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ATUM

High-Shrink-Ratio, Adhesive-Lined Polyolefin Tubing

Product Facts

- 3:1 and 4:1 shrink ratios allow for connector-to-cable sealing
- Tubing environmentally seals and protects components and interconnections
- Medium wall provides increased mechanical protection
- The adhesive in ATUM tubing bonds to a wide variety of plastics, rubbers, and metals, including polyethylene, aluminum, steel, and copper
- RoHS compliant



Applications

Environmentally seals and protects a wide variety of electrical applications, including back end connector sealing, breakouts, and connector-to-cable transitions. High expansion ratio makes it possible to repair most damaged cable jackets without removing connectors.


Installation

Minimum shrink temperature: 80°C [176°F]
Minimum full recovery temperature: 110°C [230°F]

Operating Temperature Range

-55°C to 110°C
[-67°F to 230°F]

Specifications/Approvals

Series	UL** 	Military	Raychem
ATUM	E85381 600V, 110°C	AMS-DTL-23053/4,* Class 3	RW-2063 - Black RK-6024 - Colors and clear

*Formerly MIL-I-23053/4 and MIL-DTL-23053/4. Sizes 3/1, 6/2, 12/4, 24/8, and 40/13 only.
**Black only, except sizes 3/1 and 4/1.

Available in:	Americas	Europe	Asia Pacific
	■	■	■

ATUM (Continued)

Product Dimensions

Size	Inside Diameter		Recovered Wall Thickness**	
	Minimum Expanded as Supplied	Maximum Recovered After Heating	Total Wall After Heating	Adhesive Wall After Heating (Nominal)
3:1				
3/1	3.0 [0.118]	1.0 [0.039]	1.00 ± 0.28 [0.039 ± 0.010]	0.50 [0.020]
4.5/1.5	4.5 [0.177]	1.5 [0.059]	1.10 ± 0.25 [0.043 ± 0.011]	0.50 [0.020]
6/2	6.0 [0.236]	2.0 [0.079]	1.00 ± 0.28 [0.039 ± 0.010]	0.50 [0.020]
9/3	9.0 [0.354]	3.0 [0.118]	1.40 ± 0.28 [0.055 ± 0.010]	0.61 [0.024]
12/4	12.0 [0.472]	4.0 [0.157]	1.78 ± 0.38 [0.070 ± 0.015]	0.76 [0.030]
19/6	19.0 [0.748]	6.0 [0.236]	2.25 ± 0.55 [0.088 ± 0.022]	0.76 [0.030]
24/8	24.0 [0.940]	8.0 [0.315]	2.54 ± 0.55 [0.100 ± 0.022]	1.02 [0.040]
40/13	40.0 [1.570]	13.0 [0.512]	2.54 ± 0.55 [0.100 ± 0.022]	1.02 [0.040]
4:1				
4/1	4.0 [0.157]	1.0 [0.039]	1.00 ± 0.28 [0.039 ± 0.010]	0.50 [0.020]
8/2	8.0 [0.315]	2.0 [0.079]	1.00 ± 0.28 [0.039 ± 0.010]	0.50 [0.020]
12/3	12.0 [0.472]	3.0 [0.118]	1.40 ± 0.28 [0.055 ± 0.010]	0.61 [0.024]
16/4	16.0 [0.630]	4.0 [0.157]	1.78 ± 0.38 [0.070 ± 0.015]	0.76 [0.030]
24/6	24.0 [0.945]	6.0 [0.236]	2.25 ± 0.55 [0.088 ± 0.022]	0.76 [0.030]
32/8	32.0 [1.260]	8.0 [0.315]	2.54 ± 0.55 [0.100 ± 0.022]	1.02 [0.040]
52/13	52.0 [2.050]	13.0 [0.512]	2.54 ± 0.55 [0.100 ± 0.022]	1.02 [0.040]

**Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering Information

Color	Standard	Black (-0)
	Nonstandard	Clear in 3:1 sizes only (-X, non-flame-retardant jacket); other colors available on request.
Size selection	Always order the largest size that will shrink snugly over the component to be covered. Special order sizes are available upon request.	
Standard packaging***	In 1.2-meter [4-foot] lengths or on spools.	
Ordering description****	Specify product name, size and color (for example, ATUM 8/2-0).	

***Only 1.2 meter [4-foot] lengths are standard in the Americas. ATUM tubing on spools is nonstandard.

****For supply to MIL spec., add -MS to ordering description.

BRST

Simple Specification, Single Wall Polyolefin Tubing

Product Facts

- 2:1 shrink ratio
- Non-flame-retardant
- Quick shrinking
- Satin finish
- RoHS compliant



Applications

Provides excellent electrical insulation. Can be used for noise suppression and where mechanical protection is required.

Installation

Minimum shrink temperature: 95°C [203°F]
 Minimum full recovery temperature: 130°C [266°F]

Operating Temperature Range

-40°C to 120°C
 [-40°F to 248°F]

Specifications/Approvals

Series	Raychem
BRST	RK-6766

Available in:	Americas	Europe	Asia Pacific
		■	

BRST (Continued)

Product Dimensions

Size	Inside Diameter		Recovered Wall Thickness**
	Minimum Expanded as Supplied	Maximum Recovered After Heating	After Heating
4/2	4 [0.157]	2 [0.079]	0.4 ± 0.08 [0.016 ± 0.003]
6/3	6 [0.236]	3 [0.118]	0.4 ± 0.08 [0.016 ± 0.003]
10/5	10 [0.394]	5 [0.197]	0.5 ± 0.08 [0.020 ± 0.003]
16/8	16 [0.630]	8 [0.315]	0.75 ± 0.08 [0.030 ± 0.003]
24/12	24 [0.945]	12 [0.472]	0.85 ± 0.08 [0.033 ± 0.003]

**Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering Information

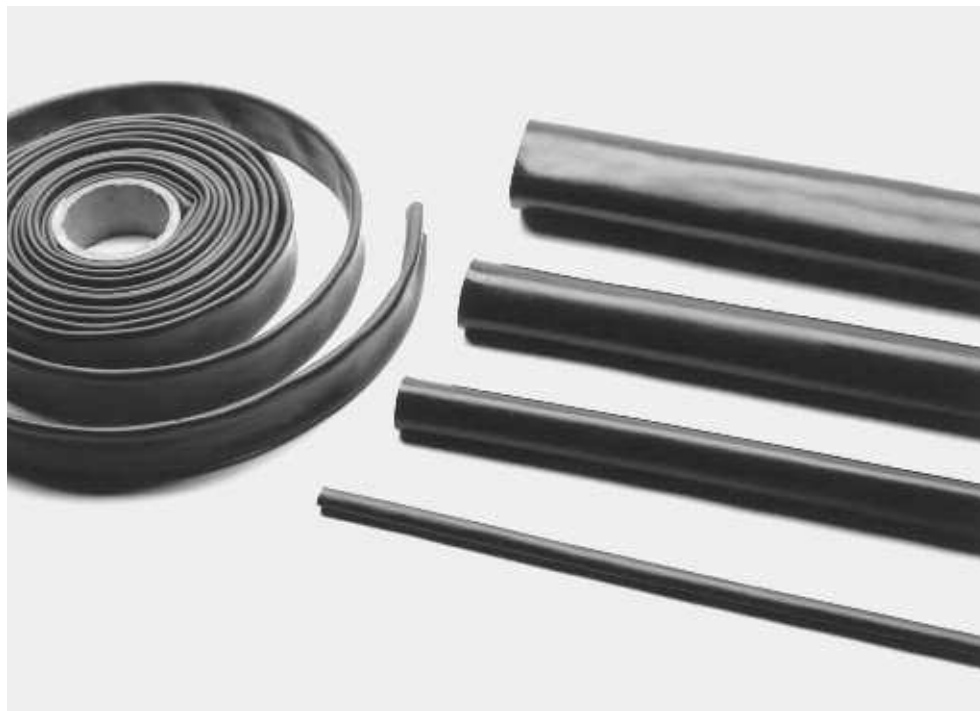
Color	Standard	Black (-0)
Size selection	Always order the largest size that will shrink snugly over the component to be covered.	
Standard packaging	On spools.	
Ordering description	Specify product name, size and color (for example, BRST-4/2-0).	

**General Purpose,
Heat-Shrinkable Tubing**

Product Facts

- Excellent thick-wall insulation and abrasion protection
- No adhesive – can be removed easily
- Expansion ratios as high as 3:1
- Availability in flame-retardant material with FR callout (see “Ordering information and Part numbering system” on the next page)
- BSTS has the following agency approvals:
 - ABS (American Bureau of Shipping)
 - Lloyd’s (Lloyd’s Register of Shipping)
- RoHS compliant

BSTS/BSTS-FR



Applications

BSTS heat-shrinkable tubing is made of a rugged polymer that resists moisture, fungus, and weathering. It also has excellent electrical properties. This tubing is useful in applications where insulation, abrasion resistance, and strain relief are important. When used with sealant tape (S-1305 for flame-retardant or S-1278 for non-flame-retardant), it can provide a watertight system in nonpressurized applications.

Installation

Minimum shrink temperature: 90°C [194°F]
 Minimum full recovery temperature: 121°C [250°F]

Operating Temperature Range

-55°C to 110°C
 [-67°F to 230°F]

Specifications/Approvals

Series	Military	Industry	Raychem
BSTS	—	—	RW-2017
BSTS-FR	AMS-DTL-23053/15*, Class 1 and Class 2**	ASTM D 685, nonburning	RW-2017

*Formerly MIL-I-23053/15 and MIL-DTL-23053/15.

**Except for coatings requirement. Refer to SST-FR when coating is required.

Available in:	Americas	Europe	Asia Pacific
	■	■	■

BSTS/BSTS-FR (Continued)

Product Dimensions

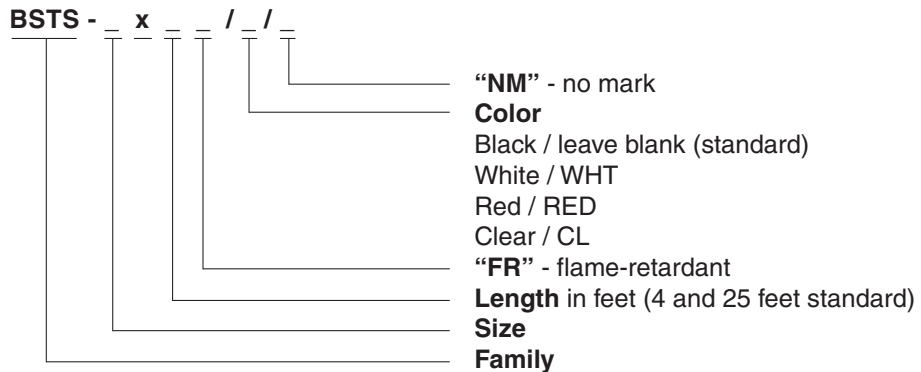
Size	Inside Diameter		Wall Thickness (Nominal)	
	Minimum Expanded as Supplied	Maximum Recovered After Heating	Expanded as Supplied	Recovered After Heating***
BSTS-03	7.62 [0.300]	2.54 [0.100]	0.63 [0.025]	1.78 [0.070]
BSTS-04	10.16 [0.400]	3.81 [0.150]	0.63 [0.025]	1.78 [0.070]
BSTS-07	19.05 [0.750]	5.59 [0.220]	0.76 [0.030]	2.41 [0.095]
BSTS-11	27.94 [1.100]	9.52 [0.375]	1.02 [0.040]	3.05 [0.120]
BSTS-13	33.02 [1.300]	9.52 [0.375]	0.89 [0.035]	3.05 [0.120]
BSTS-15	38.10 [1.500]	12.70 [0.500]	1.27 [0.050]	3.56 [0.140]
BSTS-17	43.18 [1.700]	12.70 [0.500]	1.14 [0.045]	3.56 [0.140]
BSTS-20	50.80 [2.000]	19.05 [0.750]	1.27 [0.050]	3.94 [0.160]
BSTS-27	65.58 [2.700]	22.86 [0.900]	1.27 [0.050]	3.94 [0.160]
BSTS-30	76.20 [3.000]	31.75 [1.250]	1.27 [0.050]	3.94 [0.160]
BSTS-35	88.90 [3.500]	31.75 [1.250]	1.27 [0.050]	3.94 [0.160]
BSTS-40	101.60 [4.000]	44.45 [1.750]	1.27 [0.050]	3.94 [0.160]
BSTS-45	114.30 [4.500]	44.45 [1.750]	1.27 [0.050]	3.94 [0.160]

***Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering Information

Color	Standard	Black
	Nonstandard	White, Yellow, Red and Clear (Clear is non-flame retardant)
Size selection	Always order the largest size that will shrink snugly over the component to be covered. Special order sizes are available upon request.	
Standard packaging	1.2-meter [4-foot] or 7.5-meter [25-foot] lengths.	
Ordering description	See below.	

Part Numbering System



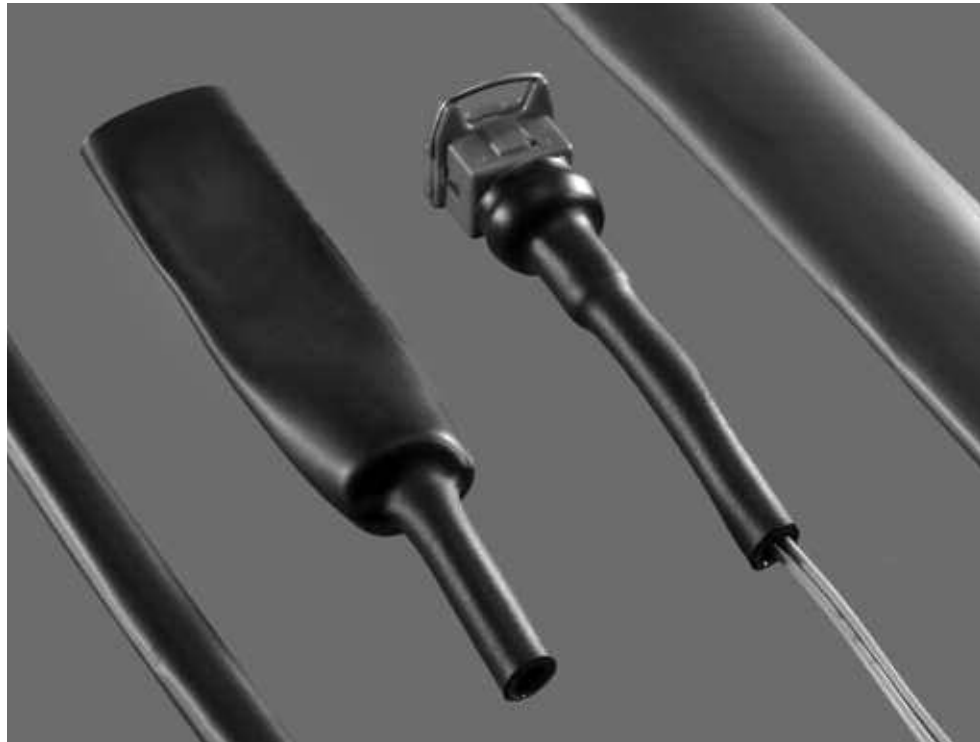
Example: BSTS-11X4/NM

CGAT

Adhesive-Lined, Flexible, Polyolefin Heat-Shrinkable Tubing

Product Facts

- 3:1 Shrink ratio
- High-strength bonding
- Moisture-proof
- Environmental sealing
- RoHS compliant



Applications

CGAT is a flexible polyolefin heat-shrinkable tubing with an inner meltable adhesive lining designed for the commercial marketplace. It is suitable for the environmental protection of electrical components and the sealing of conductors. Typical applications are environmental sealing for electrical components, wire breakouts and cable jackets.


Installation

Minimum shrink temperature: 80°C [176°F]
 Minimum full recovery temperature: 115°C [239°F]

Operating Temperature Range

-30°C to 80°C
 [-22°F to 176°F]

Specifications/Approvals

Series	UL* 	Raychem
CGAT	E85381 600V, 80°C	RW-2050

*Black only. Clear product is not flame-retardant

Available in:	Americas	Europe	Asia Pacific
		■	

CGAT (Continued)

Product Dimensions

Size	Inside Diameter		Recovered Wall Thickness*	
	Minimum Expanded as Supplied	Maximum Recovered After Heating	After Heating	After Heating
			Black	Clear
3/1	3.0 [0.118]	1.0 [0.039]	1.00±0.25 [0.039±.010]	1.00±0.30 [0.039±.012]
6/2	6.0 [0.236]	2.0 [0.079]	1.00±0.25 [0.039±.010]	1.00±0.30 [0.039±.012]
9/3	9.0 [0.354]	3.0 [0.118]	1.35±0.25 [0.053±.010]	1.40±0.30 [0.055±.012]
12/4	12.0 [0.472]	4.0 [0.157]	1.50±0.25 [0.059±.010]	1.75±0.40 [0.039±.012]
18/6	18.0 [0.709]	6.0 [0.236]	1.70±0.25 [0.067±.010]	2.25±0.55 [0.089±.022]
24/8	24.0 [0.945]	8.0 [0.315]	1.90±0.25 [0.075±.010]	2.55±0.55 [0.100±.022]
39/13	39.0 [1.535]	13.0 [0.512]	2.10±0.25 [0.083±.010]	2.55±0.55 [0.100±.022]

*Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering Information

Color	Standard	Black (-0) Clear (X, non-flame-retardant jacket)
Size selection	Always order the largest size that will shrink snugly over the component to be covered.	
Standard packaging**	In 1.2 meter (4 foot) lengths or on spools.	
Ordering description	Specify product name, size and color (for example, CGAT-3/1-0).	

**Available in the convenient RaySpool packaging/dispensing system, for sizes 3/1 to 24/8.

CGPE-105

Brightly Colored, Shiny, Non-Flame-Retardant Polyolefin Tubing

Product Facts

- Bright, shiny surface; clear version offers exceptional clarity
- Can be easily hot-stamped
- Economical, yet offers the improved performance of a crosslinked material
- Conforms to substrates more uniformly and with less longitudinal change than most PVC-based materials
- RoHS compliant



Applications

Attractive covering for many automotive, appliance, and consumer-goods applications. Commercial grade tubing for applications where a flame-retardant product is not needed. Provides both insulation and protection of components and wires while also providing a smooth, glossy finish with a choice of seven colors as well as clear. Exceptional transparency of clear CGPE-105 makes it a well-suited choice for protecting marked surfaces.

Installation

Minimum shrink temperature: 85°C [185°F]
 Minimum full recovery temperature: 110°C [230°F] for black; 100°C [212°F] for all other colors and clear

Operating Temperature Range

-70°C to 105°C
 [-94°F to 221°F]

Specifications/Approvals

Series	Raychem
CGPE-105	CGPE-105 SCD

Available in:	Americas	Europe	Asia Pacific
	■		■

CGPE-105 (Continued)

Product Dimensions

Size	Inside Diameter		Recovered Wall Thickness**
	Minimum Expanded as Supplied	Maximum Recovered After Heating	After Heating
3/64	1.2 [0.046]	0.6 [0.023]	0.40 ± 0.08 [0.016 ± 0.003]
1/16	1.6 [0.063]	0.8 [0.031]	0.43 ± 0.08 [0.017 ± 0.003]
3/32	2.4 [0.093]	1.2 [0.046]	0.51 ± 0.08 [0.020 ± 0.003]
1/8	3.2 [0.125]	1.6 [0.062]	0.51 ± 0.08 [0.020 ± 0.003]
3/16	4.8 [0.187]	2.4 [0.093]	0.51 ± 0.08 [0.020 ± 0.003]
1/4	6.4 [0.250]	3.2 [0.125]	0.64 ± 0.08 [0.025 ± 0.003]
3/8	9.5 [0.375]	4.8 [0.187]	0.64 ± 0.08 [0.025 ± 0.003]
1/2	12.7 [0.500]	6.4 [0.250]	0.64 ± 0.08 [0.025 ± 0.003]
3/4	19.1 [0.750]	9.5 [0.375]	0.76 ± 0.08 [0.030 ± 0.003]
1	25.4 [1.000]	12.7 [0.500]	0.89 ± 0.12 [0.035 ± 0.005]
1 1/2	38.1 [1.500]	19.1 [0.750]	1.02 ± 0.15 [0.040 ± 0.006]
2	50.8 [2.000]	25.4 [1.000]	1.14 ± 0.18 [0.045 ± 0.007]

**Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering Information

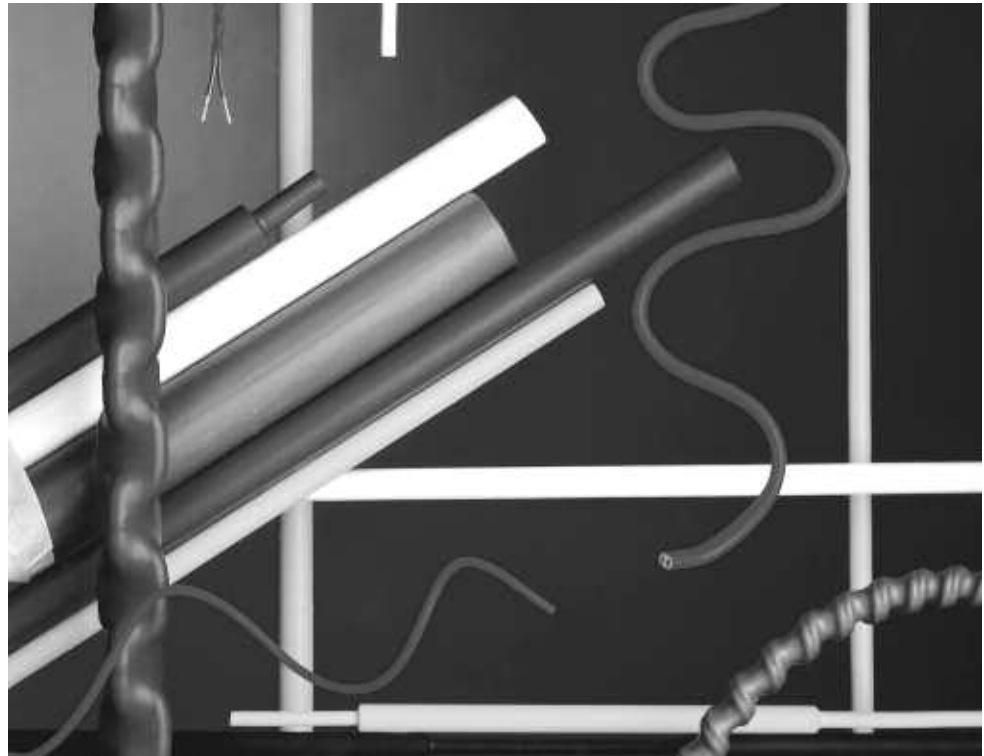
Color	Black (-0), White (-9), Clear (-X), Red (-2), Blue (-6), Yellow (-4), Green (-5), Violet (-7)
Size selection	Always order the largest size that will shrink snugly over the component to be covered. Special order sizes are available upon request.
Standard packaging	On spools.
Ordering description	Specify product name, size and color (for example, CGPE-105-1/4-0).

CGPT

General Purpose, Flame-Retardant* Polyolefin Tubing

Product Facts

- 2:1 and 3:1 shrink ratio
- Very good chemical and solvent resistance
- Flexible
- Excellent physical and electrical performance
- RoHS compliant



Applications

CGPT is a tough, flexible, general purpose polyolefin tubing with good resistance to common fluids and solvents and a high dielectric strength. Its unique blend of chemical, electrical, and physical properties makes it suitable for a wide range of applications, including electrical insulation, strain relief, cable bundling, color-coding and identification of wires, cables, pipes, and electrical and electronic components, and mechanical protection.



Installation

Minimum shrink temperature: 80°C [176°F]
 Minimum full recovery temperature: 120°C [248°F]

Operating Temperature Range

-40°C to 135°C
 [-40°F to 275°F]

Specifications/Approvals

Series	UL 	CSA 	Raychem
CGPT	E35586 600 V, 125°C	LR31929 600 V, 125°C	RW-2059

*Clear product (-X) is not flame-retardant.

Available in:	Americas	Europe	Asia Pacific
		■	

CGPT (Continued)

Product Dimensions

Size	Inside Diameter		Recovered Wall Thickness**
	Minimum Expanded as Supplied	Maximum Recovered After Heating	After Heating
2:1			
1.2/06	1.2 [0.046]	0.6 [0.023]	0.45 ± 0.12 [0.018 ± 0.005]
1.6/0.8	1.6 [0.062]	0.8 [0.031]	0.45 ± 0.12 [0.018 ± 0.005]
2.4/1.2	2.4 [0.093]	1.2 [0.046]	0.50 ± 0.12 [0.019 ± 0.005]
3.2/1.6	3.2 [0.125]	1.6 [0.062]	0.50 ± 0.12 [0.019 ± 0.005]***
4.8/2.4	4.8 [0.187]	2.4 [0.093]	0.50 ± 0.12 [0.019 ± 0.005]***
6.4/3.2	6.4 [0.250]	3.2 [0.125]	0.65 ± 0.15 [0.026 ± 0.006]***
9.5/4.8	9.5 [0.375]	4.8 [0.187]	0.65 ± 0.15 [0.026 ± 0.006]***
12.7/6.4	12.7 [0.500]	6.4 [0.250]	0.65 ± 0.15 [0.026 ± 0.006]***
19/9.5	19.0 [0.748]	9.5 [0.375]	0.75 ± 0.15 [0.029 ± 0.006]***
25.4/12.7	25.4 [1.000]	12.7 [0.500]	0.90 ± 0.20 [0.035 ± 0.008]***
32/16	32.0 [1.250]	16.0 [0.630]	0.95 ± 0.20 [0.037 ± 0.008]
38/19	38.0 [1.496]	19.0 [0.748]	1.00 ± 0.20 [0.039 ± 0.008]***
51/26	51.0 [2.000]	26.0 [1.000]	1.15 ± 0.25 [0.045 ± 0.010]
76/38	76.0 [2.992]	38.0 [1.496]	1.25 ± 0.25 [0.049 ± 0.010]
102/51	102.0 [4.016]	51.0 [2.008]	1.40 ± 0.30 [0.055 ± 0.012]
3:1			
1.5/0.5	1.5 [0.059]	0.5 [0.020]	0.45 ± 0.12 [0.018 ± 0.005]
3/1	3.0 [0.118]	1.0 [0.040]	0.55 ± 0.12 [0.022 ± 0.005]
6/2	6.0 [0.236]	2.0 [0.079]	0.65 ± 0.12 [0.026 ± 0.005]
9/3	9.0 [0.354]	3.0 [0.118]	0.75 ± 0.15 [0.030 ± 0.006]
12/4	12.0 [0.472]	4.0 [0.157]	0.75 ± 0.15 [0.030 ± 0.006]
18/6	18.0 [0.709]	6.0 [0.236]	0.85 ± 0.15 [0.033 ± 0.006]
24/8	24.0 [0.945]	8.0 [0.315]	1.00 ± 0.20 [0.039 ± 0.008]
39/13	39.0 [1.540]	13.0 [0.512]	1.15 ± 0.25 [0.045 ± 0.010]

**Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering Information

Color	Standard	Black (-0), White (-9), Red (-2), Blue (-6), Yellow (-4), Brown (-1), Grey (-8), Clear (-X), Yellow/Green (-45) as indicated by an ***
	Nonstandard	Orange (-3), Green (-5), Violet (-7), in 2:1 sizes, 1.2/0.6 through 51/26 only.
Size selection	Always order the largest size that will shrink snugly over the component to be covered. Special order sizes are available upon request.	
Standard packaging****	On spools.	
Ordering description	Specify product name, size and color (for example, CGPT 4.8/2.4-0).	

****Available in the convenient RaySpool packaging/dispensing system for sizes:

2:1 - 2.4/1.2 up to 25.4/12.7

3:1 - 3/1 up to 24/8

CRN

**Semirigid,
Flame-Retardant,
Polyolefin Tubing**

Product Facts

- 2:1 shrink ratio
- High abrasion resistance
- Transfer of flex stress away from typically weak points such as solder and crimp joints, helping ensure a reliable connection
- Flame-retardance (black only)
- Outstanding physical and electrical performance
- Excellent chemical and solvent-resistance properties
- RoHS compliant



Applications

Well-suited for wire strain-relief applications such as soldered or crimped connections, wire splices, and terminations. Provides mechanical protection for delicate components. Can be used for component packaging and for rugged marking of cables.

Installation

Minimum shrink temperature: 110°C [230°F]
Minimum full recovery temperature: 135°C [275°F]

Operating Temperature Range

-55°C to 135°C
[-67°F to 275°F]

Specifications/Approvals

Series	UL	CSA	Military	Raychem
CRN Type 1 (black)	E35586 600 V, 125°C	LR31929 (black only) 600 V, 125°C	AMS-DTL-23053/6*, Class 1	RT-360, Type 1 RK-6003
CRN Type 2 (clear)	—	—	AMS-DTL-23053/6*, Class 2	RT-360, Type 2

*Formerly MIL-I-23053/6 and MIL-DTL-23053/6.

Available in:	Americas	Europe	Asia Pacific
	■	■	■

CRN (Continued)

Product Dimensions

Size	Inside Diameter		Recovered Wall Thickness**
	Minimum Expanded as Supplied	Maximum Recovered After Heating	After Heating
3/64	1.2 [0.046]	0.6 [0.023]	0.51 ± 0.08 [0.020 ± 0.003]
1/16	1.6 [0.063]	0.8 [0.031]	0.51 ± 0.08 [0.020 ± 0.003]
3/32	2.4 [0.093]	1.2 [0.046]	0.51 ± 0.08 [0.020 ± 0.003]
1/8	3.2 [0.125]	1.6 [0.062]	0.51 ± 0.08 [0.020 ± 0.003]
3/16	4.8 [0.187]	2.4 [0.093]	0.64 ± 0.08 [0.025 ± 0.003]
1/4	6.4 [0.250]	3.2 [0.125]	0.64 ± 0.08 [0.025 ± 0.003]
3/8	9.5 [0.375]	4.8 [0.187]	0.76 ± 0.08 [0.030 ± 0.003]
1/2	12.7 [0.500]	6.4 [0.250]	0.76 ± 0.08 [0.030 ± 0.003]
3/4	19.1 [0.750]	9.5 [0.375]	0.89 ± 0.12 [0.035 ± 0.005]

**Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering Information

Color	Standard	Black (-0)
	Nonstandard	Clear (-X, not flame-retardant)
Size selection	Always order the largest size that will shrink snugly over the component to be covered. Special order sizes are available upon request.	
Standard packaging	In 1.2-meter [4-foot] lengths.	
Ordering description***	Specify product name, size and color (for example, CRN 1/4-0).	

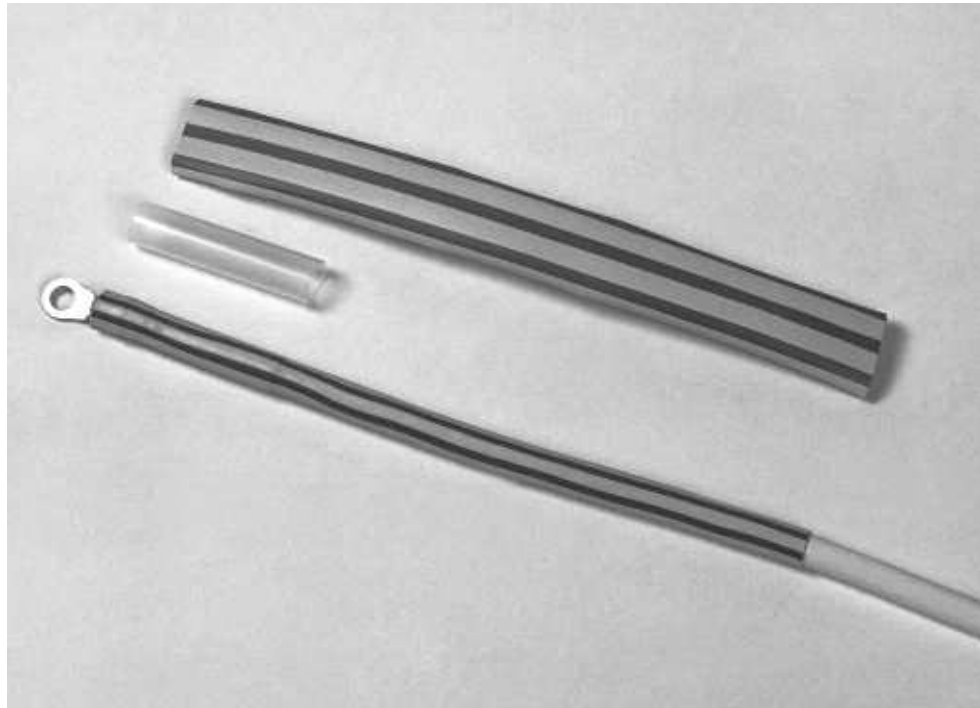
***Europe only. For supply to MIL spec., add -MS to ordering description.

Flexible, Flame-Retardant, Dual-Color, Polyolefin Tubing

Product Facts

- 2:1 and 3:1 shrink ratio
- Dual colors (yellow/green) for instant identification
- Co-extrusion of tubing colors, giving color permanence superior to that of conventional ink marking
- Flame-retardance
- Flexibility: able to conform to irregular shapes
- Excellent physical, chemical, and electrical properties that meet industry standards for highly reliable, general purpose tubing
- RoHS compliant

DCPT



Applications

Used to identify “ground” on wires and in cables, and to jacket and insulate light-duty harnesses.

Easily marked by conventional techniques for additional identification of wires and cables.

Installation



Minimum shrink temperature: 95°C [203°F]

Minimum full recovery temperature: 120°C [248°F]

Operating Temperature Range

-55°C to 135°C [-67°F to 275°F]

Specifications/Approvals

Series	UL 	CSA 	Military	Agency	Raychem
DCPT	E35586 600 V, 125°C	LR31929 600 V, 125°C	VG 95343 Pt 5 Type A	AFS 2270 DIN 29807 VDE 0341 Pt 9005 Type A	RW-2056

Available in:	Americas	Europe	Asia Pacific
	■	■	■

DCPT (Continued)

Product Dimensions

Size	Inside Diameter		Recovered Wall Thickness**
	Minimum Expanded as Supplied	Maximum Recovered After Heating	After Heating
2:1			
3/1.5	3.0 [0.118]	1.5 [0.059]	0.51 ± 0.10 [0.020 ± 0.004]
6/3	6.0 [0.236]	3.0 [0.118]	0.58 ± 0.10 [0.023 ± 0.004]
8/4	8.0 [0.315]	4.0 [0.158]	0.64 ± 0.10 [0.025 ± 0.004]
10/5	10.0 [0.394]	5.0 [0.197]	0.64 ± 0.10 [0.025 ± 0.004]
12/6	12.0 [0.472]	6.0 [0.236]	0.64 ± 0.10 [0.025 ± 0.004]
19/9	19.0 [0.748]	9.0 [0.354]	0.76 ± 0.12 [0.030 ± 0.005]
26/13	26.0 [1.024]	13.0 [0.512]	0.89 ± 0.12 [0.035 ± 0.005]
38/19	38.0 [1.500]	19.0 [0.748]	1.00 ± 0.12 [0.039 ± 0.005]
51/19	51.0 [2.000]	19.0 [0.748]	1.02 ± 0.15 [0.040 ± 0.006]
3:1			
3/1	3.0 [0.118]	1.0 [0.039]	0.55 ± 0.10 [0.022 ± 0.004]
6/2	6.0 [0.236]	2.0 [0.079]	0.65 ± 0.10 [0.026 ± 0.004]
9/3	9.0 [0.354]	3.0 [0.118]	0.75 ± 0.15 [0.030 ± 0.006]
12/4	12.0 [0.472]	4.0 [0.157]	0.75 ± 0.15 [0.030 ± 0.006]
18/6	18.0 [0.709]	6.0 [0.236]	0.85 ± 0.15 [0.033 ± 0.006]
24/8	24.0 [0.945]	8.0 [0.315]	1.00 ± 0.20 [0.039 ± 0.008]
39/13	39.0 [1.535]	13.0 [0.512]	1.15 ± 0.20 [0.045 ± 0.008]

**Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering Information

Color	Standard	Yellow/green stripe (-45)
Size selection	Always order the largest size that will shrink snugly over the component to be covered. Special order sizes are available upon request.	
Standard packaging	On spools.	
Ordering description	Specify product name, size and color (for example, DCPT 8/4-45).	

Heat-Shrinkable, Flexible, Chemical and Abrasion Resistant Tubing

Product Facts

- Flame-retardant
- System 25 tubing
- Shrink ratio 2:1
- RoHS compliant

DR-25



Applications

Specially formulated for optimum high-temperature fluid resistance, and long term heat resistance. Resistant to aviation and diesel fuels, hydraulic fluids and lubricating oils.

Particularly suitable as a jacketing material for military ground vehicle cables and harnesses. It is also well suited for the demands of motorsport cable harnesses. When

used in conjunction with System 25 heat-shrinkable molded shapes and S1125 high performance adhesive, these products provide a complete cable harness system.

Installation

Minimum shrink temperature: 150°C [302°F]
Minimum full recovery temperature: 175°C [347°F]

Operating Temperature Range

-75°C to 150°C
[-103°F to 302°F]
(per VG 95343 Part 5 Type D)

Specifications/Approvals

Series	Military	Raychem
DR-25	AMS-DTL-23053/16* VG95343 Part 5 Type D VDE 0341/Pt 9005 Def Stan 59-97 Issue 3 Type 6B BS 4G-198 Part 3 10A	RT-1116 RK-6008/1

*Formerly MIL-I-23053/16 and MIL-DTL-23053/16.

Available in:	Americas	Europe	Asia Pacific
	■	■	■

DR-25 (Continued)

Product Dimensions

Size	Inside Diameter		Recovered Wall Thickness**
	Minimum Expanded as Supplied	Maximum Recovered After Heating	After Heating
1/8	3.2 [0.125]	1.6 [0.062]	0.76 ± 0.15 [0.030 ± 0.006]
3/16	4.8 [0.187]	2.4 [0.093]	0.84 ± 0.15 [0.033 ± 0.006]
1/4	6.4 [0.250]	3.2 [0.125]	0.89 ± 0.15 [0.035 ± 0.006]
3/8	9.5 [0.375]	4.8 [0.187]	1.02 ± 0.20 [0.040 ± 0.008]
1/2	12.7 [0.500]	6.4 [0.250]	1.22 ± 0.20 [0.048 ± 0.008]
3/4	19.0 [0.748]	9.5 [0.375]	1.45 ± 0.28 [0.057 ± 0.011]
1	25.4 [1.000]	12.7 [0.500]	1.78 ± 0.28 [0.070 ± 0.011]
1 1/2	38.0 [1.500]	19.1 [0.750]	2.41 ± 0.41 [0.095 ± 0.016]
2	51.0 [2.000]	25.4 [1.000]	2.79 ± 0.41 [0.110 ± 0.016]
3	76.0 [3.000]	38.0 [1.500]	3.18 ± 0.50 [0.125 ± 0.020]

**Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering Information

Color	Standard	Black (-0)
Size selection	Always order the largest size that will shrink snugly over the component to be covered. Special order sizes are available upon request.	
Standard packaging	On spools.	
Ordering description***	Specify product name, size and color (for example, DR-25 1/8-0).	

***Europe only. For supply to Def Stan and BS add -DS or -BS to ordering description.

Commercial, Dual Wall, Heat-Shrinkable Tubing to Seal and Protect Splices

Product Facts

- 4:1 shrink ratio allows a few sizes to cover a wide range of applications
- Flame-retardant jacket (black only)
- Performs well at elevated temperatures and in aggressive environments
- Provides excellent environmental sealing from dust, dirt and many fluids, which can cause wire splices to corrode or electrical systems to fail
- Mechanically tough tubing provides protection from flexing and abrasion
- RoHS compliant

DSPL



Applications

Specially designed for environmental sealing, electrical insulation and protection of electrical splices, terminals and other components in areas where they will be exposed to moisture.

Installation

Minimum shrink temperature: 110°C [230°F]
 Minimum full recovery temperature: 135°C [275°F]

Operating Temperature Range

-40°C to 125°C
 [-40°F to 257°F]

Specifications/Approvals

Series	Raychem
DSPL	RK-6755

Available in:	Americas	Europe	Asia Pacific
		■	

DSPL (Continued)

Product Dimensions

Part Number	Minimum Expanded as Supplied	Maximum Recovered After Heating	Recovered Wall Thickness*
			After Heating
DSPL-NR1	5.69 [0.224]	1.27 [0.050]	1.15 [0.045]
DSPL-NR2	7.49 [0.295]	1.65 [0.065]	1.40 [0.055]
DSPL-NR3	10.80 [0.425]	2.40 [0.094]	1.80 [0.071]
DSPL-NR4	17.50 [0.689]	4.50 [0.177]	2.10 [0.083]

*Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering Information

Color	Standard	Black (-0), Clear (-X) (except DSPL-NR4)
Size selection	Always order the largest size that will shrink snugly over the component to be covered.**	
Standard packaging	In cut pieces and 1.2 meter [4-foot] lengths.	
Ordering description	Specify product name, size and color (for example, DSPL-NR1-0).	

** Sleeves are number coded to assist with correct size selection

DWP-125

Flexible, High-Shrink-Ratio, Adhesive-Lined, Polyolefin Tubing

Product Facts

- 3:1 shrink ratio allows for insulation and sealing of irregular shapes
- Medium wall provides increased mechanical protection while maintaining flexibility when installed
- Adhesive bonds to a wide variety of plastics, rubber, and metals, including polyethylene, neoprene, and steel
- RoHS compliant



Applications

Environmentally seals and protects a wide variety of electrical applications, including wire splices, breakouts, and connector-to-cable transitions. Suitable for applications where UL recognized/CSA certified adhesive-lined tubing is required.



Installation

Minimum shrink temperature: 80°C [176°F]
Minimum full recovery temperature: 125°C [257°F]

Operating Temperature Range

-40°C to 110°C
[-40°F to 230°F]

Specifications/Approvals

Series	UL 	CSA 	Raychem
DWP-125	E35586 600 V, 125°C	LR31929 600 V, 125°C	DWP-125 SCD

Available in:	Americas	Europe	Asia Pacific
	■	■	■

DWP-125 (Continued)

Product Dimensions

Size	Inside Diameter		Recovered Wall Thickness*	
	Minimum Expanded as Supplied	Maximum Recovered After Heating	Nominal Total Wall After Heating	Nominal Adhesive Wall After Heating
1/8	3.2 [0.125]	1.0 [0.040]	1.02 [0.040]	0.18 [0.007]
3/16	4.8 [0.187]	1.5 [0.060]	1.40 [0.055]	0.51 [0.020]
1/4	6.4 [0.250]	2.0 [0.080]	1.45 [0.057]	0.56 [0.022]
3/8	9.5 [0.375]	3.1 [0.120]	1.65 [0.065]	0.68 [0.027]
1/2	12.7 [0.500]	4.0 [0.157]	1.78 [0.070]	0.76 [0.030]
3/4	19.1 [0.750]	5.8 [0.230]	2.03 [0.080]	0.76 [0.030]
1	25.4 [1.000]	8.1 [0.320]	2.50 [0.100]	0.76 [0.030]

*Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering Information

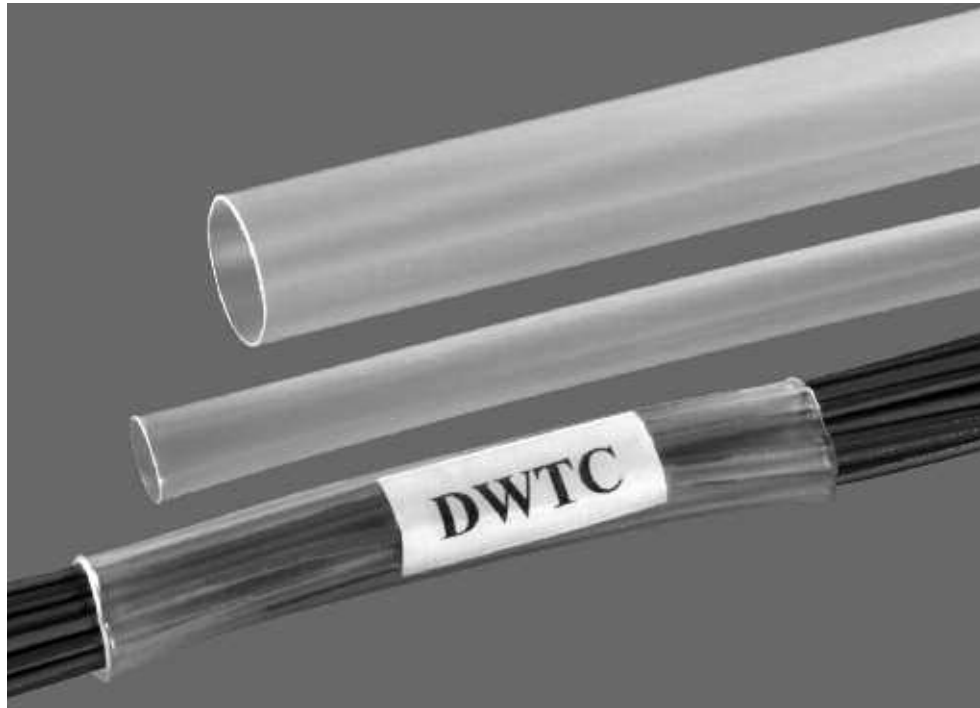
Color	Standard Nonstandard	Black (-0) White (-9), Red (-2), Blue (-6), Yellow (-4), Green (-5), Clear (-X, non-flame-retardant jacket). Other colors available upon request.
Size selection	Always order the largest size that will shrink snugly over the component to be covered. Special order sizes are available upon request.	
Standard packaging	In 1.2-meter [4-foot] lengths.	
Ordering description	Specify product name, size and color (for example, DWP-125 1/4-0).	

Flexible, Dual Wall, Moisture-Proof, Heat-Shrinkable Polyolefin Tubing

Product Facts

- Excellent mechanical strength
- Abrasion resistance
- Excellent optical clarity
- Environmental sealing
- Shrink ratio 4:1
- RoHS compliant

DWTC



Applications

DWTC is a flexible, heat-shrinkable, dual wall tubing with an integrally bonded meltable adhesive inner liner designed to offer moisture proof encapsulation to a wide variety of substrates. In particular, it adheres well to PVC. Available in clear, DWTC offers excellent clarity for protection of substrates that may need to be inspected during service.

The tough outer jacket gives excellent mechanical strength with a high resistance to splitting. The high-shrink-ratio means that only four sizes are needed to give protection to a full range of irregular shapes with widely varying dimensions.

Installation

Minimum shrink temperature: 60°C [140°F]
 Minimum full recovery temperature: 100°C [212°F]

Operating Temperature Range

-55°C to 75°C
 [-67°F to 167°F]

Specifications/Approvals

Series	Raychem
DWTC	RK-6204

Available in:	Americas	Europe	Asia Pacific
		■	■

DWTC (Continued)

Product Dimensions

Size	Inside Diameter		Recovered Wall Thickness*	
	Minimum Expanded as Supplied	Maximum Recovered After Heating	Nominal Total Wall After Heating	Nominal Adhesive Wall After Heating
4/1	4.0 [0.158]	1.0 [0.039]	0.8 [0.032]	0.3 [0.012]
8/2	8.0 [0.315]	2.0 [0.079]	0.9 [0.035]	0.3 [0.012]
12/3	12.0 [0.472]	3.0 [0.118]	1.2 [0.047]	0.4 [0.016]
16/4	16.0 [0.630]	4.0 [0.158]	1.5 [0.059]	0.5 [0.020]

*Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering Information

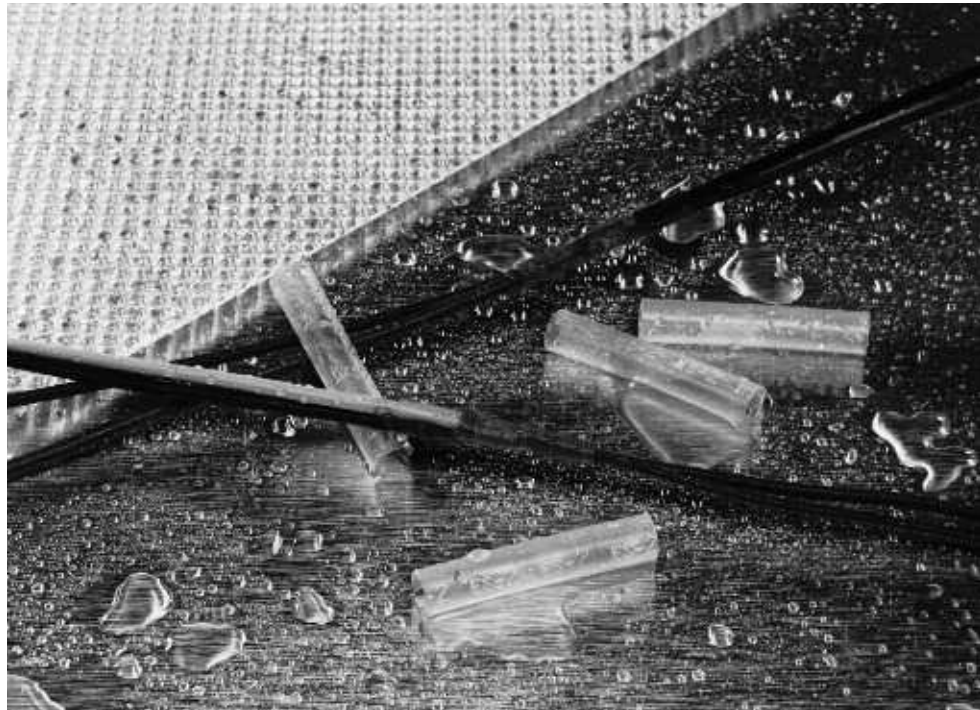
Color	Standard	Clear (-X)
Size selection	Always order the largest size that will shrink snugly over the component to be covered.	
Standard packaging	On spools, in 1.2-meter [4-foot] lengths.	
Ordering description	Specify product name, size and color (for example DWTC-4/1-X-STK).	

ES1000

Clear, High-Shrink-Ratio, Adhesive-Lined, Semirigid Polyolefin Tubing

Product Facts

- 4:1 shrink ratio allows a few sizes to cover a wide range of splice and component diameters
- Mechanically tough tubing provides strain relief and abrasion protection of wire splices, terminals and other components
- Thick adhesive liner forms an effective barrier against fluids and moisture and performs well at an extended temperature range
- UL recognized
- RoHS compliant



Applications

Specially designed for environmental sealing and electrical insulation of wire splices, terminations, and components where see-through inspection is required.

Installation

Minimum shrink temperature: 110°C [230°F]
 Minimum full recovery temperature: 135°C [275°F]

Operating Temperature Range

-40°C to 130°C
 [-40°F to 266°F]

Specifications/Approvals

Series	UL*	Raychem
ES1000	E85381 600 V, 125°C	RT-1113

Available in:	Americas	Europe	Asia Pacific
	■		■