

E** / D**** Industrial Cable Glands for armoured cable – ASSEMBLY INSTRUCTIONS**

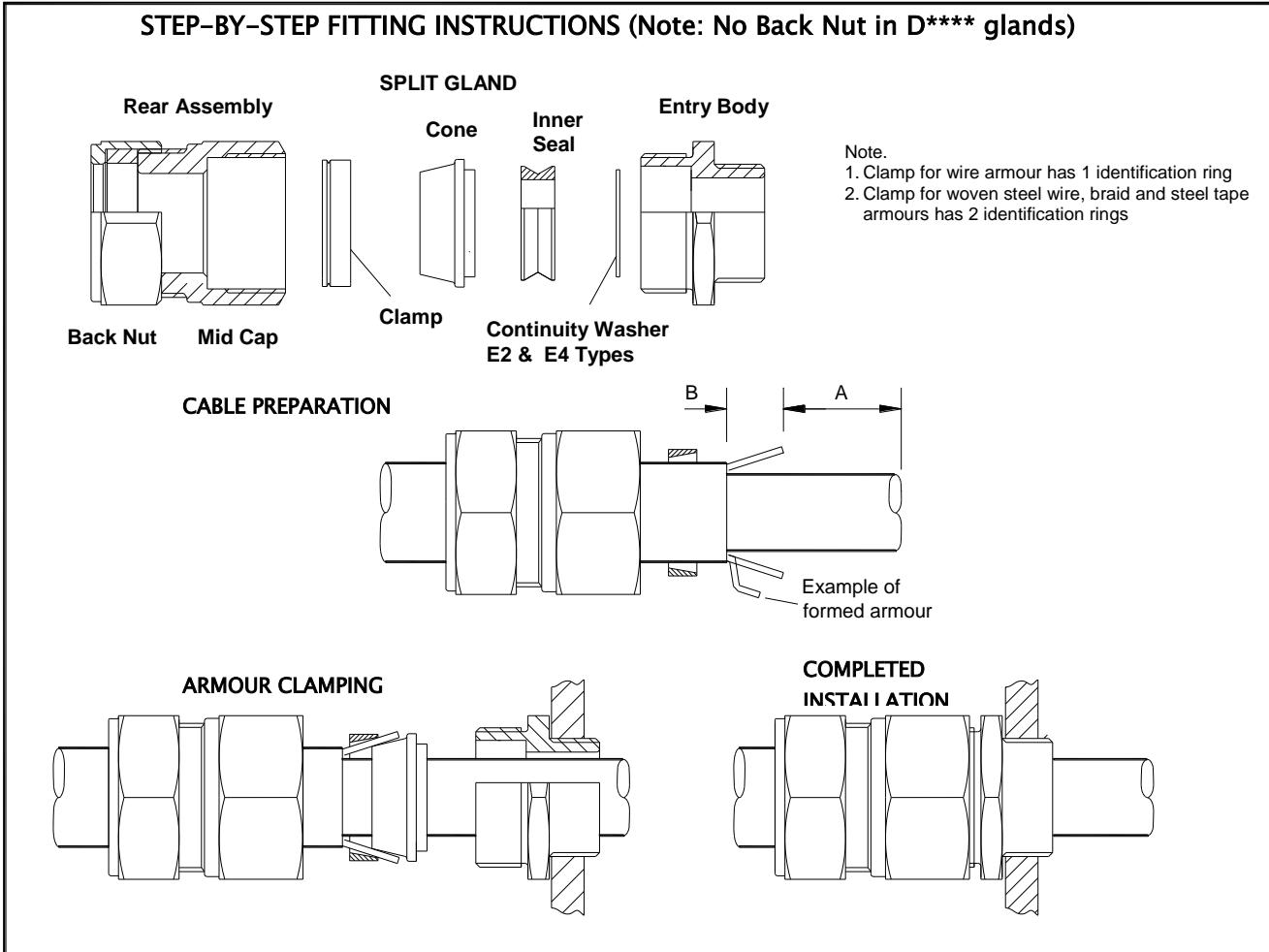
Brief Description

The Peppers E**** type cable gland is for outdoor use with armoured cables. They give environmental protection to IP66/68 (50 metres for 7 days). The type IE option has an earth stud on the entry body. D**** type glands are for indoor use and offer the same level of environmental protection. A termination suitable for EMC protection can be made using armoured cables with these glands. Clamp options allow wire armour, braid and steel tape armours. A variant giving electrical continuity to a lead sheath cable is available.



Warning

Please read these instructions carefully. These products should not be used in applications except as detailed here or in our datasheets, unless confirmed in writing by Peppers. Peppers take no responsibility for any damage, injury or other consequential loss caused where products are not installed or used according to these instructions. This leaflet is not intended to advise on the selection of product. Further guidance can be found in the standards listed overleaf or the prevailing code of practice.



STEP-BY-STEP FITTING INSTRUCTIONS

- 1 Split gland as shown.
- 2 Remove the Inner Seal. This must be removed to effectively clamp armour. E2 & E4 types: - remove Continuity Washer.
- 3 Fit Entry Body to enclosure allowing for any accessories such as sealing washers. Fully engage the entry thread to the enclosure, hand-tighten, then suitably secure with a wrench.
- 4 Slide Rear Assembly (and shroud if required) onto cable as shown.
- 5 Prepare cable as shown in diagram.
 - A Strip the outer sheath and armour to suit the installation. For lead sheathed cable the lead sheath must pass through the Continuity Washer when installation is complete.
 - B Expose armour approx. 20mm long and slide the Clamp over the exposed armour. Slide cone on to inner sheath and spread armour over the cone. Where sheath sizes are near minimum, form armour to facilitate clamping as shown. Ensure the Clamp is in the correct orientation. The clamp should be positioned so that the identification ring(s) are away from the cone.
- 6 Insert cable through Entry Body. Do not re-fit seal or continuity washer. Push cable forward to maintain armour contact.
- 7 Support the cable to prevent it from twisting. Hand tighten Mid Cap to Entry Body to lock onto armour. When tight, further tighten Mid Cap 1 full turn with wrench. Cable with maximum diameter wire armour may require an additional ½ to 1 turn.
- 8 Loosen off Mid Cap to visually check armour is securely locked. If armour has not clamped repeat the clamping process.
- 9 Pull out cable from Entry Body. Re-fit the inner seal (and continuity washer on E2 & E4 Types). Re-insert cable through the seal, (and continuity washer if fitted) and Entry Body. For lead sheath cable the Continuity Washer must be in contact with the lead sheath & must be in front of the seal.
- 10 Re-tighten Mid Cap to the entry body. Ensure the seal makes full contact with cable inner sheath and then tighten the Mid Cap by the additional turns detailed in Table 1
- 11 Hold Mid Cap with wrench and tighten Back Nut onto cable. Ensure the seal makes full contact with cable outer sheath and then tighten the back nut by the additional turns detailed in Table 1. If fitted, pull shroud over gland assembly.

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Table 1 - Installation Data, Cable Sizes and Armour Acceptance (mm)

Cable Sizes (mm), Armour Acceptance (mm) & Assembly Data										
Gland Size	Mid Cap Turns – Step 10	Back Nut Turns – Step 11	Inner Sheath		Outer Sheath		Reduced Bore		Armour Acceptance Ranges	
			Min	Max	Min	Max	Min	Max	Wire	Tape/ Woven Wire/Braid
16	1	1	3.5	8.4	8.4	13.5	4.9	10.0	0.9	0.15 – 0.35
20S	1	1	8.0	11.7	11.5	16.0	9.4	12.5	0.9 – 1.25	0.15 – 0.35
20	1	1	6.7*	14.0	15.5	21.1	12.0	17.6	0.9 – 1.25	0.15 – 0.50
25	1	1	13.0	20.0	20.3	27.4	16.8	23.9	1.25 – 1.6	0.15 – 0.50
32	1	2	19.0	26.3	26.7	34.0	23.2	30.5	1.6 – 2.0	0.15 – 0.55
40	1	1	25.0	32.2	33.0	40.6	28.6	36.2	1.6 – 2.0	0.2 – 0.6
50S	1	1	31.5	38.2	39.4	46.7	34.8	42.4	2.0 – 2.5	0.2 – 0.6
50H	1	2	31.5	38.2	39.4	46.7	34.8	42.4	2.0 – 2.5	0.2 – 0.6
50	1	2	36.5	44.1	45.7	53.2	41.1	48.5	2.0 – 2.5	0.5 – 0.8
63S	1	1	42.5	50.1	52.1	59.5	47.5	54.8	2.5	0.5 – 0.8
63H	1	1	42.5	50.1	52.1	59.5	47.5	54.8	2.5	0.5 – 0.8
63	1	1	49.5	56.0	58.4	65.8	53.8	61.2	2.5	0.5 – 0.8
75S	1 ¼	1	54.5	62.0	64.8	72.2	60.2	68.0	2.5	0.5 – 1.0
75H	1 ¾	1	54.5	62.0	71.1	78.0	66.5	73.4	2.5	0.5 – 1.0
75	1 ¾	1	60.5	68.0	71.1	78.0	66.5	73.4	2.5	0.5 – 1.0
80	1 ¼	1	62.2	72.0	77.0	84.0	71.9	79.4	3.15	0.5 – 1.0
80H	1 ¼	1	62.2	72.0	79.6	90.0	75.0	85.4	3.15	0.5 – 1.0
85	1 ¼	1	69.0	78.0	79.6	90.0	75.0	85.4	3.15	0.5 – 1.0
90	1	3	74.0	84.0	88.0	96.0	82.0	91.4	3.15	0.5 – 1.0
90H	1	1	74.0	84.0	92.0	102.0	87.4	97.4	3.15	0.5 – 1.0
100	1	1	82.0	90.0	92.0	102.0	87.4	97.4	3.15	0.5 – 1.0

Installation Guidance

Point	Advice
1	Installation should only be carried out by a competent electrician, skilled in cable gland and appropriate electrical installations.
2	NO INSTALLATION SHOULD BE CARRIED OUT UNDER LIVE CONDITIONS.
3	Threaded entries: the product can be installed directly into threaded entries. Threaded entries should comply with the relevant applicable standards and have a lead-in chamfer to allow for full engagement of the threads. Failure to provide a sufficient lead-in chamfer may lead to ingress sealing issues. A Peppers sealing washer should be used to maintain all IP ratings greater than IP54. Whilst Peppers products with tapered threads, when installed into a threaded entry, have been tested to maintain IP66 without any additional sealant, due to the differing gauging tolerances associated with the use of tapered threads it is recommended to use a non-hardening thread sealant if an IP rating higher than IP54 is required.
4	Clearance holes: these shall be no larger than 0.7mm above the nominal diameter of the external entry thread. The product should be secured with a Peppers locknut and the threads tightened to ensure the cable gland is secure. Where no integral sealing method is provided a Peppers sealing washer should be used to maintain IP ratings. A Peppers serrated washer should be used for additional installation protection. It is recommended that tapered threads are not used in clearance holes.
5	To maintain the Ingress Protection rating of the product, the entry hole must be perpendicular to the surface of the enclosure. The surface should be sufficiently flat and rigid to support the assembly and make the IP joint. The surface must be clean and dry. The product incorporates a thread run out according to general machining techniques and will not have a full form thread for the entire length and as such entry threads should have a suitable lead-in chamfer to ensure a seal is maintained. Further guidance can be found on Peppers website. It is the user's/installer's responsibility to ensure that the interface between the enclosure and cable gland is suitably sealed for the required application. Any thread sealant used shall be suitable for use in hazardous area locations, be suitable for the temperature range at the point of mounting, shall not contain evaporating solvent and cannot cause corrosion at the threaded interface when used for dissimilar materials.
6	These cable glands shall only be used for fixed installations with the cables being effectively clamped to prevent pulling or twisting.
7	Once installed do not dismantle except for routine inspection. After inspection the gland shall be re-assembled as instructed, ensuring the back nut is correctly tightened to ensure the cable is secure.
8	If required an anti-seize lubricant may be used to aid assembly and routine inspection. The lubricant should comply with the prevailing code of practice and care should be taken to ensure no lubricant comes into contact with the cable gland seals as this may impair performance.

BS EN 62444 (previously EN 50262) CABLE GLAND CLASSIFICATION

MATERIAL			MECHANICAL				ELECTRICAL PROPERTIES				EXTERNAL INFLUENCES			SEALING SYSTEM	
Metal	Non-Metallic	Composite	Without Cable Anchorage	With Cable Anchorage	Impact Category	Cable Retention (armoured cable)	Equipotential Bonding	Connection to Metallic Layers	Protective Connection to Earth	Insulation Characteristics	Ingress Protection	Temperature Range	Resistance to Salt & Sulphur Dioxide Laden Atmospheres	Single Orifice Seal	Multi-Orifice Seal
Yes	-	-	N/A	Type A	6	Class B	Yes	Yes	Note 1	N/A	Note 2	Note 3	Yes	Yes	N/A

Note 1

Category A

This is the minimum requirement to comply with BS EN 62444 (previously EN 50262). It is applicable in installations where the cable armouring (other than steel wire armour) is the limiting factor. It is generally applicable where the cable gland is installed into a metallic threaded entry.

Category B

This is the medium requirement to comply with BS EN 62444 (previously EN 50262). It is applicable in installations where the cable armour is steel wire armour and the system includes a high sensitivity method of secondary protection against fault currents. It is generally applicable in installations where an earth tag is used in conjunction with the cable gland.

Category C

This is the highest requirement to comply with BS EN 62444 (previously EN 50262). It is applicable in installations where the cable armour is steel wire armour and the system relies on a low sensitivity method of secondary protection against fault currents. It is generally applicable where Peppers Integral Earth (IE) cable gland options are used.

Note 2 - Ingress Protection: IP66 / IP68 (50 metres for 7 Days)

Note 3 - Temperature Range: -35°C to +90°C for glands fitted with Neoprene (black) seals
-60°C to +180°C for glands fitted with Silicone (white or red) seals