



# IECEx Certificate of Conformity

**INTERNATIONAL ELECTROTECHNICAL COMMISSION**  
**IEC Certification Scheme for Explosive Atmospheres**  
for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEx SIR 05.0020X** Issue No.: **0**

Status: **Current**

Date of Issue: **2005-09-08** Page 1 of 4

Applicant: **Peppers Cable Glands Limited**  
Stanhope Road  
Camberley  
Surrey  
GU15 3BT  
United Kingdom

Electrical Apparatus: **Cable Glands and Stopper Boxes**  
Optional accessory:

Type of Protection: **Flameproof and Increased Safety**

Marking: **Ex d IIC**  
**Ex e II**  
**Ex d I**  
(As applicable, refer to schedule)


Approved for issue on behalf of the IECEx  
Certification Body:

C Ellaby

Position:

Certification Officer

Signature:  
(for printed version)

  
\_\_\_\_\_  
2005-09-08

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

**SIRA Certification Service**

South Hill  
Chislehurst  
Kent BR7 5EH  
United Kingdom

**sira**  
Sira Test & Certification Ltd



# IECEX Certificate of Conformity

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Manufacturer: **Peppers Cable Glands Limited**  
Stanhope Road  
Camberley  
Surrey  
GU15 3BT  
**United Kingdom**

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

<b>IEC 60079-0 : 2004</b> Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2003</b> Edition: 5	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure 'd'
<b>IEC 60079-7 : 2001</b> Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e'

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

IECEX ATR:  
**UK/SIR/05/R53L11932A**

File Reference:  
**53L11932**  
**Sira 05.030**



# IECEx Certificate of Conformity

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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

All cable gland and stopper box ranges described and listed in the Annexe to this certificate have type code designations; these designations are shown in a matrix detailed on the manufacturer's documents, they are also shown on the manufacturer's instruction leaflets for the end user. These type codes are unique to each and every cable gland and stopper box, and identify the various design options applicable to each cable gland and stopper box range.

### CONDITIONS OF CERTIFICATION: YES as shown below:

<b>A8F, D8XF and E8XF Ranges of Glands</b>	
1	The A8F, D8XF and E8XF Ranges of Cable Glands are certified with one, specific size of FLP sealing ring per gland size as supplied.
2	The A8F, D8XF and E8XF Ranges of Cable Glands shall not be used in enclosures where the temperature, at the point of mounting, is outside the range of -60° C to +180° C.
3	The A8F, D8XF and E8XF Ranges of Cable Glands shall only be used for fixed installations, in addition, the cables shall be effectively clamped to prevent pulling or twisting.
<b>A2LF Range of Glands</b>	
1	The A2LF Ranges of Cable Glands are certified with one, specific size of FLP sealing ring per gland size as supplied.
2	The A2LF Range of Cable Glands shall not be used in enclosures where the temperature at the point of entry/mounting exceeds the following:  -20°C to +85°C for the Neoprene (black) seal variants -60°C to +180°C for the Silicone (white) seal variants

3	The cable entries are only suitable for fixed installations, cables shall be effectively clamped to prevent pulling or twisting.
<b>CWLe, E1WF and D1WF Ranges of Glands</b>	
1	The E1WF and D1WF and Ranges of Cable Glands are certified with one, specific size of FLP sealing ring per gland size as supplied.
2	<p>The CWLe, E1WF and D1WF and Ranges of Cable Glands shall not be used in enclosures where the temperature, at the point of contact exceeds the following temperatures:</p> <p>-20° C to +85° C for neoprene (black) seal variants  -60° C to +180° C for the silicone (white or red) seal variants</p>
<b>CR* Ranges of Barrier Cable Glands &amp; Stopper Boxes</b>	
1	The cable glands shall not be used in enclosures where the temperature, at the point of mounting, is outside the range of -20° C to +85° C.
<b>CR*, CR0* and CRD* Ranges of Glands</b>	
1	The CR* and CRD* Ranges of Cable Glands are certified with one, specific size of FLP sealing ring per gland size as supplied.
2	<p>The CR* and CRD* Ranges of Cable Glands shall not be used in enclosures where the temperature at the point of entry/mounting exceeds the following:</p> <p>-20° C to +85° C for neoprene (black) seal variants  -60° C to +180° C for the silicone (white or red) seal variants</p>
3	If the 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.



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**EQUIPMENT(continued):**

**Annexe to:** IECEx SIR 05.0020X  
**Applicant:** Peppers Cable Glands Limited  
**Electrical Apparatus:** Cable Glands and Stopper Boxes

## **E8XF, D8XF and A8F Ranges of Cable Glands**

These ranges of cable glands are intended for use with flat profile cables and have an ingress protection rating of IP66.

The **E8XF Range** comprises:

- a threaded entry body to tighten into an associated enclosure
- a silicone elastomeric sealing ring that fits into the entry body to provide a flameproof seal around the inner sheath of the cable
- armour clamp ring, armour cone to clamp onto copper braid/woven steel wire armour and skid washer; these also compress the seal onto the inner sheath of the cable with the aid of a mid-cap using interlocking hexagons to prevent cable twist on assembly
- mid-cap for coupling internal seal and armour locking mechanisms onto the entry body
- outer cap, bush and silicone elastomeric sealing ring; this cap tightens onto the mid-cap whilst compressing the seal onto the outer sheath of the cable, using an interlocking hexagonal bush preventing cable twist upon assembly

The E8XF glands are available in the size range 20S, 20R and 20 with an M20 x 1.5 ISO metric entry thread and are coded Ex d IIC/Ex e II.

### **Design Options:**

Alternative nearest equivalent and recognised entry body component thread forms:

- 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

Alternative metallic materials of manufacture:

- Brass to BS 2874:1986 grades CZ121 (3Pb), or CZ121 (4Pb) or CZ122
- Steel to BS 970:Part 1:1991 grades 220MO7Pb or 230MO7Pb
- 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 **D8XF** range varies from the E8XF by:

- the replacement of outer cap, bush and outer sheath elastomeric seal and mid-cap with an alternative cap, tightening onto an alternative entry body component and armour cone without interlocking hexagons.

The **A8F** range varies from the E8XF by:

- the replacement of the outer cap, bush, outer sheath elastomeric seal, mid-cap, armour cone and clamp with an alternative cap that tightens onto an alternative entry body component and compression bush without interlocking hexagons
- this gland type is suitable for use with any flat form cable with or without armour, screen or braid, where sealing and retention is provided by gripping the outer sheath

**Annexe to:** IECEx SIR 05.0020X  
**Applicant:** Peppers Cable Glands Limited  
**Electrical Apparatus:** Cable Glands and Stopper Boxes

## A2LF Range of Cable Glands

This range of cable glands is intended for use with any cable type where sealing and retention is required by gripping the outer sheath (this includes armoured/screened/braided cables, the armour/screen/braid being clamped inside the terminating equipment); the A2LF range has an ingress protection rating of IP68, tested for a depth of up to 25 m immersion for a duration of 30 mins.

The **A2LF** range comprises:

- a threaded entry body, including a groove to accommodate an optional O-ring seal, which tightens into an associated enclosure
- silicone or neoprene elastomeric sealing ring, which fits into the entry body to provide a flameproof seal around the outer sheath of the cable
- outer cap and skid washer and silicone or neoprene elastomeric sealing ring; the cap tightens onto the entry body whilst compressing the seal onto the outer sheath of the cable

These glands are available in the size range 16 to 100 mm with ISO metric entry threads of M20 to M100 respectively and coded Ex d IIC/Ex e II, except conduit types which are available in the size range 16 to 75 mm with ISO metric entry threads of M20 to M75 respectively.

### Design Options:

Alternative designs:

- the gland can be fitted with an additional mid-cap, skid washer and elastomeric sealing ring to create a double seal configuration
- the single seal configuration outer cap can be replaced with an alternative compression nut, which will accept either male or female conduit

Alternative nearest equivalent and recognised entry body component thread forms:

- 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

Alternative metallic materials of manufacture:

- Brass to BS 2874:1986 grades CZ121 (3Pb), or CZ121 (4Pb) or CZ122
- Aluminium to BS 1474:1987 grade HE30TF
- 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.)

**Annexe to:** IECEx SIR 05.0020X  
**Applicant:** Peppers Cable Glands Limited  
**Electrical Apparatus:** Cable Glands and Stopper Boxes

## **E1WF, D1WF and CWLe Ranges of Cable Glands**

These devices are intended for use with SWA/Tape/Woven Steel Wire armoured cables; the E1WF and D1WF ranges have an ingress protection rating of IP66/67 and the CWLe ranges have an ingress protection rating of IP66.

The **E1WF** range comprises:

- a threaded entry body to tighten into an associated enclosure; with design options to fit either an optional outer deluge seal or an integral earthing clamp
- silicone or neoprene elastomeric sealing ring, which fits into the entry body to provide a flameproof seal around the inner sheath of the cable. The neoprene version has an option to be fitted with a continuity washer for use with lead sheathed cable
- armour clamp ring and cone to clamp onto SWA/Tape/Woven Steel Wire as appropriate. These also compress the seal onto the inner sheath of the cable with the aid of a mid-cap.
- mid-cap for coupling internal seal and armour locking mechanisms onto the entry body
- Outer cap, skid washer and silicone or neoprene elastomeric sealing ring. The cap tightens onto the mid-cap whilst compressing the seal onto the outer sheath of the cable with a skid washer. The elastomeric sealing ring also being available with an alternative reduced bore

Glands are typically available in the size range 16 to 100 mm with ISO metric entry threads of M16 to M100 respectively, but not in every gland type variant. The E1WF and D1WF Ranges of Cable Glands are coded Ex d IIC/Ex e II and the CWLe Range of Cable Glands is coded Ex e II.

Glands fitted with a neoprene flameproof seal complete with a continuity washer are available in the size range 20S to 100 mm with ISO metric entry threads of M20 to M100 respectively; glands with this modification are designated with a '2' in their type number.

Glands fitted with an entry body with an integral earthing clamp are available in the size range 16 to 75 mm with ISO metric entry threads of M16 to M75 respectively.

### **Design Options:**

Alternative nearest equivalent and recognised entry body component thread forms:

- 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

Alternative metallic materials of manufacture:

- Brass to BS 2874:1986 grades CZ121 (3Pb), or CZ121 (4Pb) or CZ122
- Steel to BS 970:Part 1:1991 grades 220MO7Pb or 230MO7Pb
- 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.)

**Annexe to:** IECEX SIR 05.0020X  
**Applicant:** Peppers Cable Glands Limited  
**Electrical Apparatus:** Cable Glands and Stopper Boxes

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The **D1WF** range varies from the E1WF by:

- the replacement of outer cap, skid washer, outer sheath elastomeric seal and mid-cap with an alternative cap tightening onto the entry body component
- not having the option to be fitted with the outer deluge seal, integral earth or continuity washer

The **CWLe** range varies from the E1WF by:

- the removal of the inner sheath elastomeric seal, armour ring and armour cone
- not having the option to be fitted with the outer deluge seal or continuity washer.

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**Applicant:** Peppers Cable Glands Limited  
**Electrical Apparatus:** Cable Glands and Stopper Boxes

## **CR\* Barrier Cable Gland Range & Stopper Box Range**

These devices are intended for use with differing cables or conductors depending on type as listed below. They are coded Ex d I/Ex d IIC and have an ingress protection rating of IP68, tested for a depth of up to 100 m for a duration of 30 mins.

### **Design Options:**

Alternative nearest equivalent and recognised entry body component and CR-S\* conduit nut internal thread forms:

- 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

Alternative metallic materials of manufacture:

- 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\* Barrier Cable Gland Range** is suitable for use with circular, unarmoured braided and screened cables; the glands comprise:

- a threaded entry body, including a groove to accommodate an optional O-ring seal, which tightens into an associated enclosure and is internally coated with a release agent
- a ferrule, fitted with an external nitrile O-ring. This fits into the entry body to make a two-part chamber into which a two-part elastomeric epoxy putty setting compound is applied, to provide a flameproof 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 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

Glands are available in the size range 16 to 100 mm with ISO metric entry threads of M20 to M100 respectively.

### **Specific type design option:**

- A brass continuity washer may be fitted in the 20S to 100 mm sizes for use with lead inner sheathed cables. Glands with this modification are designated with a '2' in their type number.

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**Applicant:** Peppers Cable Glands Limited  
**Electrical Apparatus:** Cable Glands and Stopper Boxes

The **CR-X\* Barrier Cable Gland Range** is suitable for use with circular, unarmoured, braided and screened cables; the glands comprise:

- a threaded entry body, including a groove to accommodate an optional O-ring seal, which tightens into an associated enclosure and is internally coated with a release agent
- a ferrule, fitted with an external nitrile O-ring. This fits into the entry body to make a two-part chamber into which a two-part elastomeric epoxy putty setting compound is applied to provide a flameproof 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

Glands are available in the size range 20S to 100 mm with ISO metric entry threads of M20 to M100 respectively.

**Specific type design option:**

A brass continuity washer may be fitted that are used with lead inner sheathed cables. Glands with this modification are designated with a '2' in their type number.

The **CR-C\* Barrier Cable Gland Range** is suitable for use with circular, pliable wire, single wire and steel tape armoured cables along with braided/screened and unarmoured cables; the glands comprise:

- a threaded entry body, including a groove to accommodate an optional O-ring seal, which tightens into an associated enclosure and is internally coated with a release agent
- a cone, fitted with an external nitrile O-ring. This fits into the entry component to make a two-part chamber into which a two part elastomeric epoxy putty setting compound is applied to provide a flameproof 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. The elastomeric sealing ring also being available in red with a reduced bore

Glands are available in the size range 16 to 100 mm with ISO metric entry threads of M20 to M100 respectively.

**Specific type design option:**

- a brass continuity washer may be fitted in the 20S to 100 mm 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\* Conduit Stopper Box Range** are suitable for use with conductors carried in conduit or for converting cable glands into a flameproof barrier; the stopper boxes comprise:

- a threaded entry body, including a groove to accommodate an optional O-ring seal, which tightens into an associated enclosure and is internally coated with a release agent
- a ferrule, fitted with an external nitrile O-ring. This fits into the entry body to make a two-part chamber into which a two-part elastomeric epoxy putty setting compound is applied to provide a flameproof 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

These devices are available in the size range 20 to 100 mm with ISO metric entry threads of M20 to M100 respectively.

**Annexe to:** IECEx SIR 05.0020X  
**Applicant:** Peppers Cable Glands Limited  
**Electrical Apparatus:** Cable Glands and Stopper Boxes

## CR\*, CR0\* and CRD\* Ranges of Cable Glands

These ranges of cable glands are intended for use with differing cables depending on gland type as listed below and having ISO metric entry threads. The CR0\* Ranges of Cable Glands have an ingress protection rating of IP66 and are coded Ex e II. The CR\* and CRD\* Ranges of Cable Glands have an ingress protection rating of IP68, tested for a depth of up to 25 m for a duration of 30 mins and coded Ex d IIC/Ex e II.

### Design Options:

Alternative nearest equivalent and recognised Entry body component thread forms:

- 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

Alternative metallic materials of manufacture:

- 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\* Range of Cable Glands** is suitable for armoured or unarmoured cables and comprises:

- threaded entry body, including a groove to accommodate an optional O-ring seal, which tightens into an associated enclosure
- silicone or neoprene elastomeric sealing ring, which fits into the entry body to provide a flameproof seal around the inner sheath of the cable
- armour ring and armour cone to clamp onto armour/screen/braid (when applicable to installation), compression nut and skid washer. The compression nut with the skid washer compressing the seal onto the inner sheath of the cable, minimising cable twist upon assembly
- mid-cap for coupling internal locking mechanisms onto the entry body
- outer cap, skid washer and silicone or neoprene elastomeric sealing ring. The cap tightens onto the mid-cap whilst compressing the seal onto the outer sheath of the cable and a skid washer minimising cable twist upon assembly. The elastomeric sealing ring also being available in red with a reduced bore

Glands are available in the size range 16 to 100 mm with ISO metric entry threads of M20 to M100 respectively.

### Specific type design option:

- Cable glands fitted with neoprene flameproof elastomeric sealing rings may be fitted with a brass continuity washer 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 **CRD\* Range of Cable Glands** is suitable for armoured or unarmoured cables and varies from the CR\* by:

- the replacement of outer cap, skid washer and outer sheath elastomeric seal with an alternative cap tightening onto the entry body component
- not having the option to be fitted with brass continuity washer

The **CRO\* Range of Cable Glands** is suitable for armoured cables and varies from the CR\* by:

- the removal of the inner sheath elastomeric seal and skid washer
- not having the option to be fitted with brass continuity washer

## Sira Certification Service

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**Date:** 8 September 2005

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