



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: **BAS 01ATEX2271X** Issue: **6**

4 Equipment: **Type CR**** Cable Glands**

5 Applicant: **Peppers Cable Glands Limited**

6 Address: Peppers Cable Glands Ltd
Stanhope Road
Camberley
Surrey GU15 3BT
UK

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

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

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 to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2006 EN 60079-1:2007 EN 60079-7:2007 EN 61241-0:2006 EN 61241-1:2004

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 EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

	CR**** Type and CR-D**** Type	or		CR-0**** Type
	II 2GD Ex d IIC Ex e II Ex tD A21 IP68			II 2GD Ex e II Ex tD A21 IP66

Project Number 51A20864
C. Index 07

C Ellaby
Certification Officer

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13 **DESCRIPTION OF EQUIPMENT**

The Type CR**** may be supplied in gland sizes M16 to M100, with entry thread sizes M20 to M100 or with the equivalent size NPT, NPSM, BSPT, PG or ET entry thread forms. They are intended for use with effectively fitted and circular armoured, unarmoured, braided or screened sheathed cables and comprise the following components:-

- | | | | |
|----|-----------------------------------|----|-----------------------------------|
| a. | An entry component | f. | A tapered clamp ring |
| b. | An elastomeric inner sealing ring | g. | A middle nut |
| c. | A metal inner skid washer | h. | An elastomeric outer sealing ring |
| d. | A compression nut | i. | A nylon outer skid washer |
| e. | An armour clamping cone | j. | A back nut |

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

Gland Type:	CR					
Available Part No's.:	C	R	*	*	*	*
			D	1	B	R
			O	2	S	
				3		
Options:	D	Omission of Outer Seal				
	O	Omission of Inner Seal				
	1	Neoprene Seals				
	2	Lead Sheath Cable Continuity Washer				
	3	Silicone Seals				
	B	Brass material				
	S	316 Stainless Steel material				
	R	Reduced Bore option				

Type CR2* Cable Glands:

The Type CR2* Cable Glands are used with lead inner sheathed cables. They are formed by using a brass continuity washer within the Type CR1* Cable Glands. The Type CR2* Cable Glands are available with ISO metric entry threads of M20 to M100 (alternative thread forms are available in equivalent sizes) in cable gland sizes 20s through to 100, they can be made from either brass (B), stainless steel (S) and fitted with an optional reduced bore outer seal (R).

Type CRD1* Cable Glands
Type CRD3* Cable Glands

The Type CRD1*, CRD2* and CRD3* Cable Glands are used with armoured, unarmoured, braided or screened sheathed cables. They are formed by removing the outer cap, outer seal and outer skid washer from the Type CR** cable glands and fitting an alternative middle cap component, in addition these glands are fitted with an O-ring entry body seal. The Type CRD1*, CRD2* and CRD3* Cable Glands are available with ISO metric entry threads of M20 to M100 (alternative thread forms are available in equivalent sizes) in cable gland sizes 16 through to 100, they can be made from either brass (B) or stainless steel (S).

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Type CRO1* Cable Glands

Type CRO3* Cable Glands

The Type CRO1*, CRO2* and CRO3* Cable Glands are used with armoured, non-lead sheathed cables. They are formed by removing the inner sealing ring and its associated skid washer from the Type CR** cable glands, in addition these glands are fitted with an O-ring entry body seal. The Type CRO1*, CRO2* and CRO3* Cable Glands are available with ISO metric entry threads of M20 to M100 (alternative thread forms are available in equivalent sizes) in cable gland sizes 16 through to 100, they can be made from either brass (B), stainless steel (S) and fitted with an optional reduced bore outer seal (R).

Sira Variation 1 - This variation introduced the following changes:

- i. To permit the use of CR1* (neoprene) range of cable glands within an operating temperature range of 85°C; this change necessitates the amendment of special condition for safe use clause 15.2.
- ii. To allow the use of the CR** range of cable glands on a revised inner sheath cable range.
- iii. To permit the use of the CR** range of cable glands for installations with an ingress protection rating of IPX8.
- iv. To allow the serial/batch number to be removed from the product marking and relocated on the packaging.
- v. The introduction of additional minor dimensional and text changes to drawings.
- vi. To permit the use of the CR** range of cable glands with unarmoured, braided or screened cables and the application of a new special condition for safe use clause 15.4.
- vii. To allow the removal of seal temperature marking on the seals.

Sira Variation 2 - This variation introduced the following changes:

- i. The introduction of the following new types:
 - Type CR2* Cable Glands** – incorporating neoprene seals and continuity washer.
 - Type CRD1* Cable Glands** – incorporating neoprene seals
 - Type CRD3* Cable Glands** – incorporating silicone seals
 - Type CRO1* Cable Glands** – incorporating neoprene seals
 - Type CRO3* Cable Glands** – incorporating silicone seals
- ii. To permit the CR1*, CR2*, CR3*, CRD1* and CRD3* Ranges of Cable Glands to be marked IP68; this indicates that they have been tested at a depth up to 25 m for a duration of 30 minutes when fitted into either threaded entries or 'EEx e' enclosures that have plain hole entries with 0.5 mm clearances. The CR-0** Cable Glands will be marked IP66.
- iii. To allow the use of NBR O-ring interface seals with the CR** Range of Cable Glands that are fitted with neoprene sealing rings.
- iv. To recognise the introduction of minor drawing changes.
- v. The Special Conditions For Safe Use clause numbers 15.2 and 15.4 are amended to recognise the new types introduced with this variation.



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Sira Variation 3 - This variation introduced the following changes:

- i. Following appropriate re-assessment to demonstrate compliance with the requirements of the EN 60079 series of standards, the documents originally listed in section 9, EN 50014:1997 (amendments 1 and 2), EN 50018:2000, EN 50019:2000 and EN 50281-1-1:1998, were replaced by those currently listed, the markings in section 12 were updated accordingly and the conditions were modified to recognise the requirements of the latest standards.
- ii. Special Condition for Safe Use 15.5 was introduced.

Sira Variation 4 - This variation introduced the following changes:

- i. A clarification to the Type CR**** Cable Glands.

Sira Variation 5 - This variation introduced the following changes:

- i. The recognition of minor drawing modifications; these amendments are administrative or involve changes to the design that do not affect the aspects of the product that are relevant to explosion safety.
- ii. The list of certified drawings was rationalised.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	4 April 2002	BAS 00 (C)1048	The release of the prime certificate.
1	2 May 2003	Sira R51A10029A	The introduction of Sira Variation 1.
2	21 April 2005	Sira R51A10999A	The introduction of Sira Variation 2.
3	4 June 2009	Sira R51A20139A	This Issue covers the following changes: <ul style="list-style-type: none">• All previously issued certification was rationalised into a single certificate, Issue 3, Issues 0 to 2 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format.• The introduction of Sira Variation 3.
4	26 June 2009	N/A	Re-issued to correct the Conditions For Safe Use.
5	27 July 2009	R51A20631A	The introduction of Sira Variation 4.
6	12 November 2009	R20864A	The introduction of Sira Variation 5.

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- 15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)
- 15.1 These glands are not suitable for use with group IIC flameproof enclosures having a volume greater than 2000cc.
- 15.2 Glands fitted with neoprene sealing rings (black) shall not be used in enclosures where the temperature, at the point of mounting, is outside the range of -20°C to +85°C.
Glands fitted with silicone sealing rings (white or red) shall not be used in enclosures where the temperature, at the point of mounting, is outside the range of -60°C to +180°C.
- 15.3 When the gland is used with increased safety and/or dust protected equipment, the entry thread shall be suitably sealed to maintain the ingress protection rating of the associated enclosure.
- 15.4 If the CR1*, CR2*, CR3*, CRD1* and CRD3* types of cable glands only grip the outer sheath of the cable and do not clamp the cable armour or if they are used to terminate unarmoured, braided or screened cables, then they shall only be used for fixed installations, hence, the cables shall be effectively clamped to prevent pulling or twisting.
- 15.5 An ingress protection rating of IP68 is assigned to the CR**** range of cable glands (except CR-O** which are assigned IP66) provided that at the interface the surface is flat, the hole for the equipment is drilled straight to an appropriate diameter, the limiting temperature is not exceeded and the chemical resistance properties of the O-rings or sealing washers are suitable for the intended application.
- 16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)
The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the 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 EC 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: BAS 01ATEX2271X
Equipment: Type CR**** Cable Glands
Applicant: Peppers Cable Glands Limited



Issue 0

Drawing No.	Sheet	Rev.	Date	Description
PCG/ATX/CR	1 of 1	1	05 Dec 01	General Arrangement
PCG/MATS/SB	1 of 1	1	20 Sep 01	Material Specifications
PCG/ETDMV	1 of 1	1	20 Sep 01	Thread Specifications
PCG/ATX/1V	1 of 1	1	20 Mar 02	Entry Component
PCG/ATX/82V	1 of 1	1	19 Sep 01	Inner Seal
PCG/ATX/91V	1 of 1	1	09 Mar 01	Inner Skid Washer
PCG/ATX/8V	1 of 1	1	04 Oct 01	Compression Nut
PCG/ATX/3V	1 of 1	1	07 Nov 01	Armour Clamp Cone
PCG/ATX/10V	1 of 1	1	07 Nov 01	Armour Clamp Ring
PCG/ATX/5V	1 of 1	1	20 Mar 02	Middle Nut
PCG/ATX/2M	1 of 1	1	19 Sep 01	Outer Seal
PCG/ATX/11M	1 of 1	1	07 Nov 01	Outer Skid Washer
PCG/ATX/6M	1 of 1	1	07 Nov 01	Back Nut

Issue 1

Drawing No.	Sheet	Rev.	Date	Description
PCG/ATX/CR	1 of 1	2	10 Feb 2003	General arrangement
PCG/ATX/5V	1 of 1	2	16 Jan 2003	Middle cap component
PCG/ATX/82V	1 of 1	2	9 Apr 2003	Inner seal component
PCG/ATX/2M	1 of 1	2	9 Apr 2003	Outer seal component

Issue 2

Drawing no:	Sheets	Rev.	Date	Description
PCG/ATX/CR	1 of 1	3	09 Dec 04	General arrangement
PCG/ATX/5V	1 of 1	3	22 Mar 04	Middle cap component
PCG/ATX/1V	1 of 1	2	23 Jan 04	Entry body
PCG/ATX/8V	1 of 1	2	04 Feb 04	Compression nut
PCG/LW3	1 of 1	2	23 Jan 04	Continuity washer
PCG/ATX/CRD	1 of 1	1	09 Dec 04	General arrangement
PCG/ATX/CR0	1 of 1	1	09 Dec 04	General arrangement
PCG/OR	1 of 1	1	17 Sep 01	O-ring seals
PCG/ATX/4V	1 of 1	1	06 Jul 04	ATEX component cap part 4V

Issue 3

Drawing No.	Sheets	Rev.	Date (Sira Stamp)	Title
PCG/ATX/CRD	1 of 1	2	27 Apr 09	General Arrangement
PCG/ATX/CRO	1 of 1	2	27 Apr 09	General Arrangement
PCG/ATX/CR	1 of 1	4	27 Apr 09	General Arrangement
PCG/ETDMV	1 of 1	4	02 Jun 09	Standard Thread Chart
PCG/ATX/1V	1 of 1	4	30 Sep 08	Entry Body Part 1V

Issues 4 and 5 No new drawings were introduced.

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Certificate Annexe

Certificate Number: BAS 01ATEX2271X
Equipment: Type CR**** Cable Glands
Applicant: Peppers Cable Glands Limited



Issue 6

Drawing No.	Sheets	Rev.	Date	Title
PCG/ATX/CR	1 of 1	6	05 Nov 09*	General Arrangement
PCG/ATX/CRD	1 of 1	4	05 Nov 09*	General Arrangement
PCG/ATX/CRO	1 of 1	2	27 Apr 09*	General Arrangement
PCG/MATS/SB	1 of 1	2	12 Oct 09*	Material Specifications
PCG/ETDMV	1 of 1	5	11 Sep 09*	Thread Specifications
PCG/ATX/1V	1 of 1	5	15 Sep 09*	Entry Component
PCG/ATX/82V	1 of 1	4	15 Sep 09*	Inner Seal
PCG/ATX/82N	1 of 1	3	15 Sep 09	Seal
PCG/ATX/91V	1 of 1	4	08 Oct 09*	Inner Skid Washer
PCG/ATX/91A	1 of 1	1	02 Oct 09*	ATEX Component Skid Washer – Parts 91AS, 91AB, 91ABT
PCG/ATX/8V	1 of 1	2	04 Feb 04	Compression Nut
PCG/ATX/3V	1 of 1	3	15 Sep 09*	Armour Clamp Cone
PCG/ATX/10V	1 of 1	2	15 Sep 09*	Armour Clamp Ring
PCG/ATX/5V	1 of 1	3	22 Mar 04	Middle Nut
PCG/ATX/2M	1 of 1	2	09 Apr 03	Outer Seal
PCG/ATX/11M	1 of 1	1	07 Nov 01	Outer Skid Washer
PCG/ATX/6M	1 of 1	2	11 Sep 09*	Back Nut
PCG/LW3	1 of 1	4	15 Sep 09*	Continuity washer
PCG/OR	1 to 2	5	15 Sep 09*	O-ring seals
PCG/ATX/4V	1 of 1	2	02 Oct 09*	ATEX component cap part 4V

* This is the Sira stamp date.

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