



# eurofins



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## Certificate of Assessment **CML 14CA370-2 Issue 5**

- |   |   |   |
|---|---|---|
| 1 | Equipment Models  | <p><b>Cable Glands/Adaptors/Reducers &amp; Blanking Plugs</b></p> <p>Cable Gland Series CXe, CWe, E1EX (VS)(QS)(VX), E1EX-U (VS)(QS)(VX), E1EX Lead Seal, E1EX-SP(QS)(VX), D1EX (QS)(VX), EXCG (VS)(QS)(VX), A2F, A2F-R, A2F-H, A2F-H-R, A2FX, A2FX-R, A2FX-H, A2FX-H-R A2F-FHC, A2F-FHC~QS(VX) A2F-HTF, A2F-VX, A2F-F-VX, ARMORTEX (QS)(VX), EXCG-Lead Seal, FLP-TR (QS)(VX), FLP-TR-KHDE (QS)(VX), FLP HOSE (QS)(VX), Posi Grip (VS), Posi Grip~QS(VX)(VS), A2EX (VS)(QS)(VX), A2EX-FHC (VS)(QS)(VX), UNITEx-D (VS), UNITEx-E, UNITEx~QS(VX), UNITEx-F, UNITEx-F~QS(VX), VARITEx-D, VARITEx-D-VX, RADOFLEx, RADOFLEx-BAR</p> <p><b>Threaded Adaptors, Reducers, Couplers Unions and Blanking Plugs</b></p> <p><b>Adaptor Series AGZZZGYYYE, Reducer series RGZZZGYYYE and Blanking Series PFGZZZER</b></p> <p><b>90°, 'T' and 'Y' Fixed &amp; Adjustable Adapters</b></p> <p><b>Swivel Adaptors, Couplers, Elbow and 45° Adaptors.</b></p> <p><b>Swivel Barrier Adaptors, Couplers, Elbow and 45° Adaptors.</b></p> |
| 2 | Manufacturer  | <b>CCG Cable Terminations Ltd</b>   |
| 3 | Address   | <b>33-37 Forge Road</b><br><b>Spartan Industrial Area</b><br><b>Kempton Park</b><br><b>1619</b><br><b>South Africa</b>  |
| 4 | The components specified have been evaluated against the requirements of the standard specified in Section 6. |   |
| 5 | This evaluation is based on the following documents:  | <p>Reports CML R370A, CML R1179A, CML R11692A, R15466A/00, LR1537-2R1, R16748A/00, R16749A/00, and R17358A/00 along with all reports associated with all issues of IECEx CML 16.0059U, IECEx CML 16.0062X, IECEx CML 18.0018X, IECEx CML 20.0011, IECEx 20.0124X and IECEx CML 22.0086.</p>   |
| 6 | Specification:  | <b>DTS01 DELUGE SYSTEMS - TEST SCHEDULE FOR ELECTRICAL EQUIPMENT TO BE INSTALLED IN AREAS SUBJECT TO WATER DELUGE SYSTEMS, DATED AUG 1991</b>   |
| 7 | Assessment  | This is to certify that, on the basis of the testing carried out, that the above model ranges were considered to comply with the requirements listed in section 6, with respect to the DTS01 Deluge testing.  |
| 8 | Date:   | 20/03/2024  |

- 9 Revision History:
- Issue 1 - To correct typographical error.
  - Issue 2 - To extend allowable NPT size to 4" for E1EX and A2Ex gland ranges.
  - Issue 3 - To extend the range of gland types covered, as well as to include Adaptors, reducers, Blanking Plugs and 90° Fixed & Swivel Adapters to the certificate.
  - Issue 4 - To extend the range of gland types covered, to remove the Stopex gland types, addition of 'T' and 'Y' swivel adaptors, update to conditions of manufacture and conditions of certification, update to certificate format.
  - Issue 5 – To change the name of Fixed and Swivel Adaptors to Fixed and Adjustable Adaptors. To extend the range of cable gland types covered. To introduce the Swivel range of Thread Adaptors.

## 10 Conditions of Manufacture

- i. A copy of the installation instructions shall be provided / made available and shall contain appropriate information to allow the installer to correctly select and install the glands, adaptors, reducers, blanking plugs, 90°, 'T' or 'Y' fixed & adjustable adaptors, swivel and swivel barrier ranges of adaptors, couplers unions, elbow and 45° adaptors.
- 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.

## 11 Conditions of Certification

- i. All product types are to be installed in accordance with the manufacturer's instructions and using the parts provided only.
- ii. When installing Quick Stop (~QS) or Vortex (~VX) gland versions with a metal sleeve, this can only be used in conjunction with the corresponding sealing compound and in accordance with the manufacturer instructions.
- iii. Adaptors, reducers, 90°, 'T' and 'Y' fixed and adjustable adaptors and swivel adaptors, couplers, unions, 45° and 90° adaptors must be fitted with DTS 01 compliant CCG cable glands.

## Annex A

### Description

Cable glands for use with armoured cables, Types: E1EX (VS)(QS)(VX), E1EX-U (VS)(QS)(VX), E1EX Lead Seal, E1EX-SP(QS)(VX), D1EX (QS)(VX), CW<sub>e</sub>, EXCG (VS)(QS)(VX), ARMORTEX (QS)(VX), EXCG-Lead Seal, UNITEx-D (VS), UNITEx-E, UNITEx~QS(VX), UNITEx-F, UNITEx-F~QS(VX)

Cable glands for use with non-armoured and braid cables, Types: A2F, A2F-R, A2F-H, A2F-H-R, A2FX, A2FX-R, A2FX-H, A2FX-H-R, A2F-FHC, A2F-FHC~QS(VX), A2F-HTF, FLP-TR (QS)(VX), FLP-TR-KHDE (QS)(VX), FLP HOSE (QS)(VX), Posi Grip (VS), Posi Grip~QS(VX)(VS), A2EX (VS)(QS)(VX), A2EX-FHC (VS)(QS)(VX), A2F-VX, A2F-F-VX, VARITEx-D, VARITEx-D-VX, RADOFLE<sub>x</sub>, RADOFLE<sub>x</sub>-BAR, CX<sub>e</sub>.

### 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-FLE<sub>x</sub> 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 continuity 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' added to the name of a cable gland 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-FLE<sub>x</sub> 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.
9. For cable gland size ranges, see corresponding IECEx certificates; IECEx CML 18.0018X, IECEx CML 20.0011, IECEx CML 22.0086 and IECEx CML 20.0124X.
10. For thread adaptor size ranges, see corresponding IECEx certificates; IECEx CML 16.0059U and IECEx CML 16.0062X,
11. Cable glands and thread adaptors may be provided with intermediate metric threads.

### **90°, 'Y' and 'T' Fixed & Adjustable Adaptors**

The 90°, 'Y' and 'T' Fixed & Adjustable Adaptors are manufactured from brass with a male threaded portion at one end and female at the other(s). They are intended for use where space is limited and there may not be room to fit a gland and cable in the conventional manner. They are intended for fitting to a threaded hole, or a plain hole when they are secured using a locknut. On the 'T' and 'Y' adaptors the female threads do not need to be the same size as each other.

The adjustable adaptor allows repositioning to align the cable in the desired direction when the adapter is fully tightened. The fixed adaptors are available with Metric, NPT, BSPP or BSPT male and female threads with the female threads the same size as, or any size smaller than, the male thread. Alternatively, for a given body size, the male thread can be larger, but never smaller, than the standard size.

The adjustable adaptors are available with metric or BSPP male threads and either metric, NPT, BSPP or BSPT female threads the same size as, or any size smaller than, the male thread. Alternatively, for a given body size, the male thread can be larger, but never smaller, than the standard size.

### **Swivel Adaptor, Coupler, Elbow / 45° Adaptors**

The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors are manufactured from brass, bronze, aluminium or stainless steel with a male threaded portion at one end. They are made in two parts connected together with a nut, and the junction between the two parts forms a serrated flamepath. The Swivel Adaptor, Swivel Elbow and Swivel 45° Adaptors have a single male and a single female thread, and the Swivel Coupler has two male threads.

The Swivel Adaptor or Coupler can be used to connect two pieces of Ex Equipment. The Swivel Elbow and 45° Adaptors are intended for use where space is limited and there may not be room to fit a gland and cable in the conventional manner.

The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors are intended for fitting to a threaded hole for Ex db or Ex eb applications or to a plain hole, secured with a locknut, for Ex eb applications. The Swivel Elbow / 45° Adaptors allow repositioning to align the cable in the desired direction when the adaptor is fully tightened.

The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors are available with Metric, NPT, ET, BSPP or BSPT threads the same size or with the female thread any size smaller than the male thread. The Swivel Coupler can also have one male thread smaller than the other,

The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors can also be supplied with the male thread size one size larger. For example, a Swivel Elbow Adaptor body size that would normally have M50 male and female threads can also be supplied with an M63 male and an M50 female thread.

A non-metallic washer/gasket may be utilised on all parallel threads to ensure an IP66 rating. The devices maintain an IP65 rating with no washer fitted.

### **Swivel Barrier Adaptor, Swivel Barrier Coupler and Swivel Barrier Elbow / 45° Adaptors**

The Swivel Barrier Adaptor, Swivel Barrier Coupler and Swivel Barrier Elbow / 45° Adaptors are the same basic construction as their equivalent non-barrier versions but additionally have a resin sleeve inside the male thread. The resin sleeve forms a flamepath with its mating part and is filled with 'Quickstop Ex' or 'Vortex' resin to form a barrier around the cable conductors.

**Range of Threaded Adaptors, Reducers and Blanking Plugs**

The Range of Threaded Adaptors, Reducers, Unions, Couplers and Blanking Plugs are designed for inserting into enclosures having threaded entries, as appropriate for the type of protection. The devices are manufactured from brass (nickel plated), stainless steel, mild steel or bronze.

A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2m cont.) ratings. The devices maintain an IP65 rating with no washer fitted.

Where the thread size coding is as follows:

Metric sizes		BSP/NPT/NPSM sizes		Notes
016 = M16	020 = M20	012 = ½"	034 = ¾"	For metric threads the pitch is:- <ul style="list-style-type: none"> <li>• M75 and smaller has 1.5mm pitch (minimum thread length 12mm) as standard with an optional pitch of 2mm (minimum thread length 16mm)</li> <li>• M80 and larger has 2 mm pitch (minimum thread length 16mm) as standard with an optional pitch of 1,5mm (minimum thread length 12mm).</li> </ul>
025 = M25	032 = M32	001 = 1"	114 = 1¼"	
040 = M40	050 = M50	112 = 1½"	002 = 2"	
063 = M63	075 = M75	212 = 2½"	003 = 3"	
080 = M80	090 = M90	312 = 3½"	004 = 4"	
100 = M100				

The following details the Model Nomenclature:

Threaded Adaptors = AGZZZGYYYE, Threaded Reducers = RGZZZGYYYE and Threaded Blanking Plugs = PFGZZZER

A =	ADAPTOR	P =	PLUG (Blanking element)
R =	REDUCER	F =	TYPE
U =	UNION	S =	STOPPER
C =	COUPLER	D =	DOME HEAD
AELB =	ADJUSTABLE ELBOW	H =	HEX HEAD
AT =	ADJUSTABLE 'T' ADAPTOR	G =	THREADFORM
AY =	ADJUSTABLE 'Y' ADAPTOR	M =	METRIC
SA =	SWIVEL ADAPTOR	N =	NPT
SC =	SWIVEL COUPLER	B =	BSPP
SELB =	SWIVEL ELBOW ADAPTOR	BSPT =	BSPT
S45 =	SWIVEL 45° ADAPTOR	NPSM =	NPSM
SBA =	SWIVEL BARRIER ADAPTOR	P =	PG
SBC =	SWIVEL BARRIER COUPLER	G =	EUROPE G (PARALLEL)
SBELB =	SWIVEL BARRIER ELBOW	GK =	GK (TAPER)
SB45 =	SWIVEL BARRIER 45° ADAPTOR	R =	R (PARALLEL)
G =	THREADFORM	RK =	RK (TAPER)
M =	METRIC	PF =	JAPAN PF (PARALLEI )
N =	NPT	K =	K mpy (TAPER)
B =	BSPP	ZZZ =	MALE THREAD SIZE
BSPT =	BSPT	YYY =	FEMALE THREAD SIZE
NPSM =	NPSM	E =	Ex COMPONENT
P =	PG		
G =	EUROPE G (PARALLEL)		
GK =	GK (TAPER)		
R =	R (PARALLEL)		
RK =	RK (TAPER)		
PF =	JAPAN PF (PARALLEL)		
K =	K mpy (TAPER)		
ZZZ =	MALE THREAD SIZE		
YYY =	FEMALE THREAD SIZE		
E =	Ex COMPONENT		