



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: Sira 03ATEX1479X

4 Equipment: CR\* Range of Barrier Cable Glands and Stopper Boxes

5 Applicant: Peppers Cable Glands Limited

6 Address: 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 confidential report number R51A10025A and R51A11518A.

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 50014:1997 (amendments A1 and A2)

EN 50018:2000 (amendment A1)

EN 50281-1-1:1998 (amendment A1)

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:



I M2  
EEx d I



II 2 G D  
EEx d IIC  
IP68

Project Number 51A11518  
Date 20 November 2003  
Re-issued 11 May 2004  
C. Index 07

C Ellaby   
Certification Officer

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**Sira Certification Service**

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## SCHEDULE

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Re-issued 11 May 2004 to introduce the modifications described in report number R51A11518A.

#### 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 dependant on their type. They allow the entry of the cable or conductors into flameproof 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 30 minutes).

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

##### Entry component and CR-S\* 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 50018:2000 (amendment A1).

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

Brass to BS 2874:1986 grades CZ121 (3Pb), or CZ121 (4Pb) or CZ122  
Stainless Steel to BS 970:Part 1:1991 grades 316S11, 316S31, 303 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.

The **CR-U\* Range of Barrier Cable Glands** are suitable for use with circular, 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 "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 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

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Entry thread size	Gland size	Max. Ø over cores (mm)	Max. number of cores	Outer sheath seal range (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.

The **CR-X\* Range of Barrier Cable Glands** are suitable for use with circular, 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. number of cores	Max. outer sheath (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

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**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\* 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 (mm)	Outer sheath (standard) (mm)		Max. armour dia/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 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\*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.

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Entry thread size	Gland size	Max. Ø over cores (mm)	Max. number of cores	Max. inner sheath (mm)	Outer sheath (standard) (mm)		Max. armour dia/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-S\* Range of Conduit Stopper Boxes** are suitable for use with conductors carried in conduit or converting cable glands into a flameproof barrier; 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 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. number of cores	Max. outer 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

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#### 14 DESCRIPTIVE DOCUMENTS

14.1	Drawing No.	Sheet	Rev.	Date	Title
	PCG/ATX/CR-C	1 of 1	2	11 Feb 04	General arrangement
	PCG/ATX/CR-U	1 of 1	2	11 Feb 04	General arrangement
	PCG/ATX/CR-S	1 of 1	1	29 Oct 03	General arrangement
	PCG/ATX/31V	1 of 1	2	04 Dec 03	Entry body
	PCG/ATX/31VT	1 of 1	2	04 Dec 03	Entry body
	PCG/ATX/33V	1 of 1	2	05 Apr 04	Cone
	PCG/ATX/10V	1 of 1	1	07 Nov 01	Clamp ring
	PCG/ATX/5V	1 of 1	3	22 Mar 04	Middle cap
	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	1	07 Nov 01	Outer cap
	PCG/BR	1 of 1	1	29 Aug 03	O-ring
	PCG/OR	1 of 1	1	26 Oct 01	O-ring
	PCG/ETDMV	1 of 1	1	20 Sep 01	Entry thread options chart
	PCG/MATS/SB <sup>①</sup>	1 of 1	1	20 Sep 01	Material options chart
	PCG/ATX/34V	1 of 1	2	05 Apr 04	Ferrule
	PCG/ATX/36V	1 of 1	1	13 Aug 03	Union nut
	PCG/ATX/39V <sup>②</sup>	1 of 1	2	23 Jan 04	Seal housing
	PCG/ATX/81N	1 of 1	2	06 Sep 02	Entry body
	PCG/ATX/82V	1 of 1	2	09 Apr 03	Seal
	PCG/ATX/82N <sup>①</sup>	1 of 1	2	02 Sep 03	Seal
	PCG/ATX/91V	1 of 1	1	09 Mar 01	Skid washer
	PCG/ATX/91N	1 of 1	1	09 Mar 01	Skid washer
	PCG/ATX/88N	1 of 1	2	06 Sep 02	Nut
	PCG/ATX/38V <sup>②</sup>	1 of 1	2	23 Jan 04	Union retaining cap
	PCG/ATX/35V <sup>②</sup>	1 of 1	2	11 Feb 04	Conduit nut
	PCG/ATX/35VT <sup>②</sup>	1 of 1	2	11 Feb 04	Conduit nut
	PCG/ATX/35VC	1 of 1	2	11 Feb 04	Conduit nut
	PCG/LW1	1 of 1	3	05 Apr 04	Continuity washer

<sup>①</sup> These drawings were amended by Sira on 7 Nov 2003.

<sup>②</sup> These drawings were amended by Sira on 30 Mar 2004.

14.2 Report No. R51A10025A and R51A11518A

15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)

15.1 The cable glands shall not be used in enclosures where the temperature, at the point of mounting, is outside the range of -60°C to +85°C.

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 Report No. R51A10025A.

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.

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