EXPLOLABS Explosion Prevention Services (Pty) Ltd
Reg No: 1999/027771/07

7 Spanner Rd / PO Box 467
Olifantsfontein
1665
Tel: +27 (11) 316 4601
Fax: +27 (11) 316 5670
E-mail: admin-mgr@explolabs.co.za

GOVERNMENT APPROVED TEST LABORATORY

IN TERMS OF ARP 0108: "REGULATORY REQUIREMENTS FOR EXPLOSION PROTECTED APPARATUS"

IA CERTIFICATE

Date Issued: **26 Jan 2021**
*Expiry date: **26 Jan 2024**

Issue: 0

Ex – Type Examination Certificate

Certificate Number: **S-XPL/21.0009 X**
Equipment: **Cable Gland**
Model / Type: **Types C****
Applicant: **CMP Products Limited**
Glasshouse Street
St Peters
Newcastle Upon Tyne
NE6 1BS
United Kingdom
Manufacturer: **CMP Products Limited**
Serial No: All serial numbers imported between issued- and expire date and all serial numbers covered by a valid report or acceptable product certification mark.

Supplied by
CMP Products Limited
Identified by Inspection Authority number
S-XPL/21.0009 X

And as described in the Explolabs file number **XPL/21804/21.0009** is hereby certified "Explosion Protected (Refer to clause 1, for Ex Rating)", having been examined and inspected in accordance with the relevant requirements of South African Standards.

SANS 60079-0: 2019 Ed 6 **IEC 60079-0: 2017 Ed 7**	Explosive atmospheres Part 0: Equipment — General requirements
SANS 60079-7: 2019 Ed 4 **IEC 60079-7: 2015 Ed 5**	Explosive atmospheres Part 7: Equipment protection by increased safety "e"
SANS 60079-15: 2010 Ed 4 **IEC 60079-15: 2010 Ed 4**	Explosive atmospheres Part 15: Equipment protection by type of protection "n"
SANS 60079-31: 2014 Ed 2 **IEC 60079-31: 2013 Ed 2**	Explosive atmospheres Part 31: Equipment dust ignition protection by enclosure "t"

Risk of ignition provided:

Protection afforded	Equipment Protection Level (EPL) Group	Performance of protection	Conditions of operation	T class or Max Surface Temp (°C)
High	Gb Group II	Suitable for normal operation and frequently occurring disturbances or equipment where faults are normally taken into account	Equipment remains functioning in zones 1 and 2	150ºC
Very high	Da Group III	Two independent means of protection or safe even when two faults occur independently of each other	Equipment remains functioning in zones 20, 21 and 22	150ºC

1. GENERAL

The marking of the Cable Gland shall include the following:

Ex eb IIC Gb
Ex nR IIC Gc (not applicable to CXe and CWe)
Ex ta IIIC Da
Ta =-60C to +130C(standard seal) / -20C to +200C (high temperature seal)

The C** series Type ranges of cable glands consist of a male-threaded front entry component, which is intended to screw into an entry point of its associated enclosure in accordance with relevant codes of practice. Clamping of the armour or braid is affected by a combination of the front entry component, main body and the different optional armour cone and armour sleeve combinations being fastened together. An outer seal nut, containing an elastomeric sealing ring and a Nylon 6 ferrule, threads onto the main body and effects environmental sealing onto the cable outer sheath.

Design options

The front entry component may be manufactured with a profiled groove to captivate an O-ring seal which locates on the mating face with the associated enclosure. This option having the gland type designation prefixed with the letter R, e.g. 25RC2K

The C2K can be supplied with a cone dedicated to SWA cable and known as the C2KW, or with a cone dedicated to braid or tape armours and known as the C2KX.

Materials of manufacture:

The standard material supplied is:

Brass	BS EN 12164:2011/ BS EN 12168:2011 Grade CuZn39Pb3 (CW614N) All brass manufactured component parts can be optionally nickel plated to a maximum of 0.008mm

Alternate materials are:

Stainless steel	BS EN 10088-3:2014 Grades 316S11, 316S13, 316S31, 316S33, 316L
Mild steel	BS EN 10277-2:2008 Grades 220M07, 230M07 (EN1A) / 220M07Pb, 230M07Pb (EN1APb)
Aluminium	BS EN 573-3:2013 / BS EN 755-1-3:2008 Grade 6082 T6, 6262 T6 / BS EN 1676:2010 Grade LM25 TF Aluminium will contain less than 6% magnesium

Alternate entry component thread forms:

Metric	ISO 965-1, ISO 965-3 medium fit (6g) for external threads
ET (Conduit)	BS31:1940 (1979), Table A
PG	DIN 40430:1971
BSPP	BS2779:1986 class A full form for external threads
BSPT	BS21:1985 standard threads only as clause 5.4, gauging to clause 5.2 system A
ISO	ISO 7/1:1994, gauging to ISO 7/2 clause 6.3 for external threads
NPT	ANSI/ASME B1.20.1-2013 gauging to clause 3.2 for external threads
NPSM	ANSI/ASME B1.20.1-2013 gauging to clause 6.4 for external threads

The option to manufacture glands with entry threads that are one size up from the nominal quoted gland size.

The use of alternative armour clamping components. The various arrangements vary the cable gland suitability for differing armour or braided type cables.

The use of a component having an alternative profile allowing an integral earthing facility. The type designation identifying the cable gland being fitted with this option.

The use of an earthing device component specified by the cable gland type designation for use with variable speed drive (VSD)/variable frequency drive (VFD) cables.

Alternative material of manufacture of the ferrule or skid washer to be the same as the gland material.

Alternative outer seal arrangement to allow the glands to be attached to flexible conduit.

The gland and seal sizes are determined by the entry thread and cable range take sizes:

The option to fit a flat blanking disc between the outer seal and the main body to maintain a minimum IP66 rating. The disc is to be marked ‘Ex e only’.

Type designation code:

C *** ***

C	Fitted with the alternative cast integral earth lug entry component
VAR	Fitted with an additional metallic continuity device for use with variable speed drive (VSD) / variable frequency drive (VFD) cables
FF	Fitted with seals suitable for use with flat form cables
We	Fitted with single plain armour cone and reversible armour sleeve to suit S.W.A. armoured cables
Xe	Fitted with single grooved armour cone and reversible armour sleeve to suit S.W.A., S.T.A., P.W.A., and strip armoured and braided cables
2K	Fitted with a deluge seal, reversible armour cone and reversible armour sleeve to suit S.W.A., S.T.A., P.W.A., and strip armoured and braided cables
2KW	Fitted with a deluge seal, a single plain armour cone and reversible armour sleeve to suit S.W.A. armoured cables
2KX	Fitted with a deluge seal, a single plain armour cone and reversible armour sleeve to suit S.W.A., S.T.A., P.W.A., and strip armoured and braided cables
VAR	Optional construction where the cone and sleeve assembly are replaced by a metallic continuity device for use with variable speed drive (VSD) / variable frequency drive (VFD) cables

The gland and seal sizes are determined by the entry thread and cable range take sizes:

Gland size	Entry thread	Entry Thread 'B' version	Cable inner sheath Ø (mm)		SWA (mm)		SWA, STA, strip armour, pliable wire armour* & wire braid (mm)	Outer seal sheath range (mm)	
			Max.	Min.	Max.	Min.	Max.	Min.	Max.
16	M16 x 1.5	-	8.7	0.8	1.25	0	0.8	6.1	13.2
20s/16	M20 x 1.5	M25 x 1.5	8.7	0.8	1.25	0	0.8	6.1	13.2
20s	M20 x 1.5	M25 x 1.5	11.7	0.8	1.25	0	0.8	9.5	15.9
20	M20 x 1.5	M25 x 1.5	14.0	0.8	1.25	0	0.8	12.5	20.9
25s	M25 x 1.5	M32 x 1.5	20.0	1.25	1.6	0	1.1	14.0	22.0
25	M25 x 1.5	M32 x 1.5	20.0	1.25	1.6	0	1.1	18.2	26.2
32	M32 x 1.5	M40 x 1.5	26.3	1.6	2.0	0	1.2	23.7	33.9
40	M40 x 1.5	M50 x 1.5	32.2	1.6	2.0	0	1.2	27.9	40.4
50s	M50 x 1.5	M63 x 1.5	38.2	2.0	2.5	0	1.5	35.2	46.7
50	M50 x 1.5	M63 x 1.5	44.1	2.0	2.5	0	1.0	40.4	53.1
63s	M63 x 1.5	M75 x 1.5	50.0	2.0	2.5	0	1.0	45.6	59.4
63	M63 x 1.5	M75 x 1.5	56.0	2.0	2.5	0	1.0	54.6	65.9
75s	M75 x 1.5	M90 x 2.0	62.0	2.0	2.5	0	1.0	59.0	72.1
75	M75 x 1.5	M90 x 2.0	68.0	2.5	3.0	0	1.0	66.7	78.5
90	M90 x 2.0	M100 x 2.0	80.0	3.0	3.5	0	1.6	76.2	90.4
100	M100 x 2.0	M115 x 2.0	91.0	3.15	4.0	0	1.6	86.1	101.5
115	M115 x 2.0	M130 x 2.0	98.0	3.15	4.0	0	1.6	101.5	110.3
130	M130 x 2.0	N / A	115.0	3.15	4.0	0	1.6	110.2	123.3

* - 'Xe' and '2K versions only

C*-FF in these sizes only.

Gland Size	Entry Thread	Entry thread 'B' Version	Cable Outer sheath Ø (mm)	
			Min.	Max.
20s	M20 x 1.5	M25 x 1.5	4.4 x 7.8	6.8 x 11.7
20	M20 x 1.5	M25 x 1.5	4.4 x 10.9	87 x 16 .0

Based on the following documentation: IECEx CML 18.0180X. Issue 0.

2. INSTALLATION INSTRUCTIONS

It is the manufacturer's responsibility to supply installation instructions with each unit offered for sale as required by IEC/SANS 60079-0 Clause 30.

3. SPECIAL CONDITIONS FOR SAFE USE *(denoted by "X" after certificate number)*

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

i. When the cable glands are supplied with an entry thread that is one size up from the nominal gland size, designated with the letter 'B' after the gland size, e.g., 32B****, they shall not be used with any adaptor device.

ii. The glands when used for terminating braided cables are only suitable for fixed installations. Cables must be effectively clamped to prevent pulling or twisting.

iii. When assembled for fitting to flexible conduit, the conduit shall be effectively clamped to prevent pulling or twisting.

4. SCHEDULE OF LIMITATIONS *(denoted by "U" after certificate number)*

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

5. CONDITIONS OF CERTIFICATION

All production units must be covered by a QAN (Quality Assurance Notification), Product Mark Scheme or batch evaluation.

6. MARKING

The following (or similar) information have to be clearly and permanently marked on all units:

Supplier	: CMP Products Limited
Manufacturer	: CMP Products Limited
Equipment	: Cable Gland
Model/Type	: Types C**
Serial No.	: ---
Ex Rating	: Ex eb llC Gb Ex nR llC Gc (not applicable to CXe and CWe) Ex ta IIIC Da Ta =-60C to +130C(standard seal) / -20C to +200C (high temperature seal)
IA Certificate No	: S-XPL/21.0009 X

This certification indicates compliance with R10.1 of the Mines Health and Safety Act and/or EMR 9(2) of the Occupational Health and Safety Act, provided that the apparatus is used as relevant in accordance with:

i) SANS 10086 and IEC/SANS 61241-14 requirements as applicable;
ii) Any conditions mentioned in the above report;
iii) Any relevant requirements and codes of practice enforced in terms of the Mine Health and Safety Act or Occupational Health and Safety Act; and
iv) Any restrictions and conditions enforced by the Chief Inspector of Mines or the Principal Inspector or the Chief Inspector: Occupational Health and Safety.
v) A revision certificate replaces all previous version of the certificate.
vi) * - Only covers equipment Imported between the "Issued" and "Expire" dates.
vii) If and when your QAN (Quality Assurance Notification) Certificate for your equipment manufacturer expires during the valid period of the IA Certification (issued for your equipment) and a new certificate is not submitted the existing IA Certification will then be cancelled. It is thus the client's responsibility to always submit the updated and valid QAN certificate(s) to Explolabs (Pty) Ltd

Responsible Testing Officer:

Digitally signed by Marcel
Date: 2021.01.26 14:08:53 +02'00'

M Lategan
Testing Officer
EXPLOLABS EXPLOSION PREVENTION SERVICES