

Thin-Wall Heat-Shrinkable Tubing



2:1 Shrink Ratio

CPO Series — Thin-Wall Tubing, Non-Lined

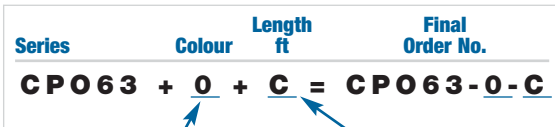


- Flame-retardant, cross-linked polyolefin
- Continuous operating temperature: -55° C to 135° C
- Shrink temperature of 120° C
- Meets UL 224, 125° C; CSA C22.2 No.198.1, 125° C; MIL-DTL-23053/5 Class 1&2; AMS 3636 & 3637; DEF STAN 59-97, Issue 3, Type 2a

Shrink-Kon™

CPO Series – Thin-Wall Heat-Shrinkable Tubing

CATALOGUE NUMBER CONSTRUCTION



Available Colours	
0 • Black	5 • Green
C • Clear	6 • Blue
2 • Red	9 • White
4 • Yellow	S • Green & Yellow Striped*

Available Packaging	
25	• 25' reel
A	• 4'
B	• Bulk
C	• 100'

(see page 12 for lengths)

Cat. No.*	Min. Expanded I.D. (in.)	Max. Recovered I.E. (in.)	Nom. Recovered Wall Thickness (in.)	Code Cable Size
CPO63--	0.06	0.05	0.02	—
CPO93--	0.09	0.05		—
CPO125--	0.13	0.06		#24-#30 AWG
CPO187--	0.18	0.09		#14-#22 AWG
CPO250--	0.25	0.13	0.03	#10-#16 AWG
CPO375--	0.38	0.19		#6-#12 AWG
CPO500--	0.50	0.25		#1-#6 AWG
CPO750--	0.75	0.38		4/0-#2 AWG
CPO1000--	1.00	0.50	0.04	350-2/0 kcmil

*See catalogue 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; contact your Regional Sales Office. Order multiple for 4' sticks is 25 sticks. Order multiple for reels is 1 reel.

Series	Bulk Length (ft)	Series	Bulk Reel Length (ft)
CPO63 = 1/16"	1,000	CPO375 = 3/8"	500
CPO93 = 3/32"		CPO500 = 1/2"	400
CPO125 = 1/8"		CPO750 = 3/4"	300
CPO187 = 3/16"		CPO1000 = 1"	
CPO250 = 1/4"	500		

Cat. No.	Min. Expanded I.D. (in.)	Max. Recovered I.E. (in.)	Nom. Recovered Wall Thickness (in.)	Std. Pkg. Qty
CPO63-0-6	0.06	0.03	0.02	20
CPO93-0-6	0.09	0.05		
CPO125-0-6	0.13	0.06		
CPO187-0-6	0.19	0.09		
CPO250-0-6	0.25	0.13	0.03	10
CPO375-0-6	0.38	0.19		
CPO500-0-6	0.50/	0.25		
CPO750-0-6	0.75/	0.38		
CPO1000-0-6	1.00	0.50	0.04	5

Order multiple is std. pkg.
 Catalogue numbers listed are Black color, other colors available upon request. Contact your Regional Sales Office.

Thin-Wall Heat-Shrinkable Tubing

Shrink-Kon™



Shrink-Kon™ Thin-Wall Insulation Kit

Catalogue No.	Description	Weight Each Kit	UPC Code
CHS-KIT	43' (13 m) Assorted Colors, Sizes – Thin-Wall Heat Shrink Tubing in plastic reusable case	1 lb / 0.45 kg	76821092835

Shrink-Kon thin-wall heat shrink kits feature useful colors and sizes in a convenient resealable storage box.

CHS-KIT Thin-Wall Insulation Kit

Now brought to you in color! Shrink-Kon's new Thin-Wall Heat Shrink Kit features a large assortment of practical colors and sizes for your demanding jobs. Great for identification and adding a professional finishing touch on wire termination projects.

- Over 43' (13 m) of multi-colored polyolefin thin-wall heat shrink
- Convenient plastic kit for single storage location
- Individual 6" (15 cm) pieces for easy installation
- 2:1 shrink ratio
- UL Recognized and CSA approved
- Wide range of sizes – 3/16" (9 mm) to 1" (25 mm)

Products included in CHS-KIT

Color Quantity Per Kit

Qty/Kit	Size in. (mm)	Catalogue No.	Black	Clear	Blue	Yellow	Red	Green	White
36	3/16 (5)	CPO187+	6	6	4	4	6	4	6
24	1/4 (6)	CPO250+	6	4	2	2	4	2	4
12	3/8 (9)	CPO375+	2	2	2		2	2	2
6	1/2 (12)	CPO500+	1	1	1		1	1	1
4	3/4 (19)	CPO750+	1	1			1		1
4	1 (25)	CPO1000+	1	1			1		1

+Actual catalogue numbers require suffix for appropriate color.

Thin-Wall Heat-Shrinkable Tubing



Shrink-Kon™ Thin-Wall Insulation Kit

Catalogue No.	Description	Weight Each Kit	UPC Code
HS-KIT	37' (11 m) Assorted Sizes – Black Color Thin-Wall Heat Shrink Tubing in plastic reusable case	1 lb / 0.45 kg	76821093898

The Original Black Version HS-KIT

- Over 37' (11 m) of black polyolefin thin-wall heat shrink
- Convenient plastic kit for single storage location
- Individual 6" (15 cm) pieces for easy installation
- 2:1 shrink ratio
- UL Recognized and CSA approved

Products included in HS-KIT

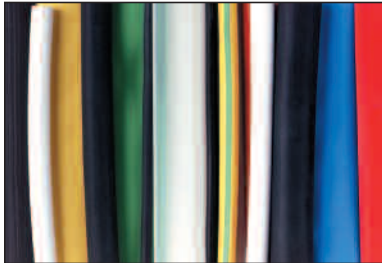
Qty/Kit	Size in. (mm)	Catalogue No.
32	3/16 (5)	CPO187-0-6
20	1/4 (6)	CPO250-0-6
8	3/8 (9)	CPO375-0-6
6	1/2 (12)	CPO500-0-6
4	3/4 (19)	CPO750-0-6
4	4 (25)	CPO1000-0-6

Thin-Wall Heat-Shrinkable Tubing

Custom order lengths for those special jobs!



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.

Series	Bulk Reel Length (ft)	Series	Bulk Reel Length (ft)
CPO63 = 1/16"	1,000	CPO375 = 3/8"	500
CPO93 = 3/32"		CPO500 = 1/2"	200
CPO125 = 1/8"		CPO750 = 3/4"	100
CPO187 = 3/16"		CPO1000 = 1"	
CPO250 = 1/4"	500		

CUT PIECE CATALOGUE NO. CONSTRUCTION			
THIN-WALL SERIES	MINIMUM EXPANDED I.D. (IN.)	COLOUR	LENGTH (IN.)
CPO =	63 = 0.063	0 - Black	XXXX – 4 digits specify length of cut in inches
	93 = 0.093	C = Clear	
Corss-Linked	125 = 0.125	2 = Red	
Modified	187 = 0.187	4 = Yellow	
Polyolefin	250 = 0.250	5 = Green	
	375 = 0.375	6 = Blue	
	500 = 0.500	9 = White	
	750 = 0.750	S = Green & Yellow Striped	
	1000 = 1.000		

Example: CPO + 125 + 2 + 1.500 = CPO125-2-1.500
 CPO Thin-wall Shrink, size 125 (0.125"), red colour, 1.5" long
 Contact your Regional Sales Office for bulk reel quantity

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 length12,000 ÷ 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 length4,800 ÷ 2
 Total number of 2" pieces
 in a 400' reel (Minimum Order) = 2,400

Contact your Regional Sales Office for pricing and availability on cut pieces.

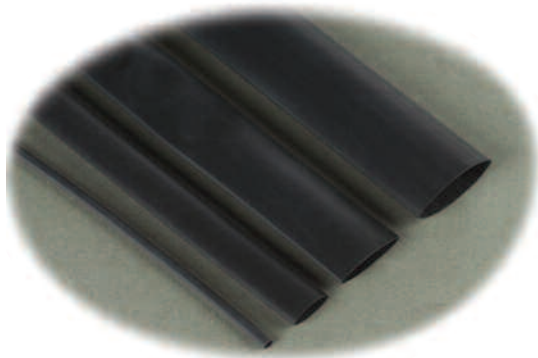
CPO Series Specifications

Property	Test Method	Typical Performances
Physical		
Tensile Strength	ASTM D412, ISO 37	2200 psi (15.0 MPa)
Elongation		400%
Longitudinal Change	ASTM D2671	+1%, -10%
2% Secant Modulus		16,000 psi (110 MPa)
Specific Gravity	ASTM D792, ISO/R1183	1.3" (colors) 0.95" (clear)
Restricted Shrinkage	ASTMD2671	No cracking
Elongation after Heat Aging (168 hrs. at 175°C)		350%
Heat Shock (4 hrs. at 250°C)		No cracking or flowing
Low Temperature Flexibility (4 hrs. at -55°C)		No cracking or Splitting
Flammability		Flame Retardant (except Clear)
Electrical		
Delectric Strength	ASTM D2671, IEC 243	600 V/Mil (24kV/mm)
Volume Resistivity	ASTM D2671	1016 ohm-cm
Chemical		
Fluid Resistance	MIL-DTL-23053/5, ISO 1817, ISO 37	Good to Excellent
Fungus Resistance	ASTM G21	No growth
Copper Corrosion	ASTM D2671	No Corrosion
Water Absorption	ASTM D570	0.2%

Thin-Wall Heat-Shrinkable Tubing

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

CPO-A Series Thin-Wall Heat-Shrinkable Tubing

Cat. No.	Min. Expanded I.D. (in.)	Max. Expanded I.D. (in.)	Nom. Recovered Wall (in.)	Code Cable Size	Standard Length (in.)	Std. Pkg. Qty
CPO-A-125-48	0.13	0.02	0.04	#24-#30 AWG	48	25
CPO-A-187-48	0.18	0.06	0.05	#14-#22 AWG		
CPO-A-250-48	0.25	0.08		#10-#22 AWG		
CPO-A-375-48	0.38	0.14	0.07	#6-#16 AWG		
CPO-A-500-48	0.50	0.19		#2-#12 AWG		
CPOA-750-48	0.75	0.31		3/0-#4 AWG		

Note: Non-standard colours, sizes, and lengths available subject to your Regional Sales Office quotation.

Standard colour: Black

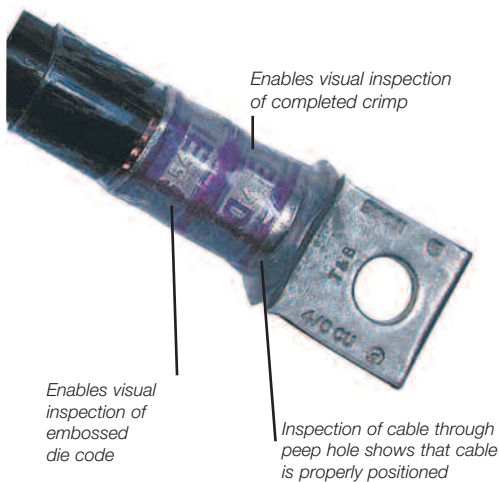
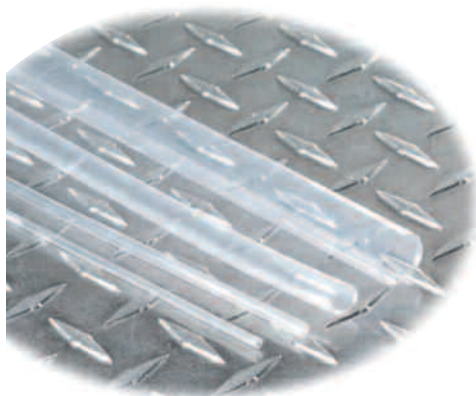
CPO-A Series Specifications

Property	Test Method	Typical Performances
Physical		
Tensile Strength	ASTM D412, ISO 37	2200 psi (15.0 MPa)
Elongation		400%
Heat Shock (4 hrs. at 250°C)	ASTM D2671	No cracking or Flowing
Longitudinal Change		+/-5%
Low Temperature Flexibility (4 hrs. at -55°C)		No cracking
Specific Gravity	ASTM D792, ISO/R1183	1.1
2% Secant Modulus	ASTM D2671	1600 psi (110 MPa)
Heat-Resistant Properties (168 hrs. at 175°C)	MIL-DTL-23053/4	240%
Flammability	ASTM D2671	Moderately Flame Retardant
Electrical		
Dielectric Strength	ASTM D2671, IEC 243	600 V/Mil (24kV/mm)
Volume Resistivity	ASTM D2671	1016 ohm-cm
Chemical		
Fluid Resistance	MIL-DTL-23053/5, ISO 1817, ISO 37	Good to Excellent
Fungus Resistance	ASTM G21	No growth
Copper Corrosion	ASTM D2671	No Corrosion
Water Absorption	ASTM D570	0.2%

Thin-Wall Heat-Shrinkable Tubing

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
- Flame retardant
- Low shrink temperature of 110° C
- Dielectric strength — 600V/MIL



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	Std Length (ft.)	Std Pkg. Qty
CHS18	0.13	0.06	0.02	#22-#18 AWG	50	1
CHS18B					250	
CHS14	0.25	0.13	0.03	#16-#10 AWG	50	
CHS14B					250	
CHS38	0.38	0.19	0.03	#8-#6 AWG	50	
CHS38B					250	
CHS12	0.50	0.25	0.04	#4-#2 AWG	50	
CHS12B					250	
CHS34	.75	0.38	0.04	#1-3/0 kcmil	50	
CHS34B					250	
CHS100	1.00	0.50	0.04	4/0-300 kcmil	25	
CHS100B					100	
CHS112					25	
CHS112B	1.50	0.75	0.05	350-700 kcmil	100	
CHS200					25	
CHS200B	2.00	1.00	0.05	750-1,000 kcmil	100	

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

CHS Series Specifications

Property	Test Method	Typical Performances
Physical		
Tensile Strength	ASTM D412, ISO 37	3300 psi (23.0 MPa)
Elongation		300%
Longitudinal Change	ASTM D2671	+/-10%
2% Secant Modulus		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)		No cracking or Flowing
Low Temperature Flexibility (1 hrs. at 10°C)	ASTM D2671	No cracking or Slitting
Flammability		Self Extinguishing
Electrical		
Dielectric Strength	ASTM D2671, IEC 243	600 V/Mil (24kV/mm)
Volume Resistivity	ASTM D2671	1016 ohm-cm
Chemical		
Fluid Resistance	MIL-DTL-23053/5, ISO 1817, ISO 37	Good to Excellent
Fungus Resistance	ASTM G21	No growth
Copper Corrosion	ASTM D2671	No Corrosion
Water Absorption	ASTM D570	0.3%