



Mining And Surface Certification (Pty) Ltd
2015/021934/07

CERTIFICATE	MASC 22-9012	Issue	0
Issue Date	22 July 2022	Expiry Date	22 July 2032
Applicant	CCG Cable Terminations (PTY) LTD, 33-37 Forge Road, Spartan Industrial Area, Kempton Park, 1619		
Manufacturer	CCG Cable Terminations (PTY) LTD, 33-37 Forge Road, Spartan Industrial Area, Kempton Park, 1619		
Description (See "Annex A" below)			
E1W, E1W Insulated, E1W Lead Seal, E1W Integral earth, E1X/Z, E1EX (VS)(QS)(VX), E1EX-U (VS)(QS)(VX), E1EX Lead Seal, E1EX-SP (QS)(VX), UNITEx-D (VS), UNITEx-E, UNITEx-(QS)(VX), UNITEx-F, UNITEx-F-(QS)(VX), and ARMORTEX (QS) (VX) metallic gland ranges			
See Annex A below for full description.			
Equipment	Cable Glands		
Type	E1W, E1W Insulated, E1W Lead Seal, E1W Integral Earth, E1X/Z, E1EX (VS)(QS)(VX), E1EX-U (VS)(QS)(VX), E1EX Lead Seal, E1EX-SP (QS)(VX), ARMORTEX (QS)(VX), D1W, D1EX (QS)(VX), FLP (QS)(VX), A2, A2F, A2FR, A2F-H, A2F-H-R, A2F-FHC-(QS)(VX), A2X, A2FX, A2FX-R, A2FX-H, A2FX-H-R, A2EX (VS)(QS)(VX), A2EX FHC (VS)(QS)(VX), FLP-TR (QS)(VX), FLP Hose (QS)(VX), VRTX, VRTX SWA, UNITEx-D (VS), UNITEx-E, UNITEx-(QS)(VX), UNITEx-F, UNITEx-F-(QS)(VX) CW, CWe, CW Insulated, CW INTEGRAL EARTH, Iplus CG, EXCG (VS)(QS)(VX), EXCGLead Seal, Posi Flex, Posi Grip (QS)(VX), BW, TMC, TMCX, CX/CZ and CXe ranges of cable glands		
MARKING: <i>Must be additionally applied to the equipment</i>	Applicant / Manufacturer Type Marking Certificate Number Serial Number Rating	CCG CABLE TERMINATIONS (PTY) LTD As above The glands have the following marking as a minimum: <ul style="list-style-type: none"> • Manufacturer's trademark • IP marking (as applicable) • Entry thread form and size MASC 22-9012 N/A N/A	
WARNING(S)	As per conditions below		
Compliance:			
The equipment as described above / below and in Certificate CML 14CA364 (R6) has been allocated the rating / marking as above utilizing the SANS/IEC Standards: <ul style="list-style-type: none"> • SANS (IEC) 62444: 2011; Ed 1; Cable glands for electrical installations (Metric and NPT threads) <i>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.</i>			
Special conditions of safe use X: See "Annex A" below			
Conditions of manufacture: See "Annex A" below			
 Terine Orsmond PROJECT MANAGER		 Regardt Zeelie TECHNICAL SPECIALIST	
<i>This certificate only covers the sample submitted and does not cover production units.</i> 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:
Any conditions mentioned in the above certificate;
Any restrictions and conditions enforced by the chief inspector of mines, principal inspector (Group I equipment) or chief inspector of factories (Group II equipment).

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CERTIFICATE: MASC 22-9012
Equipment: Ranges of cable glands

ANNEX A

<p>Description</p>	<p>E1W, E1W Insulated, E1W Lead Seal, E1W Integral earth, E1X/Z, E1EX (VS)(QS)(VX), E1EX-U (VS)(QS)(VX), E1EX Lead Seal, E1EX-SP (QS)(VX), UNITE_x-D (VS), UNITE_x-E, UNITE_x-(QS)(VX), UNITE_x-F, UNITE_x-F-(QS)(VX), and ARMORTEX (QS) (VX) metallic gland ranges</p> <p>The E1W, E1X/Z, E1EX, E1EX-U, UNITE_x-D, UNITE_x-E, UNITE_x-F and ARMORTEX type glands consist of an inner, body, cone, cone ring, outer nut, outer seal, inner seal, skid ring and a sealing gasket.</p> <p>The E1W and E1X/Z type glands are mainly intended for industrial purposes with the E1EX, E1EX-U, UNITE_x-D, UNITE_x-E, UNITE_x-F and the ARMORTEX type glands being intended for use in hazardous areas, engaged into a threaded hole or secured with a locknut.</p> <p>Variations:</p> <ul style="list-style-type: none"> • Lead Seal– Glands with inner lead seal • (VS) – Glands with an internal contact for use with variable speed drive cables and lead sheath cables. Note that a standard cable gland type can be converted to a (VS) variant by retrofitting the internal contact components. The product marking does not need to be changed when these components are retro-fitted. • (QS) – Barrier glands using QuickStop Ex barrier material • (VX) – Barrier glands using Vortex barrier material • E1W Integral earth – Integral earth bolt fitted to nut • E1W Insulated – Non-metallic insulation ring • E1X/Z – Specifically for braided and steel tape cable <p>See Annex C for specific classification of gland series.</p>																	
<p>Standard compliance</p>	<p>See “certificate” above</p>																	
<p>Warnings</p>	<p>See “certificate” above</p>																	
<p>Conditions of Certification</p>																		
<p>Special Conditions of safe use (X)</p>	<p>The following relate to the installation and safe use of the equipment:</p> <p>i. The following service temperature ranges are applicable to the washers and seals utilised to maintain the IP rating:</p> <table border="1" data-bbox="475 1133 1380 1290"> <thead> <tr> <th rowspan="2">Material</th> <th colspan="2">Allowable temperature</th> </tr> <tr> <th>Minimum</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>EPDM / HDPE / PTFE</td> <td>-65°C</td> <td>-120°C</td> </tr> <tr> <td>Silicone / PTFE</td> <td>-65°C</td> <td>-175°C</td> </tr> <tr> <td>QS resin</td> <td>-50°C</td> <td>-115°C</td> </tr> <tr> <td>Nylon</td> <td>-65°C</td> <td>-120°C</td> </tr> </tbody> </table>	Material	Allowable temperature		Minimum	Maximum	EPDM / HDPE / PTFE	-65°C	-120°C	Silicone / PTFE	-65°C	-175°C	QS resin	-50°C	-115°C	Nylon	-65°C	-120°C
Material	Allowable temperature																	
	Minimum	Maximum																
EPDM / HDPE / PTFE	-65°C	-120°C																
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QS resin	-50°C	-115°C																
Nylon	-65°C	-120°C																
<p>Conditions of manufacture</p>	<p>The following are conditions of manufacture:</p> <p>i. The cable glands shall be marked the information in section 9 as a minimum, the marking shall be done in a clear, legible, visible and indelible manner.</p> <p>ii. All production shall be conducted under a third party quality system.</p> <p>iii. This certificate relates only to the cable glands specified herein as executed in the samples supplied for evaluation under MASC Report 11-303.and CML reports R979A/00, R979A/01, R11591A/00 and R12476A/00</p> <p>iv. In applying the marking to the glands, the manufacturer attests on its own responsibility that the product conforms to the documentation listed herein.</p> <p>v. The manufacturer shall make a copy of the certificate and instructions available. The instructions must include relevant application information including, thread form, type / size of cables, etc.</p>																	

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While every endeavour is made to ensure that a test / assessment / inspection is representative and accurately performed, and that a report / certificate is accurate in the quoted results and conclusions drawn from the test / assessment / inspection, MASC or its directors/employees shall in no way be liable for any error made in carrying out the test / assessment or for any erroneous statement, whether in fact or in opinion, contained in a report / certificate issued pursuant to a test / assessment / inspection.

MASC takes no responsibility for any non-conformances, exclusions or any results / assessments / inspections not in compliance with the standards. By marking the equipment in accordance with the documentation / standard, the manufacturer / applicant attests on his own responsibility that the equipment / installation has been designed and constructed in accordance with the applicable requirements of the relevant standards and documentation, that the routine verifications / routine tests have been correctly completed and the equipment / installation complies with the documentation and standard(s).

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ANNEX B

Description

D1W, D1EX (QS)(VX) and FLP (QS)(VX) metallic gland ranges

The D1W, D1EX and FLP glands consist of an inner, outer, cone, cone ring, inner seal and a sealing gasket. The D1W type glands are mainly intended for industrial purposes with the D1EX and FLP type glands being intended for use in hazardous areas, engaging into a threaded hole or secured with a locknut.

Variations:

(QS) – Barrier glands using QuickStop Ex barrier material
(VX) – Barrier glands using Vortex barrier material

See Annex “C” for specific classification of gland series.

A2, A2X, A2F, A2F-R, A2F-H, A2F-H-R, A2F-FHC~(QS)(VX), A2FX, A2FX-R, A2FX-H, A2FX-H-R, A2EX (VS)(QS)(VX), A2EX FHC (VS)(QS)(VX), FLP-TR (QS)(VX) and FLP Hose (QS)(VX) metallic gland ranges

The A2 and A2F type glands consist of an inner, outer, bush, lock nut, gripper seal, skid ring and a sealing gasket. The A2F-FHC~(QS)(VX) gland has a coupler to connect it to a conduit system. The A2 and A2X glands can optionally have an entry component comprising a metal shell with a closefitting plastic insert such that the assembly has the same shape as an all-metal component. The material of the plastic insert shall match the material of the sealing gasket to maintain the temperature range.

The A2X, A2FCG, A2FX, A2FX-R, A2FX-H, A2FX-H-R, A2EX, A2EX-FHC, FLP-TR and FLP Hose have two gripper seals.

The A2 and A2X type glands are mainly intended for industrial purposes with the A2F, A2EX and FLP type glands being intended for use in hazardous areas, engaging into a threaded hole or secured with a locknut.

Variations:

(QS) – Barrier glands using QuickStop Ex barrier material
(VX) – Barrier glands using Vortex barrier material

See Annex “C” for specific classification of gland series.

CW, CW Insulated, CW Integral Earth, CWe, CXe and CX/CZ metallic gland ranges

The CW, CWe, CX/CZ and CXe glands consist of an inner, body, cone, cone ring, lock nut, bush, outer nut, skid ring, outer seal and a sealing gasket.

The CW and CX type glands are mainly intended for industrial purposes with the CWe and CXe type glands being intended for use in hazardous areas, engaging into a threaded hole or secured with a locknut.

Variations:

- CW Insulated – Non-metallic isolation ring
- CW Integral Earth – Integral earth bolt fitted to nut
- CX/CZ – For use with braided and steel tape cable

See Annex “C” for specific classification of gland series.

IPlus CG , EXCG Lead Seal and EXCG (VS)(QS)(VX) metallic gland ranges

The IPlus CG and EXCG type glands consist of an inner, body, cone, cone ring, lock nut, IP corrosion guard outer, IP corrosion guard nut, skid ring, corrosion guard sealing ring, inner seal and outer seal.
(The inner seal of the EXCG Lead Seal gland is made from lead.)

The IPlus CG type glands are mainly intended for industrial purposes with the EXCG type glands being intended for use in hazardous areas, engaging into a threaded hole or secured with a locknut.

Variations:

- (VS) – Glands with an internal contact for use with variable speed drive cables and lead sheath cables. Note that a standard cable gland type can be converted to a (VS) variant by retrofitting the internal contact components. The product marking does not need to be changed when these components are retro-fitted.
- (QS) – Barrier glands using QuickStop Ex barrier material
- (VX) – Barrier glands using Vortex barrier material

See Annex “C” for specific classification of gland series.

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Posi Flex and Posi Grip (QS)(VX) composite gland ranges

The Posi Flex and Posi Grip (QS)(VX) glands consist of an inner, insert, lock nut, outer, nipple nut mould, Gripper seal, skid ring, nipple seal and a gasket.

The Posi Flex type glands are mainly intended for industrial operations with the Posi Grip (QS) type glands being intended for use in hazardous areas, engaging into a threaded hole or secured with a locknut.

Variations:

- (QS) – Barrier glands using QuickStop Ex barrier material
- (VX) – Barrier glands using Vortex barrier material

See Annex “C” for specific classification of gland series.

BW metallic gland range

The BW glands consist of an inner, outer, cone and bush.

The glands are mainly intended for industrial operations, engaged into a threaded hole or secured with a locknut.

See Annex “C” for specific classification of gland series.

VRTX and VRTX-SWA gland ranges.

The VRTX (VariTEx) gland consists of an inner, spacer, body, outer nut, skid ring, outer seal and a sealing gasket. There is an internal earthing arrangement to allow the gland to be used with VSD (Variable Speed Drive) cable.

The VRTX-SWA gland additionally has a cone and cone ring to allow the gland to be used with armoured VSD cable.

TMC and TMCX gland ranges

The TMC type glands consist of an inner, spacer, clamping spring, seal, skid ring and body. The TMCX uses similar components but added a barrier resin sleeve assembly and a clamping nut.

The TMC and TMCX type glands are intended for use in hazardous areas with MC, MC-HL and Teck type cables

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CERTIFICATE: MASC 22-9012
Equipment: Ranges of cable glands

ANNEX C

Armoured					
Gland range	According to material and cable	According to mechanical properties	According to electrical properties	According to resistance to external influences	According to sealing system
E1W E1W Lead Seal E1W Insulated	Metallic for SWA cable	Impact category 8 Anchorage type D	Calculated to Category A (no earth tag) Calculated to Category B (with earth tag)	IP66/67/68 Seals Gasket Temp. range Silicone PTFE: -65°C to +175°C EPDM HDPE: -65°C to +120°C EPDM Nylon: -65°C to +120°C Double seal	Multi seal and cone for clamping
E1EX (VS)(QS)(VX), E1EX-U (VS)(QS)(VX), E1EX Lead Seal E1EX-SP (QS)(VX) UNITEx-D (VS), UNITEx-E UNITEx-(QS)(VX) UNITEx-F-(QS)(VX) UNITEx-F ARMORTEX (QS)(VX)	Metallic for SWA cable	Impact category 8 Anchorage type D	Calculated to Category A (no earth tag) Calculated to Category B (with earth tag)	IP66/67/68 Seals Gasket Temp. range Silicone PTFE: -60°C to +160°C EPDM HDPE: -60°C to +95°C EPDM Nylon: -60°C to +100°C QS/VX resin All: -50°C to +95°C Double seal	Multi seal and cone for clamping
E1W Integral Earth	Metallic for SWA cable	Impact category 8 Anchorage type D	Calculated to Category C	IP66/67/68 Seals Gasket Temp. range Silicone PTFE: -65°C to +175°C EPDM HDPE: -65°C to +120°C EPDM Nylon: -65°C to +120°C Double seal	Multi seal and cone for clamping
D1W	Metallic for SWA cable	Impact category 8 Anchorage type D	Calculated to Category A (no earth tag) Calculated to Category B (with earth tag)	IP66/67/68 Seals Gasket Temp. range Silicone PTFE: -65°C to +175°C EPDM HDPE: -65°C to +120°C EPDM Nylon: -65°C to +120°C Single seal	Single seal
D1EX (QS)(VX) FLP (QS)(VX)	Metallic for SWA cable	Impact category 8 Anchorage type D	Calculated to Category A (no earth tag) Calculated to Category B (with earth tag)	IP66/67/68 Seals Gasket Temp. range Silicone PTFE: -60°C to +160°C EPDM HDPE: -60°C to +95°C EPDM Nylon: -60°C to +100°C QS/VX resin All: -50°C to +95°C Single seal	and cone for
CW CW Insulated	Metallic for SWA cable	Impact category 8 Anchorage type D	Calculated to Category A (no earth tag) Calculated to Category B (with earth tag)	IP66 Seals Gasket Temp. range Silicone PTFE: -65°C to +175°C EPDM HDPE: -65°C to +120°C EPDM Nylon: -65°C to +120°C Single seal	clamping
CW _e VRTX-SWA	Metallic for SWA cable	Impact category 8 Anchorage type D	Calculated to Category A (no earth tag) Calculated to Category B (with earth tag)	IP66 Seals Gasket Temp. range Silicone PTFE: -60°C to +160°C EPDM HDPE: -60°C to +95°C EPDM Nylon: -60°C to +100°C Double seal	Single seal
CW Integral Earth	Metallic for SWA cable	Impact category 8 Anchorage type D	Calculated to Category C	IP66 Seals Gasket Temp. range Silicone PTFE: -65°C to +175°C EPDM HDPE: -65°C to +120°C EPDM Nylon: -65°C to +120°C	Single seal and cone for clamping

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CERTIFICATE: MASC 22-9012
Equipment: Ranges of cable glands

Armoured					
Gland range	According to material and cable	According to mechanical properties	According to electrical properties	According to resistance to external influences	According to sealing system
				Single seal	
IPlus CG	Metallic gland with composite screw on shroud for SWA cable	Impact category 8 Anchorage type D	Calculated to Category A (no earth tag) Calculated to Category B (with earth tag)	IP66/67/68 Seals Gasket Temp. range Silicone PTFE: -65°C to +175°C EPDM HDPE: -65°C to +120°C EPDM Nylon: -65°C to +120°C UV resistant Double seal	Multi seal and cone for clamping
EX CG (VS)(QS)(VX), EX CG Lead Seal	Metallic gland with composite screw on shroud for SWA cable	Impact category 8 Anchorage type D	Calculated to Category A (no earth tag) Calculated to Category B (with earth tag)	IP66/67/68 Seals Gasket Temp. range Silicone PTFE: -60°C to +160°C EPDM HDPE: -60°C to +95°C EPDM Nylon: -60°C to +100°C QS/VX resin All: -50°C to +95°C UV resistant Double seal	Multi seal and cone for clamping
BW	Metallic for SWA cable	Impact category 8 Anchorage type D	Calculated to Category A (no earth tag) Calculated to Category B (with earth tag)	Temp range: Seals Gasket Temp. range - PTFE: -65°C to +175°C - HDPE: -65°C to +120°C - Nylon: -65°C to +120°C - - -100°C to +200°C	No sealing system. Cone for clamping
CX/CZ	Metallic for Braid Tape cable	Impact category 8 Anchorage type C	Calculated to Category A (no earth tag) Calculated to Category B (with earth tag)	IP66 Seals Gasket Temp. range Silicone PTFE: -65°C to +175°C EPDM HDPE: -65°C to +120°C EPDM Nylon: -65°C to +120°C Single seal	Single seal and cone for clamping
CXe	Metallic for Braid Tape cable	Impact category 8 Anchorage type C	Calculated to Category A (no earth tag) Calculated to Category B (with earth tag)	IP66 Seals Gasket Temp. range Silicone PTFE: -60°C to +160°C EPDM HDPE: -60°C to +95°C EPDM Nylon: -60°C to +100°C Single seal	Single seal and cone for clamping
E1X/Z	Metallic for Braid Tape cable	Impact category 8 Anchorage type C	Calculated to Category A (no earth tag) Calculated to Category B (with earth tag)	IP66/67/68 Seals Gasket Temp. range Silicone PTFE: -65°C to +175°C EPDM HDPE: -65°C to +120°C EPDM Nylon: -65°C to +120°C Double seal	Multi seal and cone for clamping
TMC	Metallic for MC, MC-HL and Teck cable	Impact category 8 Anchorage type D	Category B	IP66/67/68 Seals Gasket Temp. range Silicone PTFE: -60°C to +160°C EPDM HDPE: -60°C to +95°C EPDM Nylon: -60°C to +100°C Single seal	Single seal and clamping spring for clamping
TMCX	Metallic for MC, MC-HL and Teck cable	Impact category 8 Anchorage type D	Category B	IP66/67/68 Seals Gasket Temp. range QS/VX resin All: -50°C to +95°C Single seal	Single seal and clamping spring for clamping

Table 1 – Gland Classification

Note: The temperature ranges of the cable glands also certified for use in hazardous areas are defined by their hazardous area certification.

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