



0518



**Brief Description**

The Peppers Crocklock® CR type cable gland is for outdoor use in the appropriate Hazardous Areas with armoured, unarmoured, braided and screened cable. It gives environmental protection to IP68 and Deluge. A variant giving electrical continuity to a lead sheath is available. A termination suitable for EMC protection can be made using armoured cables with this gland.

**Warning**

PLEASE STUDY CAREFULLY BOTH PAGES OF THESE INSTRUCTIONS BEFORE INSTALLATION. These glands should not be used in any application other than those mentioned here or in our Data Sheets, unless Peppers states in writing that the product is suitable for such application. Peppers can take no responsibility for any damage, injury or other consequential loss caused where the glands are not installed or used according to these instructions. This leaflet is not intended to advise on the selection of cable glands. Further guidance can be found in the standards listed overleaf.

**STEP-BY-STEP FITTING INSTRUCTIONS**

**SPLIT GLAND**

**Installation Hole Data (See page 2)**

**CABLE DEBURRING**

**TABLE 1**

Gland Size	B
	Armour length
16 - 25	25mm
32 - 40	30mm
50S - 75	32mm
80 - 100	50mm

**ARMOUR CLAMPING**

**COMPLETED INSTALLATION**

**STEP-BY-STEP FITTING INSTRUCTIONS**

- 1 Split gland as shown
  - 2 Remove O-ring if not required. Fit sealing washer if required
  - 3 Fit Entry Body. Hand-tighten, then using wrench tighten a further 1/4 turn. DO NOT EXCEED MAX TORQUE FOR ENCLOSURE
  - 4 Slide Back Nut, Mid Cap and Clamp onto cable as shown
  - 5 **PREPARE CABLE**
    - A Strip outer jacket and armour, length to suit installation. **For lead sheathed cable** the lead sheath must pass through the Continuity Washer when installation is complete (When fitted, the Continuity Washer is trapped inside the Entry Body)
    - B Expose armour. For approximate lengths see Table 1 column B. Where sheath sizes are near minimum, form armour to facilitate clamping as shown.
  - 6 Slide Cone onto inner sheath and under armour. Slide Clamp onto exposed armour
  - 7 Insert cable through Entry Body. **For lead sheathed cable** the lead sheath must be in contact with the lead sheath. Screw in Compression Nut metal-to-metal
  - 8 Tighten Mid Cap to Entry Body to make-off armour. FOR CORRECT TORQUE SEE PAGE 2
  - 9 Loosen off Mid Cap to visually check armour is securely locked. Re-tighten Mid Cap to correct torque. SEE PAGE 2
  - 10 Hold Mid Cap with wrench and tighten Back Nut onto cable. Ensure seal makes full contact with cable, then tighten Back Nut 1 extra turn.
- X INSTALLATION HOLE DATA** (See page 2)
- Xa Clearance holes (NOT EExd)
  - Xb Countersinks for threaded holes (EExd)
  - Xc Diameter O

**CROCLOCK** Type CR-\*\* Cable Gland - ASSEMBLY INSTRUCTIONS FOR SAFE USE

X Hole data (see overleaf)		Cable Sizes (mm), Armour Acceptance (mm) & Assembly Torques (Nm)											
Dia O	Dia C	Gland Size	Torque Settings	Inner Sheath		Outer Sheath		Reduced Bore		Armour Acceptance Ranges			
				Min	Max	Min	Max	Min	Max	Wire Armour		Tape Armour	
22.2	20.5	16	32.5	3.4	8.4	9.0	13.5	6.7	10.3	0.15	1.25	0.15	0.35
22.2	20.5	20S	32.5	7.2	11.7	11.5	16.0	9.4	12.5	0.15	1.25	0.15	0.35
22.2	20.5	20	32.5	9.4	14.0	15.5	21.1	12.0	17.6	0.15	1.25	0.15	0.5
27.9	25.5	25	50.0	13.5	20.0	20.3	27.4	16.8	23.9	0.15	1.6	0.15	0.5
35.5	32.5	32	80.0	19.5	26.3	26.7	34.0	23.2	30.5	0.15	2.0	0.15	0.55
43.5	40.5	40	80.0	23.0	32.2	33.0	40.6	28.6	36.2	0.2	2.0	0.2	0.6
53.5	50.5	50S	100.0	28.1	38.2	39.4	46.7	34.8	42.4	0.3	2.5	0.5	0.8
53.5	50.5	50	100.0	33.1	44.1	45.7	53.2	41.1	48.5	0.3	2.5	0.5	0.8
66.5	63.5	63S	160.0	39.2	50.1	52.1	59.5	47.5	54.8	0.3	2.5	0.5	0.8
66.5	63.5	63	160.0	46.7	56.0	58.4	65.8	53.8	61.2	0.3	2.5	0.5	0.8
78.5	75.5	75S	200.0	52.1	62.0	64.8	72.2	60.2	68.0	0.3	2.5	0.5	1.0
78.5	75.5	75	200.0	58.0	68.0	71.1	78.0	66.5	73.4	0.3	2.5	0.5	1.0
83.5	80.5	80	200.0	62.2	72.0	77.0	84.0	N/A	N/A	0.45	3.15	0.5	1.0
83.5	80.5	80H	200.0	62.2	72.0	79.6	90.0	N/A	N/A	0.45	3.15	0.5	1.0
88.5	85.5	85	200.0	69.0	78.0	79.6	90.0	75.0	85.4	0.45	3.15	0.5	1.0
93.5	90.5	90	200.0	74.0	84.0	88.0	96.0	N/A	N/A	0.45	3.15	0.5	1.0
93.5	90.5	90H	200.0	74.0	84.0	92.0	102.0	N/A	N/A	0.45	3.15	0.5	1.0
103.5	100.5	100	200.0	82.0	90.0	92.0	102.0	87.4	97.4	0.45	3.15	0.5	1.0

**Installation Guidance**

Point	Advice
1	<ul style="list-style-type: none"> <li>◆ BS EN 60079-10:1996 Classification of Hazardous Areas</li> <li>◆ BS EN 60079-14:1997 Electrical Installations in hazardous areas (other than mines)</li> <li>◆ BS 6121, Part 5:1993 Selection, Installation and Maintenance of Cable Glands</li> </ul>
2	Installation should only be carried out by a competent electrician, skilled in cable gland installation.
3	NO INSTALLATION SHOULD BE CARRIED OUT UNDER LIVE CONDITIONS.
4	An O-ring or sealing washer should always be used with enclosures rated at above IP54. If a star washer is used, it should not be installed in such a way that it reduces the IP rating. Crocloclock® glands are supplied with an O-ring as standard. Also see page 1 diagram and Hole Data above.
5	The surface of the enclosure should be sufficiently flat and rigid to make both the IP joint, and (where necessary) a suitable earth contact. In the case of painted enclosures, a star washer should be fitted to break through the paint and make a satisfactory earth contact.
6	Once installed do not dismantle except for occasional inspection. The gland is not serviceable and spare parts are not supplied.
7	Parts are not interchangeable with any other design. If manufacturers' parts are mixed, certification will be invalidated.

**Limitations on Usage.** Be sure your installation complies with the following:-

Feature	Comment																									
Enclosure entry thread	The female thread in the enclosure must comply with clause 5.3 of EN 50018:2000, or clause 4.3 of IEC 79-1, as appropriate. Do not damage threads on assembly. Check the number of full turns of thread engaged is at least 5 (at least 6 for taper threads).																									
Cable construction	Crocloclock® glands should only be used with substantially round and compact cables with extruded bedding (i.e. effectively filled cables).																									
Installation conditions	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Gas Group?</th> <th>Internal Ignition Source?</th> <th>Enclosure Volume?</th> <th>Which Zone?</th> <th>Use Type CR Gland?</th> </tr> </thead> <tbody> <tr> <td>IIC</td> <td>NO</td> <td>2 litres or less</td> <td>Zone 1 or 2</td> <td>YES</td> </tr> <tr> <td>IIB, IIA, II</td> <td>NO</td> <td>Any</td> <td>Zone 1 or 2</td> <td>YES</td> </tr> <tr> <td>IIB, IIA, II</td> <td>YES</td> <td>Any</td> <td>Zone 2</td> <td>YES</td> </tr> <tr> <td>IIB, IIA, II</td> <td>YES</td> <td>2 litres or less</td> <td>Zone 1</td> <td>YES</td> </tr> </tbody> </table>	Gas Group?	Internal Ignition Source?	Enclosure Volume?	Which Zone?	Use Type CR Gland?	IIC	NO	2 litres or less	Zone 1 or 2	YES	IIB, IIA, II	NO	Any	Zone 1 or 2	YES	IIB, IIA, II	YES	Any	Zone 2	YES	IIB, IIA, II	YES	2 litres or less	Zone 1	YES
	Gas Group?	Internal Ignition Source?	Enclosure Volume?	Which Zone?	Use Type CR Gland?																					
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IIB, IIA, II	YES	Any	Zone 2	YES																						
IIB, IIA, II	YES	2 litres or less	Zone 1	YES																						

**Interpretation of Markings.** Stampings on the outside of this gland carry the following meanings: -

Cable Gland Type & Size	
CR	Gland type Crocloclock® (with one universal clamp ring)
1	Seal Type :- 1 = Neoprene (Temp range -20 to +85C) 2 = Neoprene with Continuity washer for lead sheathed cable 3 = Silicone (Temp range -60 to +180C)
B	Main component material :- B = brass; S = stainless steel
R	Optional reduced bore outer seal (red). Temperature range -60° to + 180°C if used with Type 3 inner seal
20S	Gland size IP68 Ingress Protection code
PG16	Entry thread type and size Year Code: XX

CENELEC Certification Markings	
E	Conformity with European Standard
Ex	Explosion Protection symbol
d	Protection type code :- d = Flameproof; e = Increased Safety
IIC	Gas Group Code suitable for Group IIC ignitable gas/air mixtures e.g. hydrogen, and also Groups IIB and IIA.
BAS	Certifying Body
01	Year of Certification
ATEX	Certified compliant with ATEX Directive 94/9/EC
2271	Certificate Serial Number
X	<b>Special Conditions for Safe Use :-</b> (1) These glands must not be used with EExd IIC enclosures with a volume greater than 2 litres. (2) These glands must not be used with enclosures where the temperature at the point of mounting exceeds -20°C to +85°C using neoprene seals, or -60° to +180°C using silicone seals (3) Where the glands are used with unarmoured, braided or screened cables, they must be used on fixed installations, and the cable must be clamped near the gland to avoid pulling and twisting (4) Where sealing and retention is required by gripping cable sheaths, with armour/screen/braid being clamped inside the terminating equipment, the glands must only be used on fixed installations, and the cable must be clamped near the gland to avoid pulling and twisting

ATEX (EU Directive 94/9/EC) Markings	
Ex	EU Explosive Atmosphere Symbol
II	Equipment Group ( II = Non-Mining )
2	Equipment Category for Zones 1, 2, 21 and 22
G	For use with potentially explosive gas mixtures
D	For use with combustible dusts