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Raychem Heat-Shrinkable Cable Entry Seals





KEY FEATURES

- Strain relief
- NPT capacity
- Cable entry sealing
- Metal or nylon nut
- Multi-leg breakouts
- Available in right-angle

DESCRIPTION

Heat-shrinkable cable entry seals (CES) provide a watertight, fume-tight seal where cables enter connection boxes, bulkheads, or other enclosures. CESs are available in two basic types: standard and threaded.

The standard CES for thin-wall enclosures consists of a three-part assembly: a rigid nylon nut, an O-ring, and a heat-shrinkable molded body. The CES for threaded-hole applications is a one-part assembly that combines a tapered national pipe thread (NPT) in rigid nylon with a heat-shrinkable molded body. To meet sealing requirements, all CESs have factory-applied adhesive that provides the seal to wire and cable jackets.

APPLICATIONS

- Cable penetration into panels, junction boxes and sealed cabinets
- Bulkhead penetration

ELECTRICAL

Rated to 600 volts

PHYSICAL OR OTHER PROPERTIES

Polyolefin shrinkable body

Metal or nylon nut

Hot melt thermoplastic adhesive

MECHANICAL

Pressure sealing: 25 psi

MATERIALS

Molded heat-shrink body: Flame retardant polyolefin

Adhesive: Hot melt adhesive

STANDARDS & SPECS

Raychem CES Specification RT-1335

SAE-AS81765/1 Type 1

Raychem Molded Heat-Shrink Body Specification RT-301

Raychem Adhesive Specification RW-2019

ORDERING INFORMATION

Minimum order quantity varies by part

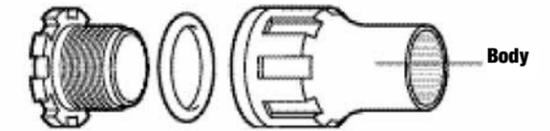
APPLICATION TOOLING

Raychem CV Series, HL Series and HG Series hot air heating tools

PRODUCT DIMENSIONS

Standard CES

Dimensions are mm [inches]

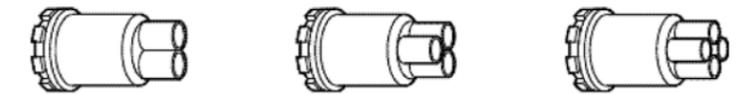


| Part No. | No. of Legs | Overall Nom. Recommended Length | Min. Expanded I.D. Body | Max. Recovered I.D. Body | Max. I.D. of Part | Drill Size | Max. O.D. of Nut |
|----------|-------------|---------------------------------|-------------------------|--------------------------|-------------------|--------------|------------------|
| CES-1 | 1 | 69.85 [2.75] | 12.70 [0.50] | 4.32 [0.17] | 19.05 [0.75] | 25.40 [1.00] | 35.81 [1.410] |
| CES-2 | 1 | 69.85 [2.75] | 19.05 [0.75] | 6.35 [0.25] | 19.05 [0.75] | 25.40 [1.00] | 35.81 [1.410] |
| CES-3 | 1 | 95.25 [3.75] | 28.45 [1.12] | 12.70 [0.50] | 27.94 [1.10] | 35.05 [1.38] | 48.31 [1.902] |
| CES-4 | 1 | 114.30 [4.50] | 40.64 [1.60] | 19.05 [0.75] | 39.62 [1.56] | 50.80 [2.00] | 69.09 [2.720] |
| CES-4S* | 1 | 114.30 [4.50] | 50.80 [2.00] | 19.05 [0.75] | 53.34 [2.10] | 59.94 [2.36] | 85.09 [3.350] |
| CES-5 | 1 | 177.80 [7.00] | 69.85 [2.75] | 36.32 [1.43] | 73.66 [2.90] | 88.90 [3.50] | 103.38 [4.070] |

*Part configuration may be different than depicted in figure. Contact TE for specification. Also available in threaded version.

Breakout CES

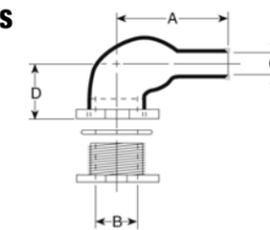
Dimensions are mm [inches]



| Part No. | No. of Legs | Overall Nom. Recommended Length | Min. Expanded I.D. (Each Leg) | Max. Recovered I.D. (Each Leg) | Max. I.D. of Part | Drill Size | Max. O.D. of Nut |
|-----------|-------------|---------------------------------|-------------------------------|--------------------------------|-------------------|--------------|------------------|
| CES-2-D1A | 2 | 69.85 [2.75] | 15.24 [0.60] | 2.79 [0.11] | 19.05 [0.75] | 25.40 [1.00] | 35.81 [1.41] |
| CES-2-T1 | 3 | 69.85 [2.75] | 10.16 [0.40] | 2.79 [0.11] | 19.05 [0.75] | 25.40 [1.00] | 35.81 [1.41] |
| CES-2-T1B | 3 | 88.90 [3.50] | 15.24 [0.60] | 4.32 [0.17] | 19.05 [0.75] | 25.40 [1.00] | 35.81 [1.41] |
| CES-2-F1A | 4 | 69.85 [2.75] | 10.16 [0.40] | 2.79 [0.11] | 19.05 [0.75] | 25.40 [1.00] | 35.81 [1.41] |
| CES-2-F1 | 4 | 88.90 [3.50] | 15.24 [0.60] | 4.32 [0.17] | 19.05 [0.75] | 25.40 [1.00] | 35.81 [1.41] |
| CES-3-D1 | 2 | 88.90 [3.50] | 15.24 [0.60] | 4.32 [0.17] | 27.94 [1.10] | 35.05 [1.38] | 48.26 [1.90] |
| CES-3-T1 | 3 | 88.90 [3.50] | 15.24 [0.60] | 4.32 [0.17] | 27.94 [1.10] | 35.05 [1.38] | 48.26 [1.90] |
| CES-3-F1 | 4 | 88.90 [3.50] | 15.24 [0.60] | 4.32 [0.17] | 27.94 [1.10] | 35.05 [1.38] | 48.26 [1.90] |
| CES-4-D3 | 2 | 101.60 [4.00] | 22.86 [0.90] | 7.62 [0.30] | 40.64 [1.60] | 50.80 [2.00] | 69.09 [2.72] |
| CES-4-T1 | 3 | 101.60 [4.00] | 22.86 [0.90] | 7.62 [0.30] | 40.64 [1.60] | 50.80 [2.00] | 69.09 [2.72] |
| CES-4-F1 | 4 | 101.60 [4.00] | 22.86 [0.90] | 7.62 [0.30] | 40.64 [1.60] | 50.80 [2.00] | 69.09 [2.72] |
| CES-5-T4 | 3 | 127.00 [5.00] | 31.75 [1.25] | 12.70 [0.50] | 73.66 [2.90] | 63.50 [2.50] | 103.38 [4.07] |
| CES-5-F4 | 4 | 127.00 [5.00] | 31.75 [1.25] | 12.70 [0.50] | 73.66 [2.90] | 63.50 [2.50] | 103.38 [4.07] |

Right-Angle Breakout CES

Dimensions are mm [inches]



| Part No. | C | | B ID Min | Length | | Drill Size |
|----------|--------------|--------------|--------------|-------------|--------------|--------------|
| | Min. Exp. ID | Max. Rec. ID | | D | A | |
| CES-1R | 12.70 [0.50] | 7.11 [0.28] | 12.70 [0.50] | 35.56 [1.4] | 42.67 [1.68] | 25.40 [1.00] |
| CES-2R | 18.03 [0.71] | 8.38 [0.33] | 19.05 [0.75] | 43.18 [1.7] | 44.96 [1.77] | 25.40 [1.00] |
| CES-3R | 27.94 [1.10] | 9.65 [0.38] | 27.94 [1.10] | 53.34 [2.1] | 58.42 [2.30] | 34.80 [1.37] |
| CES-4R | 40.64 [1.60] | 15.75 [0.62] | 40.64 [1.60] | 78.74 [3.1] | 71.12 [2.80] | 50.80 [2.00] |