



1 **TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 09ATEX4124X.** Issue: **0**

4 Equipment: **CR**** Range of cable glands and stopping boxes**

5 Applicant: **Peppers Cable Glands Ltd.**

6 Address: Stanhope Road
Camberley
Surrey GU15 3BT
UK

7 This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service certifies that this equipment has been found to comply with the Essential Health and Safety Requirements that relate to the design of Category 3 equipment, which is intended for use in potentially explosive atmospheres. These Essential Health and Safety Requirements are given in Annex II to European Union Directive 94/9/EC of 23 March 1994.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

EN 60079-0:2009

EN 60079-15:2005

IEC 60079-31:2008 Ed 1

10 If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This TYPE EXAMINATION CERTIFICATE relates only to the design of the specified equipment, and not to specific items of equipment subsequently manufactured.

12 The marking of the equipment shall include the following:



II 3GD

Ex nR IIC Gc

Ex tc IIIC Dc

Ta = -60°C to +135°C

Project Number 19249
C. Index 07

C Ellaby
Certification Officer

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13 DESCRIPTION OF EQUIPMENT

The CR**** **Range of Barrier Cable Glands & Stopper Boxes** are metallic and are intended for use with differing cables or conductors dependent on their type. They allow the entry of the cable or conductors into flameproof, increased safety, restricted breathing and dust protected enclosures without compromising the explosion protection provided by the enclosure, in accordance with relevant codes of practice. All types comprise of various entry thread sizes, which are dependent upon gland size and their cable sealing ability range.

The CR**** Range of Barrier Cable Glands & Stopper Boxes, when installed with the silicone O-ring provided by the manufacturer, have an ingress protection rating of IP68 (tested at a depth of 100 m for 24 hours).

Design Options for all CR** Range of Barrier Cable Glands & Conduit Stopper Boxes**

Entry component and CR** conduit nut internal thread forms:**

ISO Metric to BS3643:1981 6g fit (male) 6H (female)

NPT to ANSI/ASME B1.20.1:1983, gauging to clause 8

NPSM to ANSI/ASME B1.20.1:1983, gauging to clause 9

BSPT to BS 21:1985 (ISO 7/1) standard threads only clause 5.4, gauging to clause 5A, system A

BSPP to BS 2779:1986 (ISO 228/1) class A full form external threads

PG to DIN 40430:1971

ET to BS 31:1940 (1979) Table A

All entry and conduit threads are within the dimensional parameters of the gland body and comply with clause 5.3 of EN 60079-1:2007 and Clause C.2.2.

Alternative metallic materials of manufacture (the asterisk in the type number is replaced with a letter designation for one of the material types below):

Brass to BS 2874:1986 grades CZ121 (3Pb), or CZ121 (4Pb) or CZ122

Stainless Steel to BS 970:Part 1:1991 grades 316S11, 316S31 or 304.

Additionally, all metallic materials may be surface coated to limit electrolytic reaction between dissimilar materials, providing the coating does not alter the dimensions of the component part.



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The CR-U** Range of Barrier Cable Glands are suitable for use with unarmoured cables; they comprise:

- a threaded entry body to tighten into an associated enclosure; this is fitted with a silicone O-ring and internally coated with a release agent
- a ferrule, fitted with an external nitrile O-ring, which fits into the entry body to make a part chamber into which a two-part "PEPPERS T1000" epoxy putty setting compound is applied to provide an inner seal around the conductors
- a union nut that couples the entry body and ferrule together
- a seal housing, enclosing a white silicone, elastomeric, cable outer sheath seal and a plastic skid washer, that is screwed and secured into the ferrule with Loctite® 2701 adhesive
- a back nut that screws into the seal housing to compress the outer sheath seal

Entry thread size	Gland size	Max. Ø over cores (mm)	Max. number of cores	Outer sheath seal range Ø (mm)	
				Min.	Max.
M20 x 1.5	16	10.4	7	3.4	8.4
M20 x 1.5	20S	10.4	8	4.8	11.7
M20 x 1.5	20	12.5	14	9.5	14.0
M25 x 1.5	25	17.8	25	11.7	20.0
M32 x 1.5	32	23.5	50	18.1	26.3
M40 x 1.5	40	28.8	80	22.6	32.2
M50 x 1.5	50S	34.2	100	28.2	38.2
M50 x 1.5	50	39.4	100	33.1	44.1
M63 x 1.5	63S	44.8	120	39.3	50.1
M63 x 1.5	63	50.0	120	46.7	56.0
M75 x 1.5	75S	55.4	140	52.3	62.0
M75 x 1.5	75	60.8	140	58.0	68.0
M80 x 2.0	80	64.4	160	61.9	72.0
M85 x 2.0	85	69.8	180	69.1	78.0
M90 x 2.0	90	75.1	200	74.1	84.0
M100 x 2.0	100	80.5	220	81.8	90.0

Design option:

- A brass continuity washer may be fitted in the 20S to 100 sizes that are used with lead inner sheathed cables, glands with this modification are designated with a '2' in their type number.

Additional assembly options are described by the following designation coding:

Gland Type:	CR-U				
Available Part No's.:	C	R	U	*	*
				2	B
					S
Options:	2	Lead Sheath Cable Continuity Washer			
	B	Brass material			
	S	Stainless Steel material			

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Issue 0

The CR-X** Range of Barrier Cable Glands are suitable for use with, unarmoured, braided and screened cables; they comprise:

- a threaded entry body to tighten into an associated enclosure; this is fitted with a silicone O-ring and internally coated with a release agent
- a ferrule, fitted with an external nitrile O-ring, which fits into the entry body to make a part chamber into which a two-part "elastomeric" epoxy putty setting compound is applied to provide an inner seal around the conductors.
- a union nut that couples the entry body and ferrule together
- a back nut that is screwed and secured into the ferrule with Loctite® 2701 adhesive

Entry thread size	Gland size	Max. Ø over cores (mm)	Max. no. of cores	Max. outer sheath Ø (mm)
M20 x 1.5	20S	10.4	8	11.7
M20 x 1.5	20	12.5	14	14.0
M25 x 1.5	25	17.8	25	20.0
M32 x 1.5	32	23.5	50	26.3
M40 x 1.5	40	28.8	80	32.2
M50 x 1.5	50	39.4	100	44.1
M63 x 1.5	63	50.0	120	56.0
M75 x 1.5	75	60.8	140	68.0
M80 x 2.0	80	64.4	160	72.0
M85 x 2.0	85	69.8	180	78.0
M90 x 2.0	90	75.1	200	84.0
M100 x 2.0	100	80.5	220	90.0

Design option:

- A brass continuity washer may be fitted in the 20S to 100 sizes that are used with lead inner sheathed cables, glands with this modification are designated with a '2' in their type number.

Additional assembly options are described by the following designation coding:

Gland Type:	CR-X				
Available Part No's.:	C	R	X	*	*
				2	B S
Options:	2	Lead Sheath Cable Continuity Washer			
	B	Brass material			
	S	Stainless Steel material			

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Sira Certification Service

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SCHEDULE

TYPE EXAMINATION CERTIFICATE

Sira 09ATEX4124X.
Issue 0

The CR-C*** Range of Barrier Cable Glands are suitable for use with circular, pliable wire, single wire and steel tape armoured cables along with braided/screened and unarmoured cables; they comprise:

- a threaded entry body to tighten into an associated enclosure, this fitted with a silicone O-ring and internally coated with a release agent.
- a cone, fitted with an external nitrile O-ring, which fits into the entry component to make a part chamber into which a two part "elastomeric" epoxy putty setting compound is applied to provide an inner seal around the conductors.
- a clamp ring that secures cable armour to the cone and also provides earth protection.
- a mid-cap component that fastens to the entry body to captivate the clamp ring, cone and epoxy putty.
- a back nut, enclosing a white, silicone, elastomeric, cable outer sheath seal and skid washer, that screws onto the external thread of the mid cap.

Entry thread size	Gland size	Max. Ø over cores (mm)	Max. number of cores	Max. inner sheath Ø (mm)	Outer sheath Ø (standard) (mm)		Max. armour Ø /thickness	
					Min.	Max.	Min.	Max.
M20 x 1.5	16	10.4	7	11.7	9.0	13.5	0.15	1.25
M20 x 1.5	20S	10.4	8	11.7	11.5	16.0	0.15	1.25
M20 x 1.5	20	12.5	14	14.0	15.5	21.1	0.15	1.25
M25 x 1.5	25	17.8	25	20.0	20.3	27.4	0.15	1.6
M32 x 1.5	32	23.5	50	26.3	26.7	34.0	0.15	2.0
M40 x 1.5	40	28.8	80	32.2	33.0	40.6	0.2	2.0
M50 x 1.5	50S	34.2	100	38.2	39.4	46.7	0.2	2.5
M50 x 1.5	50	39.4	100	44.1	45.7	53.2	0.2	2.5
M63 x 1.5	63S	44.8	120	50.1	52.1	59.5	0.3	2.5
M63 x 1.5	63	50.0	120	56.0	58.4	65.8	0.3	2.5
M75 x 1.5	75S	55.4	140	62.0	64.8	72.2	0.3	2.5
M75 x 1.5	75	60.8	140	68.0	71.1	78.0	0.3	2.5
M80 x 2.0	80	64.4	160	72.0	77.0	84.0	0.45	3.15
M85 x 2.0	85	69.8	180	78.0	79.6	90.0	0.45	3.15
M90 x 2.0	90	75.1	200	84.0	88.0	96.0	0.45	3.15
M100 x 2.0	100	80.5	220	90.0	92.0	102.0	0.45	3.15

Design options:

- A brass continuity washer may be fitted in the 20S to 100 sizes that are used with lead inner sheathed cables, glands with this modification are designated with a '2' in their type number.
- The CR-C** size 20s and 20 cable glands to be used with an alternative, cone component; in this form, the glands are designated CX-C** (see details below) and are only suitable for braided cables:

Entry thread size	Gland size	Max. Ø over cores (mm)	Max. number of cores	Max. inner sheath Ø (mm)	Outer sheath Ø (standard) (mm)		Braid Ø (mm)	
					Min.	Max.	Min.	Max.
M20 x 1.5	20S	10.4	8	11.7	11.5	16.0	0.15	0.35
M20 x 1.5	20	12.5	14	14.0	15.5	21.1	0.15	0.5

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Additional assembly options are described by the following designation coding:

Gland Type:	CR-C					
Available Part No's.:	C	R	C	*	*	*
				2	B	R
					S	
Options:	2					
	B					
	S					
	R					

Lead Sheath Cable Continuity Washer
Brass material
Stainless Steel material
Reduced Bore option



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The CR-C**R Range of Barrier Cable Glands are suitable for circular, pliable wire, single wire and steel tape armoured cables along with braided/screened and unarmoured cables.

The same components as the CR-C*** range, however, the cable outer sheath seal has a reduced bore size to accommodate an alternative range of outer sheath cable sizes and is red in colour.

Entry thread size	Gland size	Max. Ø over cores (mm)	Max. number of cores	Max. inner Sheath Ø (mm)	Outer sheath Ø (standard) (mm)		Max. Armour Ø /thickness	
					Min.	Max.	Min.	Max.
M20 x 1.5	16	10.4	7	11.7	6.7	10.3	0.15	1.25
M20 x 1.5	20S	10.4	8	11.7	9.4	12.5	0.15	1.25
M20 x 1.5	20	12.5	14	14.0	12.0	17.6	0.15	1.25
M25 x 1.5	25	17.8	25	20.0	16.8	23.9	0.15	1.6
M32 x 1.5	32	23.5	50	26.3	23.2	30.5	0.15	2.0
M40 x 1.5	40	28.8	80	32.2	28.6	36.2	0.2	2.0
M50 x 1.5	50S	34.2	100	38.2	34.8	42.4	0.2	2.5
M50 x 1.5	50	39.4	100	44.1	41.1	48.5	0.2	2.5
M63 x 1.5	63S	44.8	120	50.1	47.5	54.8	0.3	2.5
M63 x 1.5	63	50.0	120	56.0	53.8	61.2	0.3	2.5
M75 x 1.5	75S	55.4	140	62.0	60.2	68.0	0.3	2.5
M75 x 1.5	75	60.8	140	68.0	66.5	73.4	0.3	2.5
M80 x 2.0	80	64.4	160	72.0	-	-	0.45	3.15
M85 x 2.0	85	69.8	180	78.0	75.0	85.4	0.45	3.15
M90 x 2.0	90	75.1	200	84.0	-	-	0.45	3.15
M100 x 2.0	100	80.5	220	90.0	87.4	97.4	0.45	3.15

Design option:

- A brass continuity washer may be fitted in the 20S to 100 sizes that are used with lead inner sheathed cables, glands with this modification are designated with a '2' in their type number.
- The CR-C** may be used with of an alternative outer sheath seal that is red in colour and has a reduced bore size that accommodates an alternative range of outer sheath cable sizes; in this form, the glands are designated CX-C**R** (see details below):

Entry thread size	Gland size	Max. Ø over cores (mm)	Max. number of cores	Max. inner Sheath Ø (mm)	Outer sheath Ø (standard) (mm)		Braid Ø	
					Min.	Max.	Min.	Max.
M20 x 1.5	20S	10.4	8	11.7	9.4	0.15	0.15	0.35
M20 x 1.5	20	12.5	14	14.0	12.0	0.15	0.15	0.5

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The CR-S* Range of Conduit Stopper Boxes are suitable for use with conductors carried in conduit, providing a flameproof barrier entry into enclosures and as reversible bushings for terminating flying leads; they comprise:

- a threaded entry body to tighten into an associated enclosure, this is fitted with a silicone O-ring and internally coated with a release agent
- a ferrule, fitted with an external nitrile O-ring, which fits into the entry body to make a part chamber into which a two-part "PEPPERS T1000" epoxy putty setting compound is applied to provide an inner seal around the conductors or flying leads.
- a union nut that couples the entry body and ferrule together
- a conduit nut that is screwed and secured into the ferrule with Loctite® 2701 adhesive.

Entry thread size	Gland size	Max. Ø over cores (mm)	Max. no. of cores	Max. Outer Ø sheath (mm)
M20 x 1.5	20	12.5	14	14.0
M25 x 1.5	25	17.8	25	20.0
M32 x 1.5	32	23.5	50	26.3
M40 x 1.5	40	28.8	80	32.2
M50 x 1.5	50	39.4	100	44.1
M63 x 1.5	63	50.0	120	56.0
M75 x 1.5	75	60.8	140	68.0
M80 x 2.0	80	64.4	160	72.0
M85 x 2.0	85	69.8	180	78.0
M90 x 2.0	90	75.1	200	84.0
M100 x 2.0	100	80.5	220	90.0

Additional assembly options are described by the following designation coding: -

Gland Type: **CR-S**

Available Part No's.: **C R S * | ***
B F
S M

Options: **B** Brass material
S Stainless Steel material
F *Female Back End Configuration
M *Male Back End Configuration
*above applicable for CR-S range only.



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14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	16 April 2010	R19249A/00	The release of the prime certificate.

15 SPECIAL CONDITIONS FOR SAFE USE

15.1 The cable glands/stopper boxes shall not be used in enclosures where the temperature, at the point of entry/mounting, is outside of the range -60°C to +135°C.

i. The Ingress Protection rating that is required to ensure compliance with the standards used in this certificate was determined by testing the devices fitted into a representative enclosure having a smooth flat mounting surface. In practice, the interface between the male thread of the glands and their associated enclosure cannot be defined, therefore, it is the user's responsibility to ensure that the appropriate Ingress Protection level is maintained at these interfaces.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed reports listed in Section 14.2.

17 CONDITIONS OF CERTIFICATION

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of Type Examination Certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

Certificate Annexe

Certificate Number: Sira 09ATEX4124X.
Equipment: CR**** Range of cable glands and stopping boxes
Applicant: Peppers Cable Glands Ltd.



Issue 0

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
PCG/ATX/CR-S	1 of 1	4	09 Apr 10	Conduit Stopper Box CR-S Family
PCG/ATX/CR-U	1 of 1	6	09 Apr 10	Barrier Glands For Armoured And Unarmoured Cable, CR-C Family
PCG/ATX/CR-U	1 of 1	6	09 Apr 10	Barrier Glands For Unarmoured Cable, CR-U and CR-X Families
PCG/ATX/35VT	1 of 1	3	09 Apr 10	Conduit Nut, Npt Thread Part 35V
PCG/LW2	1 of 1	7	09 Apr 10	Continuity Washer Part LW2
PCG/MATS/SB	1 of 1	3	09 Apr 10	Standard Materials
PCG/ATX/88NMM	1 of 1	1	12 Apr 10	Conduit Nut, Male Part 88NMM

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