Mining And Surface Certification (Pty) Ltd

2015/021934/07

THIS CERTIFICATE IS ISSUED AS AN I.A. CERTIFICATE IN TERMS OF THE MINE HEALTH AND SAFETY ACT, ACT NO 29 OF 1996 (AND REGULATIONS), THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993) AND REGULATION 17 OF THE ELECTRICAL MACHINERY REGULATIONS

IA CERTIFICATE	MASC MS/22-9001X	**Issue**	0	
Issue Date	01 June 2022	**Expiry Date**	01 June 2032	
**** Based on Certificate No**	IECEx CML 18.0018X	**Issue / Variations / Amendment**	7	
Requested by	CCG Cable Termination (Pty) Ltd 33-37 Forge Road, Spartan Industrial Area, Kempton Park, 1619, South Africa			
Manufacturer	CCG Cable Termination (Pty) Ltd 33-37 Forge Road, Spartan Industrial Area, Kempton Park, 1619, South Africa			
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), PosiGrip (QS)(VX), A2EX (VS)(QS)(VX), A2EX-FHC (VS)(QS)(VX), VRTX, A2F-FHC-QS (VX). Refer to Annex B below for more details.			
Equipment	Cable Gland Series	**Type**	As above / below	
MARKING: **Original marking as per certificate ** remains applicable.** **IA number must be added.**	**Type:** **Ex Marking:** **IA Number:** **Warnings:**	Refer to description 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) MASC MS/22-9001X (To be additionally marked on equipment) See Base Certificate ** (original marking must be applied)		
Quality Assurance report (QAR) / Notification (QAN) Expiry date:	ZA/ICS/QAR14.0001/07			

Compliance:

The equipment as described above has been allocated the rating Explosion Protected 'as above' utilizing the SANS/IEC Standards:

A. For the full range of glands:

- SANS (IEC) 60079-0: 2019 (2017) Equipment - General requirements
- SANS (IEC) 60079-1: 2015 (2014) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
- IEC 60079-15: 2017 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
- SANS (IEC) 60079-31:2014 (2013) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
- SANS (IEC) 60079-7: 2019 (2017) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
- SANS (IEC) 60529: 2013 "Degrees of protection provided by enclosures (IP Code)"

B. In addition; only for FLP, FLP TR, FLP Hose and The Armortex Gland (MASC Report 13-028 Annex 1):

- SANS 808: 2013: "Cable glands for use on flameproof enclosures (Ex d)"

Note: This certificate covers only the listed standards and does not imply compliance to any other standard, related or inferred. It is up to the manufacturer to ensure that the product complies to all relevant standards for the application.

Special conditions of safe use "X":

- Refer to Annex A below for more details.

Conditions of manufacture:

- Refer to Annex A below for more details.

Terine Orsmond
PROJECT MANAGER

Regardt Zeelie
TECHNICAL SPECIALIST

This certificate covers all units sold as long as the QAR/QAN remains valid.
According to the relevant requirements of the MHS Act and the OHS Act, production units of explosion protected equipment are required to comply with third party quality assurance (an approved mark scheme or batch testing by an accredited test laboratory).

Apparatus in hazardous locations is subject to the following provisions as applicable, which shall be adhered to:
SANS 10086 requirements;
Any conditions mentioned in the above certificate;
Any relevant requirements of the MHS Act;
Any restrictions and conditions enforced by the chief inspector of mines, principal inspector (Group I equipment) or chief inspector of factories (Group II equipment).

Mining And Surface Certification (Pty) Ltd
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ANNEX A

<table>
<tr><td colspan="2">This document is based on and must be read in conjunction with certificate IECEx CML 18.0018X</td></tr>
<tr><td colspan="2">Description (According to Base Certificate) **</td></tr>
<tr><td colspan="2">Refer to Annex B below for more details.

“Refer to description in Base Certificate ** (and any applicable schedules/issues/variations).”</td></tr>
<tr><td>Summary of revisions:</td><td>Original:
New issue of certificate based on Base Certificate **. Replaces MASC MS/13-028X.</td></tr>
<tr><td>Standard compliance</td><td>See Base Certificate **</td></tr>
<tr><td>Special conditions of safe use (“X”)</td><td>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:
• Posigrip: –30% glass filled polyester (-20°C and +95°C) or nylon (-60°C to 100°C)
• 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. Only the compounds as supplied by the manufacturer shall be used in the glands.
iii. Cable glands for unarmoured or braided cable and approved only for Group IIC/IIIC (Not 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.
iv. When constructed of aluminium, the glands shall not be used in Group I applications.
v. When the RE-FLEx sealing method is used, the gland installer shall refer to the manufacturer’s instructions.

Conditions for Specific Glands:
The following conditions relate to safe installation and/or use of the equipment.
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 it shall only be used on fixed installations where the cable is clamped or stress applied to the cable in the gland is prevented.
iii. Posi grip range of glands:
• The gland shall only be installed / dismantled using the tool provided by CCG.</td></tr>
<tr><td>Conditions of manufacture</td><td>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.</td></tr>
<tr><td>Conditions of Certification</td><td>• This Certificate covers all units sold from the date of this approval and covered by a valid QAR and/or South African Markscheme / Batch testing.
• The apparatus must be additionally marked with the MASC marking details above.
• This approval only covers the equipment as certified above and does not include any scheduled additions or variations / amendments / new issues to the certificate(s), made after the above date.
• The equipment does not need to be re-tested when used on the conditions and with such restrictions as prescribed by the certificate on which this IA Certificate is based and any other conditions in this IA Certificate.
• The certification on which this IA Certificate is based must remain valid.</td></tr>
</table>

	• The extent of the requirements in the ARP 0108 (or regulations), SANS 10108 and any other applicable regulations on the certification of the equipment must remain unchanged. • The Ex quality assurance notification/report for the equipment must remain valid.
Conclusion:	• From the above and the selective examination of the documentation, nothing contrary to the requirements of the applicable standards was found, provided that the equipment / component is used as described in the above document / certificate and according to the MASC conditions below. A MASC IA certificate is issued based on the work done as per the Base Certificate **. • The routine tests for production units according to the Base Certificate ** must be complied with (if applicable).

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Annex B – 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), Posi Grip (QS)(VX), A2EX (VS)(QS)(VX), A2EX-FHC (VS)(QS)(VX), VRTX, A2F-FHC-QS (VX).

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)	✓	✓	✓	✓	✓
A2EX (VS) (QS)(VX)	00-13 (Metric &NPT)	✓	✓			✓
A2EX-FHC (VS) (QS)(VX)	00-13 (Metric) 0-11 (NPT)	✓	✓			✓
A2F-FHC~ QS (VX)	00-10 (Metric) 0-10 (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)	✓	✓			✓
Posi Grip (QS)(VX)	00-11 (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)

Components covered by Ex Certificates issued to older editions of Standards

None

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