



RAYCHEM HEAT-SHRINKABLE CABLE ENTRY SEALS

WATERTIGHT, FUME-TIGHT CABLE ENTRY SEALS FOR BOXES,
BULKHEADS, AND OTHER ENCLOSURES



RAYCHEM HEAT-SHRINKABLE CABLE ENTRY SEALS

Watertight, Fume-Tight Cable Entry Seals



HIGH PERFORMANCE

- Strain relief
- NPT capacity
- Watertight, fume-tight cable entry seal

VERSATILE

- Metal or nylon nut
- Multi-leg breakouts
- Available in right-angle configuration
- Two basic types: standard and threaded

APPLICATIONS

- **Cable Penetration:** Panels, junction boxes and sealed cabinets
- **Bulkhead Penetration**

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 NPT 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.

ELECTRICAL/MECHANICAL

- **Voltage:** 600 V
- **Pressure Sealing:** 25 psi

MATERIALS

- **Molded Body:** Flame-retardant heat-shrinkable polyolefin
- **Adhesive:** Hot-melt thermoplastic
- **Nut:** Molded or nylon

STANDARDS/SPECIFICATIONS

- **Raychem RT-1335:** Cable Entry Seal Assembly
- **Raychem RT-301:** Polyolefin Molded Components
- **Raychem RW-2019:** S1297 Hot-Melt Adhesive
- **SAE AS81765/1 Type 1:** Insulating Components - Molded, Heat Shrinkable

HOT AIR HEATING TOOLS

- Raychem CV, HL, or HG Series tools

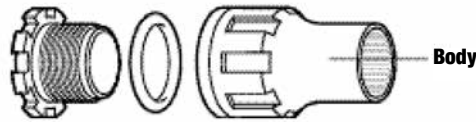
TE Components . . . TE Technology . . . TE Know-how . . .

AMP | Agastat | CII | Hartman | Kilovac | Microdot | Nanonics | Polamco | Raychem | Rochester | DEUTSCH
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Get your product to market faster with a smarter, better solution.

Product Dimensions

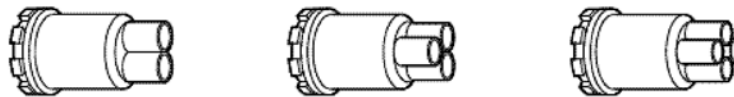
Standard CES
Dimensions are
mm (inches)



Part No.	No. of Legs	Overall Nom. Recommended Length	Min. Expanded ID Body	Max. Recovered ID Body	Max. ID of Part	Drill Size	Max. OD 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-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)

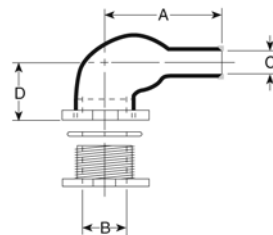
Part configuration may be different than depicted in figure. Contact TE for specification.

Breakout CES
Dimensions are
mm (inches)



Part No.	No. of Legs	Overall Nom. Recommended Length	Min. Expanded ID (Each Leg)	Max. Recovered ID (Each Leg)	Max. ID of Part	Drill Size	Max. OD 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)

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Consult TE for the latest dimensions and design specifications.