

## Semirigid, encapsulant-lined heat-shrinkable end caps

Heat-shrinkable, dual wall PD Caps inexpensively encapsulate crimped electrical connections, including those on motor coils. They remain tightly in place for the life of the motor. PD Caps are manufactured from radiation-crosslinked polyolefin.

With brief heating, the outer jacket of the PD Cap shrinks while the inner wall flows into voids in the crimp, creating an encapsulated and electrically insulated connection. PD Caps are not intended for use where immersion in fluids is required.

An operator can insulate connections at approximately twice the speed of conventional methods, which require tape-wrapping, or slip-on tubing. PD Caps can be installed in seconds using standard hot-air or infrared heating tools. No special operator training is required.

### Temperature rating

|                                   |                |
|-----------------------------------|----------------|
| Full recovery temperature:        | 135°C          |
| Continuous operating temperature: | -55°C to 110°C |

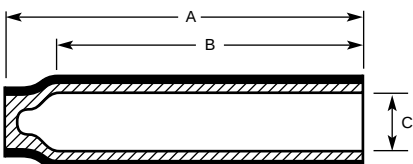
### Specifications\*

| Type    | Raychem     | UL     | CSA     |
|---------|-------------|--------|---------|
| PD Caps | PD Caps SCD | E85381 | LR31929 |

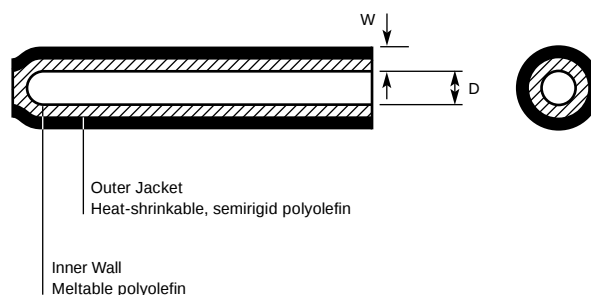
\*When ordering, always specify latest issue.

### Dimensions (millimeters/inches)

PD Cap as supplied



PD Cap after unrestricted recovery



| Size        | A nom.    | B min.    | C min.     | D max.     | W total**                 |
|-------------|-----------|-----------|------------|------------|---------------------------|
| PD Cap 1/8  | 22.0 0.87 | 12.7 0.50 | 3.2 0.125  | 0.58 0.023 | 1.22 ± 0.15 0.048 ± 0.006 |
| PD Cap 3/16 | 25.4 1.00 | 15.2 0.60 | 4.7 0.187  | 1.52 0.060 | 1.57 ± 0.20 0.062 ± 0.008 |
| PD Cap 1/4  | 28.4 1.12 | 15.2 0.60 | 6.4 0.250  | 2.03 0.080 | 1.98 ± 0.20 0.078 ± 0.008 |
| PD Cap 3/8  | 31.8 1.25 | 18.3 0.72 | 9.5 0.375  | 2.29 0.090 | 2.08 ± 0.25 0.082 ± 0.010 |
| PD Cap 1/2  | 38.1 1.50 | 21.6 0.85 | 12.7 0.500 | 2.29 0.090 | 2.54 ± 0.25 0.100 ± 0.010 |

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

### Ordering information

|                      |                                                                                         |
|----------------------|-----------------------------------------------------------------------------------------|
| Color                | Black                                                                                   |
| Size selection       | Always order the largest size that will shrink snugly over the component being covered. |
| Standard packaging   | In pieces                                                                               |
| Ordering description | Specify product name, size, and color; for example, PD Cap 1/4-0 (0=Black).             |

## Specification values

|                   | Property                                                                                                                                                        | Unit                 | Requirement                                            | Method of test             |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------------------|----------------------------|
| <b>Physical</b>   | Dimensions                                                                                                                                                      | mm ( <i>inches</i> ) | See reverse                                            | ASTM D 2671                |
|                   | Longitudinal change                                                                                                                                             | percent              | +0, -10 maximum                                        | ASTM D 2671                |
|                   | Flow of inner wall                                                                                                                                              |                      | No openings upon reheating                             | AMS-DTL-23053/4            |
|                   | Tensile strength                                                                                                                                                | psi ( <i>MPa</i> )   | 1500 ( <i>10.3</i> ) minimum                           | ASTM D 2671                |
|                   | Ultimate elongation                                                                                                                                             | percent              | 200 minimum                                            | ASTM D 2671                |
|                   | Low-temperature brittleness<br>at -55°C/-67°F                                                                                                                   |                      | No failure                                             | ASTM D 746<br>Procedure B  |
|                   | Heat shock<br>(4 hours at 250°C/482°F)                                                                                                                          |                      | No dripping, flowing, or<br>cracking of the outer wall | AMS-DTL-23053              |
|                   | Heat resistance<br>(168 hours at 175°C/347°F)                                                                                                                   |                      | No dripping, flowing, or<br>cracking of the outer wall | AMS-DTL-23053              |
| <b>Electrical</b> | Dielectric strength                                                                                                                                             | volts/mil            | 500 minimum                                            | ASTM D 2671                |
|                   | Volume resistivity                                                                                                                                              | ohm-cm               | 10 <sup>15</sup> minimum                               | ASTM D 257                 |
| <b>Chemical</b>   | Corrosive effect<br>(16 hours at 121°C/250°F)                                                                                                                   |                      | Noncorrosive                                           | ASTM D 2671<br>Procedure A |
|                   | Fungus resistance                                                                                                                                               |                      | Rating of 1 or less                                    | ASTM G 21                  |
|                   | Water absorption<br>(24 hours at 23°C/73°F)                                                                                                                     | percent              | 0.1 maximum                                            | ASTM D 570                 |
|                   | Fluid resistance<br>(24 hours at 23°C/73°F) in:<br>JP-8 Fuel (MIL-T-5624)<br>Skydrol® 500<br>Hydraulic fluid (MIL-H-5606)<br>Aviation gasoline 100/130<br>Water |                      |                                                        | ASTM D 2671                |
|                   | Followed by tests for:                                                                                                                                          |                      |                                                        |                            |
|                   | Dielectric strength                                                                                                                                             | volts/mil            | 400 minimum                                            | ASTM D 2671                |
|                   | Tensile strength                                                                                                                                                | psi                  | 1000 minimum                                           | ASTM D 2671                |

Note: These requirements apply to PD Cap material only. These tests, except dimensions and longitudinal change, cannot be performed on material in PD Cap configuration.

\*Trademark of the Monsanto Company.

Raychem is a trademark of Tyco Electronics Corporation.

## Users should independently evaluate the suitability of the product for their application.

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