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Shrink-Kon®

# Thomas & Betts

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



# Shrink-Kon®

## Overview

Protect against moisture, corrosion and abrasion!

*T&B has you covered when it comes to insulation!*

- Easy to use
- Heat shrinkable
- Products for heavy, medium, and thin walls
- Covers available for H-type taps and splices



## Heavy-Wall Shrink-Kon® Heat-Shrinkable Insulators

When it comes to moisture-proofing connections and terminations, T&B's heat-shrinkable tubing, boots, and end caps have proven themselves over years of service to the industry. Made of thermally stabilized cross-linked polyolefin, these heat-shrinkable insulators can be used over lead, steel, aluminum, copper, standard plastic, and elastomeric insulating materials.

T&B heat-shrinkable insulators are designed to be easy to use. They provide an appropriate level of insulation and abrasion protection.

Where applicable, T&B heat-shrink insulators are UL Listed. Also, all standard size insulators have an internally applied adhesive sealant.

## Heavy-Wall Shrink-Kon® Heat-Shrinkable End Cap & Boots

**Redesigned for superior durability and performance!**

Seals and insulates cable ends at a 600V rating. Installs fast, while providing insulation resistance to moisture, corrosion, and abrasion. The extra thickness at the tip of the end cap prevents sharp ends of the cable from puncturing the seal.

Seals and insulates multiconductor cables and conduit with the same cost savings and superior properties of T&B's heat-shrinkable tubing. These boots replace time-consuming tapes, epoxies, encapsulations, and dips. The boots are internally coated with sealant.



**T&B Heat-Shrinkable Insulators Offer:**

- Heavy-duty protection
- A full range of sizes from #14 to 2500 MCM
- Field-proven reliability
- Internal sealant provides protection against moisture

**Featured Products Include:**

- High Shrink Ratio HSHR series with 6:1 shrink ratio designed for applications with extreme differences between cable, connector, and back shell sizes
- Flame Retardant HSFR series provides maximum flame retardancy

Shrink-Kon®

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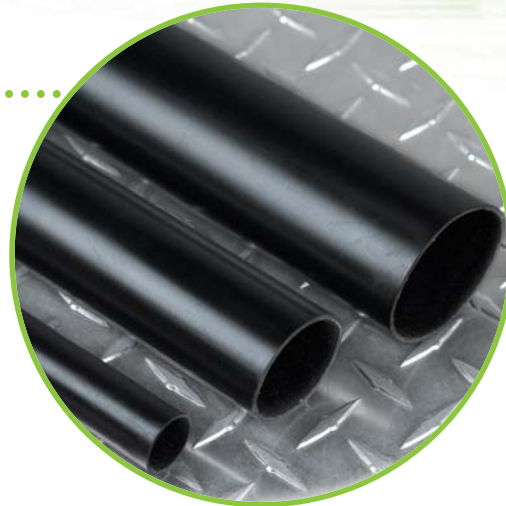
Technical Services  
Tel: 888.862.3289



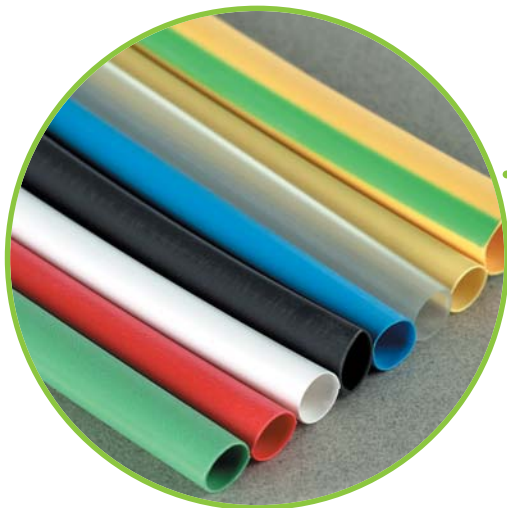
### Shrink-Kon® Medium Wall Tubing

More flexible than heavy-wall products, with excellent resistance to impact and abrasion.

- Seals and protects cable splices and terminations
- Thermoplastic adhesive liner guarantees complete environmental protection and insulation



Shrink-Kon®



### Shrink-Kon® Thin Wall Tubing

Manufactured from stabilized Polyolefin, these insulators are used to insulate bare Sta-Kon® and Color Keyed® connectors and splices. They also provide a degree of strain relief and may be used to harness wires. Available in cut pieces or reels.

#### Featured Products Include:

- Standard non-lined 2:1 thin wall tubing
- 3:1 adhesive lined thin-wall CPO-A series provides excellent flexibility with environmental sealing capability
- Extra clear heat shrink for use on power connections and data connections

### Covers

These new insulating covers provide hard-shell insulated protection for "H" type compression taps and splices, and, because there is no taping required, you get uniform quality and appearance each time. The exclusive locking design provides the range-taking capability. Only six H-tap insulating catalog numbers accommodate the range of 6 AWG — 1000 MCM in the main and 12 AWG—500 MCM in the branch.

- Hard-shell outer covers guard against impact... inner seal keeps out dust
- Installs quickly and easily without special tools... simply snaps together
- Eliminates time-consuming taping
- Provides high-quality, neat, uniform installations
- Range-taking design reduces inventory



### HS Series

**3:1 Shrink Ratio**

Shrink-Kon®



- Made of thermally stabilized cross-linked polyolefin, enabling a recovered wall thickness greater than that of the cable jacket replaced
- Withstands severe mechanical requirements of U.R.D., submersible, and direct burial installations
- Tubing, featuring an internally applied sealant, offers protection against moisture, and may be used over lead, steel, aluminum, copper, standard plastic and elastomeric insulating materials
- Shrink temperature of 120° C
- High-impact, abrasion, corrosion and chemical resistance
- Rated for 600V, 90° C continuous use
- Thermoplastic adhesive liner provides complete environmental protection and insulation
- Meets: UL® 486D, CSA C22.2 No. 198.2, ANSI C119.1, Western Underground Guide Numbers 2.4, 2.5, ICEA and NEMA insulation thickness requirements
- Continuous operating temperature: -55° C to 110° C



### HS Series Specifications

PROPERTY	TEST METHOD	TYPICAL PERFORMANCES	PROPERTY	TEST METHOD	TYPICAL PERFORMANCES
<b>Physical</b>			<b>Chemical</b>		
• Tensile Strength	ASTM D412, ISO 37	2100 psi (14.5MPa)	• Fluid Resistance	MIL-DTL-23053	Good to Excellent
• Elongation	ASTM D412, ISO 37	600%	• Fungus Resistance	ASTM G21	No Growth
• Elongation after Heat Aging (168 hrs. at 150° C)	ASTM D2671	500%	• Copper Corrosion	ASTM D2671	No Corrosion
• Heat Shock (4 hrs. at 225° C)	ASTM D2671	No cracking or flowing	• Water Absorption	ASTM D570	0.1%
• Longitudinal Change	ASTM D2671	+1%, -10%	<b>Adhesive</b>		
• Low Temperature Flexibility (4 hrs. at -55° C)	ASTM D2671	No cracking	• Adhesive Lap Shear (1 in./min. at 23° C)	ASTM D1002	125 psi (.875 MPa)
• Specific Gravity	ASTM D792	1.1	• Adhesive Softening Point	ASTM E28	92° C ±5° C
• Hardness (Shore D)	ASTM D2240	50D	• Adhesive Peel Strength (300mm/min. at 23° C)	ASTM D1000	
<b>Electrical</b>			— to steel, aluminum, P.E.		35 pli
• Dielectric Strength	ASTM D149	500 V/Mil (20kV/mm)	— PVC		20 pli
• Dielectric Voltage Withstand (2500 V, 60Hz, 1 Min.)	UL 486D	No Breakdown, 24kV – 1 min., 15kV – 4 hrs.	• Water Penetration	STM 706	No penetration after 236 hrs. of continuous immersion
• Volume Resistivity	ASTM D257	1016 ohm-cm			

## Heavy-Wall Heat-Shrinkable Tubing

### HS Series Heavy-Wall Heat-Shrinkable Tubing — Black

CAT. NO.	MIN. EXPANDED I.D. (IN.)	MAX. RECOVERED I.D. (IN.)	NOM. RECOVERED WALL (IN.)	STD. LENGTH (IN.)	FITS ANY LISTED OR CERTIFIED AL OR CU WIRE WITH DIM NO LARGER THAN			STD. PKG. QTY.
					O.D. (IN.)	LENGTH (IN.)	CABLE RANGE	
HS16-12	.35	.12	.07	3	.27	1.00	#14 to #10 AWG	25
HS16-12L	.35	.12	.07	6	.27	1.00	#14 to #10 AWG	25
HS16-12-4	.35	.12	.07	48	.27	1.00	#14 to #10 AWG	5
HS12-6	.51	.16	.09	3	.38	1.75	#8 to #6 AWG	25
HS12-6L	.51	.16	.09	6	.38	1.75	#8 to #6 AWG	25
HS12-6-4	.51	.16	.09	48	.38	1.75	#8 to #6 AWG	5
HS6-1	.75	.24	.09	4	.63	2.50	#6 to #2 AWG	25
HS6-1L	.75	.24	.09	8	.63	2.50	#6 to #2 AWG	25
HS6-1-4	.75	.24	.09	48	.63	2.50	#6 to #2 AWG	5
HS4-30	1.10	.35	.12	5	.75	3.25	#1 to 3/0 AWG	20
HS4-30L	1.10	.35	.12	9	.75	3.25	#1 to 3/0 AWG	10
HS4-30-4	1.10	.35	.12	48	.75	3.25	#1 to 3/0 AWG	5
HS40-400	1.50	.47	.16	8	—	—	2/0 to 350 MCM	10
HS40-400L	1.50	.47	.16	12	—	—	2/0 to 350 MCM	10
HS40-400-4	1.50	.47	.16	48	—	—	2/0 to 350 MCM	5
HS500-1000	2.00	.63	.16	9	—	—	250-500 MCM	5
HS500-1000L	2.00	.63	.16	15	—	—	250-500 MCM	2
HS500-1000-4	2.00	.63	.16	48	—	—	250-500 MCM	2
HS12-30**	3.54	1.18	.16	12	—	—	800-1250 MCM	2
HS30-30**	3.54	1.18	.16	30	—	—	800-1250 MCM	2
HS30-4**	3.54	1.18	.16	48	—	—	800-1250 MCM	1
HS12-40**	4.72	1.57	.17	12	—	—	1500-2500 MCM	1
HS30-40**	4.72	1.57	.17	30	—	—	1500-2500 MCM	1
HS40-4-TB**	4.72	1.57	.17	48	—	—	1500-2500 MCM	1

Order multiple is std. pkg.  
All lengths have factory-applied sealant.  
UL File No. E9809, UL 486D.  
\*\* Not UL Listed.



Shrink-Kon®

### HS Series Heavy-Wall Heat-Shrinkable Tubing — Red

CAT. NO.	MIN. EXPANDED I.D. (IN.)	MAX. RECOVERED I.D. (IN.)	LENGTH (IN.)	FOR 2-WAY CONNECTOR CABLE SIZES	STD. PKG. QTY.
HS12-6LR	.51	.16	6	#8-6 AWG	25
HS6-1LR	.75	.24	8	#6-2 AWG	25
HS4-30LR	1.10	.35	9	#1-3/0 AWG	10

Order multiple is std. pkg.  
All lengths have factory-applied sealant.  
UL File No. E9809, UL 486D



### Heavy-Wall Tubing (25' rolls) — Black

CAT. NO.	MIN. EXPANDED I.D. (IN.)	MAX. RECOVERED I.D. (IN.)	NOMINAL RECOVERED WALL (IN.)	CODE CABLE SIZE	STD. PKG. (ROLLS)
HS16-12-25	.35	.12	.07	#14-#10 AWG	1
HS12-6-25	.51	.16	.09	#8-#6 AWG	1
HS6-1-25	.75	.24	.09	#6-#2 AWG	1
HS4-30-25	1.10	.35	.12	#1-3/0 AWG	1
HS40-400-25	1.50	.47	.16	2/0-350 MCM	1
HS500-1000-25	2.00	.63	.16	250-500 MCM	1

Order by reel, not by feet. 25' reels **not** supplied with factory applied sealant.





### HSHR Series — High Shrink Ratio

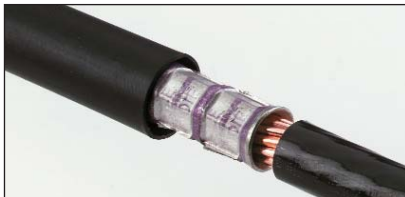
**6:1 Shrink Ratio**

Shrink-Kon®



- Accommodates a wide variety of connector shapes and configurations.
- Thermoplastic Adhesive Liner for complete environmental protection and insulation
- Continuous operating temperature: -55° C to 110° C
- Shrink temperature: 120° C
- Flame retardant: UL94 – V0

### HSHR Series Heavy-Wall Heat-Shrinkable Tubing



CAT. NO.	MIN. EXPANDED I.D. (IN.)	MAX. RECOVERED I.D. (IN.)	NOMINAL RECOVERED WALL (IN.)	CODE CABLE SIZE	STANDARD LENGTH (IN.)	STD. PKG. QTY.
HSHR750-4	.75	.13	.10	#22-#46 AWG	48	25
HSHR1300-4	1.30	.22	.12	#8-700 AWG	48	25
HSHR1750-4	1.75	.29	.13	#4-1000 AWG	48	25
HSHR2000-4	2.00	.33	.13	#2-1250 AWG	48	25
HSHR2750-4	2.75	.46	.14	1/0-1500 MCM	48	15
HSHR3500-4	3.50	.58	.15	3/0-1750 MCM	48	10
HSHR4700-4	4.70	.78	.15	300-2000 MCM	48	5

Order multiple is std. pkg.  
Standard color: black.

### HSHR Series Specifications

PROPERTY	TEST METHOD	TYPICAL PERFORMANCES	PROPERTY	TEST METHOD	TYPICAL PERFORMANCES
<b>Physical</b>			<b>Chemical</b>		
• Tensile Strength	ASTM D412, ISO 37	2100 psi (14.5MPa)	• Fluid Resistance	MIL-DTL-23053/15	Good to Excellent
• Elongation	ASTM D412, ISO 37	600%	• Fungus Resistance	ASTM G21	No Growth
• Elongation after Heat Aging (168 hrs. at 175° C)	ASTM D2671	500%	• Copper Corrosion	ASTM D2671	No Corrosion
• Heat Shock (4 hrs. at 225° C)	ASTM D2671	No cracking or flowing	• Water Absorption	ASTM D570	0.1%
• Longitudinal Change	ASTM D2671	+1%, -10%	<b>Adhesive</b>		
• Low Temperature Flexibility (4 hrs. at -55° C)	ASTM D2671	No cracking	• Adhesive Lap Shear (1 in./min. at 23° C)	ASTM D1002	125 psi (.875 MPa)
• Specific Gravity	ASTM D792	1.10	• Adhesive Softening Point	ASTM E28	92° C/-5° C
• Hardness (Shore D)	ASTM D2240	50D	• Adhesive Peel Strength (300mm/min. at 23° C)	ASTM D1000	35 pli 20 pli
<b>Electrical</b>			— to steel, aluminum, P.E. — PVC		
• Dielectric Strength	ASTM D149, IEC 243	500 V/Mil (20kV/mm)	• Adhesive Blocking (30° C)	ASTM D1146	No Blocking
• Dielectric Voltage Withstand	UL 486D (2500 V, 60Hz, 1 Min.)	No Breakdown 15kV — 4 hrs.	• Water Penetration	STM 706	No penetration after 236 hrs. of continuous immersion
• Volume Resistivity	ASTM D257	1016 ohm-cm			

## Heavy-Wall Heat-Shrinkable Tubing

### HSFR Series — Flame-Retardant Heavy Wall

**3:1 Shrink Ratio**



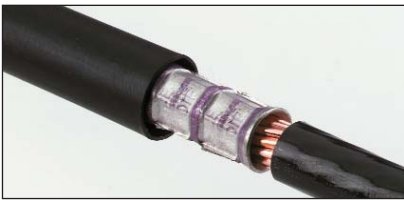
- Insulates and protects electrical splices and terminations
- High-impact and abrasion resistance
- Thermoplastic adhesive liner
- Rated for 600V, 90° C continuous use. Continuous operating temperature: -55° C to 110° C
- Shrink temperature of 120° C
- Meets: UL 486D, CSA 22.2 No. 198.2, ANSI C119.1, Western Underground Guide Nos. 2.4, 2.5, MIL-DTL-23053/15, IEEE 383 Vertical Flame Test, ANSI C37.20.2, ICEA S-19-8 and NEMA insulation thickness requirements

Shrink-Kon®

### HSFR Series Heavy-Wall Heat-Shrinkable Tubing

CAT. NO.	MIN. EXPANDED I.D. (IN.)	MAX. RECOVERED I.D. (IN.)	NOMINAL RECOVERED WALL (IN.)	CODE CABLE SIZE	STANDARD LENGTH (IN.)	STD. PKG. QTY.
HSFR16-12-4	.35	.12	.07	#14-#10 AWG	48	25
HSFR12-6-4	.51	.16	.09	#8-#6 AWG	48	25
HSFR6-1-4	.75	.24	.09	#6-#2 AWG	48	25
HSFR4-30-4	1.10	.35	.12	#1-3/0 AWG	48	25
HSFR40-400-4	1.50	.47	.16	2/0-350 MCM	48	25
HSFR500-1000-4	2.00	.63	.16	250-500 MCM	48	25

*Order multiple is std. pkg.  
Standard color: black.*



### HSFR Series Specifications

PROPERTY	TEST METHOD	TYPICAL PERFORMANCES	PROPERTY	TEST METHOD	TYPICAL PERFORMANCES
<b>Physical</b>			<b>Chemical</b>		
• Tensile Strength	ASTM D412, ISO 37	2100 psi (14.5MPa)	• Fluid Resistance	MIL-DTL-23053/5	Good to Excellent
• Elongation	ASTM D412, ISO 37	600%	• Copper Corrosion	ASTM D2671	No Corrosion
• Longitudinal Change	ASTM D2671	+1%, -10%	• Fungus Resistance	ASTM G21	No Growth
• Specific Gravity	ASTM D792	1.2	• Water Absorption	ASTM D570	0.2%
• Elongation after Heat Aging (168 hrs. at 175°C)	ASTM D2671, ISO 37	500%	<b>Adhesive</b>		
• Heat Shock (4 hrs. at 225°C)	ASTM D2671	No cracking or flowing	• Adhesive Lap Shear (1 in./min. at 23° C)	ASTM D1002	125 psi (.875 MPa)
• Low Temperature Flexibility (4 hrs. at -55°C)	ASTM D2671	No cracking or splitting	• Adhesive Softening Point	ASTM E28	92° C ±5° C
• Hardness (Shore D)	ASTM D2240	50D	• Adhesive Peel Strength (300mm/min. at 23° C)	ASTM D1000	
• Oxygen Index	ASTM D2863	27.00	— to steel, aluminum, P.E.		35 pli
• Flammability	ASTM D2671	Flame Retardant	— PVC		20 pli
<b>Electrical</b>			• Adhesive Blocking (30° C)	ASTM D1146	No Blocking
• Dielectric Strength	ASTM D149	500 V/Mil (20kV/mm)	• Adhesive Water Absorption	ASTM D570	Less than 0.3%
• Dielectric Voltage Withstand (2500 V, 60Hz, 1 Min.)	UL 486D	No Breakdown 24kV — 1 min., 15kV — 4 hrs.	• Water Penetration	STM 706	No penetration after 286 hrs. of continuous immersion
• Volume Resistivity	ASTM D257	1016 ohm-cm			

### HSC Series End Caps

Shrink-Kon®



- Provides effective method for sealing cable ends, pipe conduit, etc.
- Extra thickness at the tip of the end cap prevents sharp ends of the cable from puncturing the seal
- Flame retardant
- Rated from 600/1000V, 90° continuous use
- Shrink temperature of 120° C
- Resistant to common fluids and solvents
- Adhesive liner provides complete environmental protection and insulation
- Heat indicating lines. Continuous operating temperature: -55° C to 110° C

### HSC Series Heat-Shrinkable End Caps

CAT. NO.	MIN. EXPANDED I.D. (IN.)	MAX. RECOVERED I.D. (IN.)	RECOVERED WALL (IN.)	CODE CABLE SIZE	NOM. LENGTH (IN.)	STD. PKG. QTY.
HSC8-4	.51	.16	.09	#8-#6 AWG	2.50	100
HSC2-20	.75	.24	.09	#6-#2 AWG	2.50	100
HSC30-250	1.10	.35	.12	#1-3/0 AWG	3.00	50
HSC300-600	1.50	.47	.16	2/0-350 MCM	3.25	50
HSC700-1000	2.00	.63	.16	250-500 MCM	3.50	50
HSC750	2.70	.87	.16	600-1,000 MCM	4.00	10
HSC300*	3.50	1.18	.16	800-1,250 MCM	4.50	5
HSC500*	4.70	1.57	.17	1,500-2,500 MCM	5.50	5

Order multiple is std. pkg.  
\*Not UL Listed or CSA Certified.



### HSC Series Specifications

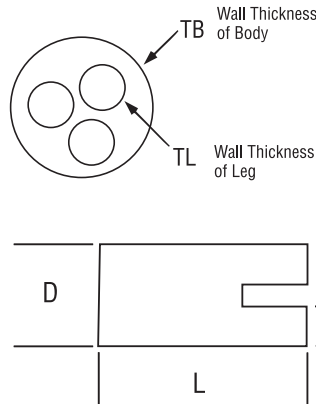
PROPERTY	TEST METHOD	TYPICAL PERFORMANCES
<b>Physical</b>		
• Tensile Strength	ASTM D412, ISO 37	2100 psi (14.5MPa)
• Elongation	ASTM D412, ISO 37	550%
• Elongation after Heat Aging (168 hrs. at 150° C)	ASTM D2671	500%
• Heat Shock (4 hrs. at 225° C)	ASTM D2671	No cracking or flowing
• Longitudinal Change on Recovery	ASTM D2671	+1%, -10%
• Low Temperature Flexibility (4 hrs. at -55° C)	ASTM D2671	No cracking
• Specific Gravity	ASTM D792	1.10
• Hardness (Shore D)	ASTM D2240	50D
<b>Electrical</b>		
• Dielectric Strength	ASTM D149	500 V/Mil (20kV/mm)
• Dielectric Voltage Withstand (2500 V, 60Hz, 1 Min.)	UL 486D	No Breakdown
• Volume Resistivity	ASTM D257	1016 ohm-cm

PROPERTY	TEST METHOD	TYPICAL PERFORMANCES
<b>Chemical</b>		
• Fluid Resistance	MIL-DTL-23053	Good to Excellent
• Fungus Resistance	ASTM G21	No Growth
• Copper Corrosion	ASTM D2671	No Corrosion
• Water Absorption	ASTM D570	0.1%
<b>Seal Integrity</b>		
• Adhesive Lap Shear (1 in./min. at 23° C)	ASTM D1002	130 psi (.91 MPa)
• Adhesive Softening Point	ASTM E28	92° C ± 5° C
• Adhesive Peel Strength (300mm/min. at 23° C)	ASTM D1000 (mod.)	
— to steel, aluminum, P.E.		35 pli
— PVC		20 pli
• Adhesive Blocking (30° C)	ASTM D1146	No Blocking
• Water Penetration	STM 706	No penetration after 236 hrs. of continuous immersion
• Room Temperature	168 hrs./40 psi	No leaks
• Temp. Cycling (-40° C to 60° C)	50 cycles/15 psi	No leaks
• Burst Pressure		100 psi (0.70 MPa)



## Heavy-Wall Heat-Shrinkable Tubing

### HSB Series — Heat-Shrinkable Breakout Boots



Shrink-Kon®

- Boots for 2-, 3- and 4-way cable breakouts
- Thermoplastic adhesive liner provides complete environmental protection and insulation
- Meets ESI 09-11
- Strain relief and mechanical protection
- Continuous operating temperature: -55° C to 100° C
- Shrink temperature of 135° C

### HSB Series Heat-Shrinkable Breakout Boots

CAT. NO.	NO. LEGS	D		d		L RECOVERED LENGTH (NOM.) (IN.)	TB WALL THICKNESS OF BODY (NOM.) (IN.)	TL WALL THICKNESS OF LEG (NOM.) (IN.)	APPLICATION LEGS 600V CONDUCTOR AWG/MCM	STD. PKG. QTY.
		EXPANDED DIA. (MIN.) (IN.)	RECOVERED DIA. (MIN.) (IN.)	EXPANDED DIA. (MAX.) (IN.)	RECOVERED DIA. (MAX.) (IN.)					
HSB200-75-2	2	1.97	0.83	0.90	0.30	4.69	0.13	0.13	#3-300	10
HSB120-50-3	3	1.50	0.65	0.50	0.16	4.47	0.11	0.11	#8-3/0	10
HSB170-82-3	3	2.20	1.20	0.89	0.35	7.09	0.12	0.12	#1-600	10
HSB240-112-3	3	2.83	1.46	1.38	0.69	7.01	0.16	0.12	300-1,000	10
HSB125-50-4	4	1.38	0.59	0.47	0.12	3.74	0.10	0.08	#12-2/0	10
HSB175-82-4	4	2.36	1.18	0.90	0.25	7.95	0.16	0.13	#4-600	10
HSB265-120-4	4	3.10	1.50	1.40	0.49	9.45	0.13	0.13	3/0-1,000	10
HSB350-138-3	3	3.54	1.38	1.34	0.55	7.87	0.12	0.08	4/0-1,000	5
HSB430-157-3	3	4.33	1.57	1.38	0.69	7.01	0.16	0.12	300-1,000	5
HSB490-200-3	3	4.92	2.00	2.32	1.00	11.14	0.15	0.15	450-1,000	5
HSB520-135-4	4	5.25	1.35	3.00	0.55	10.02	0.13	0.16	4/0-1,000	5

Order multiple is std. pkg.

### Heat-Shrinkable Breakout Boots Specifications

PROPERTY	TEST METHOD	TYPICAL PERFORMANCES	PROPERTY	TEST METHOD	TYPICAL PERFORMANCES
<b>Physical</b>			<b>Electrical</b>		
• Tensile Strength	ASTM D412, IEC 540	2120 psi (14.6 MPa)	Dielectric Strength	ASTM D2671	280 V/Mil (11kV/mm)
• Ultimate Elongation	ASTM D412, IEC 540	600%	<b>Chemical</b>		
• Elongation after Heat Aging (168 hrs. at 175° C)	ASTM D412, IEC 540	520%	Water Absorption	ASTM D570	0.03%
• Heat Shock (4 hrs. at 225° C)	ASTM D2671	No dripping, cracking, flowing			
• Low Temperature Flexibility (-55° C)	ASTM D2671	No cracking			
• Flammability	ASTM D630	Self ext. within 1.97"			

### HSMW Series — Medium-Wall Tubing

**3:1 Shrink Ratio**

Shrink-Kon®



- More flexible than heavy-wall products
- Seals and protects cable splices and terminations
- High resistance to impact and abrasion
- Shrink temperature of 120° C
- Continuous operating temperature: -55° C to 110° C
- Thermoplastic adhesive liner guarantees complete environmental protection and insulation

### HSMW Series Medium-Wall Heat-Shrinkable Tubing

CAT. NO.	MIN. EXPANDED I.D. (IN.)	MAX. RECOVERED I.D. (IN.)	NOMINAL RECOVERED WALL (IN.)	CODE CABLE SIZE	STANDARD LENGTH (IN.)	STD. PKG. QTY.
HSMW400-48	.40	.15	.08	#4-#14 AWG	48	25
HSMW750-48	.75	.22	.08	4/0-#8 AWG	48	25
HSMW1100-48	1.10	.40	.08	400-#1 AWG	48	25
HSMW1300-48	1.30	.40	.08	600-#1 AWG	48	25
HSMW1500-48	1.50	.50	.08	750-3/0 MCM	48	25
HSMW1700-48	1.70	.50	.08	1000-2/0 MCM	48	25
HSMW2050-48	2.05	.75	.08	250-600 MCM	48	25
HSMW2750-48	2.75	1.00	.08	500-1000 MCM	48	15
HSMW3500-48	3.50	1.18	.10	750-1250 MCM	48	10
HSMW4700-48	4.70	1.57	.11	1500-2500 MCM	48	5
HSMW6700-48	6.70	2.30	.11	—	48	5
HSMW9000-48	9.00	3.00	.12	—	48	5

Order multiple is std. pkg.



### HSMW Series Specifications

PROPERTY	TEST METHOD	TYPICAL PERFORMANCES
<b>Physical</b>		
• Tensile Strength	ASTM D412, ISO 37	2100 psi (14.5MPa)
• Elongation	ASTM D412, ISO 37	550%
• Longitudinal Change	ASTM D2671	+1%, -10%
• Specific Gravity	ASTM D792, ISO/R1183	1.1
• Elongation after Heat Aging (168 hrs. at 150° C)	ASTM D2671, ISO 37	500%
• Heat Shock (4 hrs. at 225° C)	ASTM D2671	No Cracking or Flowing
• Low Temperature Flexibility (4 hrs. at -55° C)	ASTM D2671	No Cracking
• Hardness (Shore D)	ASTM D2240	50D
<b>Electrical</b>		
• Dielectric Strength	ASTM D149, IEC 243	500 V/Mil (20kV/mm)
• Dielectric Voltage Withstand (2500V, 60Hz, 1 Min.)	UL 486D	No Breakdown
• Volume Resistivity	ASTM D257	10 <sup>16</sup> ohm-cm

PROPERTY	TEST METHOD	TYPICAL PERFORMANCES
<b>Chemical</b>		
• Fluid Resistance	MIL-DTL-23053/5, ISO 1817, ISO 37	Good to Excellent
• Copper Corrosion	ASTM D2671	No Corrosion
• Fungus Resistance	ASTM G21	No Growth
• Water Absorption	ASTM D570	0.1%
<b>Adhesive</b>		
• Adhesive Lap Shear (1 in./min. at 23° C)	ASTM D1002 (mod)	125 psi (.875 MPa)
• Adhesive Softening Point	ASTM E28	92° C/-5° C
• Adhesive Peel Strength (300mm/min. at 23° C)	ASTM D1000	
— to steel, aluminum, P.E.		35 pli
— PVC		20 pli
• Adhesive Blocking (30° C)	ASTM D1146	No Blocking
• Water Penetration	STM 706	No penetration after 286 hrs. of continuous immersion

## Thin Wall Heat-Shrinkable Tubing

**2:1 Shrink Ratio**

### CPO Series — Thin-Wall Tubing, Non-Lined

- Flame-retardant, cross-linked polyolefin
- Continuous operating temperature: -55° C to 135° C
- Shrink temperature of 120° C
- Meets UL 224, 125° C; CSA C22.2 No. 198.1, 125° C; MIL-DTL-23053/5 Class 1&2; AMS 3636 & 3637; DEF STAN 59-97, Issue 3, Type 2a



Shrink-Kon®



### CPO Series Thin-Wall Heat-Shrinkable Tubing

#### CATALOG NUMBER CONSTRUCTION

SERIES	COLOR	LENGTH FT.	FINAL ORDER NO.
CP063	+	0	+ C = CP063-0-C
<b>Available Colors</b>		<b>Available Packaging</b>	
0 = Black		A = 4'	
C = Clear		25 = 25' reel	
2 = Red		C = 100' reel	
4 = Yellow		B = Bulk reel	
5 = Green		<i>(See p. J-12 for lengths)</i>	
6 = Blue			
9 = White			
S = Green & Yellow Striped*			

\*Contact customer service for bulk reel quantity.

CAT. NO.*	MINIMUM EXPANDED I.D. (IN.)	MAXIMUM REDUCED I.D. (IN.)	NOM. RECOVERED WALL THICKNESS (IN.)	CODE CABLE SIZE
CP063-_-	.06	.03	.02	—
CP093-_-	.09	.05	.02	—
CP0125-_-	.13	.06	.02	#24 – #30 AWG
CP0187-_-	.18	.09	.02	#14 – #22 AWG
CP0250-_-	.25	.13	.03	#10 – #16 AWG
CP0375-_-	.38	.19	.03	#6 – #12 AWG
CP0500-_-	.50	.25	.03	#1 – #6 AWG
CP0750-_-	.75	.38	.03	4/0 – #2 AWG
CP01000-_-	1.00	.50	.04	350 – 2/0 MCM

\*See catalog construction to complete.

UL Recognized File Number E137759 and CSA Certified. (NOTE: Clear material not UL Recognized).

When ordering standard package, order by package not feet.

Larger diameters available upon special request; consult Customer Service.

Order multiple for 4' sticks is 25 sticks.

Order multiple for reels is 1 reel.

### Thin-Wall Heat-Shrinkable Tubing Kit



CAT. NO.	DESCRIPTION	STD. PKG.
HS-KIT	Assortment of six different sizes (from 3/16" to 1") of black thin-wall heat-shrinkable tubing pre-cut to 6" lengths. Exceptional value; also includes handy plastic storage case.	1
CHS-KIT	Assortment of six different sizes (from 3/16" to 1") of multi-colored thin-wall heat-shrinkable tubing pre-cut to 6" lengths. Exceptional value; also includes handy plastic storage case.	1

Order multiple is std. pkg.

### Thin-Wall Heat-Shrinkable Tubing, 6" lengths

CAT. NO.	MINIMUM EXPANDED I.D. (IN.)	MAXIMUM REDUCED I.D. (IN.)	NOMINAL RECOVERED WALL THICKNESS (IN.)	STD. PKG. QTY.
CP063-0-6	.06	.03	.02	20
CP093-0-6	.09	.05	.02	20
CP0125-0-6	.13	.06	.02	20
CP0187-0-6	.19	.09	.02	20
CP0250-0-6	.25	.13	.03	20
CP0375-0-6	.38	.19	.03	20
CP0500-0-6	.50/	.25	.03	10
CP0750-0-6	.75/	.38	.03	10
CP01000-0-6	1.00	.50	.04	5

Order multiple is std. pkg.

Catalog numbers listed are Black color, other colors available upon request.

Contact customer service.



Custom order lengths for those special jobs!

**2:1 Shrink Ratio**

Shrink-Kon®



### Custom-Cut Length of Bulk Packaging — Thin-Wall Tubing

To best meet your requirements for thin-wall heat-shrinkable tubing, Thomas & Betts welcomes the opportunity to cut bulk reels of tubing. Minimum order requirement is one standard bulk reel, and multiples thereof. See table for bulk reel length by size. Tubing cannot be cut smaller than 1/2".

When ordering custom-cut lengths of tubing, order by piece, not by length. To determine the minimum number of pieces to order, simply figure how many pieces of a specific length of tubing is required to make use of a complete bulk reel. See examples to convert bulk reels to cut pieces.

SERIES	BULK REEL LENGTH (FT.)	SERIES	BULK REEL LENGTH (FT.)
CPO63 = 1/16"	1,000	CPO375 = 3/8"	500
CPO93 = 1/8"	1,000	CPO500 = 1/2"	400
CPO125 = 1/4"	1,000	CPO750 = 3/4"	300
CPO187 = 3/16"	1,000	CPO1000 = 1"	300
CPO250 = 1/4"	1,000		

Minimum order quantity for cut pieces.

#### Example 1

If a bulk length of tubing is 1,000' and the desired length of each individual piece is 6", the minimum order requirement is 2,000 pieces.

Given (length of reel) .....1,000'  
 Convert to inches by multiplying by 12 .....12 x 1,000  
 Length of reel in inches .....= 12,000  
 Divide by desired length .....12,000 ÷ 6  
 Total number of 6" pieces  
 in a 1,000' reel (Minimum Order) .....= 2,000

#### Example 2

If a bulk reel of tubing is 400' and the desired length of each individual piece is 2", the minimum order requirement is 2,400 pieces.

Given (length of reel) .....400'  
 Convert to inches by multiplying by 12 .....12 x 400  
 Length of reel in inches .....= 4,800  
 Divide by desired length .....4,800 ÷ 2  
 Total number of 2" pieces  
 in a 400' reel (Minimum Order) .....= 2,400

Contact tech services for pricing and availability on cut pieces.

THINWALL SERIES	MINIMUM EXPANDED I.D. (IN.)	CUT PIECE CATALOG NO. COLOR	CONSTRUCTION LENGTH (IN.)
CPO =	63 = .063 93 = .093 125 = .125 187 = .187 250 = .250 375 = .375 500 = .500 750 = .750 1,000 = 1.000	0 = Black C = Clear 2 = Red 4 = Yellow 5 = Green 6 = Blue 9 = White S = Green & Yellow Striped*	XXXX — 4 digits specify length of cut in inches

Example: CPO + 125 + 2 + 1.500 = CPO125-2-1.500  
 CPO Thinwall Shrink, size 125 (.125"), red color, 1.5" long

\*Contact customer service for bulk reel quantity.

### Thin-Wall Tubing Specifications

PROPERTY	TEST METHOD	TYPICAL PERFORMANCES
<b>Physical</b>		
• Tensile Strength	ASTM D2671, ISO 37	2,200 psi (15.0 MPa)
• Elongation	ASTM D2671, ISO 37	400%
• Longitudinal Change	ASTM D2671	+1%, -10%
• 2% Secan Modulus	ASTM D2671	16,000 psi (110 MPa)
• Specific Gravity	ASTM D792, ISO/R1183	1.3" (colors) 0.95" (clear)
• Restricted Shrinkage	ASTM D2671	No Cracking
• Elongation after Heat Aging (168 hrs. at 175° C)	ASTM D2671	350%
• Heat Shock (4 hrs. at 250° C)	ASTM D2671	No Cracking or Flowing
• Low Temperature Flexibility (4 hrs. at -55° C)	ASTM D2671	No Cracking or Splitting
• Flammability	ASTM D2671	Flame Retardant (except Clear)
<b>Electrical</b>		
• Dielectric Strength	ASTM D2671, IEC 243	600 V/Mil (24kV/mm)
• Volume Resistivity	ASTM D2671	1016 OHM-CM
<b>Chemical</b>		
• Fluid Resistance	MIL-DTL-23053/5, ISO 1817, ISO 37	Good to Excellent
• Copper Corrosion	ASTM D2671	No Corrosion
• Water Absorption	ASTM D570	0.2%
• Fungus Resistance	ASTM G21	No Growth



### CPO-A Series — Thin-Wall, Adhesive Lined

**3:1 Shrink Ratio**



- Adhesive lined for moisture-proof environmental seal
- High 3:1 shrink ratio for covering irregularly shaped objects
- Continuous operating temperature: -55° C to 110° C
- Shrink temperature 120° C

Shrink-Kon®

#### CPO-A Series Thin Wall Heat Shrinkable Tubing

CAT. NO.	MIN. EXPANDED I.D. (IN.)	MAX. RECOVERED I.D. (IN.)	NOMINAL RECOVERED WALL (IN.)	CODE CABLE SIZE	STANDARD LENGTH (IN.)	STD.PKG. QTY.
CPO-A-125-48	.13	.02	.04	#24-#30 AWG	48	25
CPO-A-187-48	.18	.06	.05	#14-#22 AWG	48	25
CPO-A-250-48	.25	.08	.05	#10-#22 AWG	48	25
CPO-A-375-48	.38	.14	.05	#6-#16 AWG	48	25
CPO-A-500-48	.50	.19	.07	#2-#12 AWG	48	25
CPO-A-750-48	.75	.31	.07	3/0-#4 AWG	48	25

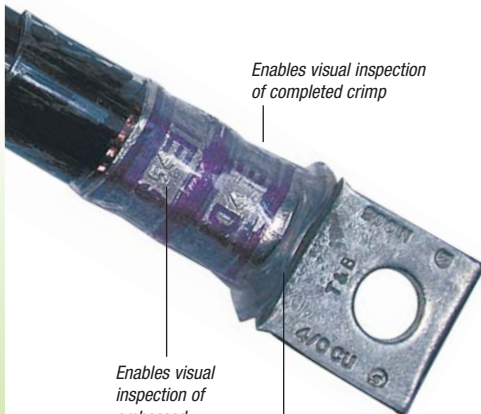
NOTE: Non-standard colors, sizes, and lengths available subject to factory quotation.  
Standard color: Black

#### CPO-A Series Specifications

PROPERTY	TEST METHOD	TYPICAL PERFORMANCES	PROPERTY	TEST METHOD	TYPICAL PERFORMANCES
<b>Physical</b>			<b>Electrical</b>		
• Tensile Strength	ASTM D2671, ISO 37	2200 psi (15.0 MPa)	• Dielectric Strength	ASTM D2671, IEC 243	600 V/Mil (24kV/mm)
• Elongation	ASTM D2671, ISO 37	400%	• Volume Resistivity	ASTM D2671	1016 ohm-cm
• Heat Shock (4 hrs. at 250° C)	ASTM D2671	No Cracking or Flowing	<b>Chemical</b>		
• Longitudinal Change	ASTM D2671	+/-5%	• Fluid Resistance	MIL-DTL-23053/4, ISO 1817, ISO 37	Good to Excellent
• Low Temperature Flexibility (4 hrs. at -55° C)	ASTM D2671	No Cracking	• Fungus Resistance	ASTM G21	No Growth
• Specific Gravity	ASTM D792, ISO R1183	1.1	• Copper Corrosion	ASTM D2671	No Corrosion
• 2% Secant Modulus	ASTM 2671	1600 psi (110 MPa)	• Water Absorption	ASTM D570	0.2%
• Heat-Resistant Properties (168 hrs. at 175° C)	MIL-DTL-23053/4	240%			
• Flammability	ASTM D2671	Moderately Flame Retardant			

### CHS Series — Clear Thin-Wall PVC Heat Shrink

Shrink-Kon®



- Clear shrink enables user to inspect die and crimp details after installation
- Flexible PVC tubing is suitable for industrial and electronic applications
- UL standard UL224, VW-1 rated
- CSA standard C22.2 no. 198.1 oft
- Flame retardant
- Low shrink temperature of 110° C
- Dielectric strength — 600V/MIL

**2:1 Shrink Ratio**

#### CHS Series Thin-Wall Heat-Shrinkable Tubing

CAT. NO.	MIN. EXPANDED I.D. (IN.)	MAX. RECOVERED I.D. (IN.)	NOMINAL RECOVERED WALL (IN.)	CODE CABLE SIZE	STANDARD LENGTH (FT.)	STD. PKG. QTY.
CHS18	.13	.06	.02	#22-#18 AWG	50	1
CHS18B	.13	.06	.02	#22-#18 AWG	250	1
CHS14	.25	.13	.03	#16-#10 AWG	50	1
CHS14B	.25	.13	.03	#16-#10 AWG	250	1
CHS38	.38	.19	.03	#8-#6 AWG	50	1
CHS38B	.38	.19	.03	#8-#6 AWG	250	1
CHS12	.50	.25	.03	#4-#2 AWG	50	1
CHS12B	.50	.25	.03	#4-#2 AWG	250	1
CHS34	.75	.38	.04	#1-3/0 MCM	50	1
CHS34B	.75	.38	.04	#1-3/0 MCM	250	1
CHS100	1.00	.50	.04	4/0-300 MCM	25	1
CHS100B	1.00	.50	.04	4/0-300 MCM	100	1
CHS112	1.50	.75	.04	350-700 MCM	25	1
CHS112B	1.50	.75	.04	350-700 MCM	100	1
CHS200	2.00	1.00	.05	750-1,000 MCM	25	1
CHS200B	2.00	1.00	.05	750-1,000 MCM	100	1

Standard package is in reels.  
Order by reel; not by feet.



#### CHS Series Specifications

PROPERTY	TEST METHOD	TYPICAL PERFORMANCES
<b>Physical</b>		
• Tensile Strength	ASTM D2671, ISO 37	3300 psi (23.0 MPa)
• Elongation	ASTM D2671, ISO 37	300%
• Longitudinal Change	ASTM D2671	+/-10%
• 2% Secant Modulus	ASTM D2671	16,000 psi (110 MPa)
• Specific Gravity	ASTM D792, ISO R1183	1.31
• Elongation after Heat Aging (168 hrs. at 136° C)	ASTM D2671, ISO 37	250%
• Heat Shock (4 hrs. at 250° C)	ASTM D2671	No Cracking or Flowing
• Low-Temperature Flexibility (1 hr. at 10° C)	ASTM D2671	No Cracking or Splitting
• Flammability	ASTM D2671	Self Extinguishing

PROPERTY	TEST METHOD	TYPICAL PERFORMANCES
<b>Electrical</b>		
• Dielectric Strength	ASTM D2671, IEC 243	600V/Mil (24kV/mm)
• Volume Resistivity	ASTM D2671	1016 ohm-cm
<b>Chemical</b>		
• Fluid Resistance	MIL-DTL-23053, ISO 1817, ISO 37	Good to Excellent
• Copper Corrosion	ASTM D2671	No Corrosion
• Water Absorption	ASTM D570	0.3%
• Fungus Resistance	ASTM G21	No Growth

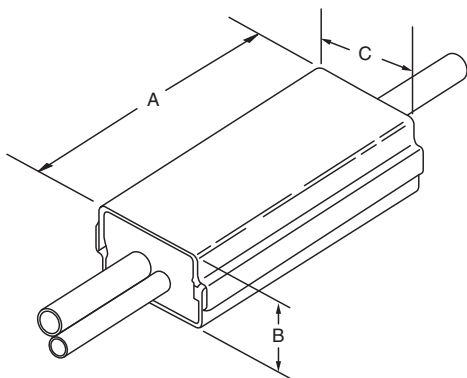


## Splice Insulators & Insulating Covers



### H-Tap Insulating Covers (Hard Covers)

- Interlocking insulating covers for H-type compression taps
- Easy installation: Place the H-Tap in the cover and snap the cover closed
- Consult factory for flame-retardant version
- Can also be used on C-Taps



CAT. NO.	NOMINAL DIMENSIONS IN./MM.			STD. PKG. QTY.
	A (LENGTH)	B (THICKNESS)	C (WIDTH)	
HTC2S	2	1.13	1.44	15
HTC2	3.5	1.13	1.44	15
HTC40	4.25	1.56	2	2
HTC40L2	5.75	1.56	2	2
HTC500	6	1.75	2.75	8
HTC1000	7	2.38	3.88	2
HTC1000L	10	2.38	3.88	3

Order multiple is std. pkg.

### Specifications

- HTC2 and HTC2S use insulation wrap instead of end cushions for inner seal.
- Connector Cat. Nos. 54755 through 54790 and 63148 through 63180 require hydraulic crimping tools. Refer to instruction sheets.
- Outer Hard Shell Covers: High-impact black thermoplastic (Noryl) Flammability Class, UL 94V-1
- Inner seal: Black neoprene sponge soft closed cell, oxygen index 28% UL 94 HBF
- Temperature Rating: 90° C Maximum
- Voltage Rating: 600V Maximum
- Uses insulation wrap instead of end cushions for inner seal

**NOTE:** Insulation covers are not reusable

### For H-Tap Applications

COVER CAT. NO.	AL/CU H-TAP NO.	CU H-TAP
HTC2	63105	—
HTC2S	—	CHT814-10
HTC40	63110	CHT214-9
	63118	CHT250214-8
	63125	CHT2514-7
	63140	CHT2502-6
	63148	CHT50010-5/CHT50040-4
HTC500	63160	CHT75010-3/CHT750350-2
HTC1000L	63170	—
HTC1000	63180/63169	CHT750350-1F

### For C-Tap Applications

COVER CAT. NO.	C-TAP NO.	COLOR CODE
HTC40	54720	Brown
	54725	Green
	54730	Pink
	54755	Blue
	54760	Brown
HTC40L2	54735	Black
	54740	Orange
	54745	Purple
	54750	Yellow
	54765	Pink
HTC500	54770	Black
	54775	Yellow
	54780	White
	54785	—
	54790	—
HTC1000	54790	—



### H-Tap Insulating Covers (Soft Cover)

- Eliminates taping
- Provided with three positive locking latches and overlapping fringe for maximum cable insulation

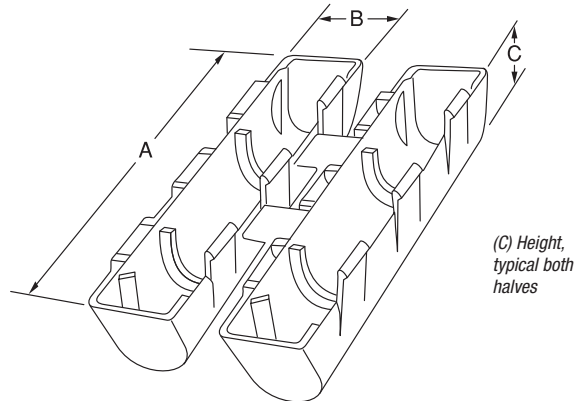
CAT. NO.	WIRE RANGE		INSTALLS "H" TAP CAT. NO.	STD. PKG. QTY.
	MIN.	MAX.		
HT20C	6	2/0	63110 & 63125	50
HT40C	6	4/0	63140 & 63148	25
HT600C	2	500 MCM	63160 & 63169	10
HT1000C	1/0	750 MCM	63180	5
HT1000C-L	1/0	1000 MCM	63170	5

Order multiple is std. pkg.



#### Specifications

- Rating: 90° C, 600V. Made of flame-retardant, high-impact polypropylene.
- Material: Polypropylene
- Color: Black
- Voltage Rating: 600V max.
- Temperature: 90° C

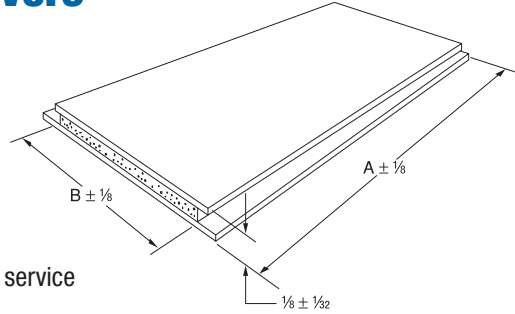


### H-Tap Splice Insulators and Insulating Covers

CAT. NO.	WIRE RANGE		USE TO INSULATE T&B H-TAPS	IN.			"A" DIM.	"B" DIM.
	MAX.	MIN.		A	B	C		
HT20C	2/0	6	63110/63115 63125/63120	4.5	1.25	1.13	—	—
HT40C	4/0	6	63140 63148	5.61	1.41	1.19	—	—
HT600C	500 MCM	2	63160/63169	6.81	2.13	1.45	—	—
HT1000C	1000 MCM to 500 MCM	250 MCM to 1/0 AWG	63180	—	—	—	[184.15MM] 7.250	2.330 +.060
HT1000C-L	1000 MCM to 500 MCM	250 MCM to 250 MCM	63170	—	—	—	[263.40MM] 10.374	2.330 +.060

### Adhesive Insulating Covers

- Seals against moisture
- Voltage rating up to 600
- Workable from 14° F to 120° F
- Maximum operating temperature of 176° F
- No installing tools required
- Also available in 10' rolls; consult customer service



Shrink-Kon®

#### Specifications

##### Electrical

- Dielectric Constant: 3.2 ASTM-D150 (60 Hz)
- Power Factor: 0.07 ASTM-D150 (60 Hz)
- Dielectric Strength: 340 Volts/mil ASTM-D1373

##### Chemical

- Water Absorption: .06% ASTM-570
- Ozone Resistance — Excellent: 0.3% ASTM-D1373
- Corrosion None Visible: per ASTM-D 69



CAT. NO.	A	B	STD. PKG. QTY.
AC 5 X 3	5"	3"	10
AC 5 X 7	5"	7"	10
AC 85 X 75	8.5"	7.5"	5
AC 85 X 105	8.5"	10.5"	5

\*UL Listed for use with T&B Covers

For "H" Taps, "C" Taps, two-way connectors, mechanical taps, and Color-Keyed lugs and joints.

Material: 6 mil electrical vinyl backing, butyl rubber mastic adhesive thickness 1/8" approx. Polyethylene release sheet.

UL Listed — File No. E9809

Not for submersion in liquid.

Order multiple is std. pkg.

ADHESIVE INSULATOR CAT. NOS.	COMPRESSION LUG CAT. NOS.								COMPRESSION TWO-WAY CONNECTOR CAT. NOS.		"H" TAP CAT. NOS.	"C" TAP CAT. NOS.	COMPRESSION CABLE JOINT CAT. NOS.			
<b>AC 5 X 3</b>	60096	60113	60130	60150	54132	54145	54160	54207	54906	54860	60500	54806	63105	54710	54610	
<b>SIZE KEY #2</b>	60097	60114	60132	60151	54134	54108	54162	54208	54942	54862	60501	54807	—	54715	54615	
	60099	60116	60134	60230	54105	54147	54163	54255	54947	54864	60507	54806	—	54720	54620	
	60101	60117	60135	60236	54135	54148	54111	54209	54909	54866	60512	54504	—	54725	54625	
	60102	60118	60136	60238	54136	54150	54165	54210	54910	—	60516	54505	—	54730	54630	
	60103	60120	60138	60242	54138	54152	54167	54260	54965	—	60905	54506	—	54735	54635	
	60104	60122	60140	60244	54106	54153	54168	54211	54970	—	60910	54507	—	54740	—	
	60106	60123	60141	60248	54139	54109	54112	54265	54850	—	60915	54506	—	54745	—	
	60107	60124	60142	60250	54140	54155	54170	54212	54852	—	60920	54509	—	54750	—	
	60108	60126	60144	54104	54107	54157	54204	54270	54854	—	60925	54510	—	—	—	
	60109	60128	60147	54130	54142	54158	54205	54930	54856	—	54804	54511	—	—	—	
	60112	60129	60148	54131	54143	54110	54206	54905	54858	—	54805	—	—	—	—	
<b>AC 5 X 7</b>	—	60152	60169	60267	54173	54115	54129	54222	54920	—	60522	60945	54516	63110	54755	54640
<b>SIZE KEY #4</b>	—	60153	60171	60268	54174	54183	54213	54291	54923	—	60530	60950	54518	63115	54760	54645
	—	60154	60172	60269	54113	54116	54275	54223	54928	—	60538	60955	54809	63120	54765	54650
	—	60156	60174	60271	58161	54185	54214	54295	54868	—	60542	60960	54810	63125	54770	—
	—	60157	60176	60273	58162	54118	54280	54224	54870	—	60548	60965	54811	—	54775	—
	—	60159	60178	60274	58163	54187	54215	54226	54872	—	60554	60970	54812	—	54780	—
	—	60160	60180	60275	58165	54120	54282	54228	54874	—	60560	54509	54813	—	—	—
	—	60162	60254	60276	58166	54122	54216	54913	54876	—	60565	54510	54814	—	—	—
	—	60163	60256	60277	54178	54123	54218	54914	54878	—	60568	54511	54815	—	—	—
	—	60165	60260	60278	54179	54124	54286	54915	54880	—	60571	54512	54816	—	—	—
	—	60166	60262	60280	54114	54126	54220	54916	54882	—	60930	54513	54817	—	—	—
	—	60168	60265	54172	54181	54128	54289	54918	—	—	60935	54514	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	60940	54515	—	—	—	—
<b>AC 85 X 75</b>	—	—	—	—	60184	—	—	—	—	—	60574	54522	—	63130	—	—
<b>SIZE KEY #6</b>	—	—	—	—	60284	—	—	—	—	—	60576	54523	—	63135	—	—
	—	—	—	—	—	—	—	—	—	—	60578	54524	—	63140	—	—
	—	—	—	—	—	—	—	—	—	—	60580	54526	—	63145	—	—
	—	—	—	—	—	—	—	—	—	—	60584	54528	—	63150	—	—
	—	—	—	—	—	—	—	—	—	—	60975	54820	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	60980	54823	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	60985	54828	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	54520	—	—	—	—	—
<b>AC 85 X 105</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	63155	—	—
<b>SIZE KEY #8</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	63160	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	63165	—	—



Quick and easy insulation — no heat or adhesive required!



### Self-Fusing Insulation Tape

- Just two layers form a moisture-proof, abrasion-resistant, dielectric seal
- Easy-release, non-static-sensitive liner peels right off
- Creates an immediate, permanent bond even when wet
- Suitable for high and low voltage applications
- Resistant to UV, moisture and saltwater
- Easily removable — just slice with a knife and pull off — leaves no residue
- Smooth filler putty compound available for use under tape when insulating bolted or dimensionally inconsistent splices and terminations



TBFT421-36



#### Typical Applications

- Repair deteriorated insulation on cables and conductors
- Insulate and seal underwater, underground and above-ground bonding installations
- Insulate harnessing, bundling, cabling and wiring in aircraft, automotive, marine and other industrial machinery/equipment



#### Specifications

- Material: Modified silicone rubber compound
- Tensile Strength: 1200 psi
- Dielectric Strength: 20 mil: 600 vpm; 40 mil: 400 vpm
- Abrasion Resistance: 110 lbs./in.
- Water Absorption: < 0.5%
- Temperature Rating: 80° C max.
- Voltage Rating: 600V max.



TBFP9-2

CAT. NO.	WIDTH (IN.)	LENGTH (FT.)	THICKNESS (MILS)	COLOR	STD. PKG. QTY.
<b>Self-Fusing Insulation Tape</b>					
TBFT421-36	1	36	40	Red	10
TBFT201-36	1	36	20	Black	10
<b>Smooth Filler Putty Compound</b>					
TBFP9-2	1	2.08	—	White	1

Standard package is rolls. Order by rolls; not by feet.

### HSTS25 — Tape Sealant



- Available in a 25-ft. roll
- Used in conjunction with T&B Heat-Shrinkable Insulators for better moisture sealing

#### Specifications

##### Physical

- Description: Butyl Rubber Polymer
- Application Temperature: 40° F to 100° F
- Service Temperature: -40° F to 180° F
- Environmental Resistance: Resists ozone and all normal aging processes

##### Electric

- Dielectric Strength: 250 v/mil minimum
- Volume Resistivity: 1014 ohms/cm

##### Chemical

- Chemical Resistance: Resists acids, bases and alcohols. Passes Fed. Spec. SS-S-00210, section 3.6

### Installation Guidelines

1. The cable, etc., should be relatively clean and free of greases, oils, and other foreign substances.
2. It is best to overlap each wrap of tape by ¼ to ½ of the width for the best seal.
3. When using heat-shrinkable products, most applications require only 1 or 2 layers of tape prior to sliding tubing in place.
4. Shrink the tubing, cap, boot, etc., following the installation procedure for the applicable heat-shrinkable part.

**To seal the junction or crotch of an application requiring two or more cables, conductors, etc. without a common jacket.**

1. Apply the overlapped 1 or 2 layers around each cable, conductor, etc., at the same distance from the connector, or ball up the sealant and press into crotch or junction of the joint.
2. Apply 2 overlapping wraps over the bundle.
3. Slide the expanded heat-shrinkable part over the joint and shrink.

CAT. NO.	DESCRIPTION	WIDTH (IN.)	THICKNESS (IN.)	LENGTH (FT.)	STD. PKG. QTY.
HSTS25	Tape Sealant	1	.06	25	1

Standard package is reels. Order by reel; not by feet.

Quick and dependable way to insulate and waterproof motor lead connections up to 5KV.

### Medium-Voltage Motor Stub Splice Insulator

- Installs in seconds
- Flame retardant
- Flexible boot and impact-resistant cap
- Long lasting and reusable
- Waterproof and abrasion resistant
- One size fits all hookups — reduces inventory
- Enables easy inspection of connection



Shrink-Kon®

This first-generation multi-splice insulator is designed to give you a quick, dependable means of protecting medium-voltage motor stub splice connections up to 5KV. You can install it in seconds simply by pushing the cover and boot together. Once installed, it completely waterproofs the connection and provides excellent protection against abrasion or mechanical abuse.

#### One size reduces inventory

The insulator accommodates wire sizes #8–2/0 AWG having outer diameters of .375" to .840". This range-taking feature should accommodate all of your medium-voltage motor hookups.

#### Inspectable and reusable

The insulator consists of just two parts: an elastomer boot and thermoplastic cap. The boot has two tapered cable entry legs that fit snugly around the cable to form a watertight seal. The legs are designed to be trimmed during installation to fit the required cable size tightly. The cap simply pushes into a groove in the boot — and pulls out easily when you want to inspect the connection. Removal of the cap does not disturb the seal around the cables, nor does it interrupt the bolted splice connection.

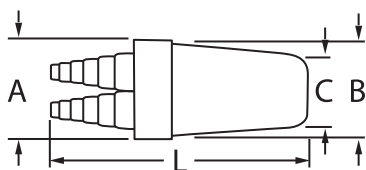
#### Quality engineered

The boot is made of flexible, abrasion-resistant elastomer, and the cap is made of high impact-resistant thermoplastic — high-performance materials you can depend on. Use the insulator for pigtail applications in motor junction boxes, manholes or wherever a waterproof, impact-resistant insulator is required.



#### Specifications

- 5KV Wire Range: #8 AWG–2/0
- Rating: 90° C Applications
- UL Listed to: 600V
- CSA Certified to: 600V
- T&B Recommended to: 5000V@90° C
- Material: Cap — NORYL, U.L. 94V-1  
Boot — EPDM Elastomer, U.L. 94V-2  
Lubricant — Silicone Grease



#### Wide Range Splice



CAT. NO.	WIRE RANGE	INSULATION O.D. RANGE (IN.)	BOLT MAX. LENGTH (IN.)	LENGTH L (IN.)	DIA. A (IN.)	DIA. B (IN.)	DIA. C (IN.)	STD. PKG. QTY.
MSCV20	8-2/0 AWG	.38–.84	1.25	6.5	3	22.03	2	5

Order in multiples of std. pkg.

United States  
Tel: 901.252.8000  
800.816.7809  
Fax: 901.252.1354

Technical Services  
Tel: 888.862.3289

Thomas & Betts

www.tnb.com



### Quick-Seal Multi-Splice Insulators

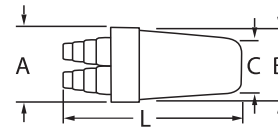
- Fast and easy to use
- Reusable insulator snaps closed and can be opened for inspection
- 600V at 90° C

All-purpose quick-seal multi-splice can be used wherever a watertight insulator is needed in motor junction boxes, manholes, street lighting, bridges, machines, rooftop air conditioning, airport lighting, as well as in marine use. The insulator is a two-piece design, an abrasion-resistant elastomer cable entry boot and a high impact-resistant thermoplastic quick-seal cap. Installs in seconds, completely waterproof, long-lasting, reusable, inspectable, flame-retardant, impact-resistant, range-taking, inexpensive, and totally dependable.

#### ..... Specifications .....

##### Material

- Cap: NORYL, U.L. 94V-1\
- Boot: EPDM Elastomer, UL 94V-2
- Lubricant Silicone Grease



### Quick-Seal Splice Insulators

CAT. NO.	WIRE RANGE	INSULATION O.D. RANGE (IN.)	LENGTH L (IN.)	DIA. A (IN.)	DIA. B (IN.)	DIA. C (IN.)	BOLT SIZE	CONN. SIZE	MAX. LG.	MAX. WD.	STD. PKG. QTY.
							MAX. DIA.	MAX. LG.			
MSLT 8	14-8	.15-.28	2.625	1.22	1.03	.813	.25	.50	1.25	.50	10
MSLT 1	6-1	.20-.52	3.625	1.81	1.53	1.25	.38	.75	1.75	.70	5

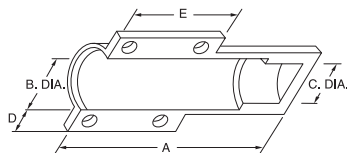
Order multiple is std. pkg.



### Motor Stub Splice Insulators

- Re-enterable motor stub insulator
- Easy installation
- No special tools required

This innovative product has been designed to insulate motor stub splices quickly, easily, and dependably. It consists of a boot-type insulator with integral TY-RAP® cable ties. To install, simply position the insulator over the bolted splice and tighten the cable ties. That's all there is to it. It produces uniform, high-quality installations every time... in about 30 seconds. The completed installation is immediately ready for inspection and use. If required, the insulator can be easily removed. Simply snip the cable ties and slide the insulator off the splice. It leaves no sticky residue.



#### ..... Specifications .....

- \*One Ty-Rap® cable tie only
- UL File E9809. UL and CSA Certified (94V-1 Flammability Class)
- Rated for 600V and 90° C application

##### Material

- Body: Modified Neoprene Elastomer
- Straps: Nylon

### Motor Stub Splice Insulators



CAT. NO.	WIRE RANGE	LENGTH (IN.)	BOLT MAX. A (IN.)	B DIA. (IN.)	C DIA. (IN.)	D (IN.)	E (IN.)	STD. PKG. QTY.
MSC14*	#14-#10	3.38	1.5	.56	.50	.38	.35	15
MSC8	#12-#8	3.38	2.39	.73	.67	.38	1.20	10
MSC2	#12-#2	.75	3.25	.95	.88	.38	1.5	10
MSC20	#2-2/0	1.5	4.25	1.39	1.05	.43	1.70	4
MSC250	3/0-300 MCM	1.5	7.56	1.88	1.80	.45	1.90	2
MSC500	350-500 MCM	1.75	8.88	2.56	2.48	.45	2.10	5

Order in multiples of std. pkg.



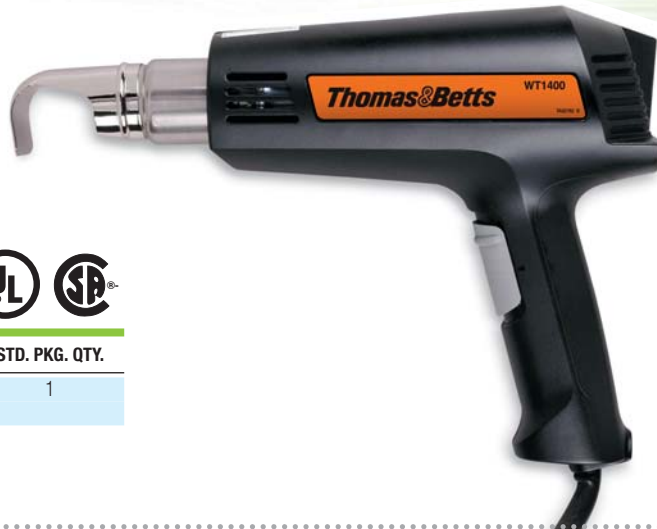
### Electric Heat Gun

- UL/CSA approved
- 450° F to 1,000° F heat range
- 120V 60Hz AC



CAT. NO.	DESCRIPTION	STD. PKG. QTY.
WT1400	Dual Temp. heat gun. 600° F/900° F, 1,300W, 120VAC 60Hz	1

Order multiple is std. pkg.



Shrink-Kon®

Separate fuel- and air-flow controls enable precise adjustment of flame and temperature up to 2,500° F!

### Portable Heat-Shrink Torch

- 2,500° F output capacity satisfies virtually any heat-shrink, brazing or soldering requirement
- Dual fuel- and air-flow controls enable separate adjustment of temperature and flame precision
- Brass and steel construction provides durability



#### Specifications

- Dimensions (without base): 3.9"L x 1.4"W x 5.4"H
- Weight (when filled): 9.88 oz.
- Fuel Tank Capacity: 2.03 fl. oz.
- Operating Time (per full fuel tank): Up to 220 minutes

### Portable Heat-Shrink Torch

CAT. NO.	DESCRIPTION	STD. PKG. QTY.
WT-PTORCH	Shrink-Kon® Portable Heat-Shrink Torch	1

Order multiple is std. pkg.

## Installation Guidelines and Cross Reference

### Installation

#### No Special Installation Skills Required

- 1 Remove any oil, grease, water, dirt, etc., by wiping the cable ends and connector. Remove all sharp edges and burrs from connector.
- 2 Center tubing over splice connector.
- 3 Use the light blue outer portion of the flame when using the SIT-1 torch. Do not hold the torch still in one position or concentrate the hot inner flame of the torch on the tubing; this may cause scorching.
- 4 Begin heating tubing in the center. Recover the central portion of the tubing first by heating around the circumference of the splice. (Keep heat source moving constantly around the circumference of the insulator to ensure uniform shrinkage of the insulator.)
- 5 Continue heating around the tubing and out toward one end. Move torch around the tubing until one end is completely recovered.
- 6 Repeat the above procedure on the opposite end of the splice, again working from the center outward and around the tubing.
- 7 Installation is complete when the tubing conforms to splice and sealant flow is apparent at both ends.

#### Typical Specifications

Insulating and sealing of all 600V, in-line cable splices from #16 AWG through 1000 MCM shall be done in accordance with the instructions provided with the Shrink-Kon® heat-shrinkable insulators, catalog series HS.

The connector insulator must be made of thermally stabilized, homogeneous polyolefin having internally applied sealant. It must have Underwriter's Laboratories Listing (UL® 486, 90° C, 600V) and be approved for the use. It must be usable without additional covering or adhesive both indoors and outdoors, in overhead, direct burial, or submersed applications at rated voltage. It must not be adversely affected by moisture, ozone, oils, fuels, mild acids and alkalies, or ultraviolet light. It must be compatible with all commonly used cable jacket materials, including rubber, plastic, lead, steel, aluminum, and copper.

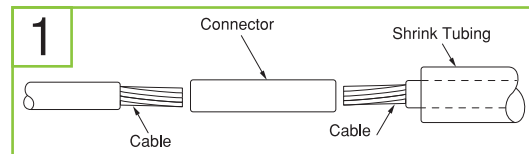
#### Factory-Applied Sealant

A standard sealant is coated on the entire inside surface of most precut sizes. Tubing is also available without sealant — consult factory. The sealant is rated for continuous 90° C operation on non-pressurized cable systems and aids in sealing out moisture and corrosion.

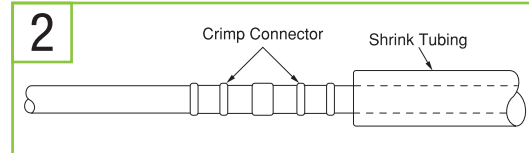
#### Cross Reference

T&B	PANDUIT	3M	RAYCHEM	SUMITOMO	ALPHA	COLEFLEX	INSULTAB
CPO	HSTT & HSTTM	FP 301 ( 1 & 2)	RNF 100 (1 & 2)	A2 & B2	FIT 221	ST221 / STS221 STU221 / STSU221	HS 101
CPO-A	HSTTA & HSTTVA	EPS300	TAT 125 ATUM 3:1	W3B2	FIT321	ST303	HS101 MW 3:1
HSMW	—	—	MWTM (U) BSTS-M / SST-M	—	—	—	CTV
HS	—	—	WSCM / SST	—	FIT 700	—	—
HS FR	HST	HDT	BSTS FR / SSTFR WCSF / FCSM	—	—	—	CTVH
HSC	HSEC	ICEC	S3C/ESC SSC-FR / ESC-FR	—	—	TYT	—
CPO-HF	—	—	—	NH	—	—	—
HSM-HF	—	—	XFFR	—	—	—	—
CHS	—	—	—	—	—	—	—

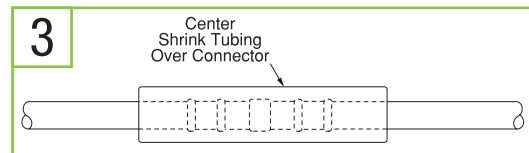
These competitor names are the property of the respective competitor.



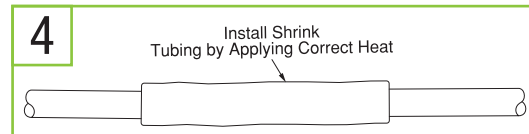
Connector and Heat-Shrinkable Tubing prior to installation.



Crimp connector installed.



Heat-Shrinkable tube in position.



Heat-Shrinkable tube after heat application.

#### Cost and Reliability of Heat-Shrinkable Tubing Compared to Tape

The cost differential in the installation of T&B heat-shrinkable tubing over taping can result in up to a 34% savings in labor and overhead. For example, on a 2/0 aluminum splice, heat-shrinkable tubing can be installed in 3 minutes, versus 10 minutes of taping. In addition to the direct cost reduction, there are the advantages of assured uniformity of wall thickness and moisture sealing.