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GOVERNMENT APPROVED TEST LABORATORY

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

IA CERTIFICATE

Date Issued: **19 Mar 2024**
*Expiry date: **26 Jan 2027**

Issue: 2

Ex – Type Examination Certificate

Certificate Number: **MS-XPL/21.0011 X**
Equipment: **Cable Gland**
Model / Type: **Triton T3** and TE****
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
MS-XPL/21.0011 X

And as described in the Explolabs file number **XPL/21804/21.0011** 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 60079-1: 2015 Ed 5 **IEC 60079-1: 2014 Ed 7**	Explosive atmospheres Part 1: Equipment protection by flameproof enclosures "d"
SANS 60079-7: 2023 Ed 4.1 **IEC 60079-7: 2017 Ed 5.1**	Explosive atmospheres Part 7: Equipment protection by increased safety "e"
SANS 60079-15: 2022 Ed 5 **IEC 60079-15: 2017 Ed 5**	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	Mb Group I	Suitable for normal operation and severe operating conditions	Equipment de-energized when explosive atmosphere present	Not Applicable
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	Not Applicable
Enhanced	Gc Group II	Suitable for normal operation	Equipment remains functioning in zone 2	Not Applicable
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	Not Applicable

1. GENERAL

The marking of the Cable Gland shall include the following:

Ex db I Mb
Ex eb I Mb
Ex db IIC Gb
Ex eb IIC Gb
Ex nR IIC Gc
Ex ta IIIC Da
Ta= -60°C to +130°C (standard seal) / -20°C to +200°C (high temperature seal)

The Triton T3CDS series is a range of displacement type cable glands, each comprises of a hollow threaded entry component containing an elastomeric compensating displacement seal (CDS) system with associated ferrule, a skid washer, flameproof sealing ring with compensator, a reversible clamping sleeve and armour cone are provided for termination of various armour types. The flameproof sealing assembly is actuated by an inner seal nut. The entry component is fitted with an O-ring seal to provide increased ingress and deluge protection. Clamping of the armoured or braided cable is affected by a combination of the 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. The glands are intended for use with appropriately sized SWA, P.W.A., strip armoured, tape armoured or braided cables. The design is such that a constant pressure is maintained on the displacement seal by the use of the compensation ferrule.

T3CDS series suffixed 'R' or alternatively named TE1FU series – Identical to the above but incorporating an external shorter gland body to provide a reduced overall length.

T3CDS/PB - Identical to the T3CDS Type but incorporating a continuity washer and are suitable for use with lead sheathed cables.

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. 25RT3CDS

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 Not for use with Group I mining Aluminium will contain less than 6% magnesium

Alternative 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 3.2 for external threads

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

The option to have an alternative entry component profile that incorporates an earth lug.

Single or double-sided cone with an identically dimensioned plain taper each side for SWA type cables.

Single or double-sided cone with an identically dimensioned grooved taper each side for SWA, P.W.A., strip armoured, tape armoured or braided type cables.

Cable glands may be fitted with armour cones with alternative diameters to allow the clamping of smaller or larger armour wires and braided cables.

The use of seals suitable for flat form cables.

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

The option to fit a 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' to indicate that the gland is not suitable for Ex d applications when the disc is fitted.

Type designation:

T3CDS * ***

PB	Alternative cone assembly incorporating an additional metallic continuity diaphragm for the use with inner lead sheathed SWA and braided cables
VAR	Optional 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
"Blank"	Standard gland arrangement with reversible armour cone
W	Fitted with single plain armour cone to suit S.W.A. cables
X	Fitted with single grooved armour cone to suit S.W.A., S.T.A., strip armoured, pliable wire armoured and braided cables
R	Alternative type number to the TE1FU types
L	Longer intermediate body

TE 1 F * ** ***

VAR	Optional 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
"Blank"	Standard gland arrangement with reversible armour cone
PB	Fitted with additional metallic continuity diaphragm for use with inner lead sheathed S.W.A., strip armoured and braided cables.
W	Fitted with single plain armour cone to suit S.W.A. cables
X	Fitted with single grooved armour cone to suit S.W.A., S.T.A., strip armoured, pliable wire armoured and braided cables
U	Fitted with a universal cone to suit S.W.A., S.T.A., strip armoured, pliable wire armoured and braided 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	Inner Seal sheath range Ø (mm)		SWA, STA, strip armour, pliable wire armour &wire braid (mm)		SWA (mm)		Outer seal sheath range Ø (mm)	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
16	M16 x1.5	----	3.1	8.7	0	0.8	0.8	1.25	6.1	13.2
20S16	M20 x1.5	M25 x1.5	3.1	8.7	0	0.8	0.8	1.25	6.1	13.2
20S16/20S	M20 x1.5	M25 x1.5	3.1	8.7	0	0.8	0.8	1.25	9.5	15.9
20S	M20 x1.5	M25 x1.5	6.1	11.7	0	0.8	0.8	1.25	9.5	15.9
20	M20 x1.5	M25 x1.5	6.5	14.0	0	0.8	0.8	1.25	12.5	20.9
25S	M25 x1.5	M32 x1.5	11.1	20.0	0	1.1	1.25	1.6	14.0	22.0
25	M25 x1.5	M32 x1.5	11.1	20.0	0	1.1	1.25	1.6	18.2	26.2
32	M32 x1.5	M40 x1.5	17.0	26.3	0	1.2	1.6	2.0	23.7	33.9
40	M40 x1.5	M50 x1.5	22.0	32.2	0	1.2	1.6	2.0	27.9	40.4
50S	M50 x1.5	M63 x1.5	29.5	38.2	0	1.5	2.0	2.5	35.2	46.7
50	M50 x1.5	M63 x1.5	35.6	44.1	0	1.5	2.0	2.5	40.4	53.1
63S	M63 x1.5	M75 x1.5	40.1	50.0	0	1.5	2.0	2.5	45.6	59.4
63	M63 x1.5	M75 x1.5	47.2	56.0	0	1.5	2.0	2.5	54.6	65.9
75S	M75 x1.5	M90 x2.0	52.8	62.0	0	1.5	2.5	3.0	59.0	72.1
75	M75 x1.5	M90 x2.0	59.1	68.0	0	1.6	2.5	3.0	66.7	78.5
90	M90 x2.0	M100 x 2.0	66.6	80.0	0	1.6	3.15	4.0	76.2	90.4
100	M100 x 2.0	M115 x 2.0	76.0	91.0	0	1.6	3.15	4.0	86.1	101.5
115	M115 x 2.0	M130 x 2.0	86.0	98.0	0	1.6	3.15	4.0	101.5	110.3
130	M130 x 2.0	----	97.0	115.0	0	1.6	3.15	4.0	110.2	123.3

T3 series suffixed 'FF' or TE series suffixed 'FF' in these sizes only.

Gland size	Entry thread	Entry thread 'B' version	Cable inner seal sheath range (mm)		Cable outer seal sheath range (mm)	
			Min.	Max.	Min	Max
20s	M20 x1.5	M25 x1.5	4.0 x 6.2	6.8 x 11.7	4.4 x 7.8	6.8 x 11.7
20	M20 x1.5	M25 x1.5	5.7 x 8.0	8.7 x 13.5	4.4 x 10.9	8.7 x 16.0

T3CDSL series which includes the longer intermediate body are determined by the entry thread and cable range-take sizes:

Gland size	Entry thread	Entry thread 'B' version	Inner seal sheath range Ø (mm)		SWA, STA, strip armour, pliable wire armour &wire braid (mm)		SWA (mm)		Outer seal sheath range Ø (mm)	
			Min.	Max	Min	Max	Min	Max	Min	Max
63	M63x1.5	----	47.2	56.0	0	1.5	2.0	2.5	54.6	65.9

Notes:

•Sira 13ATEX1073X, Sira 13ATEX4079X and IECEx SIR 13.0028X is superseded by this certificate.
•The product covered by Issue 0 of this certificate remains identical to that previously covered by Sira 13ATEX1073X, Sira 13ATEX4079X and IECEx SIR 13.0028X.
•Where Sira 13ATEX1073X, Sira13ATEX4079X and/or IECEx SIR 13.0028X is specified in other product certification, or other technical specifications, this certificate reference for the product shall be used in its place; updating of the other product certificate or technical specification is not required

Based on the following documentation: IECEx CML 18.0183X. 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.
iv. The T3** and TE** Type cable glands shall not be used to terminate on braided cables in Group I applications.

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

None.

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	: Triton T3** and TE**
Serial No.	: ---
Ex Rating	: Ex db I Mb Ex eb I Mb Ex db IIC Gb Ex eb IIC Gb Ex nR IIC Gc Ex ta IIIC Da Ta= -60°C to +130°C (standard seal) / -20°C to +200°C (high temperature seal)
IA Certificate No	: MS-XPL/21.0011 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:

D Maree
Technical Specialist
EXPLOLABS EXPLOSION PREVENTION SERVICES