IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx CML 18.0018X**

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Certificate history:

Status: **Current**

Issue No: 8

Issue 7 (2022-04-29)
Issue 6 (2021-04-14)
Issue 5 (2020-09-02)
Issue 4 (2020-06-17)
Issue 3 (2019-08-21)
Issue 2 (2019-05-13)
Issue 1 (2018-11-20)
Issue 0 (2018-03-27)

Date of Issue: 2023-09-27

Applicant: **CCG Cable Terminations PTY LTD**
33-37 Forge Road
Spartan Ind Area
Kempton Park 1619
South Africa

Equipment: **Cable Gland Series E1EX (VS)(QS)(VX), E1EX-U (VS)(QS)(VX), E1EX Lead Seal, D1EX (QS)(VX),CXe, CWe, EXCG (VS)(QS)(VX),VRTX SWA, FLP (QS)(VX), ARMORTEX (QS)(VX), EXCG-Lead Seal, FLP-TR (QS)(VX), FLP-TR-KHDE (QS)(VX), FLPHOSE (QS)(VX), VRTX, UNITEx-D (VS), UNITEx-E, UNITEx~QS(VX), UNITEx-F, UNITEx F~QS(VX), TMC, TMCX**

Optional accessory:

Type of Protection: **Flameproof "db", Increased Safety "eb", Restricted Breathing "nR", Dust Ignition "ta"**

Marking:
Ex db I Mb
Ex db IIC Gb
Ex eb I Mb
Ex eb IIC Gb
Ex nR IIC Gc
Ex ta IIIC Da

Refer to description

IP 66/67/68 (2m) or IP65 *(As applicable)*

Approved for issue on behalf of the IECEx Certification Body: **Ben Trafford**

Position: **Certification Officer**

Signature: (for printed version)

Date: (for printed version) 2023-09-27

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 www.iecex.com or use of this QR Code.

Certificate issued by:

Eurofins E&E CML Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom

IECEx Certificate of Conformity

Manufacturer: **CCG Cable Terminations Pty Ltd**
33-37 Forge Road
Spartan Ind Area
Kempton Park, 1619
South Africa

Manufacturing locations:

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 equipment 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

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-15:2017 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:5.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with 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:

Test Reports:

GB/CML/ExTR18.0020/00
GB/CML/ExTR18.0269/00
GB/CML/ExTR19.0094/00
GB/CML/ExTR19.0171/00
GB/CML/ExTR20.0126/00
GB/CML/ExTR20.0189/00
GB/CML/ExTR21.0087/00
GB/CML/ExTR22.0046/00
GB/CML/ExTR23.0221/00

Quality Assessment Report:

ZA/ICS/QAR14.0001/08

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Cable glands for use with armoured cables, Types; E1EX (VS)(QS)(VX), E1EX-U (VS)(QS)(VX), E1EX Lead Seal, D1EX (QS)(VX), CXe, CWe, EXCG (VS)(QS)(VX), VRTX SWA, FLP (QS)(VX), ARMORTEX (QS)(VX), EXCG-Lead Seal, UNITEx-D (VS), UNITEx-E, UNITEx~QS (VX), UNITEx-F, UNITEx-F~QS(VX), TMC, TMCX.

Cable glands for use with non-armoured and braid cables, Types; FLP-TR (QS)(VX), FLP-TR- KHDE (QS)(VX), FLPHOSE (QS)(VX), VRTX.

Refer to **Annex** for full description and conditions of manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:
Refer to **Annex** for specific conditions of use.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1 - This issue introduced the following changes:

1. To allow the diameter over cores to increase to 12.5mmand number of cores to increase to 13 for the Size 1 gland arrangements.
2. To allow modifications to the Size 7 corrosion guard.

Issue 2 - This issue introduced the following changes:

1. To permit an alternative EPDM seal material.
2. To permit a nylon alternative material for sealing gaskets and skid washers.
3. To update the product description temperature range for the alternative EPDM sealing gaskets and nylon sealing gaskets. The Conditions of Use are also updated to include the alternative temperatures allowable.
4. To permit the option to manufacture products with intermediate metric thread sizes.
5. To increase the E1EX-D outer seal nut size.

Issue 3 - This issue introduced the following changes:

1. To allow the product name changes as follows:-
   - UNITEx becomes UNITEx-E
   - E1EX-D becomes UNITEx-D
2. To permit the Vortex resin barrier arrangement as an alternative to the Quickstop resin system.
3. References to E1EX-D~QS are changed to UNITEx~QS and the E1EX-D~QS name is removed from the certificate. (The two glands are physically identical).
4. The A2F-CG range is removed from the certificate.
5. The description and relevant conditions are updated to include the alternative resin barrier arrangement and to reference the model name changes above.

Issue 4 - This issue introduced the following changes:

1. Removal of A2F, A2FX, and A2FH glands and their variants from the certification.
2. Addition of aluminium as a material option for the cable glands.
3. Addition of nylon as a material option for the Corrosion Guard and Posi Grip glands.
4. Addition of an option for a deluge seal to be included on the E1EX range
5. Allowance of combination glands for armoured cable.
6. Allowance of “VS” option cable glands to include lead sheathed cables
7. Allowance of “VS” option cable glands to have the earth contact disc retrofitted
8. Introduction of the A2F-FHC and A2F-FHC~QS (VX) glands
9. Introduction of an alternate thread sealing method

Issue 5 - This issue introduced the following changes:

1. Introduction of the TMC and TMCX glands
2. To correct and simplify the allowable temperature ranges.
3. The description and Specific Conditions of Use have been updated in accordance with the modifications above.

Issue 6 - This issue introduced the following changes:

1. The introduction of an alternative seal arrangement on the UNITEx-D gland range.
2. To allow an alternative QuickStop and VORTEx resin to be used, giving a wider temperature range.
3. To include IPX8 rating on NPT threaded arrangements when used with specific greases.
4. To correct the CXe gland cable acceptance ranges
5. The description and specific Conditions of Use have been updated in accordance with the modifications above.

Issue 7 - This issue introduced the following changes:

1. To update the certificate format, and where applicable, the description has been updated in accordance with the modifications.
2. To update the number of cores allowed in size 00 and 0 barrier glands from 6 to 10.
3. To update the UNITEx~QS(VX) cable gland to use the E1EX cable gland outer seal arrangement.
4. To update the certification to add the option for any cable gland to have an outer seal nut with an additional female thread to allow flexible conduits to be attached to the cable gland (designated ‘-FC’).
5. The addition of new gland model variant FLP-TR-KHDE. (A FLP-TR gland with an addition to the rear nut to allow a specific pipe connection – the pipe is used to protect the cable fitted.)
6. To update the certification drawings with minor corrections.
7. To update the A2F-FHC~QS gland certification drawings to show additional NPT entry thread options and to remove model A2F-FHC from the certificates detailed on the front page.

8. To update the coding from Ex tb IIIC Db to Ex ta IIIC Da.
9. To permit changes to the Conditions of Manufacture and Specific Conditions of Use.
10. To update the wording of the grease used for the NPT threads.
11. To update IEC 60079-7 and IEC 60079-15 to the latest editions.

Issue 8 - This issue introduced the following changes:

1. To include a modified TMCX design.
2. To remove the barrier gland versions of the A2EX, A2F-FHC, and PosiGrip glands.
3. To remove the non-barrier gland versions of the A2EX, and PosiGrip glands.
4. To update the number of cores allowed in barrier gland gland versions.
5. To allow an alternate outer seal nut assembly to be used in the UNITEx-F~QS (VX) gland.
6. To permit changes to the Specific Conditions of Use.
7. To update the material options for the VaritEx gland spring.
8. To update the existing certification text, and where applicable, the certification drawings.

Annex:

Certificate Annex - IECEx CML 18.0018X Iss 8.pdf

Annexe to: IECEx CML 18.0018X Issue 8

Apparatus: Cable Gland Series E1EX (VS)(QS)(VX), E1EX-U (VS)(QS)(VX), E1EX Lead Seal, D1EX (QS)(VX),CXe, CWe, EXCG (VS)(QS)(VX),VRTX SWA, FLP (QS)(VX), ARMORTEX (QS)(VX), EXCG-Lead Seal, FLP-TR (QS)(VX), FLP-TR-KHDE (QS)(VX), FLPHOSE (QS)(VX), VRTX, UNITEx-D (VS), UNITEx-E, UNITEx~QS(VX), UNITEx-F, UNITEx F~QS(VX), TMC, TMCX

Applicant: CCG Cable Terminations PTY LTD

Description

Cable glands for use with armoured cables, Types; E1EX (VS)(QS)(VX), E1EX-U (VS)(QS)(VX), E1EX Lead Seal, D1EX (QS)(VX), CXe, CWe, EXCG (VS)(QS)(VX), VRTX SWA, FLP (QS)(VX), ARMORTEX (QS)(VX), EXCG-Lead Seal, UNITEx-D (VS), UNITEx-E, UNITEx~QS (VX), UNITEx-F, UNITEx-F~QS(VX), TMC, TMCX.

Cable glands for use with non-armoured and braid cables, Types; FLP-TR (QS)(VX), FLP-TR- KHDE (QS)(VX), FLPHOSE (QS)(VX), VRTX.

Product	Sizes	Ex db IIC Gb	Ex eb IIC Gb	Ex db I Mb	Ex eb I Mb	Ex ta IIIC Da
ARMORTEX (QS)(VX)	00-7 (Metric & NPT)	✓	✓	✓	✓	✓
E1EX U (VS)(QS)(VX)	00-10 (Metric & NPT)	✓	✓	✓	✓	✓
FLP (QS)(VX)	00-7 (Metric & NPT)	✓	✓	✓	✓	✓
FLP Hose (QS)(VX)	00-7 (Metric & NPT)	✓	✓	✓	✓	✓
FLP TR (QS)(VX)	00-7 (Metric & NPT)	✓	✓	✓	✓	✓
FLP-TR-KHDE (QS)(VX)	00-7 (Metric & NPT)	✓	✓	✓	✓	✓
D1EX (QS)(VX)	00-13 (Metric) 00-11 (NPT)	✓	✓			✓
E1EX (VS)(QS)(VX)	00-13 (Metric) 00-11 (NPT)	✓	✓			✓
E1EX Lead Seal	00-13 (Metric) 00-11 (NPT)	✓	✓			✓
EXCG (VS)(QS)(VX)	00-10 (Metric)	✓	✓			✓
EXCG – Lead Seal	00-13 (Metric)	✓	✓			✓
UNITEx-D (VS)	00-10 (Metric & NPT)	✓	✓			✓
UNITEx ~QS(VX)	00-10 (Metric & NPT)	✓	✓			✓
UNITEx–F~ QS(VX)	00-10 (Metric & NPT)	✓	✓			✓
TMCX	00-11 (Metric & NPT)	✓	✓			✓
CXe	00-13 (Metric) 00-11 (NPT)		✓			✓
CWe	00-13 (Metric) 00-11 (NPT)		✓			✓
TMC	00-11 (Metric & NPT)		✓			✓
UNITEx-E	00-10 (Metric & NPT)		✓			✓
UNITEx-F	00-10 (Metric & NPT)		✓			✓
VRTX	0-8 (Metric)		✓			✓
VRTX SWA	0-8 (Metric)		✓			✓

Notes

1. Cable glands with parallel entry threads are IP66/68 when fitted with the supplied sealing gasket. NPT threads are at least IP65 as standard, but IP68 (2m) can be achieved if one of the following grease types is applied to the NPT thread before fitting:- Renolit Lubrene CA 700, Renolit LC-WP2, Renolit Lubrene LX 220 EP2, Renolit Moly LX 2 or Dow Corning 4 Electrical Compound.
2. Cable glands with parallel entry threads (e.g. Metric and BSP parallel) are supplied with fitted sealing gaskets as standard. The sealing gasket is optional for Ex d applications without IP rating. (RE-FLEx cord may be used as an alternative to a standard sealing gasket.)
3. 'VS' in the name of a cable gland variant indicates that a thin copper/brass disc is fitted between the inner seal and the cone for earth continuality to a metallic cable screen (e.g. variable speed drive cable or a lead sheathed cable). The sealing arrangement between the inner seal and the potted sleeve is not affected. Note that a standard cable gland type can be converted to a (VS) variant by retrofitting the thin copper / brass disc. The product marking does not need to be changed when the copper / brass disc is retrofitted.
4. '-FC' in the name of a cable gland variant indicates that the outer seal nut has an additional female thread to allow the connection of a flexible conduit.
5. 'QS' in the name of a cable gland variant, indicates that it is the Quickstop resin barrier version of the cable gland. This utilises a clear potting compound to achieve a hard setting seal inside the gland. The sealing compound is transparent and accommodates inspection.
6. 'VX' in the name of a cable gland variant, refers to the Vortex resin barrier version of the cable gland. This utilises a coloured potting compound to achieve a hard setting seal inside the gland. There is a transparent elastomeric seal at the end of the compound enclosure to accommodate inspection.
7. Cable glands that are available as both barrier (QS or VX) and non-barrier versions may be supplied as non-barrier versions together with the additional components needed to convert them to barrier versions if required. When the conversion is carried out the product marking does not need to be changed
8. RE-FLEx sealing cord can be used as an alternative to a standard sealing gasket to achieve IP66/68. It is intended as a retro-fit solution and must be installed according to the fitting instructions supplied with it.

Materials of Manufacture

- Brass (CZ121), Bronze (PB2), Stainless Steel (316), Aluminium (6063), Mild steel (EN8)
- HDPE (D7255/HL), PTFE (CCG PTFE-001), Nylon (6)
- EPDM (64 Shore), Silicone (CCG G/65-1C)
- QuickStop Ex resin (S50/EPA or FR/846), VORTEx Ex resin (S50/Y, EPA/Y or FR/846/Y)

Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

i. Where the product incorporates certified parts or safety critical components, the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.

ii. Cable glands with intermediate metric entry thread sizes shall be constructed by enlarging the entry thread size of the standard size product immediately below the intermediate thread size. The minimum entry wall thickness, allowable number of cores, cable size range and constructional parts utilised (other than the entry thread component) shall not differ from that of the standard size used.

iii. When constructed of aluminium, the glands shall not be marked for Group I applications.

Specific Conditions of Use

The following conditions relate to safe installation and/or use of the equipment.

General Conditions

i. The cable glands shall only be used where the temperature, at the point of entry, is between:

- Quickstop or Vortex resin type S50 / EPA, when used with any gaskets/skid rings:
  (-50°C and +95°C)
- Quickstop or Vortex resin type FR/846, when used with EPDM seals & Nylon gaskets/skid rings or Silicone seals & PTFE gaskets / skid rings:
  – (-60°C and +100°C)
- EPDM seals & HDPE gaskets/skid rings:
  (-60°C and +95°C)
- EPDM seals & Nylon gaskets/skid rings:
  (-60°C and +100°C)
- Silicone seals & PTFE gaskets/skid rings:
  (-60°C and +160°C)
- The corrosion guard is not an essential part of the explosion protection. The corrosion guard material has a Relative Temperature Index (RTI) of 120°C.

ii. Cable glands for unarmoured or braided cable and approved only for Group IIC/IIIC (Not barrier glands or Group I) shall only be used on fixed installations where the cable is clamped, or stress applied to the cable in the gland is prevented.

iii. When constructed of aluminium, the glands shall not be used in Group I applications.

iv. When the RE-FLEx sealing method is used, the gland installer shall refer to the manufacturer's instructions.

Conditions for Specific Glands

i. VRTX range of glands:

- The VRTX range of cable glands shall only be used on fixed installations where the cable is clamped, or stress applied to the cable in the gland is prevented

ii. Armortex and E1EX-U type ranges of glands

- The Armortex and E1EX-U type glands have been tested for braided cable for Group II and III only. When braided cable is fitted, they shall only be used on fixed installations where the cable is clamped or stress applied to the cable in the gland is prevented. (Does not apply to barrier gland versions.)

Components used which are covered by Ex Certificates issued to older editions of Standards

None