG-P3      | <ul style="list-style-type: none"> <li>Bearing Kit</li> </ul>                            | 1             |
| HSG-P4      | <ul style="list-style-type: none"> <li>Heat Element 300°F</li> </ul>                     | 1             |
| HSG-P5      | <ul style="list-style-type: none"> <li>Heat Element 500°F</li> </ul>                     | 1             |
| HSG-P6      | <ul style="list-style-type: none"> <li>Thermo Cut-off switch for HSG-115V-300</li> </ul> | 1             |
| HSG-P7      | <ul style="list-style-type: none"> <li>Heat Element 650°F</li> </ul>                     | 1             |

Order number of heat tools, accessories and replacement parts required.

## Heat Shrink Process Defined

### Extrusion/Material

Various thermoplastic materials that will repeatedly melt and flow, such as polyolefin, PVC, etc., are extruded into tube form. If examined at a molecular level, the material would resemble long thin strands weakly connected at various points by crystalline structure. If left in this state, the performance of the tube would be limited to that of the base material.

### Cross Linking

Cross-linking creates high strength bonds between the molecular strands, in addition to the crystalline bonds. This is done with a high voltage or chemical treatment of the material. The cross-link bonds will not break down with heat; this transforms the material from a thermoplastic to a thermoset material that will not melt and flow. The result is a material with superior electrical and mechanical properties.

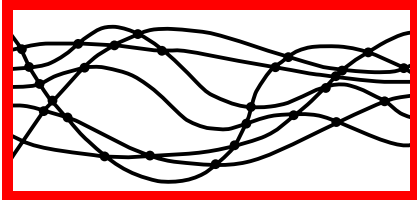
### Expansion

The cross-linked tube is heated and the crystalline bonds dissolve, however, the cross-link bonds remain. The tube now is softer and can be expanded. This causes the cross-link bonds to stretch. When cooled quickly, the crystalline bonds reform, freezing the tube in the expanded size. The tubing has now completed the manufacturing process.

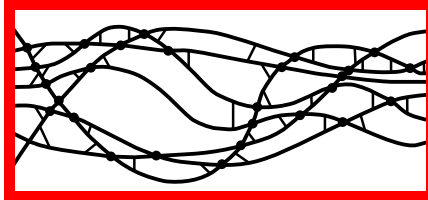
### Recovery

With the proper type and size of tube selected, the tube is placed over the object to be covered. Heat is now applied. This causes the crystalline bonds to dissolve again and the tube softens. The stretched cross-link bonds now return to their original length and the tube shrinks to the diameter it had when cross-linked, unless it encounters an object larger than this diameter. In this case, it conforms tightly to this object.

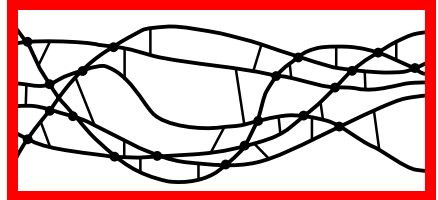
**Extrusion**



**Cross-Link**



**Expansion**



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## Heat Shrink Installation Instructions

### General Instructions

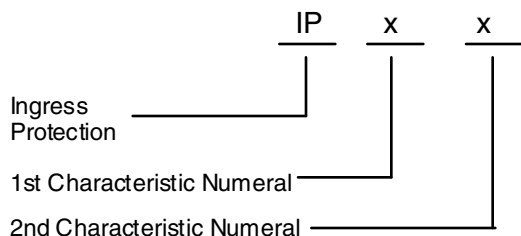
Position heat shrink over the object to be covered. Using a heat gun, soft yellow flame torch, infrared heat source or oven, evenly heat the tubing until it has fully recovered and conforms to the object. Use caution not to char or burn the tubing. See [page 24](#) for the shrink temperature of each type of Panduit tubing.

### Special Instructions for HSTTT and HSTTT4X

TFE tubing is the most difficult to shrink due to its high shrink temperature. TFE shrink tubing must be heated to the gel state 621° F (327° C) to completely recover. This can be recognized when the tubing changes from milky white to clear color. It can be shrunk with a heat gun or torch, however, it is very difficult to use these methods since they have a tendency to overheat the tube in one area while other areas remain too cool. The most reliable way to shrink TFE is in an oven. Position the heat shrink over the object to be covered and place it in an oven set at 800° F (427° C) until the tubing turns clear. Once clear, remove assembly from oven to prevent over heating and allow it to cool at room temperature. Do not quench in cold air or water. Large objects, particularly metal tubing or rods, must be preheated to get a uniform shrink. FEP material, *PANDUIT* HSTTF, is easier to shrink and use of a heat gun, torch or oven will yield good results when the tube is heated to 350° F (177° C).

## IP (Ingress Protection) as defined by the International Standard

The IEC 529 international standard describes a system for classifying the degrees of protection provided by the enclosures of electrical equipment and is a recognized standard around the world. An independent test laboratory has tested *PANDUIT's* Heat Shrink Tubing to the IEC 529 standard. The following information exhibits the IP ratings for Panduit Heat Shrink tubing and how each of the IP ratings relates to the USA.



The first characteristic numeral indicates the level of protection against the ingress of solid foreign objects.

The second characteristic numeral indicates the level of protection against the ingress of water.

| 1st Characteristic Numeral                                      |                                 |                        |
|-----------------------------------------------------------------|---------------------------------|------------------------|
| <i>PANDUIT</i> Heat Shrink                                      | Ingress Protection (IP)         | Meaning for Protection |
|                                                                 | Against ingress of solid object |                        |
|                                                                 | 0                               | Non-Protected          |
|                                                                 | 1                               | 50mm diameter          |
|                                                                 | 2                               | 12.5mm diameter        |
|                                                                 | 3                               | 2.5mm diameter         |
|                                                                 | 4                               | 1.0mm diameter         |
|                                                                 | 5                               | Dust Protected         |
| <i>DRY-SHRINK™</i> , <i>DAMP-SHRINK™</i> and <i>WET-SHRINK™</i> | 6                               | Dust Tight             |

| 2nd Characteristic Numeral              |                          |                        |
|-----------------------------------------|--------------------------|------------------------|
| <i>PANDUIT</i> Heat Shrink              | Ingress Protection (IP)  | Meaning for Protection |
|                                         | Against ingress of water |                        |
|                                         | 0                        | Non-Protected          |
|                                         | 1                        | Vertically Dripping    |
| <i>DRY-SHRINK™</i> , Heat Shrink Tubing | 2                        | Dripping (15° tilted)  |
|                                         | 3                        | Spraying               |
|                                         | 4                        | Splashing              |
|                                         | 5                        | Jetting                |
| <i>DAMP-SHRINK™</i> Heat Shrink Tubing  | 6                        | Powerful Jetting       |
|                                         | 7                        | Temporary Immersion    |
| <i>WET-SHRINK™</i> Heat Shrink Tubing   | 8                        | Continuous Immersion   |

|                                                                                     | Intended Application Location                                                | Ingress Protection Rating | Description                                                                                               |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------|
|  | <b>DRY</b> Locations not normally subject to moisture                        | <b>IP62</b>               | Protected against the ingress of dust but not protected against the ingress of water.                     |
|  | <b>DAMP</b> Locations subjected to moderate degrees of water and moisture    | <b>IP66</b>               | Protected against the ingress of dust and protected against the ingress of a power jet of water.          |
|  | <b>WET</b> Locations are defined as underground burial or immersion in water | <b>IP68</b>               | Protected against the ingress of dust and protected against the ingress of water to a depth of 10 meters. |

Does not include *PANDUIT® DRY-SHRINK HSTTT (TEFLON — TFE)* or *DRY-SHRINK HSTTF (TEFLON —FEP)*

*DRY-SHRINK* Heat Shrink has been tested in accordance with EN 60529 paragraph 13.4 thereby providing *PANDUIT® DRY-SHRINK* Heat Shrink with an ingress protection rating of IP62.

*DAMP-SHRINK* Heat Shrink has been tested in accordance with EN 60529 paragraph 13.4 and with paragraph 14.2.6 thereby providing *PANDUIT DAMP-SHRINK* with an ingress protection rating of IP66.

*WET-SHRINK* Heat Shrink has been tested in accordance with EN 60529 paragraph 13.4, paragraph 14.2.6 and with paragraph 14.2.7 thereby providing *WET-SHRINK* Heat Shrink with an ingress protection rating of IP68. *PANDUIT WET-SHRINK* Heat Shrink has passed EN 60529 paragraph 14.2.7 at depth of 10 meters.

# Heat Shrink Selection Guide

## Recommended Tubing Size for Common Wire Types Based on Location

### For Insulated Wire, Uninsulated Wire and Insulated Wire With Copper Connectors

#### Instructions for tube selection:

1) Determine Location Type.

#### LOCATION:

**DRY—IP62:** A location not normally subject to dampness or wetness. A location classified as dry may be temporarily subject to dampness or wetness, as in the case of a building under construction.

**DAMP—IP66:** Partially protected locations under canopies, marquees, roofed open porches, and like locations, and interior locations subject to moderate degrees of moisture, such as some basements, some barns and some cold-storage warehouses.

**WET—IP68:** Installations underground or in concrete slabs or masonry in direct contact with the earth, and locations subject to saturation with water or other liquids, such as vehicle washing areas, and locations exposed to weather and unprotected.

2) Match wire size to location type under required application - insulated wire, uninsulated wire, or insulated wire with copper connectors.

3) Read corresponding part number.

4) Part numbers with "-Y" are packages containing 6" pieces. Part numbers with "-48" are 48" pieces.

5) Part numbers shown below are for black heat shrink. Consult relevant catalog section for color options.

| Wire Size | Insulated Wire |              |             | Uninsulated Wire |             |             | Insulated Wire with Copper Connector |             |             |
|-----------|----------------|--------------|-------------|------------------|-------------|-------------|--------------------------------------|-------------|-------------|
|           | DRY-SHRINK™    | DAMP-SHRINK™ | WET-SHRINK™ | DRY-SHRINK       | DAMP-SHRINK | WET-SHRINK  | DRY-SHRINK                           | DAMP-SHRINK | WET-SHRINK  |
| 24        | HSTT12-Y       | HSTTA19-Y    | —           | —                | —           | —           | HSTT12-Y                             | —           | —           |
| 22        | HSTT12-Y       | HSTTA19-Y    | —           | —                | —           | —           | HSTT12-Y                             | —           | —           |
| 20        | HSTT12-Y       | HSTTA19-Y    | —           | HSTT06-Y         | —           | —           | HSTT19-Y                             | HSTTA19-Y   | —           |
| 18        | HSTT19-Y       | HSTTA19-Y    | —           | HSTT06-Y         | —           | —           | HSTT19-Y                             | HSTTA19-Y   | —           |
| 16        | HSTT19-Y       | HSTTA25-Y    | —           | HSTT06-Y         | —           | —           | HSTT19-Y                             | HSTTA25-Y   | —           |
| 14        | HSTT19-Y       | HSTTA25-Y    | —           | HSTT12-Y         | HSTTA19-Y   | —           | HSTT19-Y                             | HSTTA25-Y   | —           |
| 12        | HSTT25-Y       | HSTTA38-Y    | HST0.4-48-5 | HSTT12-Y         | HSTTA19-Y   | —           | HSTT25-Y                             | HSTTA38-Y   | HST0.4-48-5 |
| 10        | HSTT25-Y       | HSTTA38-Y    | HST0.4-48-5 | HSTT19-Y         | HSTTA25-Y   | —           | HSTT25-Y                             | HSTTA38-Y   | HST0.4-48-5 |
| 8         | HSTT38-Y       | HSTTA50-Y    | HST0.4-48-5 | HSTT25-Y         | HSTTA25-Y   | —           | HSTT38-Y                             | HSTTA50-Y   | HST0.4-48-5 |
| 6         | HSTT50-Y       | HSTTA50-Y    | HST0.8-48-5 | HSTT25-Y         | HSTTA38-Y   | HST0.4-48-5 | HSTT50-Y                             | HSTTA50-Y   | HST0.8-48-5 |
| 4         | HSTT50-Y       | HSTTA75-Y    | HST0.8-48-5 | HSTT38-Y         | HSTTA38-Y   | HST0.4-48-5 | HSTT50-Y                             | HSTTA75-Y   | HST0.8-48-5 |
| 3         | HSTT50-Y       | HSTTA75-Y    | HST0.8-48-5 | HSTT38-Y         | HSTTA50-Y   | HST0.4-48-5 | HSTT50-Y                             | HSTTA75-Y   | HST0.8-48-5 |
| 2         | HSTT75-Y       | HSTTA100-Y   | HST0.8-48-5 | HSTT50-Y         | HSTTA50-Y   | HST0.8-48-5 | HSTT75-Y                             | HSTTA100-Y  | HST0.8-48-5 |
| 1         | HSTT75-Y       | HSTTA100-Y   | HST0.8-48-5 | HSTT50-Y         | HSTTA50-Y   | HST0.8-48-5 | HSTT75-Y                             | HSTTA100-Y  | HST1.1-48-5 |
| 1/0       | HSTT75-Y       | HSTTA100-Y   | HST1.1-48-5 | HSTT50-Y         | HSTTA75-Y   | HST0.8-48-5 | HSTT75-Y                             | HSTTA100-Y  | HST1.1-48-5 |
| 2/0       | HSTT100-Y      | HSTTA100-Y   | HST1.1-48-5 | HSTT50-Y         | HSTTA75-Y   | HST0.8-48-5 | HSTT100-Y                            | HSTTA100-Y  | HST1.1-48-5 |
| 3/0       | HSTT100-Y      | HSTTA150-Y   | HST1.1-48-5 | HSTT75-Y         | HSTTA100-Y  | HST0.8-48-5 | HSTT100-Y                            | HSTTA150-Y  | HST1.5-48-5 |
| 4/0       | HSTT100-Y      | HSTTA150-Y   | HST1.5-48-5 | HSTT75-Y         | HSTTA100-Y  | HST1.1-48-5 | HSTT100-Y                            | HSTTA150-Y  | HST1.5-48-5 |
| 250       | HSTT100-Y      | HSTTA150-Y   | HST1.5-48-5 | HSTT100-Y        | HSTTA100-Y  | HST1.1-48-5 | HSTT100-Y                            | HSTTA150-Y  | HST1.5-48-5 |
| 300       | HSTT150-48-5   | HSTTA150-Y   | HST1.5-48-5 | HSTT100-Y        | HSTTA100-Y  | HST1.1-48-5 | HSTT150-Y                            | HSTTA150-Y  | HST1.5-48-5 |
| 350       | HSTT150-48-5   | HSTTA150-Y   | HST1.5-48-5 | HSTT100-Y        | HSTTA150-Y  | HST1.5-48-5 | HSTT150-48-5                         | HSTTA150-Y  | HST2.0-48-2 |
| 400       | HSTT150-48-5   | HSTTA150-Y   | HST2.0-48-2 | HSTT100-Y        | HSTTA150-Y  | HST1.5-48-5 | HSTT150-48-5                         | HSTTA150-Y  | HST2.0-48-2 |
| 500       | HSTT150-48-5   | HSTTA150-Y   | HST2.0-48-2 | HSTT100-Y        | HSTTA150-Y  | HST1.5-48-5 | HSTT150-48-5                         | HSTTA150-Y  | HST2.0-48-2 |
| 600       | HSTT150-48-5   | HSTTA150-Y   | HST2.0-48-2 | HSTT150-48-5     | HSTTA150-Y  | HST2.0-48-2 | HSTT150-48-5                         | HSTTA150-Y  | HST2.0-48-2 |
| 700       | HSTT200-48-5   | HSTTA150-Y   | HST2.0-48-2 | HSTT150-48-5     | HSTTA150-Y  | HST2.0-48-2 | HSTT200-48-5                         | —           | HST2.0-48-2 |
| 750       | HSTT200-48-5   | HSTTA150-Y   | HST3.0-48-2 | HSTT150-48-5     | HSTTA150-Y  | HST2.0-48-2 | HSTT200-48-5                         | —           | HST3.0-48-2 |
| 800       | HSTT200-48-5   | —            | HST3.0-48-2 | HSTT150-48-5     | HSTTA150-Y  | HST2.0-48-2 | HSTT200-48-5                         | —           | HST3.0-48-2 |
| 900       | HSTT200-48-5   | —            | HST3.0-48-2 | HSTT150-48-5     | HSTTA150-Y  | HST2.0-48-2 | HSTT200-48-5                         | —           | HST3.0-48-2 |
| 1000      | HSTT200-48-5   | —            | HST3.0-48-2 | HSTT200-48-5     | HSTTA150-Y  | HST2.0-48-2 | HSTT200-48-5                         | —           | HST3.0-48-2 |
| 1250      | HSTT300-48-2   | —            | HST3.0-48-2 | HSTT200-48-5     | HSTTA150-Y  | HST2.0-48-2 | —                                    | —           | HST3.0-48-2 |
| 1500      | HSTT300-48-2   | —            | HST3.0-48-2 | HSTT200-48-5     | —           | HST3.0-48-2 | —                                    | —           | —           |
| 1750      | HSTT300-48-2   | —            | HST3.0-48-2 | HSTT200-48-5     | —           | HST3.0-48-2 | —                                    | —           | —           |
| 2000      | HSTT300-48-2   | —            | HST3.0-48-2 | HSTT200-48-5     | —           | HST3.0-48-2 | —                                    | —           | —           |

Sizing information is based on the following wire types: MTW, THHN, THWN, TFN, THW, TW, TF, RHW, RH, RHH AND UL1015.

THHN is the most common wire type.

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### Size Selection for Heat Shrink Tubing

Generally, the largest tube that shrinks down tightly onto an object should be chosen. This allows the heat shrink tubing maximum stress relief and this will yield the longest service life.

Example:

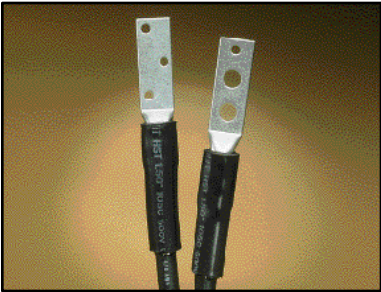
A multiconductor cable needs to be covered with HSTT Type *DRY-SHRINK*™ Heat Shrink. The area to be covered has a measured outside diameter of .700" (17.8mm). The two possibilities are HSTT75-48-5 and HSTT100-48-5.

| Part Number  | Expanded I.D.<br>In. (mm) | Recovered I.D.<br>In. (mm) |
|--------------|---------------------------|----------------------------|
| HSTT75-48-5  | .750" (19.0)              | .375" (9.5)                |
| HSTT100-48-5 | 1.00" (25.4)              | .500" (12.7)               |

The proper choice is HSTT100-48-5 since the tube will recover more than HSTT75-48-5. The HSTT75-48-5 will fit over the .700" (17.8mm) outside diameter; however, this is not the proper choice since it is smaller than the HSTT100-48-5. In general, heat shrink should recover at least 10-20% to reduce stress and yield the longest service life.

### Thick Wall Heat Shrink and Power Connector Selection Guide

Panduit thick wall heat shrink tubing, HST, provides excellent insulation, abrasion protection and strain relief for Panduit's lugs and splices. The HST, with internal hot melt adhesive, is UL Listed per UL486D and CSA Certified for direct burial. It is suitable for outdoor use and wet locations. The following charts on [page 32](#) have been designed to assist in the selection of the correct thick wall heat shrink for a specific lug or splice size.



## Lugs

### Standard Barrel Copper

| Lug Part Numbers | # of Holes | Heat Shrink Part Numbers |
|------------------|------------|--------------------------|
| LCA8             | NONE OR 1  | HST0.4-3-Q               |
| LCA6             | NONE OR 1  | HST0.8-6-X               |
| LCA4             | NONE OR 1  | HST0.8-6-X               |
| LCA2             | NONE OR 1  | HST0.8-6-X               |
| LCA1             | NONE OR 1  | HST1.1-6-X               |
| LCA1/0           | NONE OR 1  | HST1.1-6-X               |
| LCA2/0           | NONE OR 1  | HST1.1-6-X               |
| LCA3/0           | NONE OR 1  | HST1.5-9-X               |
| LCA4/0           | NONE OR 1  | HST1.5-9-X               |
| LCA250           | NONE OR 1  | HST1.5-9-X               |
| LCA300           | 1          | HST1.5-9-X               |
| LCA350           | 1          | HST2.0-9-5               |
| LCA400           | 1          | HST2.0-9-5               |
| LCA500           | 1          | HST2.0-9-5               |
| LCA600           | 1          | HST2.0-9-5               |
| LCD8             | 2          | HST0.4-3-Q               |
| LCD6             | 2          | HST0.8-6-X               |
| LCD4             | 2          | HST0.8-6-X               |
| LCD2             | 2          | HST0.8-6-X               |
| LCD1             | 2          | HST1.1-6-X               |
| LCD1/0           | NONE OR 2  | HST1.1-6-X               |
| LCD2/0           | NONE OR 2  | HST1.1-6-X               |
| LCD3/0           | NONE OR 2  | HST1.5-9-X               |
| LCD4/0           | NONE OR 2  | HST1.5-9-X               |
| LCD250           | NONE OR 2  | HST1.5-9-X               |
| LCD300           | NONE OR 2  | HST1.5-9-X               |
| LCD350           | NONE OR 2  | HST2.0-9-5               |
| LCD400           | NONE OR 2  | HST2.0-9-5               |
| LCD500           | NONE OR 2  | HST2.0-9-5               |
| LCD600           | NONE OR 2  | HST2.0-9-5               |
| LCD750           | NONE OR 2  | HST3.0-12-2              |
| LCD1000          | NONE OR 2  | HST3.0-12-2              |

### Long Barrel Copper

| Lug Part Numbers | # of Holes | Heat Shrink Part Numbers |
|------------------|------------|--------------------------|
| LCB8             | 1          | HST0.4-3-Q               |
| LCB6             | 1          | HST0.8-6-X               |
| LCB4             | 1          | HST0.8-6-X               |
| LCB2             | 1          | HST0.8-6-X               |
| LCB1             | 1          | HST1.1-6-X               |
| LCB1/0           | 1          | HST1.1-6-X               |
| LCB2/0           | 1          | HST1.1-6-X               |
| LCB3/0           | 1          | HST1.5-9-X               |
| LCB4/0           | 1          | HST1.5-9-X               |
| LCB250           | 1          | HST1.5-9-X               |
| LCB300           | 1          | HST1.5-9-X               |
| LCB350           | 1          | HST2.0-9-5               |
| LCB400           | 1          | HST2.0-9-5               |
| LCB500           | 1          | HST2.0-9-5               |
| LCB600           | 1          | HST2.0-9-5               |
| LCB750           | 1          | HST3.0-12-2              |
| LCB800           | 1          | HST3.0-12-2              |
| LCB1000          | 1          | HST3.0-12-2              |
| LCC8             | NONE OR 2  | HST0.4-3-Q               |
| LCC6             | NONE OR 2  | HST0.8-6-X               |
| LCC4             | NONE OR 2  | HST0.8-6-X               |
| LCC2             | NONE OR 2  | HST0.8-6-X               |
| LCC1             | NONE OR 2  | HST0.8-6-X               |
| LCC1/0           | NONE OR 2  | HST1.1-6-X               |
| LCC2/0           | NONE OR 2  | HST1.1-6-X               |
| LCC3/0           | NONE OR 2  | HST1.5-9-X               |
| LCC4/0           | NONE OR 2  | HST1.5-9-X               |
| LCC250           | NONE OR 2  | HST1.5-9-X               |
| LCC300           | NONE OR 2  | HST1.5-9-X               |
| LCC350           | NONE OR 2  | HST2.0-9-5               |
| LCC400           | NONE OR 2  | HST2.0-9-5               |
| LCC500           | NONE OR 2  | HST2.0-9-5               |
| LCC600           | NONE OR 2  | HST2.0-9-5               |
| LCC750           | NONE OR 2  | HST3.0-12-2              |
| LCC800           | 2          | HST3.0-12-2              |
| LCC1000          | NONE OR 2  | HST3.0-12-2              |

### Short Barrel Copper

| Lug Part Numbers | # of Holes | Heat Shrink Part Numbers |
|------------------|------------|--------------------------|
| LCAS8            | 1          | HST0.4-3-Q               |
| LCAS6            | 1          | HST0.8-6-X               |
| LCAS4            | 1          | HST0.8-6-X               |
| LCAS2            | 1          | HST0.8-6-X               |
| LCAS1            | 1          | HST1.1-6-X               |
| LCAS1/0          | 1          | HST1.1-6-X               |
| LCAS2/0          | 1          | HST1.1-6-X               |
| LCAS3/0          | 1          | HST1.5-9-X               |
| LCAS4/0          | 1          | HST1.5-9-X               |
| LCAS250          | 1          | HST1.5-9-X               |

### Aluminum Lugs

| Lug Part Numbers | # of Holes | Heat Shrink Part Numbers |
|------------------|------------|--------------------------|
| LAA6             | 1          | HST0.8-6-X               |
| LAA4             | 1          | HST0.8-6-X               |
| LAA2             | 1          | HST0.8-6-X               |
| LAA1             | 1          | HST1.1-6-X               |
| LCA1             | 1          | HST1.1-6-X               |
| LAA1/0           | 1          | HST1.1-6-X               |
| LAA2/0           | 1          | HST1.1-6-X               |
| LAA3/0           | 1          | HST1.5-9-X               |
| LAA4/0           | 1          | HST1.5-9-X               |
| LAA250           | 1          | HST1.5-9-X               |
| LAA300           | 1          | HST1.5-9-X               |
| LAA350           | 1          | HST2.0-9-5               |
| LAA400           | 1          | HST2.0-9-5               |
| LAA500           | 1          | HST2.0-9-5               |
| LAA750           | 1          | HST3.0-12-2              |
| LAA1000          | 1          | HST3.0-12-2              |
| LAB1/0           | 2          | HST1.1-6-X               |
| LAB2/0           | 2          | HST1.1-6-X               |
| LAB3/0           | 2          | HST1.5-9-X               |
| LAB4/0           | 2          | HST1.5-9-X               |
| LAB250           | 2          | HST1.5-9-X               |
| LAB300           | 2          | HST1.5-9-X               |
| LAB350           | 2          | HST2.0-9-5               |
| LAB400           | 2          | HST2.0-9-5               |
| LAB500           | 2          | HST2.0-9-5               |
| LAB600           | 2          | HST2.0-9-5               |
| LAB750           | 2          | HST3.0-12-2              |
| LAB800           | 2          | HST3.0-12-2              |
| LAB1000          | 2          | HST3.0-12-2              |

#### Lug Notes:

Heat Shrink tubing selected should cover the lug barrel and a minimum of 1 1/2" (2" on tubing size 1.5" and higher) of cable insulation. Shrink tubing at lug end first and continue toward cable end.

## Splices

### Standard Barrel Copper

| Splice Part Numbers | Heat Shrink Part Numbers |
|---------------------|--------------------------|
| SCS8                | HST0.4-6-X               |
| SCS6                | HST0.8-6-X               |
| SCS4                | HST0.8-6-X               |
| SCS2                | HST0.8-6-X               |
| SCS1                | HST1.1-6-X               |
| SCS1/0              | HST1.1-6-X               |
| SCS2/0              | HST1.1-6-X               |
| SCS3/0              | HST1.5-9-X               |
| SCS4/0              | HST1.5-9-X               |
| SCS250              | HST1.5-9-X               |
| SCS300              | HST1.5-9-X               |
| SCS350              | HST2.0-9-5               |
| SCS400              | HST2.0-9-5               |
| SCS500              | HST2.0-9-5               |
| SCS600              | HST2.0-9-5               |
| SCS750              | HST3.0-12-2              |
| SCS1000             | HST3.0-12-2              |

### Long Barrel Copper

| Splice Part Numbers | Heat Shrink Part Numbers |
|---------------------|--------------------------|
| SCL8                | HST0.4-6-X               |
| SCL6                | HST0.8-6-X               |
| SCL4                | HST0.8-6-X               |
| SCL2                | HST0.8-6-X               |
| SCL1                | HST1.1-6-X               |
| SCL1/0              | HST1.1-6-X               |
| SCL2/0              | HST1.1-6-X               |
| SCL3/0              | HST1.5-9-X               |
| SCL4/0              | HST1.5-9-X               |
| SCL250              | HST1.5-9-X               |
| SCL300              | HST1.5-9-X               |
| SCL350              | HST2.0-9-5               |
| SCL400              | HST2.0-9-5               |
| SCL500              | HST2.0-9-5               |
| SCL600              | HST2.0-9-5               |
| SCL750              | HST3.0-12-2              |
| SCL1000             | HST3.0-12-2              |

### Short Barrel Copper

| Splice Part Numbers | Heat Shrink Part Numbers |
|---------------------|--------------------------|
| SCSS8               | HST0.4-6-X               |
| SCSS6               | HST0.8-6-X               |
| SCSS4               | HST0.8-6-X               |
| SCSS2               | HST0.8-6-X               |
| SCSS1               | HST1.1-6-X               |
| SCSS1/0             | HST1.1-6-X               |
| SCSS2/0             | HST1.1-6-X               |
| SCSS3/0             | HST1.5-9-X               |
| SCSS4/0             | HST1.5-9-X               |
| SCSS250             | HST1.5-9-X               |

### Aluminum Long Barrel

| Splice Part Numbers | Heat Shrink Part Numbers |
|---------------------|--------------------------|
| SA6                 | HST0.8-6-X               |
| SA4                 | HST0.8-6-X               |
| SA2                 | HST0.8-6-X               |
| SA1                 | HST1.1-6-X               |
| SA1/0               | HST1.1-6-X               |
| SA2/0               | HST1.1-6-X               |
| SA3/0               | HST1.5-9-X               |
| SA4/0               | HST1.5-9-X               |
| SA250               | HST1.5-9-X               |
| SA300               | HST1.5-9-X               |
| SA350               | HST2.0-9-5               |
| SA400               | HST2.0-9-5               |
| SA500               | HST2.0-9-5               |
| SA600               | HST2.0-9-5               |
| SA750               | HST3.0-12-2              |
| SA800               | HST3.0-12-2              |
| SA1000              | HST3.0-12-2              |

#### Splice Notes:

Heat Shrink tubing selected should cover the splice barrel and a minimum of 1 1/2" (2" on tubing size 1.5" and higher) of cable insulation on each side of the splice. Shrink tubing at the center of the splice first, continue toward one cable end and then the other. Power connector part no. is prefix which indicates lug type and cable size, see Power Connector Catalog (SA101N15C-NL) for complete part numbers.

## Technical Data

### General Information

| Product Type | Material                                                               | Key Characteristics                                                                                                                                                               | Standard Sizes Expanded I.D.                          | Applicable Specifications                                                                                                                 | Standard Colors                                                           | Packaging                                                                                                |
|--------------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| HSTT         | <b>FLEXIBLE POLYOLEFIN</b><br>(Cross-linked)                           | Flexible Heat Shrink Tubing. Flame retardant. Class 2 (Clear) is not flame retardant.                                                                                             | 3/64" to 4"<br>(1.2 to 101.6mm)                       | AMS-DTL-23053/5<br>Class 1<br>(black & colors)<br>Class 2 (Clear)<br>UL Recognized<br>(except clear).<br>CSA Certified<br>(except clear). | Black<br>Clear<br>White<br>Red<br>Yellow<br>Blue<br>Green<br>Yellow/Green | 6" pcs.<br>4' lengths,<br>25' to<br>1000' reels<br>depending on<br>diameter<br>1/2" and 1" cut<br>pieces |
| HSTTV        | <b>HIGHLY FLEXIBLE POLYOLEFIN</b><br>(Cross-linked)                    | Highly flexible heat shrink tubing, highly flame retardant, VW-1 rated. Fast shrink time.                                                                                         | 3/32" to 1 1/2"<br>(2.4 to 38.1mm)                    | UL (VW-1) Recognized<br>CSA Certified<br>AMS-DTL-23053/5<br>Class 3                                                                       | Black<br>Red<br>Yellow<br>Blue<br>White                                   | 4' lengths<br>100' to<br>1000' reels<br>depending on<br>diameter                                         |
| HSTTR        | <b>SEMI-RIGID POLYOLEFIN</b><br>(Cross-linked)                         | Semi-rigid. High strength. Flame retardant.                                                                                                                                       | 3/64" to 1"<br>(1.2 to 25.4mm)                        | AMS-DTL-23053/6<br>Class 1 (Black)                                                                                                        | Black                                                                     | 4' lengths                                                                                               |
| HSTTV A      | <b>DUAL WALL POLYOLEFIN</b><br>(Cross-linked)                          | Adhesive lined, flexible, flame retardant outer wall thin wall tubing.                                                                                                            | 1/8" to 1 1/2"<br>(3.2 to 38.1mm)                     | AMS-DTL-23053/4<br>Class 2                                                                                                                | Black                                                                     | 6" pcs.<br>4' lengths                                                                                    |
| HSTTRA       | <b>DUAL WALL POLYOLEFIN</b><br>(Cross-linked)                          | Adhesive lined, flexible, flame retardant outer thin wall tubing. High shrink ratio.                                                                                              | 1/8" to 1"<br>(3.2 to 25.4mm)                         | AMS-DTL-23053/4<br>Class 1                                                                                                                | Black                                                                     | 4' lengths                                                                                               |
| HSTTA        | <b>DUAL WALL POLYOLEFIN</b><br>(Cross-linked)                          | Adhesive lined, flexible, flame retardant outer thin wall tubing. High shrink ratio.                                                                                              | 3/16" to 1 1/2"<br>(4.8 to 38.1mm)                    | AMS-DTL-23053/4<br>Class 3                                                                                                                | Black                                                                     | 6" pcs.<br>4' lengths                                                                                    |
| HST          | <b>HEAVY-WALL DUAL WALL POLYOLEFIN</b><br>(Cross-linked)               | Excellent environmental protection, for use either above or below ground. Encapsulating inner wall.                                                                               | 0.4" to 3.0"<br>(10.1 to 76.2mm)                      | AMS-DTL-23053/15<br>UL Listed<br>CSA Certified                                                                                            | Black<br>Red                                                              | 3" pcs.<br>6" pcs.<br>9" pcs.<br>12" pcs.<br>4' lengths                                                  |
| HSTTP        | <b>POLYVINYLCHLORIDE – PVC</b><br>(Cross-linked/Heat Shrinkable)       | Flexible, highly flame retardant tubing. Resistant to most fuels and oils.                                                                                                        | 3/64" to 2"<br>(1.2 to 50.8mm)                        | UL(VW-1) Recognized<br>CSA Certified                                                                                                      | Black                                                                     | 25' to<br>1000' reels<br>depending on<br>diameter                                                        |
| HSTTN        | <b>ELASTOMER NEOPRENE</b><br>(Cross-linked)                            | Highly flexible, highly abrasion resistant, heavy duty, tough tubing. Highly flame retardant material. Extended operating temperature.                                            | 1/4" to 3"<br>(6.4mm to 76.2mm)                       | AMS-DTL-23053/1<br>Class 2<br>Meets VW-1                                                                                                  | Black                                                                     | 25' and 100' Reels                                                                                       |
| HSTTK        | <b>FLUOROPLASTIC KYNAR▲</b><br>(Cross-linked)                          | Excellent abrasion and chemical resistance, highly flame retardant, semi-rigid, transparent insulation.                                                                           | 3/64" to 1"<br>(1.2 to 25.4mm)                        | AMS-DTL-23053/8<br>UL (VW-1) Recognized                                                                                                   | Clear                                                                     | 4' lengths                                                                                               |
| HSTTT        | <b>FLUOROPLASTIC TEFLON■ (TFE) –</b><br>Polytetrafluorethylene         | Highly heat resistant, highly chemical resistant, widest temperature range of any plastic material. Excellent outdoor exposure. A low coefficient of friction.                    | 30 to 0 AWG and<br>9/16" to 1 1/2"<br>(0.9 to 38.1mm) | AMS-DTL-23053/12<br>Class 3                                                                                                               | Milky Clear                                                               | 4' lengths                                                                                               |
| HSTTT4X      | <b>FLUOROPLASTIC TEFLON■ (TFE) –</b><br>Polytetrafluorethylene         | Highly heat resistant, highly chemical resistant, widest temperature range of any plastic material. Excellent outdoor exposure. A low coefficient of friction. High shrink ratio. | 5/64" to 1 1/4"<br>(2.0 to 31.8mm)                    | AMS-DTL-23053/12<br>Class 5                                                                                                               | Milky Clear                                                               | 4' lengths                                                                                               |
| HSTTF        | <b>FLUOROPLASTIC TEFLON■ (FEP) –</b><br>Fluorinated Ethylene Propylene | Same as HSTTT characteristics plus it has lower shrink temperature.                                                                                                               | 24 to 0AWG and<br>1/2" to 2"<br>(0.8 to 50.8mm)       | AMS-DTL-25053/11<br>Class 1                                                                                                               | Clear                                                                     | 4' lengths                                                                                               |

▲ KYNAR is a registered trademark of ELF Atochem

■ TEFLON is a registered trademark of E.I. DuPont Co.

## Technical Data

### General Information

| Product Type | Material                                                               | Operating Temperature Range          | Shrink Temp.                                                  | Shrink Ratio ‡ | Longitudinal Shrinkage | Typical Applications                                                                                                                                                                                                                        | Page No. |
|--------------|------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------|----------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| HSTT         | <b>FLEXIBLE POLYOLEFIN</b><br>(Cross-linked)                           | -67°F (-55°C)<br>to<br>275°F (135°C) | 248°F (120°C)                                                 | 2:1            | +5%<br>-5%             | Economical and easy way to insulate, protect, harness and identify electrical and electronic components in a wide variety of applications. Black is U.V. Resistant.                                                                         | 4-10     |
| HSTTV        | <b>HIGHLY FLEXIBLE POLYOLEFIN</b><br>(Cross-linked)                    | -67°F (-55°C)<br>to<br>257°F (125°C) | 185°F (85°C)                                                  | 2:1            | +1%<br>-10%            | Use where UL recognition with VW-1 rating is required. Use where the wire component cannot tolerate higher shrink temperatures, reduces application time to insulate, protect, identify, etc. Black is U.V. Resistant.                      | 11-13    |
| HSTTR        | <b>SEMI-RIGID POLYOLEFIN</b><br>(Cross-linked)                         | -67°F (-55°C)<br>to<br>275°F (135°C) | 275°F (135°C)                                                 | 2:1            | +5%<br>-5%             | Strain relief and insulation of soldered or crimped connections when protection is needed, tough covering for delicate components, capacitor covers, diodes and resistors. Black is U.V. Resistant.                                         | 14       |
| HSTTVA       | <b>DUAL WALL POLYOLEFIN</b><br>(Cross-linked)                          | -67°F (-55°C)<br>to<br>230°F (110°C) | 250°F (121°C)                                                 | 2:1            | +1%<br>-5%             | Seals and protects components from moisture and corrosion. Use where a flexible tubing is needed. Suitable for damp locations.                                                                                                              | 20       |
| HSTTRA       | <b>DUAL WALL POLYOLEFIN</b><br>(Cross-linked)                          | -67°F (-55°C)<br>to<br>230°F (110°C) | 392°F (200°C)                                                 | 2.5:1          | +1%<br>-10%            | Environmentally seals and protects components forming a rugged and heavy duty covering. The 2.5:1 shrink ratio is a benefit when working with connector to cable transitions. Encapsulated components. Suitable for damp locations.         | 22       |
| HSTTA        | <b>DUAL WALL POLYOLEFIN</b><br>(Cross-linked)                          | -67°F (-55°C)<br>to<br>230°F (110°C) | 250°F (121°C)                                                 | 3:1            | +1%<br>-15%            | Environmentally seals and protects components. The 3:1 shrink ratio is a benefit when working with connector to cable transitions. Encapsulated components. Suitable for damp locations.                                                    | 21       |
| HST          | <b>HEAVY-WALL DUAL WALL POLYOLEFIN</b><br>(Cross-linked)               | -85°F (-65°C)<br>to<br>230°F (110°C) | 250°F (121°C)                                                 | 3:1            | +1%<br>-10%            | Seals and protects electrical connections and splices above or below ground, 3:1 shrink ratio. Suitable for outdoor and wet locations.                                                                                                      | 23       |
| HSTTP        | <b>POLYVINYL CHLORIDE – PVC</b><br>(Cross-linked/Heat Shrinkable)      | -4°F (-20°C)<br>to<br>221°F (105°C)  | 250°F (121°C)                                                 | 2:1            | +1%<br>-20%            | Ripple free conformance around sharp bends as in appliance handles and bus bars. Good cut through and solder-iron resistance. Black is U.V. Resistant.                                                                                      | 15       |
| HSTTN        | <b>ELASTOMER NEOPRENE</b><br>(Cross-linked)                            | -94°F (-70°C)<br>to<br>250°F (121°C) | 275°F (135°C)                                                 | 2:1            | +1%<br>-10%            | Insulation and abrasion resistance, extensive military uses on vehicles and ship-board. Excellent chemical resistant especially to fuels and oils. Black is U.V. Resistant.                                                                 | 16       |
| HSTTK        | <b>FLUOROPLASTIC KYNAR▲</b><br>(Cross-linked)                          | -67°F (-55°C)<br>to<br>347°F (175°C) | 350°F (176°C)                                                 | 2:1            | +10%<br>-10%           | Protection and strain relief for wires or connectors in a high temperature or solvent rich environment. Insulation of heater leads.                                                                                                         | 19       |
| HSTTT        | <b>FLUOROPLASTIC TEFLON■ (TFE) –</b><br>Polytetrafluoroethylene        | -88°F (-67°C)<br>to<br>482°F (250°C) | 625°F (329°C).<br>See instructions on <a href="#">page 29</a> | 2:1            | +20%<br>-20%           | High insulation and abrasion resistance. High temperature, strain relief, resists corrosive atmospheres, self lubrication and non-wetting. Can be used with fiber optics and as a strain relief for high density connectors. U.V. Resistant | 17       |
| HSTTT4X      | <b>FLUOROPLASTIC TEFLON■ (TFE) –</b><br>Polytetrafluoroethylene        | -88°F (-67°C)<br>to<br>482°F (250°C) | 625°F (329°C).<br>See instructions on <a href="#">page 29</a> | 4:1            | +20%<br>-20%           | High insulation and abrasion resistance. High temperature, strain relief, resists corrosive atmospheres, self lubrication and non-wetting. Can be used with fiber optics and as a strain relief for high density connectors. U.V. Resistant | 17       |
| HSTTF        | <b>FLUOROPLASTIC TEFLON■ (FEP) –</b><br>Fluorinated Ethylene Propylene | -88°F (-67°C)<br>to<br>392°F (200°C) | 350°F (176°C)                                                 | 1.3:1          | +15%<br>-15%           | All the advantages of TFE tubing plus the advantage of a lower shrink temperature. Can be used with fiber optics and as a strain relief for high density connectors. U.V. Resistant                                                         | 18       |

‡ Dimensions are approximate. Refer to the ordering information for exact Minimum Expanded and Maximum Recovered I.D

## Technical Data

### Specifications/Test Methods for PANDUIT Heat Shrink Tubing

| Product Type | Material                                                                | Tensile Strength                            | Ultimate Elongation      | Heat Aging                                                 | Heat Shock                                                 | Low Temperature Flexibility | Secant Modulus                                    |
|--------------|-------------------------------------------------------------------------|---------------------------------------------|--------------------------|------------------------------------------------------------|------------------------------------------------------------|-----------------------------|---------------------------------------------------|
| HSTT         | <b>FLEXIBLE POLYOLEFIN</b><br>(Cross-linked)                            | 1500 P.S.I.<br>(10.3 MPa) MIN.<br>ASTM D638 | 200% (MIN.)<br>ASTM D638 | 175°C/168 hrs.<br>100% MIN.<br>Elongation                  | 250°C/4 hrs.<br>No dripping,<br>No flowing,<br>No cracking | -55°C/4 hrs.<br>No cracking | 25,000 P.S.I.<br>(172.4 MPa)<br>MAX.<br>ASTM D882 |
| HSTTV        | <b>HIGHLY FLEXIBLE POLYOLEFIN</b><br>(Cross-linked)                     | 1500 P.S.I.<br>(10.3 MPa) MIN.<br>ASTM D638 | 200% (MIN.)<br>ASTM D638 | 150°C/168 hrs.<br>100% MIN.<br>Elongation                  | 250°C/4 hrs.<br>No dripping,<br>No flowing,<br>No cracking | -25°C/4 hrs.<br>No cracking | 25,000 P.S.I.<br>(172.4 MPa)<br>MAX.<br>ASTM D882 |
| HSTTR        | <b>SEMI-RIGID POLYOLEFIN</b><br>(Cross-linked)                          | 2000 P.S.I.<br>(13.8 MPa) MIN.<br>ASTM D638 | 200% (MIN.)<br>ASTM D638 | 175°C/168 hrs.<br>100% MIN.<br>Elongation                  | 250°C/4 hrs.<br>No dripping,<br>No flowing,<br>No cracking | -55°C/4 hrs.<br>No cracking | 25,000 P.S.I.<br>(172.4 MPa)<br>MIN.<br>ASTM D882 |
| HSTTV A      | <b>DUAL WALL POLYOLEFIN</b><br>(Cross-linked)                           | 1500 P.S.I.<br>(10.3 MPa) MIN.<br>ASTM D638 | 200% (MIN.)<br>ASTM D638 | 175°C/168 hrs.<br>No dripping<br>No flowing<br>No cracking | 250°C/4 hrs.<br>No dripping,<br>No flowing,<br>No cracking | N/A                         | 25,000 P.S.I.<br>(172.4 MPa)<br>MAX.<br>ASTM D882 |
| HSTTRA       | <b>DUAL WALL POLYOLEFIN</b><br>(Cross-linked)                           | 1500 P.S.I.<br>(10.3 MPa) MIN.<br>ASTM D638 | 200% (MIN.)<br>ASTM D638 | 175°C/168 hrs.<br>No dripping<br>No flowing<br>No cracking | 250°C/4 hrs.<br>No dripping,<br>No flowing,<br>No cracking | N/A                         | 25,000 P.S.I.<br>(172.4 MPa)<br>MIN.<br>ASTM D882 |
| HSTTA        | <b>DUAL WALL POLYOLEFIN</b><br>(Cross-linked)                           | 1300 P.S.I.<br>(9.0 MPa) MIN.<br>ASTM D638  | 250% (MIN.)<br>ASTM D638 | 175°C/168 hrs.<br>No dripping<br>No flowing<br>No cracking | 250°C/4 hrs.<br>No dripping,<br>No flowing,<br>No cracking | N/A                         | 25,000 P.S.I.<br>(172.4 MPa)<br>MAX.<br>ASTM D882 |
| HST          | <b>HEAVY-WALL DUAL WALL POLYOLEFIN</b><br>(Cross-linked)                | 1200 P.S.I.<br>(8.3 MPa) MIN.<br>ASTM D638  | 200% (MIN.)<br>ASTM D638 | 175°C/168 hrs.<br>100% MIN.<br>Elongation                  | 225°C/4 hrs.<br>No dripping,<br>No flowing,<br>No cracking | -55°C/4 hrs.<br>No cracking | 25,000 P.S.I.<br>(172.4 MPa)<br>MAX.<br>ASTM D882 |
| HSTTP        | <b>POLYVINYLCHLORIDE – PVC</b><br>(Cross-linked/Heat Shrinkable)        | 2000 P.S.I.<br>(13.8 MPa) MIN.<br>ASTM D638 | 200% (MIN.)<br>ASTM D638 | 135°C/168 hrs.<br>130% MIN.<br>Elongation                  | 200°C/4 hrs.<br>No dripping,<br>No flowing,<br>No cracking | No cracking<br>ASTM 746     | 25,000 P.S.I.<br>(172.4 MPa)<br>MAX.<br>ASTM D882 |
| HSTTN        | <b>ELASTOMER NEOPRENE</b><br>(Cross-linked)                             | 1500 P.S.I.<br>(10.3 MPa) MIN.<br>ASTM D412 | 225% (MIN.)<br>ASTM D412 | 121°C/168 hrs.<br>175% MIN.<br>Elongation                  | 200°C/4 hrs.<br>No dripping,<br>No flowing,<br>No cracking | -70°C/4 hrs.<br>No cracking | N/A                                               |
| HSTTK        | <b>FLUOROPLASTIC KYNAR▲</b><br>(Cross-linked)                           | 5000 P.S.I.<br>(34.5 MPa) MIN.<br>ASTM D638 | 150% (MIN.)<br>ASTM D638 | 250°C/168 hrs.<br>50% MIN.<br>Elongation                   | 300°C/4 hrs.<br>No dripping,<br>No flowing,<br>No cracking | -55°C/4 hrs.<br>No cracking | 120,000 P.S.I.<br>(690 MPa)<br>MIN.<br>ASTM D882  |
| HSTTT        | <b>FLUOROPLASTIC TEFLON ■ (TFE) –</b><br>Polytetrafluorethylene         | 2500 P.S.I.<br>(17.3 MPa) MIN.<br>ASTM D638 | 200% (MIN.)<br>ASTM D638 | 350°C/96 hrs.<br>200% MIN.<br>Elongation                   | 400°C/4 hrs.<br>No dripping,<br>No flowing,<br>No cracking | -65°C/4 hrs.<br>No cracking | N/A                                               |
| HSTTT4X      | <b>FLUOROPLASTIC TEFLON ■ (TFE) –</b><br>Polytetrafluorethylene         | 2500 P.S.I.<br>(17.3 MPa) MIN.<br>ASTM D638 | 200% (MIN.)<br>ASTM D638 | 350°C/96 hrs.<br>200% MIN.<br>Elongation                   | 400°C/4 hrs.<br>No dripping,<br>No flowing,<br>No cracking | -65°C/4 hrs.<br>No cracking | N/A                                               |
| HSTTF        | <b>FLUOROPLASTIC TEFLON ■ (FEP) –</b><br>Fluorinated Ethylene Propylene | 2000 P.S.I.<br>(13.8 MPa) MIN.<br>ASTM D638 | 200% (MIN.)<br>ASTM D638 | 250°C/96 hrs.<br>200% MIN.<br>Elongation                   | N/A                                                        | -65°C/4 hrs.<br>No cracking | N/A                                               |

▲ KYNAR is a registered trademark of ELF Atochem

■ TEFLON is a registered trademark of E.I. DuPont Co.

## Technical Data

### Specifications/Test Methods for PANDUIT Heat Shrink Tubing

| Product Type | Material                                                               | Specific Gravity                           | Copper Corrosion                   | Flammability                                                        | Water Absorption        | Fluid Resistance                                                                                | Volume Resistivity                 | Dielectric Strength                                                                                           | Page No. |
|--------------|------------------------------------------------------------------------|--------------------------------------------|------------------------------------|---------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------------------|------------------------------------|---------------------------------------------------------------------------------------------------------------|----------|
| HSTT         | <b>FLEXIBLE POLYOLEFIN</b><br>(Cross-linked)                           | Class 1, 1.35<br>Class 2, 1.0<br>ASTM D792 | 175°C/<br>16 hrs.<br>No corrosion  | Class 1 Self Extinguishing<br>Class 2 N/A<br>ASTM D2671 Procedure B | 0.5% MAX.<br>ASTM D570  | Tensile Strength 1000 P.S.I. MIN. (6.9MPa)<br>Dielectric Strength 400 V/MIL MIN. (15.8 Kv/mm)   | 10 <sup>14</sup> MIN.<br>ASTM D876 | 500 V/MIL.<br>(19.7 Kv/mm) MIN.<br>ASTM D2671                                                                 | 4-10     |
| HSTTV        | <b>HIGHLY FLEXIBLE POLYOLEFIN</b><br>(Cross-linked)                    | 1.50<br>ASTM D792                          | 175°C/<br>16 hrs.<br>No corrosion  | Self Extinguishing<br>ASTM D2671 Procedure C                        | 0.5% MAX.<br>ASTM D570  | Tensile Strength 1000 P.S.I. MIN. (6.9MPa)<br>Dielectric Strength 400 V/MIL MIN. (15.8 Kv/mm)   | 10 <sup>14</sup> MIN.<br>ASTM D876 | 500 V/MIL.<br>(19.7 Kv/mm) MIN.<br>ASTM D2671                                                                 | 11-13    |
| HSTTR        | <b>SEMI-RIGID POLYOLEFIN</b><br>(Cross-linked)                         | 1.35<br>ASTM D792                          | 150°C/<br>16 hrs.<br>No corrosion  | Self Extinguishing<br>ASTM D2671 Procedure B                        | 0.5% MAX.<br>ASTM D570  | Tensile Strength 1600 P.S.I. MIN. (11.1MPa)<br>Dielectric Strength 400 V/MIL MIN. (15.8 Kv/mm)  | 10 <sup>14</sup> MIN.<br>ASTM D876 | 500 V/MIL.<br>(19.7 Kv/mm) MIN.<br>ASTM D2671                                                                 | 14       |
| HSTTVA       | <b>DUAL WALL POLYOLEFIN</b><br>(Cross-linked)                          | N/A                                        | 121°C/<br>16 hrs.<br>No corrosion  | Self Extinguishing<br>ASTM D2671 Procedure B                        | 0.5% MAX.<br>ASTM D570  | Tensile Strength 1000 P.S.I. MIN. (6.9 MPa)<br>Dielectric Strength 400 V/MIL MIN. (15.8 Kv/mm)  | 10 <sup>12</sup> MIN.<br>ASTM D876 | 500 V/MIL.<br>(19.7 Kv/mm) MIN.<br>ASTM D2671                                                                 | 20       |
| HSTTRA       | <b>DUAL WALL POLYOLEFIN</b><br>(Cross-linked)                          | N/A                                        | 121°C/<br>16 hrs.<br>No corrosion  | N/A                                                                 | 0.5% MAX.<br>ASTM D570  | Tensile Strength 1000 P.S.I. MIN. (6.9 MPa)<br>Dielectric Strength 400 V/MIL MIN. (15.8 Kv/mm)  | 10 <sup>15</sup> MIN.<br>ASTM D876 | 500 V/MIL.<br>(19.7 Kv/mm) min.<br>ASTM D2671                                                                 | 22       |
| HSTTA        | <b>DUAL WALL POLYOLEFIN</b><br>(Cross-linked)                          | N/A                                        | 121°C/<br>16 hrs.<br>No corrosion  | Self Extinguishing<br>ASTM D2671 Procedure B                        | 1.0% MAX.<br>ASTM D570  | Tensile Strength 900 P.S.I. MIN. (6.2 MPa)<br>Dielectric Strength 200 V/MIL MIN. (7.9 Kv/mm)    | 10 <sup>12</sup> MIN.<br>ASTM D876 | 300 V/MIL.<br>(11.8 Kv/mm) MIN.<br>ASTM D2671                                                                 | 21       |
| HST          | <b>HEAVY-WALL DUAL WALL POLYOLEFIN</b><br>(Cross-linked)               | 1.2 MAX.                                   | 120°C/<br>16 hrs.<br>No corrosion  | Self Extinguishing<br>ASTM D2671 Procedure C                        | 0.5% MAX.<br>ASTM D570  | Tensile Strength 750 P.S.I. MIN. (5.2 MPa)<br>Dielectric Strength 200 V/MIL MIN. (7.9 Kv/mm)    | 10 <sup>13</sup> MIN.<br>ASTM D876 | 200 V/MIL.<br>(7.9 Kv/mm) MIN.<br>ASTM D2671                                                                  | 23       |
| HSTTP        | <b>POLYVINYL-CHLORIDE – PVC</b><br>(Cross-linked/Heat Shrinkable)      | 1.35 MAX.                                  | 135°C/<br>168 hrs.<br>No corrosion | Self Extinguishing<br>ASTM D876                                     | 1.0% MAX.<br>ASTM D570  | Tensile Strength 1800 P.S.I. MIN. (MPa)<br>Dielectric Strength 280 V/MIL MIN.                   | 10 <sup>11</sup> MIN.<br>ASTM D876 | 400 V/MIL.<br>(15.8 Kv/mm) MIN.<br>ASTM D2671                                                                 | 15       |
| HSTTN        | <b>ELASTOMER NEOPRENE</b><br>(Cross-linked)                            | 1.30<br>ASTM D792                          | 150°C/<br>16 hrs.<br>No corrosion  | Self Extinguishing<br>ASTM D876                                     | 1.0% MAX.<br>ASTM D570  | Tensile Strength 1000 P.S.I. MIN. (6.9 MPa)<br>Dielectric Strength 250 V/MIL MIN. (9.8 Kv/mm)   | 10 <sup>11</sup> MIN.<br>ASTM D876 | 300V/MIL.<br>(11.8 Kv/mm) MIN.<br>ASTM D2671                                                                  | 16       |
| HSTTK        | <b>FLUOROPLASTIC KYNAR▲</b><br>(Cross-linked)                          | 1.8 MAX.<br>ASTM D792                      | ** Non-corrosive                   | Pass MIL-DTL-23053/8B 4.6.15.3                                      | 0.5% MAX.<br>ASTM D570  | Tensile Strength 5000 P.S.I. MIN. (34.5 MPa)<br>Dielectric Strength 500 V/MIL MIN. (19.7 Kv/mm) | 10 <sup>13</sup> MIN.<br>ASTM D876 | Size to .500" (12.7mm) 800V/MIL. (31.5 Kv/mm) min. Over .500" (12.7mm) 600 V/MIL (23.6 Kv/mm) min. ASTM D2671 | 19       |
| HSTTT        | <b>FLUOROPLASTIC TEFLON■ (TFE) –</b><br>Polytetrafluorethylene         | 2.2 MAX.<br>ASTM D792                      | ** Non-corrosive                   | N/A Non-flammable                                                   | 0.01% MAX.<br>ASTM D570 | No change N/A                                                                                   | 10 <sup>18</sup> MIN.<br>ASTM D876 | 800 V/MIL.<br>(31.5 Kv/mm) MIN.<br>ASTM D2671                                                                 | 17       |
| HSTTT4X      | <b>FLUOROPLASTIC TEFLON■ (TFE) –</b><br>Polytetrafluorethylene         | 2.2 MAX.<br>ASTM D792                      | ** Non-corrosive                   | N/A Non-flammable                                                   | 0.01% MAX.<br>ASTM D570 | No change N/A                                                                                   | 10 <sup>18</sup> MIN.<br>ASTM D876 | 800 V/MIL.<br>(31.5 Kv/mm) MIN.<br>ASTM D2671                                                                 | 17       |
| HSTTF        | <b>FLUOROPLASTIC TEFLON■ (FEP) –</b><br>Fluorinated Ethylene Propylene | 2.2 MAX.                                   | ** Non-corrosive                   | N/A Non-flammable                                                   | 0.01% MAX.<br>ASTM D570 | No change N/A                                                                                   | 10 <sup>17</sup> MIN.<br>ASTM D876 | 500 V/MIL. MIN. (19.7Kv/mm) MIN. ASTM D2671                                                                   | 18       |

\*\* Material is non-corrosive at operating temperatures

## Power Connectors used with *DRY-SHRINK*<sup>™</sup>, *DAMP-SHRINK*<sup>™</sup> and *WET-SHRINK*<sup>™</sup> Heat Shrink

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**PANDUIT®** offers a broad line of Power Connectors and Tools for virtually any application in sizes #14 AWG thru 1000 MCM. See Power Connector Catalog, SA101N15C-NL or Network Grounding Systems Catalog, SA101N516-NL for complete information.

### Selection

Panduit offers two basic styles of connectors, compression and mechanical, for use in grounding and power cable connections.

#### Compression Connectors

Compression connectors provide reliable, permanently crimped connections in sizes matched for each conductor size. They are easy to install and provide a simplified means of inspection of a proper crimp.

Panduit *WET-SHRINK* Type HST Thick Wall Heat Shrink and Panduit Compression Splice Connectors are UL listed to standard 486D, for direct burial applications.

*WET-SHRINK* Type HST Thick Wall Heat Shrink insulates Panduit Compression Lug barrels in a wide variety of applications.



#### Custom Lugs

Panduit has incorporated manufacturing processes that permit quick custom lug capabilities. Panduit offers a wide variety of dimensional choices for #8 AWG to 250 MCM copper compression lugs. Contact factory for complete details.

Panduit *DRY-SHRINK* Thin Wall Heat Shrink is available in custom cut lengths. Contact factory for details.

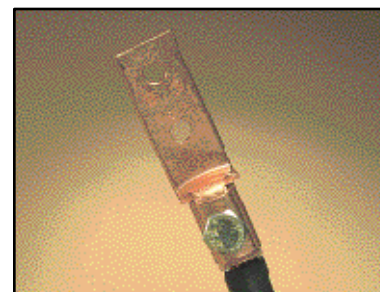


#### Mechanical Connectors

Panduit offers this economical, reusable type of connector in many styles in both copper and dual rated aluminum types. Each size connector can be used for a wide range of conductor sizes which reduces inventory costs. Special installation tools are not required.

#### Tooling

Panduit's broad line of crimping tools include hand operated controlled-cycle, hydraulic and battery powered. Also available are *UNI-DIE*<sup>™</sup> dieless tools.



# Non-Shrink PVC Tubing

## PVC Tubing

- Provides insulation and protection for lead wires, wire harness assemblies, soldered joints and components in electrical and electronic equipment
- Material: Polyvinyl chloride (PVC)
- Voltage Rating: 300V and 600V
- All purpose, flexible, non-shrinkable
- Resistant to heat and moisture
- Applicable Specifications:
  - UL224 VW-1
  - CSA C22.2 No. 198.1 (OFT)
  - ASTM D-922, Grade CFR
  - MIL-I-631, Type F, Form U, Grade C
  - Class 1, Category 1

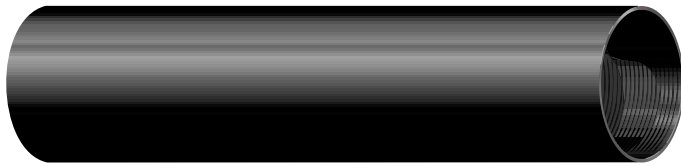


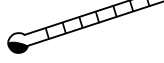
## The Functional Part Number System Makes Ordering Easy

### Non-Shrink PVC Tubing Part Number System

#### TV105 - 19 M

| Type  | Nominal Size |               | Package Quantity    |
|-------|--------------|---------------|---------------------|
| TV105 | 24 - 24 AWG  | 4 - 4 AWG     | L - 50' (15.2M)     |
|       | 22 - 22 AWG  | 3 - 3 AWG     | C - 100' (30.5M)    |
|       | 20 - 20 AWG  | 2 - 2 AWG     | TL - 250' (76.2M)   |
|       | 19 - 19 AWG  | 1 - 1 AWG     | D - 500' (152.4M)   |
|       | 18 - 18 AWG  | 0 - 0 AWG     | M - 1000' (304.8M)  |
|       | 17 - 17 AWG  | .25 - 1/4"    | 2.5M - 2500' (762M) |
|       | 16 - 16 AWG  | .31 - 5/16"   |                     |
|       | 15 - 15 AWG  | .38 - 3/8"    |                     |
|       | 14 - 14 AWG  | .44 - 6/16"   |                     |
|       | 13 - 13 AWG  | .50 - 1/2"    |                     |
|       | 12 - 12 AWG  | .56 - 9/16"   |                     |
|       | 11 - 11 AWG  | .63 - 5/8"    |                     |
|       | 10 - 10 AWG  | .75 - 3/4"    |                     |
|       | 9 - 9 AWG    | .88 - 7/8"    |                     |
|       | 8 - 8 AWG    | 1.0 - 1"      |                     |
|       | 7 - 7 AWG    | 1.25 - 1 1/4" |                     |
|       | 6 - 6 AWG    | 1.50 - 1 1/2" |                     |
|       | 5 - 5 AWG    |               |                     |



| Type                                                                                                  | Materials                                                                                                                |                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>TV105</b>                                                                                          |  Polyvinyl Chloride                   |                                                                                                                                               |
| <br>300V/600V**     | <br>-4°F to 221°F<br>(-20°C to 105°C) | <br>MIL-I-631, Type F,<br>Form U Grade C<br>Class 1, Cat 1 |
| <br>Highly Flexible | <br>Oil Resistant                     | <br>Highly Flame<br>Retardant VW-1                         |

## PVC Tubing Ordering Information

| <br>Part Number<br>Clear | Part Number<br>Black | Nominal<br>Size/<br>Trade<br>Name | Inside Diameter- In. (mm) |                | Wall<br>Thickness<br>In. (mm) | Max.<br>Volt<br>Rating** | Std.<br>Pkg.<br>Qty.*  | Std.<br>Ctn.<br>Qty. |
|-----------------------------------------------------------------------------------------------------------|----------------------|-----------------------------------|---------------------------|----------------|-------------------------------|--------------------------|------------------------|----------------------|
|                                                                                                           |                      |                                   | Maximum                   | Minimum        |                               |                          |                        |                      |
| TV105-242.5M                                                                                              | TV105-242.5M20       | 24 AWG                            | .027" (0.68)              | .020" (0.51)   | .012" (.30)                   | 300V                     | 1 Reel, 2500' (762M)   | 2 Reels              |
| TV105-222.5M                                                                                              | TV105-222.5M20       | 22 AWG                            | .032" (0.81)              | .025" (0.69)   | .012" (.30)                   | 300V                     | 1 Reel, 2500' (762M)   | 2 Reels              |
| TV105-20M                                                                                                 | TV105-20M20          | 20 AWG                            | .039" (0.99)              | .032" (0.81)   | .016" (.41)                   | 300V                     | 1 Reel, 1000' (304.8M) | 2 Reels              |
| TV105-19M                                                                                                 | TV105-19M20          | 19 AWG                            | .042" (1.06)              | .036" (0.91)   | .016" (.41)                   | 300V                     | 1 Reel, 1000' (304.8M) | 2 Reels              |
| TV105-18M                                                                                                 | TV105-18M20          | 18 AWG                            | .049" (1.24)              | .040" (1.02)   | .016" (.41)                   | 300V                     | 1 Reel, 1000' (304.8M) | 2 Reels              |
| TV105-17M                                                                                                 | TV105-17M20          | 17 AWG                            | .053" (1.34)              | .045" (1.14)   | .016" (.41)                   | 300V                     | 1 Reel, 1000' (304.8M) | 2 Reels              |
| TV105-16M                                                                                                 | TV105-16M20          | 16 AWG                            | .061" (1.54)              | .051" (1.30)   | .016" (.41)                   | 300V                     | 1 Reel, 1000' (304.8M) | 2 Reels              |
| TV105-15M                                                                                                 | TV105-15M20          | 15 AWG                            | .066" (1.67)              | .057" (1.45)   | .016" (.41)                   | 300V                     | 1 Reel, 1000' (304.8M) | 2 Reels              |
| TV105-14M                                                                                                 | TV105-14M20          | 14 AWG                            | .072" (1.82)              | .064" (1.63)   | .016" (.41)                   | 300V                     | 1 Reel, 1000' (304.8M) | 2 Reels              |
| TV105-13M                                                                                                 | TV105-13M20          | 13 AWG                            | .080" (2.03)              | .072" (1.83)   | .016" (.41)                   | 300V                     | 1 Reel, 1000' (304.8M) | 2 Reels              |
| TV105-12D                                                                                                 | TV105-12D20          | 12 AWG                            | .089" (2.26)              | .081" (2.06)   | .016" (.41)                   | 300V                     | 1 Reel, 500' (152.4M)  | 2 Reels              |
| TV105-11D                                                                                                 | TV105-11D20          | 11 AWG                            | .101" (2.56)              | .091" (2.31)   | .016" (.41)                   | 300V                     | 1 Reel, 500' (152.4M)  | 2 Reels              |
| TV105-10D                                                                                                 | TV105-10D20          | 10 AWG                            | .112" (2.84)              | .102" (2.59)   | .016" (.41)                   | 300V                     | 1 Reel, 500' (152.4M)  | 2 Reels              |
| TV105-9D                                                                                                  | TV105-9D20           | 9 AWG                             | .124" (3.14)              | .114" (2.90)   | .020" (.51)                   | 300V                     | 1 Reel, 500' (152.4M)  | 2 Reels              |
| TV105-8D                                                                                                  | TV105-8D20           | 8 AWG                             | .141" (3.58)              | .129" (3.28)   | .020" (.51)                   | 300V                     | 1 Reel, 500' (152.4M)  | 2 Reels              |
| TV105-7D                                                                                                  | TV105-7D20           | 7 AWG                             | .158" (4.01)              | .144" (3.66)   | .020" (.51)                   | 300V                     | 1 Reel, 500' (152.4M)  | 2 Reels              |
| TV105-6TL                                                                                                 | TV105-6TL20          | 6 AWG                             | .178" (4.52)              | .162" (4.11)   | .020" (.51)                   | 300V                     | 1 Reel, 250' (76.2M)   | 2 Reels              |
| TV105-5TL                                                                                                 | TV105-5TL20          | 5 AWG                             | .198" (5.02)              | .182" (4.62)   | .020" (.51)                   | 300V                     | 1 Reel, 250' (76.2M)   | 2 Reels              |
| TV105-4TL                                                                                                 | TV105-4TL20          | 4 AWG                             | .224" (5.68)              | .204" (5.18)   | .020" (.51)                   | 300V                     | 1 Reel, 250' (76.2M)   | 2 Reels              |
| TV105-3TL                                                                                                 | TV105-3TL20          | 3 AWG                             | .249" (6.32)              | .229" (5.82)   | .020" (.51)                   | 300V                     | 1 Reel, 250' (76.2M)   | 2 Reels              |
| TV105-2TL                                                                                                 | TV105-2TL20          | 2 AWG                             | .278" (7.06)              | .258" (6.55)   | .020" (.51)                   | 300V                     | 1 Reel, 250' (76.2M)   | 2 Reels              |
| TV105-1TL                                                                                                 | TV105-1TL20          | 1 AWG                             | .311" (7.89)              | .289" (7.34)   | .020" (.51)                   | 300V                     | 1 Reel, 250' (76.2M)   | 2 Reels              |
| TV105-0TL                                                                                                 | TV105-0TL20          | 0 AWG                             | .347" (8.81)              | .325" (8.26)   | .020" (.51)                   | 300V                     | 1 Reel, 250' (76.2M)   | 2 Reels              |
| TV105-.25TL                                                                                               | TV105-.25TL20        | 1/4"                              | .265" (6.73)              | .245" (6.22)   | .020" (.51)                   | 300V                     | 1 Reel, 250' (76.2M)   | 2 Reels              |
| TV105-.31TL                                                                                               | TV105-.31TL20        | 5/16"                             | .334" (8.48)              | .313" (7.95)   | .025" (.64)                   | 600V                     | 1 Reel, 250' (76.2M)   | 2 Reels              |
| TV105-.38TL                                                                                               | TV105-.38TL20        | 3/8"                              | .399" (10.13)             | .375" (9.53)   | .025" (.64)                   | 600V                     | 1 Reel, 250' (76.2M)   | 2 Reels              |
| TV105-.44TL                                                                                               | TV105-.44TL20        | 7/16"                             | .462" (11.73)             | .438" (11.13)  | .025" (.64)                   | 600V                     | 1 Reel, 250' (76.2M)   | 2 Reels              |
| TV105-.50TL                                                                                               | TV105-.50TL20        | 1/2"                              | .524" (13.30)             | .500" (12.70)  | .025" (.64)                   | 600V                     | 1 Reel, 250' (76.2M)   | 2 Reels              |
| TV105-.56C                                                                                                | TV105-.56C20         | 9/16"                             | .585" (14.85)             | .563" (14.30)  | .030" (.76)                   | 600V                     | 1 Reel, 100' (30.5M)   | 2 Reels              |
| TV105-.63C                                                                                                | TV105-.63C20         | 5/8"                              | .655" (16.63)             | .625" (15.88)  | .030" (.76)                   | 600V                     | 1 Reel, 100' (30.5M)   | 2 Reels              |
| TV105-.75C                                                                                                | TV105-.75C20         | 3/4"                              | .786" (19.96)             | .750" (19.05)  | .035" (.89)                   | 600V                     | 1 Reel, 100' (30.5M)   | 2 Reels              |
| TV105-.88C                                                                                                | TV105-.88C20         | 7/8"                              | .911" (23.13)             | .875" (22.23)  | .035" (.89)                   | 600V                     | 1 Reel, 100' (30.5M)   | 2 Reels              |
| TV105-1.0L                                                                                                | TV105-1.0L20         | 1"                                | 1.036" (26.31)            | 1.000" (25.40) | .035" (.89)                   | 600V                     | 1 Reel, 50' (15.2M)    | 2 Reels              |
| TV105-1.25L                                                                                               | TV105-1.25L20        | 1 1/4"                            | 1.290" (32.76)            | 1.250" (31.75) | .040" (1.02)                  | 600V                     | 1 Reel, 50' (15.2M)    | 2 Reels              |
| TV105-1.50L                                                                                               | TV105-1.50L20        | 1 1/2"                            | 1.550" (39.37)            | 1.500" (38.10) | .045" (1.14)                  | 600V                     | 1 Reel, 50' (15.2M)    | 2 Reels              |

\* Order in multiples of Std. Pkg. Qty.

\*\* UL Voltage Rating is a function of wall thickness.

### Abrasion Protection Products



### Spiral Wrapping

#### Features and Benefits



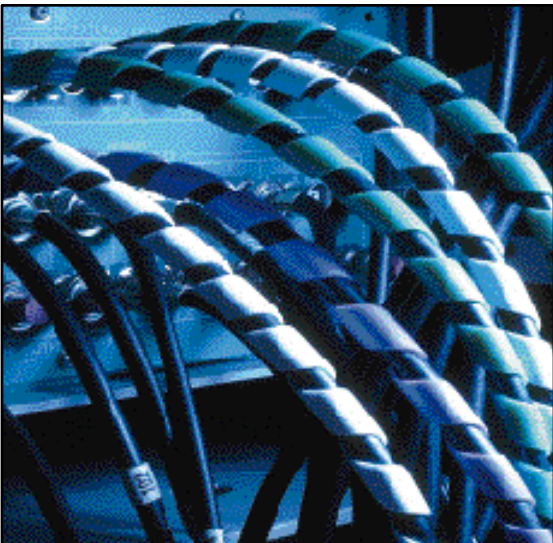
U.L. Recognized



- Largest variety of colors, materials and sizes
- Available in seven different materials and twelve different colors
- Colors conform to Communications Wiring Standards
- Color code wire bundles
- Flexible, neat, fast
- Allows breakouts of single/multiple wires and rerouting of replacement wires
- Harness multiple cables into a single manageable bundle
- Abrasion protection for wires, cables, hoses and tubing
- Reusable
- Tool supplied in each package

#### Spiral Wrapping Suggested Applications

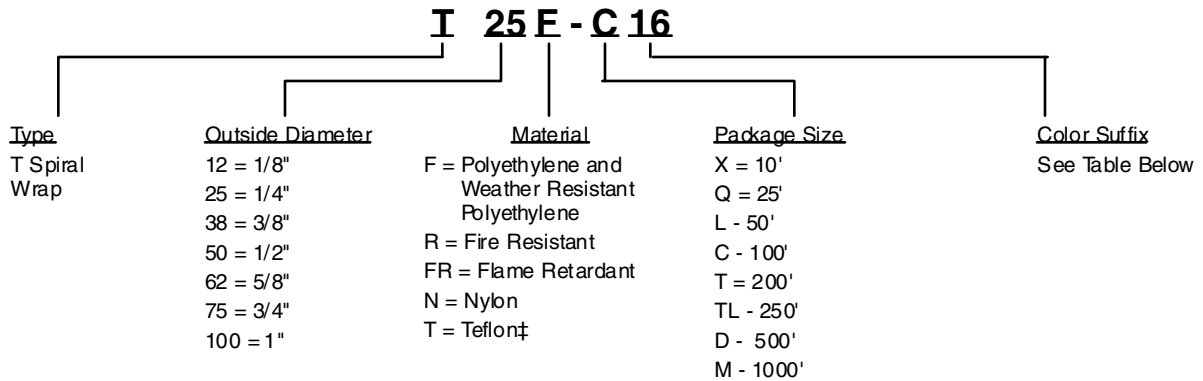
Use Panduit Spiral Wrapping in office and industrial environments for the following applications:



- Organize wires for communication and computer equipment where access to the wires is required
- In OEM applications for protecting tubes and harnesses
- Abrasion protection for control panel wiring
- Personal computer and printer wire organization
- Protect glass tubes from abrasion and breakage
- Kink-proofing for all kinds of tubing... ideal for laboratories
- Eliminates lacing cord and tie-offs
- Use orange spiral wrapping for protecting and identifying fiber optic cables

## The Functional Part Number System Makes Ordering Easy

### Spiral Wrap Part Number Description



### Color Availability

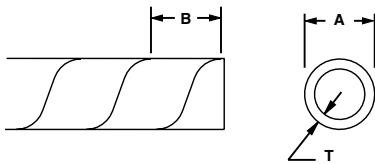
|                         |               | Material     |                                |                             |                              |       |                         |         |
|-------------------------|---------------|--------------|--------------------------------|-----------------------------|------------------------------|-------|-------------------------|---------|
| Color                   | Color Suffix* | Polyethylene | Weather Resistant Polyethylene | Fire Resistant Polyethylene | Flame Retardant Polyethylene | Nylon | Weather Resistant Nylon | TEFLON† |
| Natural (Clear)         | Leave Blank   |              |                                | Natural Color is White      | Natural Color is White       |       |                         |         |
| Weather Resistant Black | 0             |              |                                |                             |                              |       |                         |         |
| Brown                   | 1             |              |                                |                             |                              |       |                         |         |
| Red                     | 2             |              |                                |                             |                              |       |                         |         |
| Orange                  | 3             |              |                                |                             |                              |       |                         |         |
| Yellow                  | 4             |              |                                |                             |                              |       |                         |         |
| Green                   | 5             |              |                                |                             |                              |       |                         |         |
| Blue                    | 6             |              |                                |                             |                              |       |                         |         |
| Purple                  | 7             |              |                                |                             |                              |       |                         |         |
| Gray                    | 8             |              |                                |                             |                              |       |                         |         |
| White                   | 10            |              |                                |                             |                              |       |                         |         |
| Pink                    | 16            |              |                                |                             |                              |       |                         |         |
| Black                   | 20            |              |                                |                             |                              |       |                         |         |

Blank = Not applicable

\* Colors are stocked for 1/4" and 1/2" Polyethylene. Other sizes available. Contact factory.

# Spiral Wrapping

## Ordering Information — Spiral Wrapping

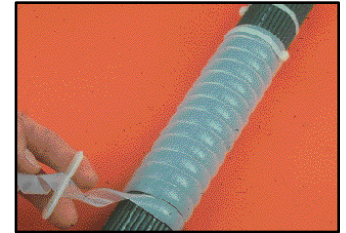
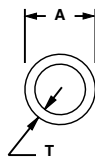
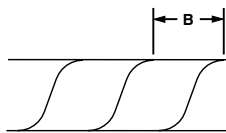


## Ordering Information — Spiral Wrapping

| Part Number | Material                             | Color   | A<br>In. (mm) | B<br>In. (mm) | T<br>In. (mm) | Bundle Size<br>In. (mm)      | Length       | Std.<br>Pkg.<br>Qty* |
|-------------|--------------------------------------|---------|---------------|---------------|---------------|------------------------------|--------------|----------------------|
| T12F-C      | Polyethylene                         | Natural | 0.125" (3.2)  | 0.218" (5.5)  | 0.03" (.76)   | 1/16" (1.6) – 1/2" (12.7)    | 100' (30.5M) | 1 Pkg.               |
| T19F-C      |                                      | Natural | 0.188" (4.8)  | 0.250" (6.4)  | 0.035" (0.89) | 1/8" (3.2) - 1" (25.4)       | 100' (30.5M) | 1 Pkg.               |
| T25F-X      |                                      | Natural | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 10' (3.0M)   | 1 Pkg.               |
| T25F-C      |                                      | Natural | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T25F-C1     |                                      | Brown   | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T25F-C10    |                                      | White   | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T25F-C16    |                                      | Pink    | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T25F-C2     |                                      | Red     | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T25F-C3     |                                      | Orange  | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T25F-C4     |                                      | Yellow  | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T25F-C5     |                                      | Green   | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T25F-C6     |                                      | Blue    | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T25F-C7     |                                      | Purple  | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T25F-C8     |                                      | Gray    | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T38F-C      |                                      | Natural | 0.375" (9.5)  | 0.437" (11.1) | 0.055" (1.4)  | 5/16" (7.9) – 3" (76.2)      | 100' (30.5M) | 1 Pkg.               |
| T50F-X      |                                      | Natural | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 10' (3.0M)   | 1 Pkg.               |
| T50F-C      |                                      | Natural | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T50F-C1     |                                      | Brown   | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T50F-C10    |                                      | White   | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T50F-C16    |                                      | Pink    | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T50F-C2     |                                      | Red     | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T50F-C3     |                                      | Orange  | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T50F-C4     |                                      | Yellow  | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T50F-C5     |                                      | Green   | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T50F-C6     |                                      | Blue    | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T50F-C7     |                                      | Purple  | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T50F-C8     |                                      | Gray    | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T62F-C      | Weather<br>Resistant<br>Polyethylene | Natural | 0.625" (15.9) | 0.625" (15.9) | 0.062" (1.57) | 1/2" (12.7) – 4 1/2" (114.3) | 100' (30.5M) | 1 Pkg.               |
| T75F-C      |                                      | Natural | 0.75" (19.1)  | 0.875" (22.2) | 0.065" (1.65) | 5/8" (15.9) – 5" (127)       | 100' (30.5M) | 1 Pkg.               |
| T100F-C     |                                      | Natural | 1" (25.4)     | 1.125" (28.6) | 0.07" (1.78)  | 7/8" (22.2) – 6" (152.4)     | 100' (30.5M) | 1 Pkg.               |
| T12F-C0     |                                      | Black   | 0.125" (3.2)  | 0.218" (5.5)  | 0.03" (.76)   | 1/16" (1.6) – 1/2" (12.7)    | 100' (30.5M) | 1 Pkg.               |
| T19F-X0     |                                      | Black   | 0.188" (4.8)  | 0.250" (6.4)  | 0.035" (0.89) | 1/8" (3.2) - 1" (25.4)       | 10' (3.0M)   | 1 Pkg.               |
| T25F-X0     |                                      | Black   | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 10' (3.0M)   | 1 Pkg.               |
| T25F-C0     |                                      | Black   | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T38F-C0     |                                      | Black   | 0.375" (9.5)  | 0.437" (11.1) | 0.055" (1.4)  | 5/16" (7.9) – 3" (76.2)      | 100' (30.5M) | 1 Pkg.               |
| T50F-X0     |                                      | Black   | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 10' (3.0M)   | 1 Pkg.               |
| T50F-C0     |                                      | Black   | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T62F-C0     |                                      | Black   | 0.625" (15.9) | 0.625" (15.9) | 0.062" (1.57) | 1/2" (12.7) – 4 1/2" (114.3) | 100' (30.5M) | 1 Pkg.               |
| T75F-C0     |                                      | Black   | 0.75" (19.1)  | 0.875" (22.2) | 0.065" (1.65) | 5/8" (15.9) – 5" (127)       | 100' (30.5M) | 1 Pkg.               |
| T100F-C0    |                                      | Black   | 1" (25.4)     | 1.125" (28.6) | 0.07" (1.78)  | 7/8" (22.2) – 6" (152.4)     | 100' (30.5M) | 1 Pkg.               |

\*Order in multiples of Std. Pkg. Qty.

NOTE: Custom cut-to-length sizes are available upon request. Contact factory for details.



## Ordering Information — Spiral Wrapping

| Part Number | Material                                             | Color   | A<br>In. (mm) | B<br>In. (mm) | T<br>In. (mm) | Bundle Size<br>In. (mm)      | Length       | Std.<br>Pkg.<br>Qty* |
|-------------|------------------------------------------------------|---------|---------------|---------------|---------------|------------------------------|--------------|----------------------|
| T12R-C      | Fire<br>Resistant<br>Polyethylene                    | White   | 0.125" (3.2)  | 0.218" (5.5)  | 0.03" (.76)   | 1/16" (1.6) – 1/2" (12.7)    | 100' (30.5M) | 1 Pkg.               |
| T19R-C      |                                                      | White   | 0.188" (4.8)  | 0.250" (6.4)  | 0.035" (0.89) | 1/8" (3.2) – 1" (25.4)       | 100' (30.5M) | 1 Pkg.               |
| T25R-C      |                                                      | White   | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T25R-C20    |                                                      | Black   | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T38R-C      |                                                      | White   | 0.375" (9.5)  | 0.437" (11.1) | 0.055" (1.4)  | 5/16" (7.9) – 3" (76.2)      | 100' (30.5M) | 1 Pkg.               |
| T50R-C      |                                                      | White   | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T62R-C      |                                                      | White   | 0.625" (15.9) | 0.625" (15.9) | 0.062" (1.57) | 1/2" (12.7) – 4 1/2" (114.3) | 100' (30.5M) | 1 Pkg.               |
| T75R-C      |                                                      | White   | 0.75" (19.1)  | 0.875" (22.2) | 0.065" (1.65) | 5/8" (15.9) – 5" (127)       | 100' (30.5M) | 1 Pkg.               |
| T100R-C     |                                                      | White   | 1" (25.4)     | 1.125" (28.6) | 0.07" (1.78)  | 7/8" (22.2) – 6" (152.4)     | 100' (30.5M) | 1 Pkg.               |
| T12FR-C     | Flame<br>Retardant<br>Polyethylene                   | White   | 0.125" (3.2)  | 0.218" (5.5)  | 0.03" (.76)   | 1/16" (1.6) – 1/2" (12.7)    | 100' (30.5M) | 1 Pkg.               |
| T12FR-C20   |                                                      | Black   | 0.125" (3.2)  | 0.218" (5.5)  | 0.03" (.76)   | 1/16" (1.6) – 1/2" (12.7)    | 100' (30.5M) | 1 Pkg.               |
| T19FR-C     |                                                      | White   | 0.188" (4.8)  | 0.250" (6.4)  | 0.032" (0.81) | 1/8" (3.2) – 1" (25.4)       | 100' (30.5M) | 1 Pkg.               |
| T19FR-C20   |                                                      | Black   | 0.188" (4.8)  | 0.250" (6.4)  | 0.032" (0.81) | 1/8" (3.2) – 1" (25.4)       | 100' (30.5M) | 1 Pkg.               |
| T25FR-C     |                                                      | White   | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T25FR-C20   |                                                      | Black   | 0.25" (6.4)   | 0.375" (9.5)  | 0.04" (1.02)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T38FR-C     |                                                      | White   | 0.375" (9.5)  | 0.437" (11.1) | 0.055" (1.4)  | 5/16" (7.9) – 3" (76.2)      | 100' (30.5M) | 1 Pkg.               |
| T38FR-C20   |                                                      | Black   | 0.375" (9.5)  | 0.437" (11.1) | 0.055" (1.4)  | 5/16" (7.9) – 3" (76.2)      | 100' (30.5M) | 1 Pkg.               |
| T50FR-C     |                                                      | White   | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T50FR-C20   |                                                      | Black   | 0.5" (12.7)   | 0.5" (12.7)   | 0.06" (1.5)   | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T62FR-C     |                                                      | White   | 0.625" (15.9) | 0.625" (15.9) | 0.062" (1.57) | 1/2" (12.7) – 4 1/2" (114.3) | 100' (30.5M) | 1 Pkg.               |
| T62FR-C20   |                                                      | Black   | 0.625" (15.9) | 0.625" (15.9) | 0.062" (1.57) | 1/2" (12.7) – 4 1/2" (114.3) | 100' (30.5M) | 1 Pkg.               |
| T75FR-C     |                                                      | White   | 0.75" (19.1)  | 0.875" (22.2) | 0.065" (1.65) | 5/8" (15.9) – 5" (127)       | 100' (30.5M) | 1 Pkg.               |
| T75FR-C20   |                                                      | Black   | 0.75" (19.1)  | 0.875" (22.2) | 0.065" (1.65) | 5/8" (15.9) – 5" (127)       | 100' (30.5M) | 1 Pkg.               |
| T100FR-C    |                                                      | White   | 1" (25.4)     | 1.125" (28.6) | 0.07" (1.78)  | 7/8" (22.2) – 6" (152.4)     | 100' (30.5M) | 1 Pkg.               |
| T100FR-C20  |                                                      | Black   | 1" (25.4)     | 1.125" (28.6) | 0.07" (1.78)  | 7/8" (22.2) – 6" (152.4)     | 100' (30.5M) | 1 Pkg.               |
| T12N-C      | Nylon<br>(Black Nylon<br>is<br>weather<br>resistant) | Natural | 0.125" (3.2)  | 0.218" (5.5)  | 0.015" (.38)  | 1/16" (1.6) – 1/2" (12.7)    | 100' (30.5M) | 1 Pkg.               |
| T12N-C0     |                                                      | Black   | 0.125" (3.2)  | 0.218" (5.5)  | 0.015" (.38)  | 1/16" (1.6) – 1/2" (12.7)    | 100' (30.5M) | 1 Pkg.               |
| T19N-C      |                                                      | Natural | 0.188" (4.8)  | 0.250" (6.4)  | 0.020" (0.51) | 1/8" (3.2) – 1" (25.4)       | 100' (30.5M) | 1 Pkg.               |
| T19N-C0     |                                                      | Black   | 0.188" (4.8)  | 0.250" (6.4)  | 0.020" (0.51) | 1/8" (3.2) – 1" (25.4)       | 100' (30.5M) | 1 Pkg.               |
| T25N-C      |                                                      | Natural | 0.25" (6.4)   | 0.375" (9.5)  | 0.023" (.58)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T25N-C0     |                                                      | Black   | 0.25" (6.4)   | 0.375" (9.5)  | 0.023" (.58)  | 3/16" (4.8) – 2" (50.8)      | 100' (30.5M) | 1 Pkg.               |
| T38N-C      |                                                      | Natural | 0.375" (9.5)  | 0.437" (11.1) | 0.03" (.76)   | 5/16" (7.9) – 3" (76.2)      | 100' (30.5M) | 1 Pkg.               |
| T38N-C0     |                                                      | Black   | 0.375" (9.5)  | 0.437" (11.1) | 0.03" (.76)   | 5/16" (7.9) – 3" (76.2)      | 100' (30.5M) | 1 Pkg.               |
| T50N-C      |                                                      | Natural | 0.5" (12.7)   | 0.5" (12.7)   | 0.032" (.81)  | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T50N-C0     |                                                      | Black   | 0.5" (12.7)   | 0.5" (12.7)   | 0.032" (.81)  | 3/8" (9.5) – 4" (101.6)      | 100' (30.5M) | 1 Pkg.               |
| T62N-C      |                                                      | Natural | 0.625" (15.9) | 0.625" (15.9) | 0.035" (.89)  | 1/2" (12.7) – 4 1/2" (114.3) | 100' (30.5M) | 1 Pkg.               |
| T62N-C0     |                                                      | Black   | 0.625" (15.9) | 0.625" (15.9) | 0.035" (.89)  | 1/2" (12.7) – 4 1/2" (114.3) | 100' (30.5M) | 1 Pkg.               |
| T75N-C      |                                                      | Natural | 0.75" (19.1)  | 0.875" (22.2) | 0.04" (1.01)  | 5/8" (15.9) – 5" (127)       | 100' (30.5M) | 1 Pkg.               |
| T75N-C0     |                                                      | Black   | 0.75" (19.1)  | 0.875" (22.2) | 0.04" (1.01)  | 5/8" (15.9) – 5" (127)       | 100' (30.5M) | 1 Pkg.               |
| T100N-C     |                                                      | Natural | 1" (25.4)     | 1.125" (28.6) | 0.045" (1.0)  | 7/8" (22.2) – 6" (152.4)     | 100' (30.5M) | 1 Pkg.               |
| T100N-C0    |                                                      | Black   | 1" (25.4)     | 1.125" (28.6) | 0.045" (1.0)  | 7/8" (22.2) – 6" (152.4)     | 100' (30.5M) | 1 Pkg.               |
| T12T-C      | TEFLON†                                              | Natural | 0.125" (3.2)  | 0.218" (5.5)  | 0.02" (.5)    | 1/16" (1.6) – 1/2" (12.7)    | 100' (30.5M) | 1 Pkg.               |
| T19T-C      |                                                      | Natural | 0.188" (4.8)  | 0.250" (6.4)  | 0.03" (.76)   | 1/8" (3.2) – 1" (25.4)       | 100' (30.5M) | 1 Pkg.               |
| T25T-L      |                                                      | Natural | 0.25" (6.4)   | 0.375" (9.5)  | 0.03" (.76)   | 3/16" (4.8) – 2" (50.8)      | 50' (15.2M)  | 1 Pkg.               |
| T50T-Q      |                                                      | Natural | 0.5" (12.7)   | 0.5" (12.7)   | 0.03" (.76)   | 3/8" (9.5) – 4" (101.6)      | 25' (7.6M)   | 1 Pkg.               |
| T62T-Q      |                                                      | Natural | 0.625" (15.9) | 0.625" (15.9) | 0.03" (.76)   | 1/2" (12.7) – 4 1/2" (114.3) | 25' (7.6M)   | 1 Pkg.               |
| T75T-X      |                                                      | Natural | 0.75" (19.1)  | 0.875" (22.2) | 0.03" (.76)   | 5/8" (15.9) – 5" (127)       | 10' (3.0M)   | 1 Pkg.               |
| T100T-X     |                                                      | Natural | 1" (25.4)     | 1.125" (28.6) | 0.04" (1.01)  | 7/8" (22.2) – 6" (152.4)     | 10' (3.0M)   | 1 Pkg.               |

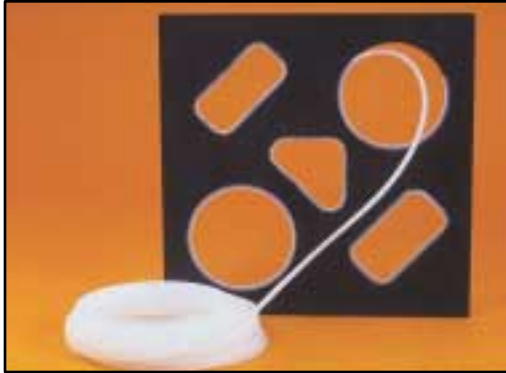
\*Order in multiples of Std. Pkg. Qty.

† TEFLON or equivalent fluorocarbon PTFE material is used. TEFLON is a registered trademark of E.I. DuPont Co.

NOTE: Custom cut-to-length sizes are available upon request. Contact factory for details.

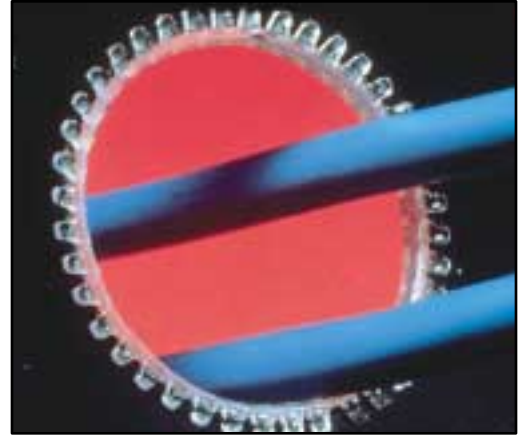
## PANDUIT® Grommet Edging

### Features and Benefits



- Nylon grommet edging strips conform to the Military Standard MS21266

### Grommet Edging Suggested Applications



- Use the slotted wall in irregularly shaped and round panel holes
- Use the solid wall product on straight edges

Use these tables as a guide to determine *PANDUIT* Grommet Edging Sizes. The common sheet metal dimensions listed below are based on the "Manufacturers Standard Gauge for Steel."

| Grommet Edging<br>Military Cross<br>Reference |            |
|-----------------------------------------------|------------|
| GE52-C                                        | MS21266-1N |
| GE85-C                                        | MS21266-2N |
| GE128-C                                       | MS21266-3N |
| GE192-L                                       | MS21266-4N |
| GE255-L                                       | MS21266-5N |
| GE318-L                                       | MS21266-6N |
| GE380-Q                                       | MS21266-7N |
| GE510-Q                                       | MS21266-8N |

| Gage | Manufacturer<br>Standard Gauge<br>for Steel (In.) |
|------|---------------------------------------------------|
| 5    | 0.2092                                            |
| 6    | 0.1943                                            |
| 7    | 0.1793                                            |
| 8    | 0.1644                                            |
| 9    | 0.1495                                            |
| 10   | 0.1345                                            |
| 11   | 0.1196                                            |
| 12   | 0.1046                                            |
| 13   | 0.0897                                            |

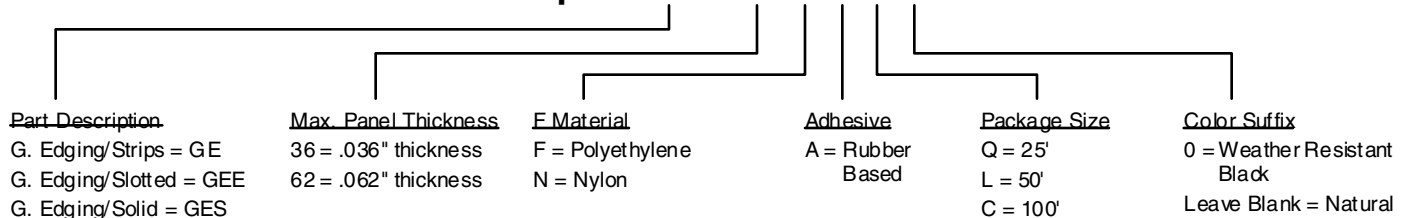
| Gage | Manufacturer<br>Standard Gauge<br>for Steel (In.) |
|------|---------------------------------------------------|
| 14   | 0.0747                                            |
| 15   | 0.0673                                            |
| 16   | 0.0598                                            |
| 17   | 0.0538                                            |
| 18   | 0.0478                                            |
| 19   | 0.0418                                            |
| 20   | 0.0359                                            |
| 21   | 0.0329                                            |
| 22   | 0.0299                                            |

| Gage | Manufacturer<br>Standard Gauge<br>for Steel (In.) |
|------|---------------------------------------------------|
| 23   | 0.0269                                            |
| 24   | 0.0239                                            |
| 25   | 0.0209                                            |
| 26   | 0.0179                                            |
| 27   | 0.0164                                            |
| 28   | 0.0149                                            |
| 29   | 0.0135                                            |
| 30   | 0.0120                                            |

## The Functional Part Number System Makes Ordering Easy

### Grommet Edging Part Number Description

Example: **GEE.36 F-A-C 0**



### **PANDUIT® Grommet Edging**

Protects and insulates wires and cables from chafing against sharp edges

#### **Choose from five materials:**



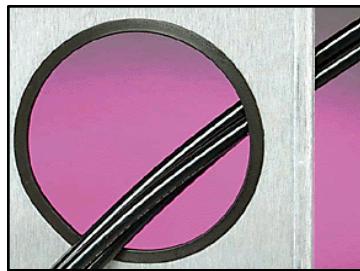
#### **Nylon**

- Self extinguishing
- For indoor use up to 149°F (65°C)



#### **Polyethylene**

- General purpose material for indoor use up to 122°F (50°C)
- Style GEE and GES provided in .030" (0.8mm) thick material, makes them highly flexible
- Available with slotted or solid wall construction



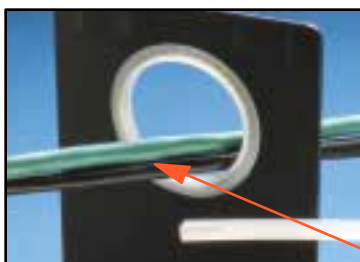
#### **Weather Resistant Polyethylene**

- For outdoor use up to 122°F (50°C)
- Excellent resistance to acid rain and ultra-violet light



#### **Flame Retardant Polyethylene**

- Will not support a flame
- Available with slotted or solid wall construction



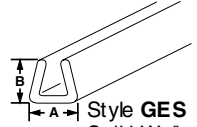
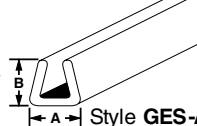
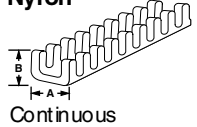
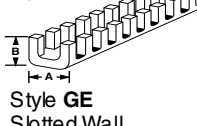
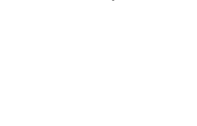
#### **Adhesive Lined Polyethylene**

- Base is lined with a pressure sensitive adhesive
- Available in natural and weather resistant
- Adhesive ensures that the product will stay where it is installed

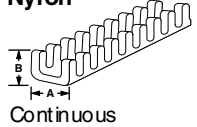
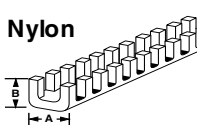
Adhesive Lined

# Grommet Edging

## Ordering Information—Grommet Edging

| Panduit Part Number | Material                                             | Color   | Panel Thickness<br>In. (mm) | Dimensions—In. (mm) |             | Feet<br>Per<br>Pkg. | Std.<br>Pkg.<br>Qty.* |                                                                                                                                                                 |
|---------------------|------------------------------------------------------|---------|-----------------------------|---------------------|-------------|---------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |                                                      |         |                             | A                   | B           |                     |                       |                                                                                                                                                                 |
| GEE36F-C            | Continuous Polyethylene (Slotted Wall)               | Natural | .026" (.7) – .036" (.9)     | .106" (2.7)         | .117" (3.0) | 100' (30.5M)        | 1 Roll                |  <p>Style GEE<br/>Slotted Wall</p> <p>Continuous<br/>(100 Ft.) Rolls</p>     |
| GEE36F-C0           |                                                      | Black   | .026" (.7) – .036" (.9)     | .106" (2.7)         | .117" (3.0) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE62F-C            |                                                      | Natural | .036" (.9) – .062" (1.6)    | .131" (3.3)         | .160" (4.1) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE62F-C0           |                                                      | Black   | .036" (.9) – .062" (1.6)    | .131" (3.3)         | .160" (4.1) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE99F-C            |                                                      | Natural | .062" (1.6) – .099" (2.5)   | .169" (4.3)         | .186" (4.7) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE99F-C0           |                                                      | Black   | .062" (1.6) – .099" (2.5)   | .169" (4.3)         | .186" (4.7) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE144F-C           |                                                      | Natural | .099" (2.5) – .144" (3.7)   | .213" (5.4)         | .222" (5.6) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE144F-C0          |                                                      | Black   | .099" (2.5) – .144" (3.7)   | .213" (5.4)         | .222" (5.6) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GES36F-C            | Continuous Polyethylene (Solid Wall)                 | Natural | .026" (.7) – .036" (.9)     | .106" (2.7)         | .117" (3.0) | 100' (30.5M)        | 1 Roll                |  <p>Style GES<br/>Solid Wall</p> <p>Continuous<br/>(100 Ft.) Rolls</p>       |
| GES36F-C0           |                                                      | Black   | .026" (.7) – .036" (.9)     | .106" (2.7)         | .117" (3.0) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GES62F-C            |                                                      | Natural | .036" (.9) – .062" (1.6)    | .131" (3.3)         | .160" (4.1) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GES62F-C0           |                                                      | Black   | .036" (.9) – .062" (1.6)    | .131" (3.3)         | .160" (4.1) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GES99F-C            |                                                      | Natural | .062" (1.6) – .099" (2.5)   | .169" (4.3)         | .186" (4.7) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GES99F-C0           |                                                      | Black   | .062" (1.6) – .099" (2.5)   | .169" (4.3)         | .186" (4.7) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GES144F-C           |                                                      | Natural | .099" (2.5) – .144" (3.7)   | .213" (5.4)         | .222" (5.6) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GES144F-C0          |                                                      | Black   | .099" (2.5) – .144" (3.7)   | .213" (5.4)         | .222" (5.6) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE62F-A-C          | Continuous Polyethylene With ADHESIVE (Slotted Wall) | Natural | .036" (.9) – .062" (1.6)    | .131" (3.3)         | .160" (4.1) | 100' (30.5M)        | 1 Roll                |  <p>Style GEE-A<br/>Slotted Wall</p> <p>Continuous<br/>(100 Ft.) Rolls</p>   |
| GEE62F-A-C0         |                                                      | Black   | .036" (.9) – .062" (1.6)    | .131" (3.3)         | .160" (4.1) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE99F-A-C          |                                                      | Natural | .062" (1.6) – .099" (2.5)   | .169" (4.3)         | .186" (4.7) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE99F-A-C0         |                                                      | Black   | .062" (1.6) – .099" (2.5)   | .169" (4.3)         | .186" (4.7) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE144F-A-C         |                                                      | Natural | .099" (2.5) – .144" (3.7)   | .213" (5.4)         | .222" (5.6) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE144F-A-C0        |                                                      | Black   | .099" (2.5) – .144" (3.7)   | .213" (5.4)         | .222" (5.6) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GES62F-A-C          | Continuous Polyethylene With ADHESIVE (Solid Wall)   | Natural | .036" (.9) – .062" (1.6)    | .131" (3.3)         | .160" (4.1) | 100' (30.5M)        | 1 Roll                |  <p>Style GEE-A<br/>Solid Wall</p> <p>Continuous<br/>(100 Ft.) Rolls</p>   |
| GES62F-A-C0         |                                                      | Black   | .036" (.9) – .062" (1.6)    | .131" (3.3)         | .160" (4.1) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GES99F-A-C          |                                                      | Natural | .062" (1.6) – .099" (2.5)   | .169" (4.3)         | .186" (4.7) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GES99F-A-C0         |                                                      | Black   | .062" (1.6) – .099" (2.5)   | .169" (4.3)         | .186" (4.7) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GES144F-A-C         |                                                      | Natural | .099" (2.5) – .144" (3.7)   | .213" (5.4)         | .222" (5.6) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GES144F-A-C0        |                                                      | Black   | .099" (2.5) – .144" (3.7)   | .213" (5.4)         | .222" (5.6) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE36FR-C           | Flame Retardant Polyethylene (Slotted Wall)          | Natural | .026" (.7) – .036" (.9)     | .106" (2.7)         | .117" (3.0) | 100' (30.5M)        | 1 Roll                |  <p>Style GES-A<br/>Slotted Wall</p> <p>Continuous<br/>(100 Ft.) Rolls</p> |
| GEE62FR-C           |                                                      | Natural | .036" (.9) – .062" (1.6)    | .131" (3.3)         | .160" (4.1) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE99FR-C           |                                                      | Natural | .062" (1.6) – .099" (2.5)   | .169" (4.3)         | .155" (3.9) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE144FR-C          |                                                      | Natural | .099" (2.5) – .144" (3.7)   | .213" (5.4)         | .232" (5.9) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GES36FR-C           | Flame Retardant Polyethylene (Solid Wall)            | Natural | .026" (.7) – .036" (.9)     | .106" (2.7)         | .117" (3.0) | 100' (30.5M)        | 1 Roll                |  <p>Style GES-A<br/>Solid Wall</p> <p>Continuous<br/>(100 Ft.) Rolls</p>   |
| GES62FR-C           |                                                      | Natural | .036" (.9) – .062" (1.6)    | .131" (3.3)         | .160" (4.1) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GES99FR-C           |                                                      | Natural | .062" (1.6) – .099" (2.5)   | .169" (4.3)         | .155" (3.9) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GES144FR-C          |                                                      | Natural | .099" (2.5) – .144" (3.7)   | .213" (5.4)         | .232" (5.9) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE47N-C            | Continuous Nylon (Slotted Wall)                      | Natural | .020" (.5) – .047" (1.2)    | .130" (3.3)         | .140" (3.5) | 100' (30.5M)        | 1 Roll                |  <p>Style GEE</p> <p>Continuous<br/>(100 Ft.) Rolls</p>                    |
| GEE55N-C            |                                                      | Natural | .047" (1.2) – .055" (1.4)   | .133" (3.4)         | .140" (3.5) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE71N-C            |                                                      | Natural | .055" (1.4) – .071" (1.8)   | .150" (3.8)         | .140" (3.5) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE98N-C            |                                                      | Natural | .071" (1.8) – .098" (2.5)   | .180" (4.6)         | .140" (3.5) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |
| GEE134N-C           |                                                      | Natural | .098" (2.5) – .134" (3.4)   | .210" (5.3)         | .140" (3.5) | 100' (30.5M)        | 1 Roll                |                                                                                                                                                                 |

\*Order in multiples of Std. Pkg. Qty.

| Panduit Part Number | Material                                                                              | Color   | Panel Thickness<br>In. (mm) | Dimensions—In. (mm) |             | Pieces<br>Per<br>Pkg. | Std.<br>Pkg.<br>Qty.* |                                                                                                                                                               |
|---------------------|---------------------------------------------------------------------------------------|---------|-----------------------------|---------------------|-------------|-----------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |                                                                                       |         |                             | A                   | B           |                       |                       |                                                                                                                                                               |
| GE52-C              | Military Standard MS21266 Nylon Strips<br>**<br>(-69 designates Flame Retardant)<br>▲ | Natural | .015" (.4) – .052" (1.3)    | .150" (3.8)         | .155" (3.9) | 100 (30.5M)           | Strips                |  <p>Style GEE<br/>Slotted Wall</p> <p>Continuous<br/>(100 Ft.) Rolls</p> |
| GE52-C69▲           |                                                                                       | Natural | .015" (.4) – .052" (1.3)    | .150" (3.8)         | .155" (3.9) | 100 (30.5M)           | Strips                |                                                                                                                                                               |
| GE85-C              |                                                                                       | Natural | .052" (1.3) – .085" (2.2)   | .175" (4.5)         | .155" (3.9) | 100 (30.5M)           | Strips                |                                                                                                                                                               |
| GE85-C69▲           |                                                                                       | Natural | .052" (1.3) – .085" (2.2)   | .175" (4.5)         | .155" (3.9) | 100 (30.5M)           | Strips                |                                                                                                                                                               |
| GE128-C             |                                                                                       | Natural | .085" (2.2) – .128" (3.3)   | .220" (5.6)         | .155" (3.9) | 100 (30.5M)           | Strips                |                                                                                                                                                               |
| GE128-C69▲          |                                                                                       | Natural | .085" (2.2) – .128" (3.3)   | .220" (5.6)         | .155" (3.9) | 100 (30.5M)           | Strips                |                                                                                                                                                               |
| GE192-L             |                                                                                       | Natural | .128" (3.3) – .192" (4.9)   | .325" (8.3)         | .230" (5.8) | 50 (15.2M)            | Strips                |                                                                                                                                                               |
| GE192-L69▲          |                                                                                       | Natural | .128" (3.3) – .192" (4.9)   | .325" (8.3)         | .230" (5.8) | 50 (15.2M)            | Strips                |                                                                                                                                                               |
| GE255-L             |                                                                                       | Natural | .192" (4.9) – .255" (6.5)   | .385" (9.8)         | .240" (6.1) | 50 (15.2M)            | Strips                |                                                                                                                                                               |
| GE318-L             |                                                                                       | Natural | .255" (6.5) – .318" (8.1)   | .455" (11.3)        | .255" (6.5) | 50 (15.2M)            | Strips                |                                                                                                                                                               |
| GE380-Q             |                                                                                       | Natural | .318" (8.1) – .380" (9.7)   | .515" (13.1)        | .255" (6.5) | 25 (7.6M)             | Strips                |                                                                                                                                                               |
| GE510-Q             |                                                                                       | Natural | .380" (9.7) – .510" (13.0)  | .640" (16.3)        | .255" (6.5) | 25 (7.6M)             | Strips                |                                                                                                                                                               |
|                     |                                                                                       |         |                             |                     |             |                       |                       |  <p>Style GE<br/>Slotted Wall</p> <p>12 3/4" strips</p>                  |

\*Order in multiples of Std. Pkg. Qty.

\*\* Military Standard Nylon Strips (GE Series), order the number of strips required in multiples of Std. Pkg. Qty.

▲ This material is not listed under Military Standard MS21266.



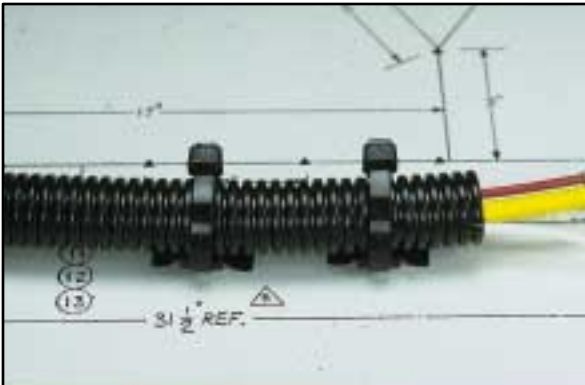
### Corrugated Loom Tubing

- *PANDUIT*® Corrugated Loom Tubing is offered for applications where spiral wrapping or braided expandable sleeving may be difficult to install or where they do not offer the amount of protection required.
- Available in Nylon or Polyethylene, this product features a lengthwise slit which makes it easy to install onto a bundle of wires or a pre-assembled harness assembly.



### Features and Benefits

- Protects and reduces the risk of damage to wiring
- Crush, impact and abrasion resistant
- Slit wall design for ease of installation
- Available in easy to handle 100' lengths
- Available in black and orange polyethylene and black heat stabilized nylon
- Mount it in place with push type cable ties, adhesive or push type mounts.



### Corrugated Loom Tubing Suggested Applications

- Bundle wires in control panels
- Contain and organize loose and bundled wiring harnesses
- Route wires in automotive, truck, trailer, bus, conversion van, emergency service and recreational vehicle applications
- Protect wires in off road/mobile equipment
- Use in mining equipment
- Marine applications for protecting wires on boats and ships



### Wiring Accessories for Corrugated Loom Tubing

- Tie Harness Mounts have a specially designed location tab on the mount that aligns with grooves in corrugated loom tubing to ensure proper mount location during assembly. Refer to *PANDUIT* Cable Tie and Wiring Accessories Catalog, SA101N275C-WC for more information.

# Corrugated Loom Tubing

## The Functional Part Number System Makes Ordering Easy

### Corrugated Loom Tubing Part Number Description

#### Example: **CLT 100 N-C 630**

| Part Description          | Bundle Diameter | Material                  | Package Size | Color Suffix                         |
|---------------------------|-----------------|---------------------------|--------------|--------------------------------------|
| Corrugated Loom<br>Tubing | 25 = 1/4"       | N = Heat Stabilized Nylon | X = 10'      | 630 = Heat Stabilized<br>Black Nylon |
| CLT= Slit Wall            | 35 = 5/16"      | F = Polyethylene          | L = 50'      | 20 = Black Polyethylene              |
| CLTS= Solid Wall          | 38 = 3/8"       |                           | C = 100'     | 3= Orange                            |
|                           | 50 = 1/2"       |                           | T = 200'     | 4= Yellow                            |
|                           | 62 = 5/8"       |                           | D = 500'     |                                      |
|                           | 75 = 3/4"       |                           |              |                                      |
|                           | 100 = 1"        |                           |              |                                      |
|                           | 125 = 1 1/4"    |                           |              |                                      |
|                           | 150 = 1 1/2"    |                           |              |                                      |
|                           | 188 = 1 7/8"    |                           |              |                                      |

### Ordering Information — Corrugated Loom Tubing

| PANDUIT® Part Number                                                                                                                                                                                      |                                                                                                                                                             | Material     | Color | Inside Diameter                                                                                                                                                                                                                   | Outside Diameter                                                                                                                                                                                                                    | Feet Per Pkg.                                                                                             | Pkg. Qty.* |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------|
| Slit                                                                                                                                                                                                      | Solid                                                                                                                                                       |              |       |                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                     |                                                                                                           |            |
| CLT25F-C20<br>CLT35F-C20<br>CLT38F-C20<br>CLT50F-C20<br>CLT62F-C20<br>CLT75F-C20<br>CLT100F-C20<br>CLT125F-L20<br>CLT150F-X20<br>CLT150F-T20<br>CLT150F-D20<br>CLT188F-X20<br>CLT188F-C20<br>CLT188F-6C20 | CLTS25F-C<br>CLTS35F-C<br>CLTS38F-C<br>CLTS50F-C<br>CLTS62F-C<br>CLTS75F-C<br>CLTS100F-C<br>CLTS125F-L<br>**<br>**<br>CLTS150F-D<br>**<br>**<br>**          | Polyethylene | Black | .265" (6.7)<br>.350" (8.9)<br>.414" (10.5)<br>.505" (12.8)<br>.665" (16.9)<br>.760" (19.3)<br>.915" (23.2)<br>1.290" (32.8)<br>1.550" (39.1)<br>1.550" (39.1)<br>1.550" (39.1)<br>1.881" (47.8)<br>1.881" (47.8)<br>1.881" (47.8) | .390" (9.9)<br>.500" (12.7)<br>.556" (14.1)<br>.670" (17.0)<br>.830" (21.1)<br>.935" (23.7)<br>1.090" (27.7)<br>1.500" (38.1)<br>1.860" (47.2)<br>1.860" (47.2)<br>1.860" (47.2)<br>2.169" (55.1)<br>2.169" (55.1)<br>2.169" (55.1) | 100'<br>100'<br>100'<br>100'<br>100'<br>100'<br>100'<br>50'<br>10'<br>200'<br>500'<br>10'<br>100'<br>600' | 1 Roll     |
| CLT25F-C3<br>CLT35F-C3<br>CLT38F-C3<br>CLT50F-C3<br>CLT62F-C3<br>CLT75F-C3<br>CLT100F-C3<br>CLT125F-L3<br>CLT150F-X3<br>CLT150F-T3<br>CLT150F-D3<br>CLT188F-X3<br>CLT188F-C3<br>CLT188F-6C3               | CLTS25F-C3<br>CLTS35F-C3<br>CLTS38F-C3<br>CLTS50F-C3<br>CLTS62F-C3<br>CLTS75F-C3<br>CLTS100F-C3<br>CLTS125F-L3<br>**<br>**<br>CLTS150F-D3<br>**<br>**<br>** |              |       | .265" (6.7)<br>.350" (8.9)<br>.414" (10.5)<br>.505" (12.8)<br>.665" (16.9)<br>.760" (19.3)<br>.915" (23.2)<br>1.290" (32.8)<br>1.550" (39.1)<br>1.550" (39.1)<br>1.550" (39.1)<br>1.881" (47.8)<br>1.881" (47.8)<br>1.881" (47.8) | .390" (9.9)<br>.500" (12.7)<br>.556" (14.1)<br>.670" (17.0)<br>.830" (21.1)<br>.935" (23.7)<br>1.090" (27.7)<br>1.500" (38.1)<br>1.860" (47.2)<br>1.860" (47.2)<br>1.860" (47.2)<br>2.169" (55.1)<br>2.169" (55.1)<br>2.169" (55.1) | 100'<br>100'<br>100'<br>100'<br>100'<br>100'<br>100'<br>50'<br>10'<br>200'<br>500'<br>10'<br>100'<br>600' |            |
| CLT125F-L4<br>CLT150F-X4<br>CLT150F-T4<br>CLT150F-D4<br>CLT188F-X4<br>CLT188F-C4<br>CLT188F-6C4                                                                                                           | **<br>**<br>**<br>**<br>**<br>**<br>**                                                                                                                      |              |       | 1.290" (32.8)<br>1.550" (39.1)<br>1.550" (39.1)<br>1.550" (39.1)<br>1.881" (47.8)<br>1.881" (47.8)<br>1.881" (47.8)                                                                                                               | 1.500" (38.1)<br>1.860" (47.2)<br>1.860" (47.2)<br>1.860" (47.2)<br>2.169" (55.1)<br>2.169" (55.1)<br>2.169" (55.1)                                                                                                                 | 50'<br>10'<br>200'<br>500'<br>10'<br>100'<br>600'                                                         |            |
| CLT25N-C630<br>CLT35N-C630<br>CLT38N-C630<br>CLT50N-C630<br>CLT62N-C630<br>CLT75N-C630<br>CLT100N-C630<br>CLT125N-L630<br>CLT150N-D630<br>CLT188N-6C630                                                   | CLTS25N-C<br>CLTS35N-C<br>CLTS38N-C<br>CLTS50N-C<br>CLTS62N-C<br>CLTS75N-C<br>CLTS100N-C<br>CLTS125N-L<br>CLTS150N-D<br>**                                  |              |       | .265" (6.7)<br>.350" (8.9)<br>.414" (10.5)<br>.505" (12.8)<br>.665" (16.9)<br>.760" (19.3)<br>.915" (23.2)<br>1.290" (32.8)<br>1.550" (39.1)<br>1.881" (47.8)                                                                     | .390" (9.9)<br>.500" (12.7)<br>.556" (14.1)<br>.670" (17.0)<br>.830" (21.1)<br>.935" (23.7)<br>1.090" (27.7)<br>1.500" (38.1)<br>1.860" (47.2)<br>2.169" (55.1)                                                                     | 100'<br>100'<br>100'<br>100'<br>100'<br>100'<br>100'<br>50'<br>500'<br>600'                               |            |

\*Order number of rolls required.

\*\*Contact factory for additional sizes, materials, colors, and bulk packaging.

## Braided Expandable Sleeving — Polyethylene Terephthalate — PET



- Provides continuous abrasion resistance for wires, cables and tubing
- Lightweight, durable protection
- Highly flexible open weave will not trap heat or humidity
- Rated for use up to 257°F (125°C)
- Allows for use with irregular shapes
- Stock colors: Black, gray and white
- See [page 50](#) for cutting tools



### The Functional Part Number System Makes Ordering Easy

#### Braided Expandable Sleeving Part Number Description

**Example: SE 25 PFR-M R 0**

| Part Description | Nom. I.D. Size      | Material                                   | Package Size       | R = Reel | Color Suffix |
|------------------|---------------------|--------------------------------------------|--------------------|----------|--------------|
| Sleeving         | 12 = 1/8" (3.2)     | P = Polyethylene Terephthalate (PET)       | L = 50' (15.2M)    |          | 0 = Black    |
| Expandable       | 25 = 1/4" (6.4)     | PFR = Polyethylene Terephthalate (PET)     | C = 100' (30.5M)   |          | 8 = Gray     |
|                  | 38 = 3/8" (9.5)     | Flame Retardant                            | T = 200' (61.0M)   |          | 10 = White   |
|                  | 50 = 1/2" (12.7)    | PFR-LD = PET Light duty braid construction | D = 500' (152.4M)  |          |              |
|                  | 75 = 3/4" (19.1)    | (Flame Retardant)                          | M = 1000' (304.8M) |          |              |
|                  | 125 = 1 1/4" (31.8) | PLD = PET Light duty braid construction    |                    |          |              |
|                  | 150 = 1 1/2" (38.1) |                                            |                    |          |              |
|                  | 175 = 1 3/4" (44.5) |                                            |                    |          |              |

### Ordering Information — Braided Expandable Sleeving

| Part Number Black                     | Part Number Gray            | Part Number White    | Nominal I.D. Inches (mm) | Nominal Diameter Range Inches (mm) | Std. Pkg. Qty.*                                                          | Std. Ctn. Qty.                |
|---------------------------------------|-----------------------------|----------------------|--------------------------|------------------------------------|--------------------------------------------------------------------------|-------------------------------|
| SE12P-TR0<br>SE12P-MR0                | SE12P-TR8<br>SE12P-MR8      | —<br>SE12P-MR10      | .125" (3.2)              | .094" to .250"<br>(2.4) to (6.4)   | 1 Reel, 200' (61.0M)<br>1 Reel, 1000' (304.8M)                           | 4 Reels<br>2 Reels            |
| SE25P-TR0<br>SE25P-MR0<br>SE25PLD-MR0 | SE25P-TR8<br>SE25P-MR8<br>— | —<br>SE25P-MR10<br>— | .250" (6.4)              | .125" to .375"<br>(3.2) to (9.5)   | 1 Reel, 200' (61.0M)<br>1 Reel, 1000' (304.8M)<br>1 Reel, 1000' (304.8M) | 4 Reels<br>2 Reels<br>2 Reels |
| SE38P-TR0<br>SE38P-MR0                | SE38P-TR8<br>SE38P-MR8      | —<br>SE38P-MR10      | .375" (9.5)              | .188" to .562"<br>(4.7) to (14.3)  | 1 Reel, 200' (61.0M)<br>1 Reel, 1000' (304.8M)                           | 4 Reels<br>2 Reels            |
| SE50P-CR0<br>SE50P-DR0                | SE50P-CR8<br>SE50P-DR8      | —<br>SE50P-DR10      | .500" (12.7)             | .250" to .750"<br>(6.4) to (19.1)  | 1 Reel, 100' (30.5M)<br>1 Reel, 500' (152.4M)                            | 4 Reels<br>2 Reels            |
| SE75P-CR0<br>SE75P-DR0                | SE75P-CR8<br>SE75P-DR8      | —<br>SE75P-DR10      | .750" (19.1)             | .500" to 1.25"<br>(12.7) to (31.8) | 1 Reel, 100' (30.5M)<br>1 Reel, 500' (152.4M)                            | 4 Reels<br>2 Reels            |
| SE125P-LR0<br>SE125P-TR0              | SE125P-LR8<br>SE125P-TR8    | —<br>SE125P-TR10     | 1.25" (31.8)             | .750" to 1.50"<br>(19.1) to (38.1) | 1 Reel, 50' (15.2M)<br>1 Reel, 200' (61.0M)                              | 4 Reels<br>2 Reels            |
| SE150P-LR0<br>SE150P-TR0              | SE150P-LR8<br>SE150P-TR8    | —<br>SE150P-TR10     | 1.50" (38.1)             | 1.00" to 2.25"<br>(25.4) to (57.2) | 1 Reel, 50' (15.2M)<br>1 Reel, 200' (61.0M)                              | 4 Reels<br>2 Reels            |
| SE175P-TR0                            | —                           | —                    | 1.75" (44.5)             | 1.25" to 2.75"<br>(31.8) to (69.8) | 1 Reel, 200' (61.0M)                                                     | 2 Reels                       |

\* Order number of reels required.

# Flame Retardant Braided Expandable Sleeving

## Braided Expandable Sleeving — Flame Retardant Polyethylene Terephthalate — PET



- Provides continuous abrasion resistance for wires, cables and tubing
- Lightweight, durable protection
- Highly flexible open weave will not trap heat or humidity
- Rated for use up to 257°F (125°C)
- Allows for use with irregular shapes
- Self extinguishing, meets UL VW-1
- Stock colors: Black or gray with white tracer, or in white with black tracer to identify flame retardant material
- See bottom of this page for cutting tools



### Ordering Information — Flame Retardant Braided Expandable Sleeving

| Part Number<br>Black                         | Part Number<br>Gray             | Part Number<br>White   | Nominal<br>I.D.<br>Inches (mm) | Nominal<br>Diameter Range<br>Inches (mm) | Std.<br>Pkg.<br>Qty.*                                                    | Std.<br>Ctn.<br>Qty.          |
|----------------------------------------------|---------------------------------|------------------------|--------------------------------|------------------------------------------|--------------------------------------------------------------------------|-------------------------------|
| SE12PFR-TR0<br>SE12PFR-MR0                   | SE12PFR-TR8<br>SE12PFR-MR8      | —<br>SE12PFR-MR10      | .125" (3.2)                    | .094" to .250"<br>(2.4) to (6.4)         | 1 Reel, 200' (61.0M)<br>1 Reel, 1000' (304.8M)                           | 4 Reels<br>2 Reels            |
| SE25PFR-TR0<br>SE25PFR-MR0<br>SE25PFR-LD-MR0 | SE25PFR-TR8<br>SE25PFR-MR8<br>— | —<br>SE25PFR-MR10<br>— | .250" (6.4)                    | .125" to .375"<br>(3.2) to (9.5)         | 1 Reel, 200' (61.0M)<br>1 Reel, 1000' (304.8M)<br>1 Reel, 1000' (304.8M) | 4 Reels<br>2 Reels<br>2 Reels |
| SE38PFR-TR0<br>SE38PFR-MR0                   | SE38PFR-TR8<br>SE38PFR-MR8      | —<br>SE38PFR-MR10      | .375" (9.5)                    | .188" to .625"<br>(4.7) to (15.9)        | 1 Reel, 200' (61.0M)<br>1 Reel, 1000' (304.8M)                           | 4 Reels<br>2 Reels            |
| SE50PFR-CR0<br>SE50PFR-DR0                   | SE50PFR-CR8<br>SE50PFR-DR8      | —<br>SE50PFR-DR10      | .500" (12.7)                   | .250" to .750"<br>(6.4) to (19.1)        | 1 Reel, 100' (30.5M)<br>1 Reel, 500' (152.4M)                            | 4 Reels<br>2 Reels            |
| SE75PFR-CR0<br>SE75PFR-DR0                   | SE75PFR-CR8<br>SE75PFR-DR8      | —<br>SE75PFR-DR10      | .750" (19.1)                   | .500" to 1.25"<br>(12.7) to (31.8)       | 1 Reel, 100' (30.5M)<br>1 Reel, 500' (152.4M)                            | 4 Reels<br>2 Reels            |
| SE125PFR-LR0<br>SE125PFR-TR0                 | SE125PFR-LR8<br>SE125PFR-TR8    | —<br>SE125PFR-TR10     | 1.25" (31.8)                   | .750" to 1.50"<br>(19.1) to (38.1)       | 1 Reel, 50' (15.2M)<br>1 Reel, 200' (61.0M)                              | 4 Reels<br>2 Reels            |
| SE150PFR-LR0<br>SE150PFR-TR0                 | SE150PFR-LR8<br>SE150PFR-TR8    | —<br>SE150PFR-TR10     | 1.50" (38.1)                   | 1.00" to 2.25"<br>(25.4) to (57.2)       | 1 Reel, 50' (15.2M)<br>1 Reel, 200' (61.0M)                              | 4 Reels<br>2 Reels            |
| SE175PFR-TR0                                 | —                               | —                      | 1.75" (44.5)                   | 1.25" to 2.75"<br>(31.8) to (69.8)       | 1 Reel, 200' (61.0M)                                                     | 2 Reels                       |

\* Order number of reels required.

### Tooling Head (HKBS)

#### Sleeving Cutter/End Sealer Blade —

Used with popular soldering guns to cut and seal sleeving.



### Bench Mount Cutter/End Sealer

Available Directly from Manufacturer



Pearson Industries  
P.O. Box 36  
Prattville, AL 36067  
(334) 365-5416

| Part Number | Description                                                                                                                       | Std.<br>Pkg.<br>Qty* |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------|
| HKBS        | For dual straight shank soldering guns with .500" spacing<br>Typical Guns: WELLER straight shank Model 8200; WEN Model 199 or 100 | 1                    |

\* Order number of blades required.

### Abrasion Protection Products Flammability Tests and Classifications



- A number of test procedures have been developed which can be used for the evaluation and comparison of various materials to support combustion.
- Review the following classifications to find which category is designed to suit your abrasion and protection applications.

#### UL94 Vertical Burning Test

Samples of material, with dimension 5" by 1/2" and the thickness of the intended end use product, are tested in a unaged "as manufactured" state and in an aged state (7 days at 158F° ,70°C). The test requires the placement of a precisely controlled flame under a vertically supported specimen for a 10 second period. The flame is removed and the duration of flaming is recorded. If the flame extinguishes, the specimen is immediately subjected to a second 10 second ignition period. Duration of flaming is again recorded. A piece of surgical cotton is placed under the specimen. If drips ignite the cotton, this fact is also recorded.

#### MATERIALS CLASSIFIED 94V-0

Materials classified 94V-0 shall:

- Not have any specimens which burn with flaming combustion for more than 10 seconds after either application of the test flame.
- Not have a total flaming combustion time exceeding 50 seconds for the 10 flame applications for each set of five specimens.
- Not have any specimens which burn with flaming or glowing combustion up to the holding clamp.
- Not have any specimens which drip flaming particles that ignite the dry absorbent surgical cotton located 12" (305mm) below the test specimen.
- Not have any specimens with glowing combustion which persists for more than 30 seconds after the second removal of the test flame.

(Cont. on [page 52](#))

## Flammability Tests and Classifications

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### **MATERIALS CLASSIFIED 94V-1**

Materials classified 94V-1 shall:

- Not have a total flaming combustion time exceeding 250 seconds for the 10 flame applications for each set of five specimens.
- Not have any specimens which burn with flaming or glowing combustion up to the holding clamp.
- Not have any specimens which drip flaming particles that ignite the dry absorbent surgical cotton located 12" (305mm) below the test specimen.
- Not have any specimens with glowing combustion which persists for more than 60 seconds after the second removal of the test flame.

### **MATERIALS CLASSIFIED 94V-2**

Materials classified 94V-2 shall:

- Not have any specimens which burn with flaming combustion for more than 30 seconds after either application of the test flame.
- Not have a total flaming combustion time exceeding 250 seconds for the 10 flame applications for each set of five specimens.
- Not have any specimens which burn with flaming or glowing combustion up to the holding clamp.
- Be permitted to have specimens which drip flaming particles which burn only briefly some of which ignite the dry absorbent surgical cotton located 12" (305mm) below the test specimen.
- Not have any specimens with glowing combustion which persists for more than 60 seconds after the second removal of the test flame.

### **MATERIALS CLASSIFIED UL-94 HB**

- Specimens shall have a maximum burn rate of 1.5 in./min over 3 inches of thickness of 0.120" to 0.5".
- Specimens shall have a maximum burn rate of 2.5 in./min over 3 inches for a thickness less than 0.120".

### **UL224 VERTICAL WIRE FLAME TEST**

Samples of fully recovered tubing are placed over a length of fine spring steel music wire. The test requires the precise placement of a controlled flame that contacts the heat shrink tubing. The flame is applied in five fifteen second intervals with a time period between applications. If the flame extinguishes immediately after the first flame removal, subsequent flame applications are made to the tubing. Duration of specimen flaming is noted. A piece of surgical cotton is placed under the specimen. If a flaming or glowing piece of tubing drips and ignites the cotton, this is also noted.

### **MATERIALS CLASSIFIED AS VW-1 SHALL:**

- Not flame or glow longer than 60 seconds following any of the five applications of the flame.
- Not ignite or damage more than 25% of kraft paper flag that is placed around the top of the tubing.
- Not have any specimens which drip flaming particles and ignite the surgical cotton located 9 1/2 inches below the test specimen.

## Abrasion Protection Materials Technical Data

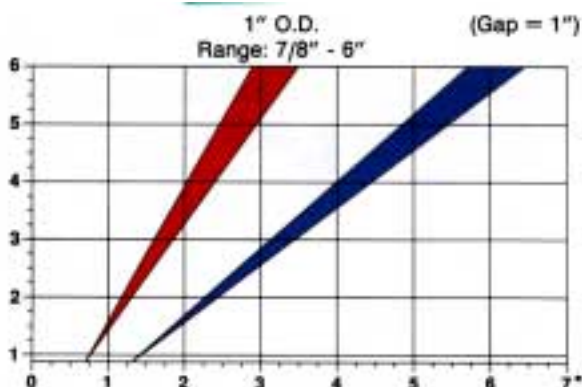
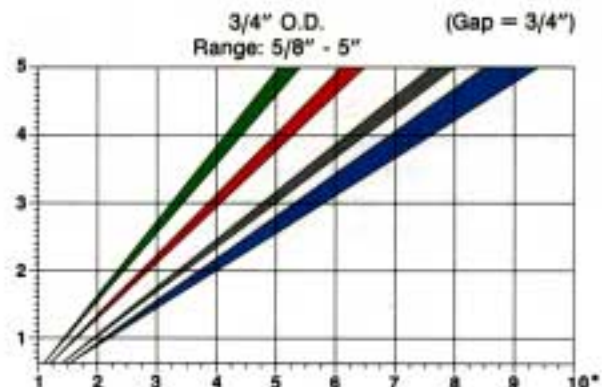
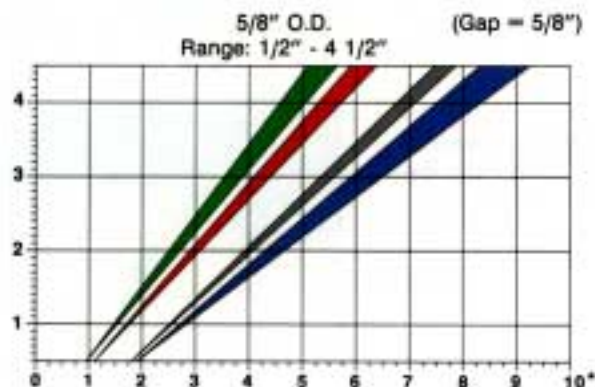
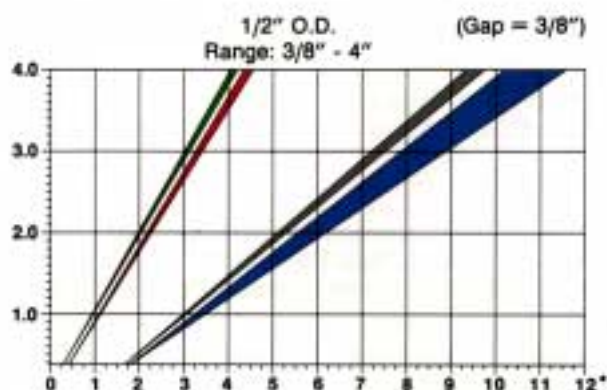
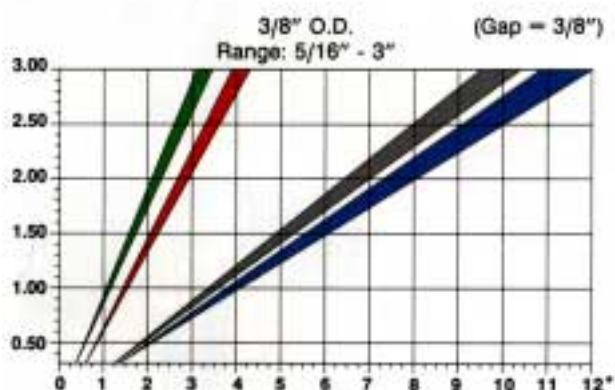
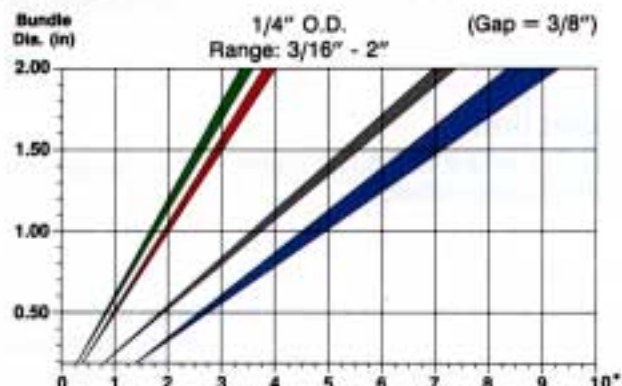
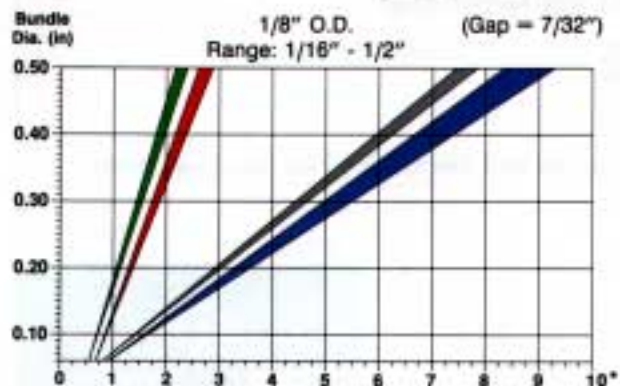
|                                  |                                                                                                                                                                                                                                                                                                                | Ratings and Approvals          |                      |                     | Physical Properties                          |                         |                              |                                 | Chemical Resistance                                         |                 |                                                |                    |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------|---------------------|----------------------------------------------|-------------------------|------------------------------|---------------------------------|-------------------------------------------------------------|-----------------|------------------------------------------------|--------------------|
|                                  |                                                                                                                                                                                                                                                                                                                | UL Temperature Index           | Flammability (UL 94) | Melting Temperature | Abrasion Resistance (Lower number is better) | Specific Gravity (D792) | Minimum Tensile @ 23°C (psi) | Water Absorption (Max. 24 hrs.) | Organic Solvents                                            | Alkalies        | Acids                                          | Petro-Chemicals    |
| SPIRAL WRAPPING & GROMMET EDGING | <b>Natural Polyethylene</b><br>Our lowest cost material for indoor use up to 122°F. Natural is available in all sizes. Colors are available in 1/4" and 1/2".                                                                                                                                                  | -40°F (-40°C) to 122°F (50°C)  | HB                   | 239°F (115°C)       | 22 mg                                        | .91 - .93               | 1400 (D638)                  | .01%                            | Resistant below 140°F (60°C) except to chlorinated solvents | Resistant       | Resistant except to oxidizing acids            | Some Discoloration |
|                                  | <b>Weather Resistant Polyethylene</b><br>This material has the same properties as natural polyethylene, and also has additives which allow it to resist the effects of ultraviolet light and acid rain in an outdoor environment. This product is available in black only.                                     | -40°F (-40°C) to 122°F (50°C)  | HB                   | 239°F (115°C)       | 20 mg                                        | .93 - 1.09              | 2000 (D638)                  | .03%                            | Resistant below 140°F (60°C) except to chlorinated solvents | Resistant       | Resistant except to oxidizing acids            | No Discoloration   |
|                                  | <b>Flame Retardant Polyethylene UL94-V2 Rating</b><br>This material is self extinguishing and passes the UL94 flame retardant test with a V2 rating                                                                                                                                                            | -40°F (-40°C) to 122°F (50°C)  | V-2                  | 239°F (115°C)       | 27 mg                                        | 1.00 - 1.30             | 1400 (D638)                  | .02%                            | Resistant below 140°F (60°C) except to chlorinated solvents | Resistant       | Resistant except to oxidizing acids            | Some Discoloration |
|                                  | <b>Flame Retardant Polyethylene UL94-V0 Rating</b><br>This material is self extinguishing and passes the UL94 flame retardant test with a V0 rating                                                                                                                                                            | -40°F (-40°C) to 140°F (60°C)  | V-0                  | 270°F (132°C)       | 22 mg                                        | 1.38                    | 1200                         | .02%                            | Resistant below 140°F (60°C) except to chlorinated solvents | Resistant       | Resistant except to oxidizing acids            | Some Discoloration |
|                                  | <b>Nylon</b><br>Our Nylon is strong, durable, self-extinguishing material for indoor use up to 149°F. It offers a combination of lightweight, wide temperature range, and high abrasion resistance. This material is suitable for applications where heavy vibration or stress exists on the wiring or tubing. | -40°F (-40°C) to 149°F (65°C)  | V-2                  | 491°F (255°C)       | 7 mg                                         | 1.03 - 1.15             | 12,400 (D638)                | 1.5%                            | Resistant except to phenols and formic acid                 | Resistant       | Resistant to most weak acids                   | No Discoloration   |
|                                  | <b>Weather Resistant Nylon</b><br>This material has the same properties as natural Nylon and also has additives which allow it to resist the effects of ultraviolet light in an outdoor environment. This product is available in black only.                                                                  | -40°F (-40°C) to 149°F (65°C)  | V-2                  | 491°F (255°C)       | 7 mg                                         | 1.03 - 1.15             | 12,400 (D638)                | 1.5%                            | Resistant except to phenols and formic acid                 | Resistant       | Resistant to most weak acids                   | No Discoloration   |
| SPIRAL WRAPPING                  | <b>TEFLON†</b><br>This material is a non-flammable, fluorocarbon resin material. Suitable for use in any application (including nuclear containment). It is rated up to 356°F. Color: Natural with a bluish cast.                                                                                              | -40°F (-40°C) to 365°F (180°C) | V-0                  | 520°F (271°C)       | 7 mg                                         | 2.10 - 2.20             | 2500 (D638)                  | .01%                            | Resistant                                                   | Resistant       | Resistant except to fluorine and some halogens | No Discoloration   |
| SLEEVEING                        | <b>Polyethylene Terephthalate (PET)</b><br>This material is a thermoplastic polyester material designed for indoor applications. It is rated for use up to 257°F. Colors: Black, White and Gray.                                                                                                               | -94°F (-70°C) to 257°F (125°C) | HB                   | 500°F (260°C)       | Contact Factory                              | 1.31                    | 100,000 (D638)               | .08%                            | Not Recommended                                             | Not Recommended | Resistant                                      | No Discoloration   |
|                                  | <b>Flame Ret. Polyethylene Terephthalate (PET)</b><br>This material is a self-extinguishing thermoplastic polyester that can be used indoors. It is also rated for use up to 257°F and is provided in black with white tracer (to identify the flame retardant material).                                      | -94°F (-70°C) to 257°F (125°C) | U.L. 224: VW-1       | 445°F (230°C)       | Contact Factory                              | 1.39                    | 37,500 (D638)                | .08%                            | Not Recommended                                             | Not Recommended | Resistant                                      | No Discoloration   |
| CLT                              | <b>Natural Polyethylene</b><br>Our lowest cost material is for continuous use at temperatures -40°F (-40°C) to 176°F (80°C).                                                                                                                                                                                   | N/A                            | HB                   | Contact Factory     | Contact Factory                              | .926-.940               | 1529 (D638)                  | Contact Factory                 | Excellent                                                   | Excellent       | Excellent                                      | Good               |
|                                  | <b>Nylon</b><br>Nylon is a strong, durable, high abrasion resistant material for continuous use at temperatures -40°F (-40°C) to 248°F (120°C).                                                                                                                                                                | N/A                            | HB                   | 437°F (225°C)       | Contact Factory                              | 1.06-1.16               | 10,000 (D638)                | Contact Factory                 | Excellent                                                   | Good            | Fair                                           | Good               |

NOTE: Typical operating temperature ranges are extended based on end use application and specific environmental tests.

† Teflon or equivalent fluorocarbon PTFE is used. Teflon is the registered trademark of E. I. DuPont.

## Abrasion Protection Products Technical Data

The approximate required length of spiral wrapping based on the bundle diameter can be determined by using the graphs below; they show length required (in feet) per foot of bundle.



\* Length of spiral wrapping (feet) per foot of bundle

• TEFLON is a registered trademark of E.I. DuPont Co.

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ISO-9001

## *Proof Positive of Panduit Quality*

With all the talk about high quality, it's nice to hear a completely objective voice now and then. ISO 9001 certification is proof positive that Panduit's focus on quality is from top to bottom and everywhere in between.

The ISO 9001 recognition indicates that we meet the most comprehensive international standards in design, purchasing, manufacturing, testing, documentation, shipping and service. And this means Panduit's high-quality products and services help you meet your ISO 9000 requirements while also reducing your quality and inspection costs.

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- ! Cable Ties
- ! Heat Shrink and Abrasion Protection Products
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- ! Network Connectivity Products
- ! Power Connectors
- ! Stainless Steel Ties & Accessories
- ! Surface Raceway
- ! Terminals
- ! Wiring Accessories
- ! Wiring Duct



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