

## Heat-Shrinkable Water-Blocking System

### Product Facts

- Environmentally seals wire bundles of up to 20 wires
- Withstands temperature excursions to 105°C [221°F]
- Provides excellent strain relief and reduces noise
- Offers a low-profile installed product only marginally larger than the cable bundle itself
- RoHS compliant

## RayBlock 85



### Applications

Designed to provide consistent sealing for cable bundles and the back of connectors. The wires are placed within the channels of a specially formulated hot-melt adhesive profile, then covered by dual-wall, heat-shrinkable tubing with a flame-retardant, radiation-crosslinked outer wall and hot-melt-adhesive inner wall. When the tubing is heated, the hot-melt

adhesive melts and the tubing shrinks, forcing the molten adhesive to fill all the voids within the wire bundle and tubing. The result is a solid plug of adhesive molded around each wire in the bundle, creating a moisture-resistant seal.

### Installation

Minimum shrink temperature: 80°C [176°F]

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

### Operating Temperature Range

-40°C to 85°C  
[-40°F to 185°F]

### Specifications/Approvals

| Series      | Raychem                    |
|-------------|----------------------------|
| RayBlock 85 | RayBlock 85 SCD<br>RW-2101 |

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

**Rugged, Heavy Wall,  
Adhesive-Lined, Polyolefin  
Heat-Shrinkable Tubing**

**Product Facts**

- Withstands mechanical abuse for increased product reliability
- Highly resistant to impact and abrasion
- Provides high level of strain relief when installed on splices and joints
- Resistant to chemicals, moisture and oils
- Provides a complete moisture-proof seal preventing corrosion of underlying components
- RoHS compliant

**RHW**



**Applications**

Rugged, heavy wall RHW tubing is specifically designed for insulating, protecting and sealing electrical connections and joints in low-voltage cables. It provides splice insulation thickness equal to or greater than standard wire insulation manufactured to common industry standards.

RHW is a suitable choice for applications where maximum reliability and product performance, and simplified installation are required. Because RHW is heat-shrinkable, a minimum number of sizes are needed to cover a wide range of cables and splice diameters.

**Installation**

Minimum shrink temperature: 110°C [230°F]

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

**Operating Temperature Range**

-55°C to 110°C  
[-67°F to 230°F]

**Specifications/Approvals**

| Series | UL*  US | Raychem |
|--------|--------------------------------------------------------------------------------------------|---------|
| RHW    | File E91151                                                                                | RHW SCD |

\*Sizes 9/3 through 70/21 only.

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

## RHW (Continued)

### Product Dimensions

| Size   | Inside Diameter              |                         | Recovered Wall Thickness** |                       |
|--------|------------------------------|-------------------------|----------------------------|-----------------------|
|        | Minimum Expanded as Supplied | Recovered After Heating | Nominal Jacket Wall        | Nominal Adhesive Wall |
| 9/3    | 9 [0.354]                    | 3 [0.118]               | 2.0 [0.079]                | 0.25 [0.010]          |
| 13/4   | 13 [0.512]                   | 4 [0.158]               | 2.4 [0.094]                | 0.30 [0.012]          |
| 20/6   | 20 [0.787]                   | 6 [0.236]               | 2.5 [0.098]                | 0.35 [0.014]          |
| 33/8   | 33 [1.299]                   | 8 [0.315]               | 3.2 [0.126]                | 0.35 [0.014]          |
| 43/12  | 43 [1.693]                   | 12 [0.472]              | 4.3 [0.169]                | 0.40 [0.016]          |
| 51/16  | 51 [2.008]                   | 16 [0.630]              | 4.5 [0.177]                | 0.40 [0.016]          |
| 70/21  | 70 [2.756]                   | 21 [0.827]              | 4.4 [0.173]                | 0.40 [0.016]          |
| 85/25  | 85 [3.346]                   | 25 [0.984]              | 4.3 [0.169]                | 0.40 [0.016]          |
| 105/30 | 105 [4.134]                  | 30 [1.181]              | 4.3 [0.169]                | 0.45 [0.018]          |
| 130/36 | 130 [5.118]                  | 36 [1.417]              | 4.3 [0.169]                | 0.45 [0.018]          |
| 160/50 | 160 [6.299]                  | 50 [1.968]              | 4.3 [0.169]                | 0.45 [0.018]          |
| 180/50 | 180 [7.087]                  | 50 [1.968]              | 4.3 [0.169]                | 0.50 [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*** | 1200mm lengths                                                                                                                          |            |
| Marking               | Tubing will be marked with the product name, size and batch number. Sizes 9/3 through 70/21 will also be marked with the UL Logo        |            |
| Ordering description  | Specify product name, size, cut length, coating option and color (for example, RHW 20/6-1200/ADH-0 (ADH = Adhesive-lined, 0= Black      |            |

\*\*\*Europe only. Standard packaging 1000mm lengths

## Medium Wall, Polyolefin Heat-Shrinkable Tubing

### Product Facts

- Withstands mechanical abuse for increased product reliability
- Highly resistant to impact and abrasion
- Installation is fast and easy
- Resistant to chemicals and moisture
- Adhesive-lined version provides a complete moisture-proof seal preventing corrosion of underlying components
- RoHS compliant

## RMW



### Applications

Medium wall, general purpose RMW tubing is specifically designed for use in a broad range of low-voltage applications. RMW is tough and flexible, making it particularly suited for the insulation and protection of cable joints as well as for cable repair. Uncoated RMW provides insulation and strain relief. Adhesive-lined RMW also provides an environmental seal.

RMW is a suitable choice for applications where maximum reliability and product performance, and simplified installation are required. Because RMW is heat-shrinkable, a minimum number of sizes are needed to cover a wide range of cables and splice diameters.

### Installation

Minimum shrink temperature: 110°C [230°F]

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

### Operating Temperature Range

-55°C to 110°C  
[-67°F to 230°F]

### Specifications/Approvals

| Series | Raychem |
|--------|---------|
| RMW    | RMW SCD |

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

**RMW** (Continued)

**Product Dimensions**

| Size   | Inside Diameter              |                         | Recovered Wall Thickness** |
|--------|------------------------------|-------------------------|----------------------------|
|        | Minimum Expanded as Supplied | Recovered After Heating | Nominal Jacket Wall        |
| 10/3   | 10 [0.394]                   | 3 [0.118]               | 1.0 [0.039]                |
| 16/5   | 16 [0.630]                   | 5 [0.197]               | 1.4 [0.055]                |
| 25/8   | 25 [0.984]                   | 8 [0.315]               | 2.0 [0.079]                |
| 35/12  | 35 [1.378]                   | 12 [0.472]              | 2.0 [0.079]                |
| 50/16  | 50 [1.968]                   | 16 [0.630]              | 2.0 [0.079]                |
| 63/19  | 63 [2.480]                   | 19 [0.748]              | 2.4 [0.095]                |
| 75/22  | 75 [2.953]                   | 22 [0.866]              | 2.7 [0.106]                |
| 85/25  | 85 [3.346]                   | 25 [0.984]              | 2.8 [0.110]                |
| 95/29  | 95 [3.740]                   | 29 [1.142]              | 3.1 [0.122]                |
| 115/34 | 115 [4.527]                  | 34 [1.339]              | 3.1 [0.122]                |
| 140/42 | 140 [5.512]                  | 42 [1.654]              | 3.1 [0.122]                |
| 160/50 | 160 [6.299]                  | 50 [1.968]              | 3.2 [0.126]                |
| 180/60 | 180 [7.087]                  | 60 [2.362]              | 3.2 [0.126]                |

\*\*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*** | 1200mm lengths                                                                                                                                                          |            |
| Marking               | Tubing will be marked with the product name, size and batch number.                                                                                                     |            |
| Ordering description  | Specify product name, size, cut length, coating option and color (for example, RMW 25/8-1200/ADH-0 or RMW 75/22-1200/U-0 (ADH = Adhesive-lined, U = Uncoated, 0= Black) |            |

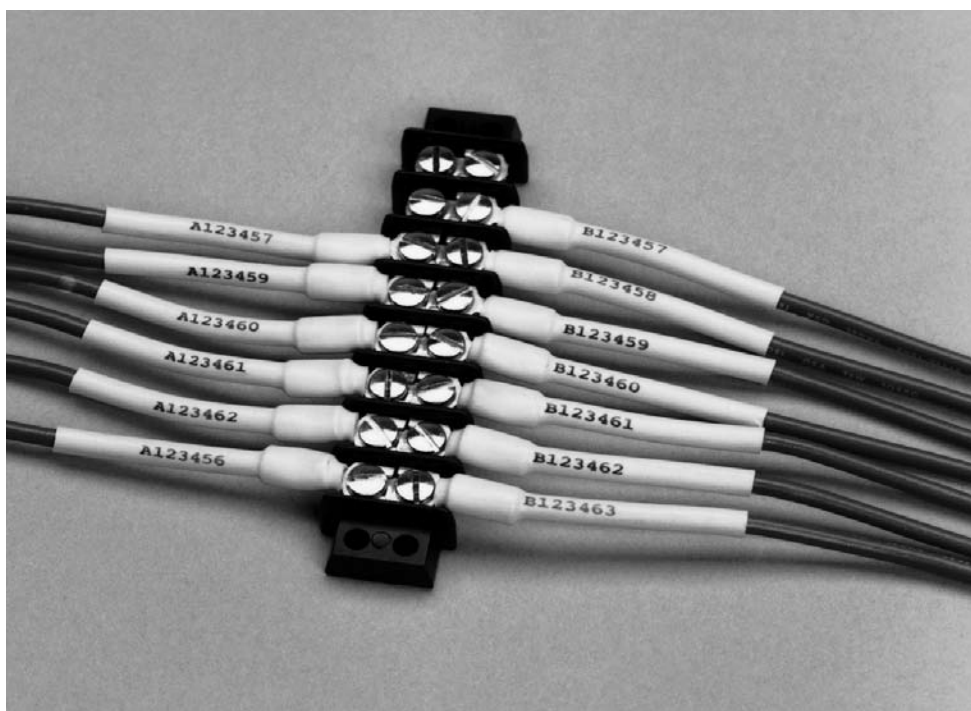
\*\*\*Europe only. Standard packaging 1000mm lengths

**Flexible, Flame-Retardant,  
General Purpose,  
Polyolefin Tubing**

**Product Facts**

- 2:1 shrink ratio
- Superior abrasion and solvent resistance when compared with that of many flexible, general purpose polyolefin tubings
- Excellent physical, chemical, and electrical properties that meet or exceed industrial and military standards for highly reliable, general purpose tubing
- Flexible; conforms to irregular shapes
- Flame-retardant (colors only)
- Wide range of sizes and colors
- RoHS compliant

**RNF-100**



**Applications**

Designed to provide superior mechanical (abrasion, cut-through, and strain relief), thermal, and fluid-resistance performance in demanding environments. Widely used to provide insulation and strain relief of wire terminations and connections. Used for jacketing wire bundles and light-duty harnesses where superior abrasion resistance is a plus. Also used to identify and color-code electrical connections and wire bundles.

**Installation**

Minimum shrink temperature: 95°C [203°F]  
Minimum full recovery temperature: 121°C [250°F]

**Operating Temperature Range**

-55°C to 135°C  
[-67°F to 275°F]

**Specifications/Approvals**

| Series                  | UL  | CSA  | Military                                                 | Industry                         | Raychem                   |
|-------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------|---------------------------|
| RNF-100 Type 1 (colors) | E35586<br>600 V, 125°C                                                                 | LR31929<br>600 V, 125°C                                                                 | AMS-DTL-23053/5*,<br>Class 1<br>Def. Stan. 59-97 Type 2B | VDE 0341 Pt 9005<br>Type A and B | RT-350, Type 1<br>RK-6001 |
| RNF-100 Type 2 (clear)  | —                                                                                      | —                                                                                       | AMS-DTL-23053/5*,<br>Class 2<br>VG 95343 Pt 5 Type B     | —                                | RT-350, Type 2<br>RK-6001 |

\*Formerly MIL-I-23053/5 and MIL-DTL-23053/5.

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

## RNF-100 (Continued)

### Product Dimensions

| Size  | Inside Diameter                 |                                    | Recovered Wall Thickness**<br>After Heating |
|-------|---------------------------------|------------------------------------|---------------------------------------------|
|       | Minimum Expanded<br>as Supplied | Maximum Recovered<br>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 1/4 | 31.8 [1.250]                    | 15.9 [0.625]                       | 1.02 ± 0.15 [0.040 ± 0.006]                 |
| 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 ± 0.16 [0.045 ± 0.007]                 |
| 3     | 76.2 [3.000]                    | 38.1 [1.500]                       | 1.27 ± 0.20 [0.050 ± 0.008]                 |
| 4     | 101.6 [4.000]                   | 50.8 [2.000]                       | 1.40 ± 0.23 [0.055 ± 0.009]                 |
| 5     | 127.0 [5.000]                   | 63.5 [2.500]                       | 1.52 ± 0.23 [0.060 ± 0.009]                 |

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

### Ordering Information

|                           |                                                                                                                                        |                                                                                                              |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Color                     | Standard***                                                                                                                            | Black (-0, BK), white (-9, WH), red (-2, RD), blue (-6, BU), yellow (-4, YO), green (-5, GN), clear (-X, CL) |
|                           | Nonstandard                                                                                                                            | Brown (-1, BN), orange (-3, OR), violet (-7, VT), gray (-8, GY)                                              |
| 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 or in 1.2-meter [4-foot] lengths.                                                                                            |                                                                                                              |
| Ordering description***** | Specify product name, size and color (for example, RNF-100 1/4-0 [Europe] or RNF-100 1/4-BK [Americas]).                               |                                                                                                              |

\*\*\*Green (-5, GN) is nonstandard in all sizes in Europe, and nonstandard in sizes 1-1/4 through 5-inches in Americas.

\*\*\*\*Available in the convenient Mini-Spool packaging/dispensing system, for sizes 3/64" up to 1".

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

## RNF-150

**High-Performance,  
Flame-Resistant, Flexible,  
Fluoropolymer Tubing**

### Product Facts

- 2:1 shrink ratio
- Approximately 40 percent thinner walls than most general purpose polyolefin tubings
- High flame-resistance
- Excellent physical and electrical properties after exposure to many chemicals and solvents at 50°C [122°F] (but not recommended for use in direct contact with ketones)
- Recommended maximum temperature for use as a primary insulator: 135°C [275°F]
- RoHS compliant



### Applications

Can be used for jacketing and bundling of wires to form light-duty harnesses, especially where a low profile, abrasion resistance, and flexibility are needed. Can also be used to provide insulation and strain relief of electrical connections and wire terminations, identification of wires, and packaging of components.

### Installation

Minimum shrink temperature: 110°C [230°F]  
Minimum full recovery temperature: 150°C [302°F]

### Operating Temperature Range

-55°C to 150°C  
[-67°F to 302°F]

### Specifications/Approvals

| Series  | UL  | Military                      | Raychem |
|---------|----------------------------------------------------------------------------------------|-------------------------------|---------|
| RNF-150 | E35586 VW-1<br>600 V, 150°C                                                            | AMS-DTL-23053/18*,<br>Class 2 | RT-370  |

\*Formerly MIL-I-23053/18 and MIL-DTL-23053/18.

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

## RNF-150 (Continued)

### Product Dimensions

| Size | Inside Diameter              |                                 | Recovered Wall Thickness**  |
|------|------------------------------|---------------------------------|-----------------------------|
|      | Minimum Expanded as Supplied | Maximum Recovered After Heating |                             |
| 3/64 | 1.2 [0.046]                  | 0.6 [0.023]                     | 0.25 ± 0.05 [0.010 ± 0.002] |
| 1/16 | 1.6 [0.063]                  | 0.8 [0.031]                     | 0.25 ± 0.05 [0.010 ± 0.002] |
| 3/32 | 2.4 [0.093]                  | 1.2 [0.046]                     | 0.25 ± 0.05 [0.010 ± 0.002] |
| 1/8  | 3.2 [0.125]                  | 1.6 [0.062]                     | 0.25 ± 0.05 [0.010 ± 0.002] |
| 3/16 | 4.8 [0.187]                  | 2.4 [0.093]                     | 0.25 ± 0.05 [0.010 ± 0.002] |
| 1/4  | 6.4 [0.250]                  | 3.2 [0.125]                     | 0.30 ± 0.08 [0.012 ± 0.003] |
| 3/8  | 9.5 [0.375]                  | 4.8 [0.187]                     | 0.30 ± 0.08 [0.012 ± 0.003] |
| 1/2  | 12.7 [0.500]                 | 6.4 [0.250]                     | 0.30 ± 0.08 [0.012 ± 0.003] |
| 3/4  | 19.1 [0.750]                 | 9.5 [0.375]                     | 0.43 ± 0.08 [0.017 ± 0.003] |
| 1    | 25.4 [1.000]                 | 12.7 [0.500]                    | 0.48 ± 0.08 [0.019 ± 0.003] |

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

### Ordering Information

|                         |                                                                                                                                         |            |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------|
| Color                   | Standard                                                                                                                                | Black (-0) |
|                         | Nonstandard                                                                                                                             | White (-9) |
| 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, RNF-150 1/4-0).                                                                      |            |

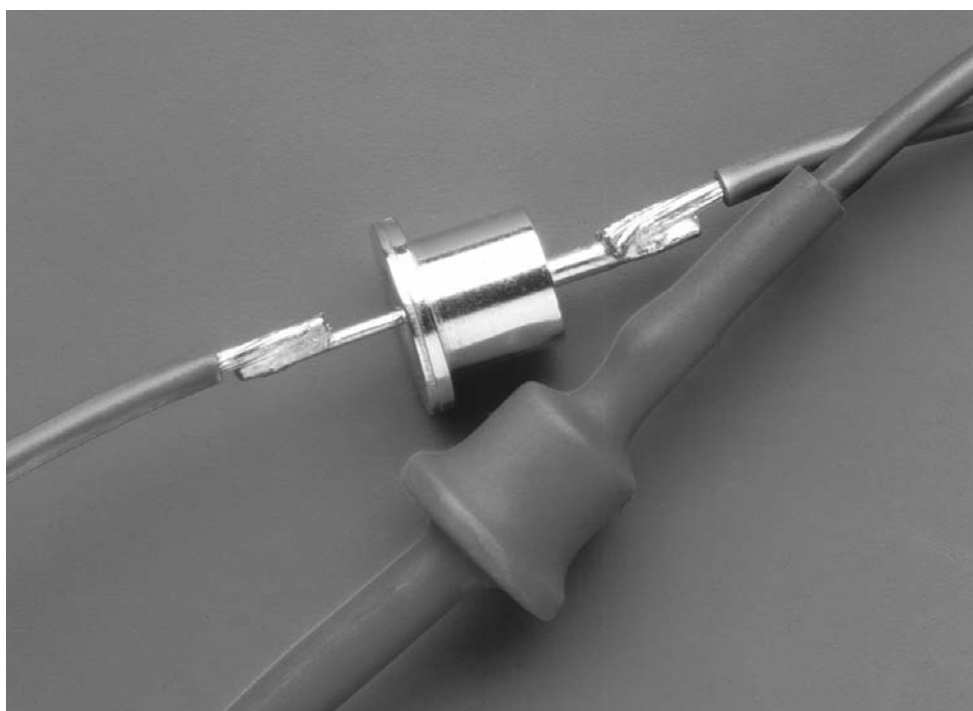
\*\*\*Europe only. For supply to MIL, Def Stan and BS add -MS, -DS or -BS to ordering description.

## RNF-3000

**Flexible, High-Shrink-Ratio, Flame-Retardant, General Purpose, Polyolefin Tubing**

### Product Facts

- 3:1 shrink ratio easily accommodates awkward, irregular shapes
- Few sizes cover a wide range of diameters, allowing reduced inventory
- Excellent physical, chemical, and electrical properties meet industry standards for highly reliable, general purpose tubing
- Flame-retardant (colors only)
- RoHS compliant



1

Heat-shrinkable Tubing

### Applications

Used for insulation and strain relief of wire terminations and electrical connections. Also suitable for light-duty harnessing, jacketing, and identification of wires, cables, and electrical and electronic components.

### Installation

Minimum shrink temperature: 80°C [176°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                                                                                 | Industry                         | Raychem |
|----------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------|---------|
| RNF-3000 | E35586<br>600 V, 125°C                                                                 | LR31929<br>600 V, 125°C                                                                 | Def. Stan. 59-97 Type 2B<br>VG 95343 Pt 5 Type A (color)<br>VG 95343 Pt 5 Type B (clear) | VDE 0341 Pt 9005<br>Type A and B | RW-2053 |

Available in:

Americas

Europe

Asia Pacific



## RNF-3000 (Continued)

### Product Dimensions

| Size    | Inside Diameter                 |                                    | Recovered Wall Thickness*<br>After Heating |
|---------|---------------------------------|------------------------------------|--------------------------------------------|
|         | Minimum Expanded<br>as Supplied | Maximum Recovered<br>After Heating |                                            |
| 1.5/0.5 | 1.5 [0.060]                     | 0.5 [0.019]                        | 0.45 ± 0.10 [0.018 ± 0.003]                |
| 3/1     | 3 [0.118]                       | 1 [0.039]                          | 0.55 ± 0.10 [0.022 ± 0.003]                |
| 4.5/1.5 | 4.5 [0.177]                     | 1.5 [0.059]                        | 0.55 ± 0.10 [0.022 ± 0.003]                |
| 6/2     | 6 [0.236]                       | 2 [0.079]                          | 0.65 ± 0.10 [0.026 ± 0.003]                |
| 9/3     | 9 [0.354]                       | 3 [0.118]                          | 0.75 ± 0.12 [0.030 ± 0.004]                |
| 12/4    | 12 [0.472]                      | 4 [0.157]                          | 0.75 ± 0.12 [0.030 ± 0.004]                |
| 18/6    | 18 [0.709]                      | 6 [0.236]                          | 0.85 ± 0.12 [0.033 ± 0.004]                |
| 24/8    | 24 [0.944]                      | 8 [0.315]                          | 1.00 ± 0.18 [0.039 ± 0.007]                |
| 39/13   | 39 [1.534]                      | 13 [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**                                                                                                                              | Black (-0), white (-9), red (-2), blue (-6), yellow (-4), clear (-X) |
|                          | Nonstandard                                                                                                                             | Brown (-1), orange (-3), green (-5), violet (-7), gray (-8)          |
| 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 or in 1.2-meter [4-foot] lengths.                                                                                             |                                                                      |
| Ordering description**** | Specify product name, size and color (for example, RNF-3000 6/2-0).                                                                     |                                                                      |

\*\*Black is the only standard color in the Americas. All other colors are nonstandard.

\*\*\*Only spools are standard in the Americas. 1.2 meter [4-foot] lengths are nonstandard.

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

**High-Shrink-Ratio,  
Flame-Retardant,  
Polyolefin Tubing**

**Product Facts**

- 4:1 shrink ratio
- Conforms well to highly variable substrate dimensions
- Has excellent physical, chemical, and electrical properties that meet or exceed industrial and military standards
- Shows no significant degradation when exposed to common solvents and chemicals, including aviation fuel and hydraulic fluid
- RoHS compliant

**RP-4800**



**Applications**

Well-suited for repairing harnesses or cables; will pass over a large-diameter connector or transition, and then shrink down onto a smaller-diameter jacket. Can insulate or protect a substrate of varying dimensions. Also provides the abrasion and fluid resistance required in harnessing applications.

**Installation**

Minimum shrink temperature: 95°C [203°F]  
Minimum full recovery temperature: 121°C [250°F]

**Operating Temperature Range**

-55°C to 135°C  
[-67°F to 275°F]

**Specifications/Approvals**

| Series  | UL  | Military                                                          | Industry                | Raychem |
|---------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------|---------|
| RP-4800 | E35586<br>600V, 125°C<br>(black only)                                                  | AMS-DTL-23053/5*,<br>Class 1 Overexpanded<br>VG 95343 Pt 5 Type A | VDE 0341 Pt 9005 Type A | RT-1122 |

\*Formerly MIL-I-23053/5 and MIL-DTL-23053/5.

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

## RP-4800 (Continued)

### Product Dimensions

| Size   | Inside Diameter                 |                                    | Recovered Wall Thickness**<br>After Heating |
|--------|---------------------------------|------------------------------------|---------------------------------------------|
|        | Minimum Expanded<br>as Supplied | Maximum Recovered<br>After Heating |                                             |
| No. 1  | 25.4 [1.000]                    | 7.0 [0.275]                        | 1.14 ± 0.18 [0.045 ± 0.007]                 |
| No. 2  | 50.8 [2.000]                    | 14.0 [0.550]                       | 1.14 ± 0.18 [0.045 ± 0.007]                 |
| No. 3  | 76.2 [3.000]                    | 20.6 [0.810]                       | 1.14 ± 0.18 [0.045 ± 0.007]                 |
| No. 4  | 101.6 [4.000]                   | 26.7 [1.050]                       | 1.14 ± 0.18 [0.045 ± 0.007]                 |
| No. 5  | 25.4 [1.000]                    | 11.7 [0.462]                       | 1.14 ± 0.18 [0.045 ± 0.007]                 |
| No. 6  | 60.3 [2.375]                    | 17.3 [0.680]                       | 1.14 ± 0.18 [0.045 ± 0.007]                 |
| No. 7  | 76.2 [3.000]                    | 21.3 [0.840]                       | 1.14 ± 0.18 [0.045 ± 0.007]                 |
| No. 8  | 95.3 [3.750]                    | 23.6 [0.930]                       | 1.14 ± 0.18 [0.045 ± 0.007]                 |
| No. 9  | 114.3 [4.500]                   | 36.8 [1.450]                       | 1.14 ± 0.18 [0.045 ± 0.007]                 |
| No. 10 | 38.1 [1.500]                    | 9.5 [0.375]                        | 1.14 ± 0.18 [0.045 ± 0.007]                 |
| No. 11 | 19.1 [0.750]                    | 4.6 [0.180]                        | 1.14 ± 0.18 [0.045 ± 0.007]                 |

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

### Ordering Information

|                         |                                                                                                                                         |                                                                                                           |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Color                   | Standard                                                                                                                                | Black (-0)                                                                                                |
|                         | Nonstandard                                                                                                                             | White (-9), red (-2), blue (-6), yellow (-4), green (-5), brown (-1), orange (-3), violet (-7), gray (-8) |
| 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 or in 1.2-meter [4-foot] lengths.                                                                                             |                                                                                                           |
| Ordering description*** | Specify product name, size and color (for example, RP-4800 NO.1-0).                                                                     |                                                                                                           |

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

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

**Product Facts**

- Environmental sealing
- Excellent mechanical strength
- Abrasion resistance
- 4:1 shrink ratio
- RoHS compliant

**RPPM**



**Applications**

RPPM is a flexible, heat-shrinkable, dual wall tubing with an integrally bonded meltable adhesive liner. Available in clear and black, the tough outer jacket offers excellent mechanical strength. RPPM is used for moisture-proof encapsulation of a wide variety of components. In particular, it adheres well to PVC. The high-shrink-ratio allows RPPM to be used

with a range of dimensions. Clear RPPM offers excellent clarity for protection of substrates that may need to be inspected during service. Black RPPM has a high gloss finish suitable for cosmetic applications.

**Installation**

Minimum shrink temperature: 60°C [140°F]  
Minimum full recovery temperature: 80°C [176°F]

**Operating Temperature Range**

-40°C to 85°C  
[-40°F to 185°F]

**Specifications/Approvals**

| Series | Raychem |
|--------|---------|
| RPPM   | RK-6214 |

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

## RPPM (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

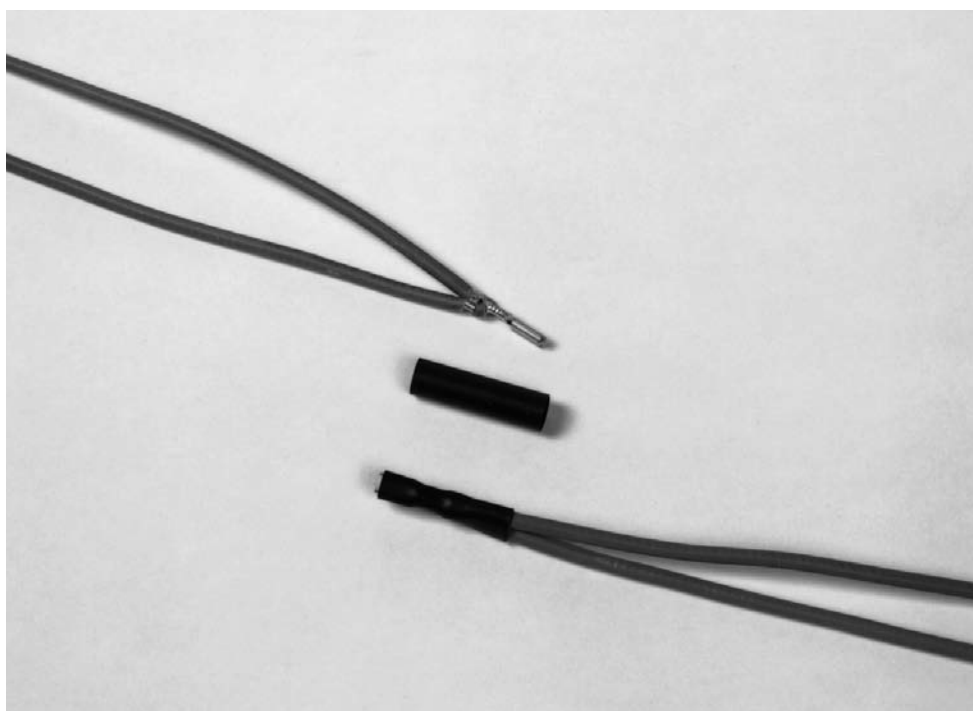
|                      |                                                                                                                                         |            |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------|
| Color                | Standard                                                                                                                                | Clear (-X) |
|                      | Nonstandard                                                                                                                             | 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, in 1.2 meter [4-foot] lengths or cut pieces.                                                                                 |            |
| Ordering description | Specify product name, size and color (for example, RPPM 4/1-X).                                                                         |            |

## Semirigid, Flame-Retardant, Polyolefin Tubing

### Product Facts

- 2.5:1 shrink ratio
- Tightly controlled expanded diameters
- High abrasion resistance
- Semirigidity that transfers flex stress away from typically weak points such as solder and crimp joints, helping to ensure a reliable connection
- Excellent chemical and solvent resistance
- Outstanding physical and electrical performance
- RoHS compliant

## RT-3



### Applications

Suitable for wire strain-relief applications — soldered or crimped connections, wire splices, terminations. Well-suited for use with semiautomated production equipment requiring tubing with a tightly controlled expanded diameter. Acts as a tough covering for delicate components; provides mechanical protection.

### 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  | Raychem |
|--------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------|
| RT-3   | E35586<br>600 V, 125°C                                                                 | LR31929 (black only)<br>600 V, 125°C                                                      | RT-360* |

\*Except dimensions and longitudinal change.

#### Available in:

Americas

Europe

Asia Pacific

**RT-3** (Continued)

**Product Dimensions**

| Size  | Inside Diameter                 |                                    | Recovered Wall Thickness**<br>After Heating |
|-------|---------------------------------|------------------------------------|---------------------------------------------|
|       | Minimum Expanded<br>as Supplied | Maximum Recovered<br>After Heating |                                             |
| No. 1 | 6.1 ± 0.4 [0.240 ± 0.015]       | 2.4 [0.095]                        | 0.79 ± 0.08 [0.031 ± 0.003]                 |
| No. 2 | 8.1 ± 0.4 [0.320 ± 0.015]       | 3.2 [0.125]                        | 0.79 ± 0.08 [0.031 ± 0.003]                 |
| No. 3 | 9.5 ± 0.5 [0.375 ± 0.020]       | 3.8 [0.150]                        | 0.79 ± 0.08 [0.031 ± 0.003]                 |
| No. 4 | 12.3 ± 0.5 [0.485 ± 0.020]      | 5.1 [0.200]                        | 0.79 ± 0.08 [0.031 ± 0.003]                 |

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

**Ordering Information**

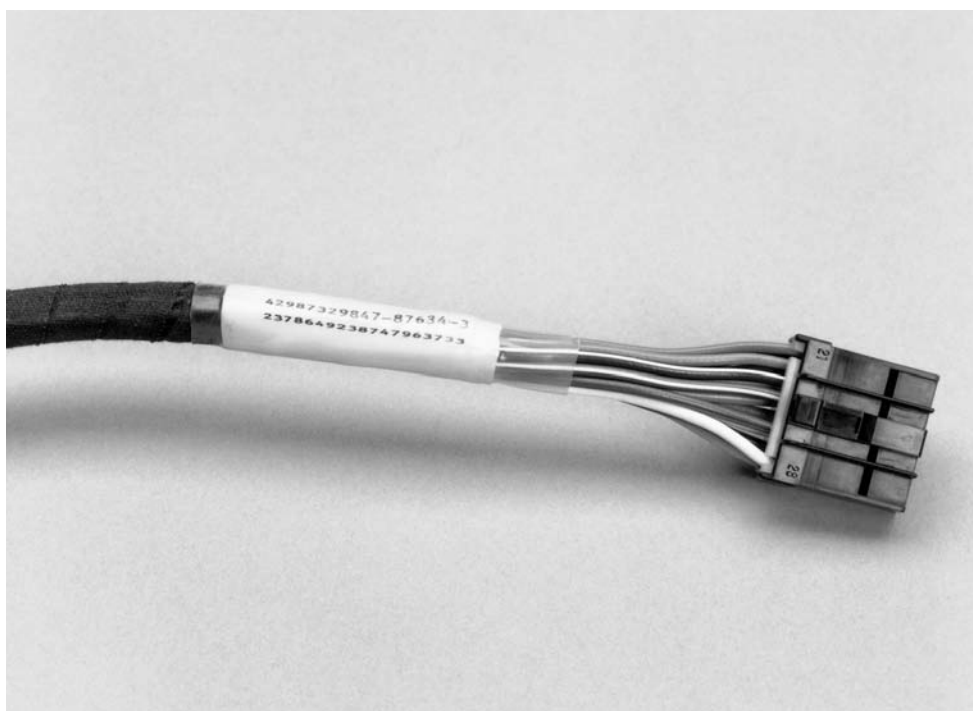
|                      |                                                                                                                                         |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Color                | Black (-0) 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   | In 1-inch cut pieces or in 1.2-meter [4-foot] lengths.                                                                                  |
| Ordering description | Specify product name, size and color (for example, RT-3 No. 1-0).                                                                       |

## RT-375

**Clear, Flame-Resistant,  
Flexible, Fluoropolymer  
Tubing**

### Product Facts

- 2:1 shrink ratio
- Exceptional clarity and clarity stability
- Toughness, chemical resistance, and high-temperature performance
- High flame-resistance
- Approximately 40 percent thinner walls than most general purpose polyolefin tubings
- Recommended maximum temperature for use as a primary insulator: 135°C [275°F]
- RoHS compliant



1

Heat-shrinkable Tubing

### Applications

Protects wire and cable markers subject to extreme abuse, while permitting full inspectability of each item covered. Provides bundling and jacketing of wires and cables, protecting them from mechanical and chemical abuse. Protects electronic components while permitting their identification and inspection.

### Installation

Minimum shrink temperature: 125°C [257°F]  
Minimum full recovery temperature: 150°C [302°F]

### Operating Temperature Range

-55°C to 150°C  
[-67°F to 302°F]

### Specifications/Approvals

| Series | UL  | CSA  | Military                   | Raychem |
|--------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------|---------|
| RT-375 | E35586 VW-1<br>600 V, 150°C                                                            | LR31929 VW-1<br>600 V, 150°C                                                            | AMS-DTL-23053/18*, Class 2 | RT-375  |

\*Formerly MIL-I-23053/18 and MIL-DTL-23053/18.

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

**RT-375** (Continued)

**Product Dimensions**

| Size | Inside Diameter                 |                                    | Recovered Wall Thickness**<br>After Heating |
|------|---------------------------------|------------------------------------|---------------------------------------------|
|      | Minimum Expanded<br>as Supplied | Maximum Recovered<br>After Heating |                                             |
| 3/64 | 1.2 [0.046]                     | 0.6 [0.023]                        | 0.25 ± 0.05 [0.010 ± 0.002]                 |
| 1/16 | 1.6 [0.063]                     | 0.8 [0.031]                        | 0.25 ± 0.05 [0.010 ± 0.002]                 |
| 3/32 | 2.4 [0.093]                     | 1.2 [0.046]                        | 0.25 ± 0.05 [0.010 ± 0.002]                 |
| 1/8  | 3.2 [0.125]                     | 1.6 [0.062]                        | 0.25 ± 0.05 [0.010 ± 0.002]                 |
| 3/16 | 4.8 [0.187]                     | 2.4 [0.093]                        | 0.25 ± 0.05 [0.010 ± 0.002]                 |
| 1/4  | 6.4 [0.250]                     | 3.2 [0.125]                        | 0.30 ± 0.08 [0.012 ± 0.003]                 |
| 3/8  | 9.5 [0.375]                     | 4.8 [0.187]                        | 0.30 ± 0.08 [0.012 ± 0.003]                 |
| 1/2  | 12.7 [0.500]                    | 6.4 [0.250]                        | 0.30 ± 0.08 [0.012 ± 0.003]                 |
| 3/4  | 19.1 [0.750]                    | 9.5 [0.375]                        | 0.43 ± 0.08 [0.017 ± 0.003]                 |
| 1    | 25.4 [1.000]                    | 12.7 [0.500]                       | 0.48 ± 0.08 [0.019 ± 0.003]                 |

\*\*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. Special order sizes are available upon request. |            |
| Standard packaging      | On spools.                                                                                                                              |            |
| Ordering description*** | Specify product name, size and color (for example, RT-375 1/4-X).                                                                       |            |

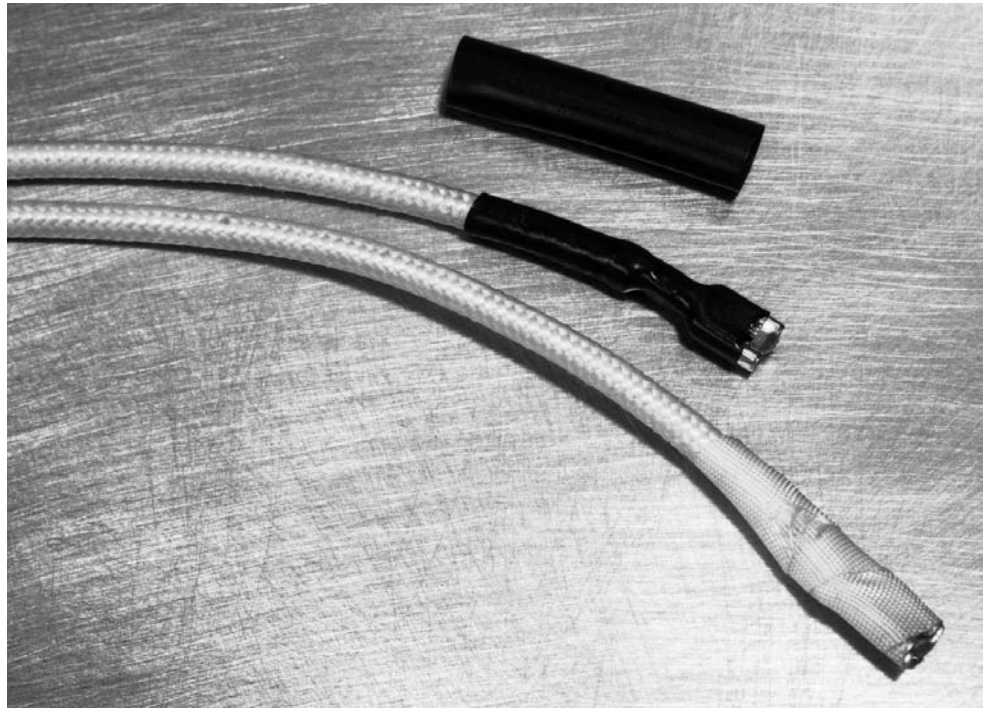
\*\*\*Europe only. For supply to MIL, Def Stan and BS add -MS, -DS or -BS to ordering description.

**Fluid-Resistant, Chemical-Resistant, Crosslinked Fluoropolymer Tubing with Extended Temperature Range**

**Product Facts**

- Resistance to high temperatures, solvents, corrosive chemicals, and radiation
- Extreme resistance to hydrocarbons
- Low outgassing (successfully tested for NASA outgassing requirements)
- Highly flame-retardant
- 40 percent lighter weight than tubing made with Viton® fluoroelastomer
- System 300 tubing
- RoHS compliant

**RT555**



**Applications**

Suitable for commercial applications requiring heat resistance (electrical and hydraulic systems near aircraft or automotive engines or in fuel tanks), applications in chemically exposed environments (industrial process equipment in the pulp and paper, steel, and chemical industries), and equipment for handling caustic or dangerous chemicals or

inks. Use for insulation and strain relief on appliances (electric ranges, microwave ovens, gas grills, and industrial paint-drying equipment) and for protection of delicate electronic instruments in down-hole applications.

**Installation**

Minimum shrink temperature: 150°C [302°F]  
Minimum full recovery temperature: 220°C [428°F]

**Operating Temperature Range**

-65°C to 200°C  
[-85°F to 392°F]

**Specifications/Approvals**

| Series | UL                                           | Raychem |
|--------|---------------------------------------------------------------------------------------------------------------------------------|---------|
| RT555  | Listed for 185°C for 100,000-hr continuous use (File E85381)<br>Listed for 200°C for 40,000-hr cumulative intermittent exposure | RT-555  |

Viton is a trademark of Dupont Performance Elastomers LLC.

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

**RT555** (Continued)

**Product Dimensions**

| Size  | Inside diameter                 |                                    | Recovered wall thickness*<br>After heating |              |              |
|-------|---------------------------------|------------------------------------|--------------------------------------------|--------------|--------------|
|       | Minimum expanded<br>as supplied | Maximum recovered<br>after heating |                                            |              |              |
|       |                                 |                                    | Minimum                                    | Maximum      | Nominal      |
| 1/8   | 3.18 [0.125]                    | 1.57 [0.062]                       | 0.25 [0.010]                               | 0.41 [0.016] | 0.30 [0.012] |
| 3/16  | 4.75 [0.187]                    | 2.36 [0.093]                       | 0.28 [0.011]                               | 0.46 [0.018] | 0.36 [0.014] |
| 1/4   | 6.35 [0.250]                    | 3.18 [0.125]                       | 0.33 [0.013]                               | 0.51 [0.020] | 0.41 [0.016] |
| 3/8   | 9.53 [0.375]                    | 4.75 [0.187]                       | 0.41 [0.016]                               | 0.58 [0.023] | 0.48 [0.019] |
| 1/2   | 12.70 [0.500]                   | 6.35 [0.250]                       | 0.41 [0.016]                               | 0.58 [0.023] | 0.48 [0.019] |
| 5/8   | 15.88 [0.625]                   | 7.95 [0.313]                       | 0.48 [0.019]                               | 0.66 [0.026] | 0.56 [0.022] |
| 3/4   | 19.05 [0.750]                   | 9.53 [0.375]                       | 0.61 [0.024]                               | 0.79 [0.031] | 0.69 [0.027] |
| 1     | 25.40 [1.000]                   | 12.70 [0.500]                      | 0.71 [0.028]                               | 0.89 [0.035] | 0.79 [0.031] |
| 1 1/4 | 31.75 [1.250]                   | 15.88 [0.625]                      | 0.76 [0.030]                               | 0.94 [0.037] | 0.84 [0.033] |
| 1 1/2 | 38.10 [1.500]                   | 19.05 [0.750]                      | 0.86 [0.034]                               | 1.04 [0.041] | 0.94 [0.037] |
| 2     | 50.80 [2.000]                   | 25.40 [1.000]                      | 0.94 [0.037]                               | 1.12 [0.044] | 1.02 [0.040] |

\*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, RT555 1/8-0).                                                                        |            |

## High-temperature, Chemical-Resistant, Polyvinylidene Fluoride Tubing

### Product Facts

- 2:1 shrink ratio
- Tough, semirigid, very-thin-wall insulation
- High flame-resistance, meeting the requirements of AMS-DTL-23053\*, Test C, with UL and CSA VW-1 rating
- High-temperature performance that meets or exceeds military and industrial standards
- Protection from most industrial solvents, fuels, and chemicals
- Recommended maximum temperature for use as a primary insulator: 135°C [275°F]
- RoHS compliant

## RW-175



### Applications

Especially suitable for applications requiring high-temperature performance, outstanding abrasion resistance and cut-through resistance, or superior chemical and solvent properties. Provides electrical insulation and strain relief of multipin connectors and solder joints. Well-suited for applications that require dense packing of components or visual inspection of covered components.

### Installation

Minimum shrink temperature: 155°C [311°F]  
Minimum full recovery temperature: 175°C [347°F]

### Operating Temperature Range

-55°C to 175°C  
[-67°F to 347°F]

### Specifications/Approvals

| Series | UL  | CSA  | Military                                                                             | Industry         | Raychem                |
|--------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------|------------------------|
| RW-175 | E35586 VW-1<br>600 V, 150°C                                                            | LR31929 VW-1<br>600 V, 150°C                                                            | AMS-DTL-23053/8*<br>Def. Stan. 59-97 Type 3<br>VG 95343 Pt 5 Type F<br>BS 3G 198 Pt4 | VDE 0341 Pt 9005 | RW-3029/1<br>RW-3029/2 |

\*Formerly MIL-I-23053 and MIL-DTL-23053/8.

#### Available in:

Americas

Europe

Asia Pacific

**RW-175** (Continued)

**Product Dimensions**

| Size  | Inside Diameter                 |                                    | Recovered Wall Thickness**<br>After Heating |
|-------|---------------------------------|------------------------------------|---------------------------------------------|
|       | Minimum Expanded<br>as Supplied | Maximum Recovered<br>After Heating |                                             |
| 3/64  | 1.2 [0.046]                     | 0.6 [0.023]                        | 0.25 ± 0.05 [0.010 ± 0.002]                 |
| 1/16  | 1.6 [0.063]                     | 0.8 [0.031]                        | 0.25 ± 0.05 [0.010 ± 0.002]                 |
| 3/32  | 2.4 [0.093]                     | 1.2 [0.046]                        | 0.25 ± 0.05 [0.010 ± 0.002]                 |
| 1/8   | 3.2 [0.125]                     | 1.6 [0.062]                        | 0.25 ± 0.05 [0.010 ± 0.002]                 |
| 3/16  | 4.8 [0.187]                     | 2.4 [0.093]                        | 0.25 ± 0.05 [0.010 ± 0.002]                 |
| 1/4   | 6.4 [0.250]                     | 3.2 [0.125]                        | 0.33 ± 0.05 [0.013 ± 0.002]                 |
| 3/8   | 9.5 [0.375]                     | 4.8 [0.187]                        | 0.33 ± 0.05 [0.013 ± 0.002]                 |
| 1/2   | 12.7 [0.500]                    | 6.4 [0.250]                        | 0.33 ± 0.05 [0.013 ± 0.002]                 |
| 3/4   | 19.1 [0.750]                    | 9.5 [0.375]                        | 0.43 ± 0.08 [0.017 ± 0.003]                 |
| 1     | 25.4 [1.000]                    | 12.7 [0.500]                       | 0.48 ± 0.08 [0.019 ± 0.003]                 |
| 1 1/2 | 38.1 [1.500]                    | 19.1 [0.750]                       | 0.51 ± 0.08 [0.020 ± 0.003]                 |

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

**Ordering Information**

|                         |                                                                                                                                         |            |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------|
| Color                   | Standard                                                                                                                                | Clear (-X) |
|                         | Nonstandard                                                                                                                             | 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      | In 1.2-meter [4-foot] lengths.                                                                                                          |            |
| Ordering description*** | Specify product name, size and color (for example, RW-175 3/64-X).                                                                      |            |

\*\*\*Europe only. For supply to MIL spec., Def Stan and BS add -MS, -DS or -BS to ordering description.

## RW-200/RW-200-E

**Heat-Shrinkable,  
Chemical-Resistant,  
High-Temperature Tubing**

### Product Facts

- High resistance to impact and abrasion
- Resistance to a wide variety of fuels, lubricants, acids, and solvents at elevated temperatures
- Flexibility at low temperatures without cracking
- RoHS compliant



### Applications

Raychem premium heat-shrinkable tubing is fabricated from Viton® fluoroelastomers – a crosslinked material designed for a wide range of applications. It is available in two configurations. RW-200-E is the thickest wall version. RW-200 has the thinnest wall for lighter weight applications.

Offering fluid resistance, RW-200 tubing can be used in applications up to 200°C [392°F].

### Installation

Minimum shrink temperature: 100°C [212°F]

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

### Operating Temperature Range

RW-200: -40°C\* to 200°C  
[-40°F to 392°F]

RW-200-E: -55°C to 200°C  
[-67°F to 392°F]

### Specifications/Approvals

| Series   | Military                                                                                              | Raychem |
|----------|-------------------------------------------------------------------------------------------------------|---------|
| RW-200   | AMS-DTL 23053/13*                                                                                     | RW-3037 |
| RW-200-E | Def. Stan. 59-97 Issue 3 Type 4A<br>VG 95343 Part 5 Type E<br>VDE 0341/Pt9005<br>BS 4G-198 Part 3 12A | RW-3037 |

\*Formerly MIL-I-23053/13 and MIL-DTL-23053/13.

Viton is a trademark of Dupont Performance Elastomers LLC.

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

**RW-200/RW-200-E** (Continued)

**Product Dimensions**

| Size  | Inside Diameter              |                                 | Recovered Wall Thickness**          |              |
|-------|------------------------------|---------------------------------|-------------------------------------|--------------|
|       | Minimum Expanded as Supplied | Maximum Recovered After Heating | After Heating (Nominal)<br>RW-200-E | RW-200       |
| 1/8   | 3.2 [0.125]                  | 1.6 [0.062]                     | 0.76 [0.030]                        | 0.76 [0.030] |
| 3/16  | 4.8 [0.187]                  | 2.4 [0.093]                     | 0.84 [0.033]                        | 0.89 [0.035] |
| 1/4   | 6.4 [0.250]                  | 3.2 [0.125]                     | 0.89 [0.035]                        | 0.89 [0.035] |
| 3/8   | 9.5 [0.375]                  | 4.8 [0.187]                     | 1.02 [0.040]                        | 0.89 [0.035] |
| 1/2   | 12.7 [0.500]                 | 6.4 [0.250]                     | 1.22 [0.048]                        | 0.89 [0.035] |
| 5/8   | 15.9 [0.625]                 | 7.9 [0.312]                     | —                                   | 1.07 [0.042] |
| 3/4   | 19.1 [0.750]                 | 9.5 [0.375]                     | 1.45 [0.057]                        | 1.07 [0.042] |
| 7/8   | 22.2 [0.875]                 | 11.1 [0.437]                    | —                                   | 1.25 [0.049] |
| 1     | 25.4 [1.000]                 | 12.7 [0.500]                    | 1.78 [0.070]                        | 1.25 [0.049] |
| 1 1/4 | 31.8 [1.250]                 | 15.9 [0.625]                    | —                                   | 1.40 [0.055] |
| 1 1/2 | 38.1 [1.500]                 | 19.1 [0.750]                    | 2.41 [0.095]                        | 1.40 [0.055] |
| 2     | 50.8 [2.000]                 | 25.4 [1.000]                    | 2.79 [0.110]                        | 1.65 [0.065] |

\*\*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, Viton 1/4-0).                                                                        |            |

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

## RayBlock 85 (Continued)

### Product Dimensions

| Part No.                | No. of Channels | Profile        |              |               | Tubing Inside Diameter       |                                 |                |
|-------------------------|-----------------|----------------|--------------|---------------|------------------------------|---------------------------------|----------------|
|                         |                 | Outside Height | Length       | Width         | Minimum Expanded as Supplied | Maximum Recovered After Heating | Nominal Length |
| RayBlock 85 Kit 0102-A0 | 2               | 8.5 [0.335]    | 2.75 [0.108] | 8.50 [0.335]  | 12.0 [0.472]                 | 3.0 [0.118]                     | 40 [1.57]      |
| RayBlock 85 Kit 0203-A0 | 3               | 8.5 [0.335]    | 2.75 [0.108] | 12.25 [0.482] | 24.0 [0.945]                 | 6.0 [0.236]                     | 47 [1.85]      |
| RayBlock 85 Kit 0504-A0 | 4               | 8.5 [0.335]    | 2.75 [0.108] | 16.00 [0.630] | 16.0 [0.630]                 | 4.0 [0.158]                     | 40 [1.57]      |
| RayBlock 85 Kit 0405-A0 | 5               | 8.5 [0.335]    | 2.75 [0.108] | 19.75 [0.778] | 24.0 [0.945]                 | 6.0 [0.236]                     | 45 [1.77]      |
| RayBlock 85 Kit 0107-A0 | 7               | 8.5 [0.335]    | 2.75 [0.108] | 27.25 [1.070] | 24.0 [0.945]                 | 6.0 [0.236]                     | 65 [2.56]      |
| RayBlock 85 Kit 0510-A0 | 10              | 8.5 [0.335]    | 2.75 [0.108] | 38.50 [1.520] | 32.0 [1.260]                 | 8.0 [0.315]                     | 55 [2.17]      |

### Ordering Information

| Color              | Standard                                                                                                                                                                                                                                                         | Black (-0) |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Size selection     | For wire with an outside diameter smaller than 2.8 [0.110] , use a maximum of two wires per channel.<br>For wire with an outside diameter of 2.8–3.5 [0.110 to 0.138], use a maximum of one wire per channel.<br>Special order sizes are available upon request. |            |
| Standard packaging | One kit (contains 1000 pcs. of profile and 1000 pcs. of tubing).                                                                                                                                                                                                 |            |

## RayBlock 105

### Heat-Shrinkable Water-Blocking System

#### Product Facts

- Environmentally seals wire bundles of up to 20 wires
- Withstands temperature excursions to 120°C [248°F]
- Provides excellent strain relief and reduces noise
- Offers a low-profile installed product only marginally larger than the cable bundle itself
- RoHS compliant



#### Applications

Designed to provide consistent sealing for cable bundles and the back of connectors. The wires in the bundle are placed within the channels of a specially formulated hot-melt adhesive profile, and then covered by dual wall, heat-shrinkable tubing with a flame-retardant radiation-crosslinked outer wall and hot-melt-adhesive inner wall. When the tubing is heated, the hot-melt

adhesive melts and the tubing shrinks, forcing the molten adhesive to fill all the voids within the wire bundle and tubing. The result is a solid plug of adhesive molded around each wire in the bundle, creating a moisture-resistant seal.

#### Installation

Minimum shrink temperature: 80°C [176°F]

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

#### Operating Temperature Range

-40°C to 105°C  
[-40°F to 221°F]

#### Specifications/Approvals

| Series       | Raychem                     |
|--------------|-----------------------------|
| RayBlock 105 | RayBlock 105 SCD<br>RW-2102 |

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

## RayBlock 105 (Continued)

### Product Dimensions

| Part No.                 | No. of Channels | Profile        |              |               | Tubing Inside Diameter       |                                 |                |
|--------------------------|-----------------|----------------|--------------|---------------|------------------------------|---------------------------------|----------------|
|                          |                 | Outside Height | Length       | Width         | Minimum Expanded as Supplied | Maximum Recovered After Heating | Nominal Length |
| RayBlock 105 Kit 0102-A0 | 2               | 8.5 [0.335]    | 2.75 [0.108] | 8.50 [0.335]  | 12.0 [0.472]                 | 3.0 [0.118]                     | 40 [1.57]      |
| RayBlock 105 Kit 0103-A0 | 3               | 8.5 [0.335]    | 2.75 [0.108] | 12.25 [0.482] | 16.0 [0.630]                 | 4.0 [0.158]                     | 40 [1.57]      |
| RayBlock 105 Kit 0504-A0 | 4               | 8.5 [0.335]    | 2.75 [0.108] | 16.00 [0.630] | 16.0 [0.630]                 | 4.0 [0.158]                     | 45 [1.77]      |
| RayBlock 105 Kit 0105-A0 | 5               | 8.5 [0.335]    | 2.75 [0.108] | 19.75 [0.778] | 24.0 [0.945]                 | 6.0 [0.236]                     | 45 [1.77]      |
| RayBlock 105 Kit 0107-A0 | 7               | 8.5 [0.335]    | 2.75 [0.108] | 27.20 [1.070] | 24.0 [0.945]                 | 6.0 [0.236]                     | 65 [2.56]      |
| RayBlock 105 Kit 0110-A0 | 10              | 8.5 [0.335]    | 2.75 [0.108] | 38.50 [1.520] | 32.0 [1.260]                 | 8.0 [0.315]                     | 65 [2.56]      |

### Ordering Information

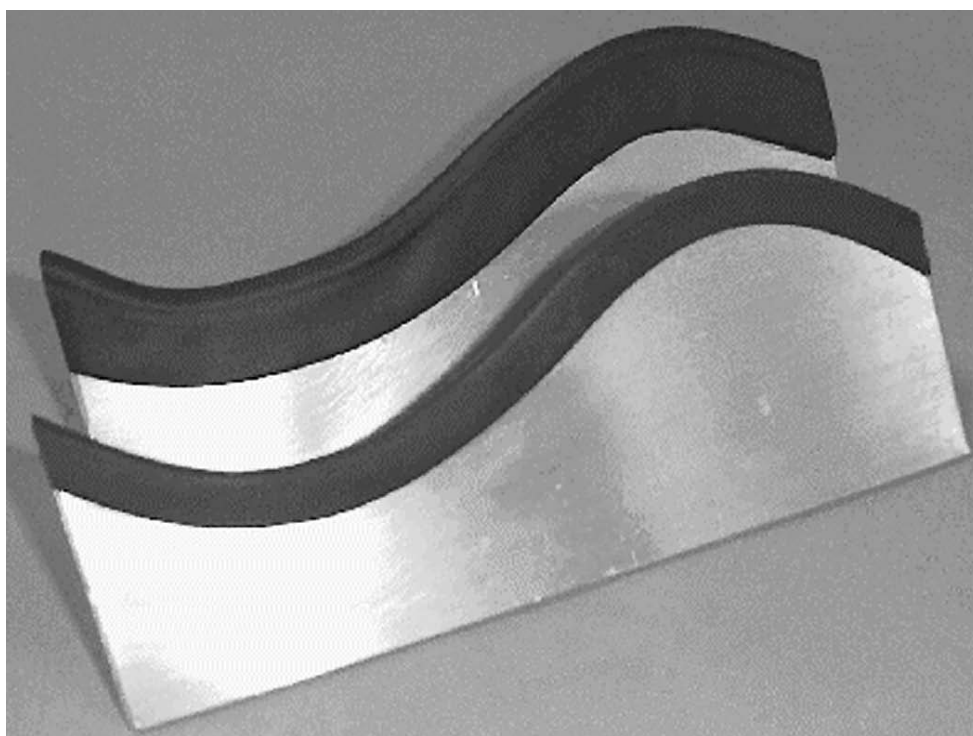
| Color              | Standard                                                                                                                                                                                                                                                     | Black (-0) |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Size selection     | For wire with an outside diameter smaller than 2.8 [0.110], use a maximum of two wires per channel.<br>For wire with an outside diameter of 2.8–3.5 [0.110–0.138], use a maximum of one wire per channel.<br>Special order sizes are available upon request. |            |
| Standard packaging | One kit (contains 1000 pcs. of profile and 1000 pcs. of tubing).                                                                                                                                                                                             |            |

**Commercial Protective,  
Self-Adhering, Edging  
Material**

**Product Facts**

- Flexible to allow for protection of curved edges
- RoHS compliant

**Rayrim Edging Material**



**Applications**

Raychem Rayrim edging material is an extruded strip internally coated with a heat activated adhesive, so that on heating the profile changes from a "V" to a "U" section and the adhesive bonds to the substrate profile.

Manufactured from a Raychem radiation cross-linked polyolefin material, the profile offers a clean and rapid means of covering metal, wood and glass edges for all-round protection.

The flexible nature of the product allows application to both internal and external radii, as well as straight edges, and the continuous operating temperature of -55°C to +80°C [-67°F to 176°F] means that the product can give protection under the most testing circumstances.

**Installation**

Minimum shrink temperature: 120°C [248°F]

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

**Operating Temperature Range**

-55°C to 80°C  
[-67°F to 176°F]

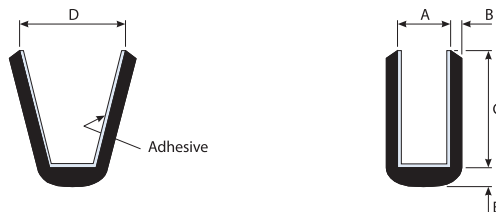
**Specifications/Approvals**

| Series | Raychem |
|--------|---------|
| Rayrim | RK-6182 |

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               | ■        | ■      | ■            |

## Rayrim Edging Material (Continued)

### Product Dimensions



| Size  | A (maximum) | B (minimum) | C (minimum)  | D (minimum) | E (typical)  |
|-------|-------------|-------------|--------------|-------------|--------------|
| Nr. 6 | 0.6 [0.024] | 0.5 [0.020] | 3.5 [0.138]  | 0.8 [0.032] | 1.25 [0.049] |
| Nr. 7 | 1.0 [0.039] | 0.9 [0.035] | 4.8 [0.189]  | 1.6 [0.063] | 1.25 [0.049] |
| Nr. 8 | 2.0 [0.079] | 0.9 [0.035] | 6.6 [0.260]  | 2.5 [0.098] | 2.25 [0.089] |
| Nr. 9 | 4.2 [0.165] | 0.9 [0.035] | 13.5 [0.532] | 4.5 [0.177] | 2.20 [0.087] |

### Application Range

| Plate SWG | Thickness               | Recommended minimum bend radius |
|-----------|-------------------------|---------------------------------|
| 30-24     | 0.31-0.56 [0.012-0.022] | 10 [0.394]                      |
| 23-16     | 0.61-1.63 [0.026-0.064] | 15 [0.591]                      |
| 15-10     | 1.83-3.25 [0.072-0.128] | 20 [0.787]                      |
| 9-5       | 3.66-5.38 [0.144-0.212] | 25 [0.984]                      |

### Ordering Information

|                      |                                                                             |            |
|----------------------|-----------------------------------------------------------------------------|------------|
| Color                | Standard                                                                    | Black (-0) |
| Size selection       | Always order the largest size that will shrink snugly on edge of the panel. |            |
| Standard packaging   | 1.2-meter [4-foot] lengths.                                                 |            |
| Ordering description | Specify product name, size number and color (for example, Rayrim Nr.6-0).   |            |

**Convenient packaging and dispensing system for heat-shrinkable tubing**

**Product Facts**

- Easy to store
- Easy to dispense
- Well-suited for repairs
- Single wall and adhesive-lined tubings
- Wide variety of colors, sizes and kits available
- Also available are RaySpool kits comprised of 6 sizes and supplied with a mounting rack
- Stand alone racks and packaging sets also available
- RoHS compliant

**RaySpool**



**Applications**

The RaySpool system offers a convenient packaging and dispensing option for a range of heat-shrinkable tubings. The tubing is supplied on small reels which are overboxed and feature a dispensing window allowing the tubing to be easily and readily accessed. The RaySpool system is a suitable method of storing and for use in the workshop, service vehicle or laboratory. A varied selection of tubings is offered which will cover a diverse range of

applications including electrical insulation, strain relief, cable bundling and environmental protection. RaySpool packaging is available for CGPT, LSTT and CGAT.

**Installation**

See individual product pages.

**Operating Temperature Range**

See individual product pages.

**Specifications/Approvals**

See individual product pages.

| Available in: | Americas | Europe | Asia Pacific |
|---------------|----------|--------|--------------|
|               |          | ■      |              |

## RaySpool (Continued)

### CGPT 2:1 Product Dimensions

| Size                              | Inside Diameter              |                                 | Recovered Wall Thickness* | Spool Quantity - Black (meters) | Spool Quantity - Green/Yellow (meters) | Ordering Description |
|-----------------------------------|------------------------------|---------------------------------|---------------------------|---------------------------------|----------------------------------------|----------------------|
|                                   | Minimum Expanded as Supplied | Maximum Recovered After Heating | After Heating             |                                 |                                        |                      |
| 1.6/0.8                           | 1.6 (0.062)                  | 0.8 (0.031)                     | 0.45 ± 0.12               | 10.0                            | -                                      | CGPT-R-1.6-col code  |
| 2.4/1.2†                          | 2.4 (0.093)                  | 1.2 (0.046)                     | 0.50 ± 0.12               | 10.0                            | -                                      | CGPT-R-2.4-col code  |
| 3.2/1.6†•                         | 3.2 (0.125)                  | 1.6 (0.062)                     | 0.50 ± 0.12               | 10.0                            | 5.0                                    | CGPT-R-3.2-col code  |
| 4.8/2.4†                          | 4.8 (0.187)                  | 2.4 (0.093)                     | 0.50 ± 0.12               | 9.0                             | -                                      | CGPT-R-4.8-col code  |
| 6.4/3.2†•                         | 6.4 (0.250)                  | 3.2 (0.125)                     | 0.65 ± 0.15               | 8.0                             | 3.5                                    | CGPT-R-6.4-col code  |
| 9.5/4.8•                          | 9.5 (0.375)                  | 4.8 (0.187)                     | 0.65 ± 0.15               | 6.0                             | 3.0                                    | CGPT-R-9.5-col code  |
| 12.7/6.4†•                        | 12.7 (0.500)                 | 6.4 (0.250)                     | 0.65 ± 0.15               | 6.0                             | 2.5                                    | CGPT-R-12.7-col code |
| 19/9.5•                           | 19.0 (0.748)                 | 9.5 (0.375)                     | 0.75 ± 0.15               | 5.0                             | 2.0                                    | CGPT-R-19.0-col code |
| 25.4/12.7†•                       | 25.4 (1.000)                 | 12.7 (0.500)                    | 0.90 ± 0.20               | 3.0                             | 1.5                                    | CGPT-R-25.4-col code |
| KIT CONTAINS SIZES INDICATED BY † |                              |                                 |                           |                                 |                                        | CGPT-R-KIT-2         |

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

### Ordering Information

|                      |                                                                                         |                                                                    |
|----------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Color                | Standard                                                                                | Black (-0)<br>Green/yellow (-45) available in sizes indicated by • |
| Size selection       | Always order the largest size that will shrink snugly over the component to be covered. |                                                                    |
| Standard packaging   | On mini spools.                                                                         |                                                                    |
| Ordering description | See above for description                                                               |                                                                    |

### CGPT 3:1 Product Dimensions

| Size                                           | Inside Diameter              |                                 | Recovered Wall Thickness* | Spool Quantity (meters) | Ordering Description |
|------------------------------------------------|------------------------------|---------------------------------|---------------------------|-------------------------|----------------------|
|                                                | Minimum Expanded as Supplied | Maximum Recovered After Heating | After Heating             |                         |                      |
| 3/1†                                           | 3.0 (0.118)                  | 1.0 (0.040)                     | 0.55 ± 0.12               | 10.0                    | CGPT-R-3/1-col code  |
| 6/2†                                           | 6.0 (0.236)                  | 2.0 (0.079)                     | 0.65 ± 0.12               | 7.0                     | CGPT-R-6/2-col code  |
| 9/3†                                           | 9.0 (0.354)                  | 3.0 (0.118)                     | 0.75 ± 0.15               | 5.0                     | CGPT-R-9/3-col code  |
| 12/4†                                          | 12.0 (0.472)                 | 4.0 (0.157)                     | 0.75 ± 0.15               | 4.0                     | CGPT-R-12/4-col code |
| 18/6†                                          | 18.0 (0.709)                 | 6.0 (0.236)                     | 0.85 ± 0.15               | 3.0                     | CGPT-R-18/6-col code |
| 24/8†                                          | 24.0 (0.945)                 | 8.0 (0.315)                     | 1.00 ± 0.20               | 3.0                     | CGPT-R-24/8-col code |
| KIT CONTAINS SIZES INDICATED BY † (black only) |                              |                                 |                           |                         | CGPT-R-KIT-1         |

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

### Ordering Information

|                      |                                                                                         |                                           |
|----------------------|-----------------------------------------------------------------------------------------|-------------------------------------------|
| Color                | Standard                                                                                | Black (-0) Red (-2) Yellow (-4) Blue (-6) |
| Size selection       | Always order the largest size that will shrink snugly over the component to be covered. |                                           |
| Standard packaging   | On mini spools.                                                                         |                                           |
| Ordering description | See above for description                                                               |                                           |

## RaySpool (Continued)

### LSTT 2:1 Product Dimensions

| Size                                           | Inside Diameter              |                                 | Recovered Wall Thickness* | Spool Quantity<br>- Black (meters) | Ordering Description |
|------------------------------------------------|------------------------------|---------------------------------|---------------------------|------------------------------------|----------------------|
|                                                | Minimum Expanded as Supplied | Maximum Recovered After Heating | After Heating             |                                    |                      |
| 2.4/1.2†                                       | 2.4 (0.093)                  | 1.2 (0.046)                     | 0.55 ± 0.12               | 10.0                               | LSTT-R-2.4-0         |
| 3.2/1.6†                                       | 3.2 (0.125)                  | 1.6 (0.062)                     | 0.55 ± 0.12               | 10.0                               | LSTT-R-3.2-0         |
| 4.8/2.4†                                       | 4.8 (0.187)                  | 2.4 (0.093)                     | 0.55 ± 0.12               | 9.0                                | LSTT-R-4.8-0         |
| 6.4/3.2†                                       | 6.4 (0.250)                  | 3.2 (0.125)                     | 0.65 ± 0.15               | 8.0                                | LSTT-R-6.4-0         |
| 9.5/4.8                                        | 9.5 (0.375)                  | 4.8 (0.187)                     | 0.65 ± 0.15               | 6.0                                | LSTT-R-9.5-0         |
| 12.7/6.4†                                      | 12.7 (0.500)                 | 6.4 (0.250)                     | 0.65 ± 0.15               | 6.0                                | LSTT-R-12.7-0        |
| 19/9.5                                         | 19.0 (0.748)                 | 9.5 (0.375)                     | 0.80 ± 0.15               | 5.0                                | LSTT-R-19.0-0        |
| 25.4/12.7†                                     | 25.4 (1.000)                 | 12.7 (0.500)                    | 0.95 ± 0.18               | 3.0                                | LSTT-R-25.4-0        |
| KIT CONTAINS SIZES INDICATED BY † (black only) |                              |                                 |                           |                                    | LSTT-R-KIT-1         |

\*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 mini spools.                                                                         |            |
| Ordering description | See above for description                                                               |            |

### CGAT 3:1 Product Dimensions

| Size                                           | Inside Diameter              |                                 | Recovered Wall Thickness* | Spool Quantity<br>(meters) | Ordering Description |
|------------------------------------------------|------------------------------|---------------------------------|---------------------------|----------------------------|----------------------|
|                                                | Minimum Expanded as Supplied | Maximum Recovered After Heating | After Heating             |                            |                      |
| 3/1†                                           | 3.0 (0.118)                  | 1.0 (0.040)                     | 1.00 ± 0.25               | 5.0                        | CGAT-R-3/1-0         |
| 6/2†                                           | 6.0 (0.236)                  | 2.0 (0.079)                     | 1.00 ± 0.25               | 3.5                        | CGAT-R-6/2-0         |
| 9/3†                                           | 9.0 (0.354)                  | 3.0 (0.118)                     | 1.35 ± 0.25               | 3.0                        | CGAT-R-9/3-0         |
| 12/4†                                          | 12.0 (0.472)                 | 4.0 (0.157)                     | 1.50 ± 0.25               | 2.5                        | CGAT-R-12/4-0        |
| 18/6†                                          | 18.0 (0.709)                 | 6.0 (0.236)                     | 1.70 ± 0.25               | 2.0                        | CGAT-R-18/6-0        |
| 24/8†                                          | 24.0 (0.945)                 | 8.0 (0.315)                     | 1.90 ± 0.25               | 1.5                        | CGAT-R-24/8-0        |
| KIT CONTAINS SIZES INDICATED BY † (black only) |                              |                                 |                           |                            | CGAT-R-KIT-1         |

\*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 mini spools.                                                                         |            |
| Ordering description | See above for description                                                               |            |



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