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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/21.0014 X**
Equipment: **Cable Glands and Plugs**
Model / Type: **TruSeal; TSMe, TSZe, TSXe, TSPe, TSPi, and TruSeal Plug**
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/21.0014 X

And as described in the Explolabs file number **XPL/21804/21.0014** 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 Glands and Plugs shall include the following:

Ex eb IIC Gb
Ex ta IIIC Da
Ex nR IIC Gc
-60°C ≤ Ta ≤ +105°C (TSMe, TSXe & TSZe glands and TruSeal Plug)
-60°C ≤ Ta ≤ +95°C (TSPe & TSPi glands)
IP66 IP67 IP68 (30 m for 16 hours)
IP69 IP69K

The TruSeal Range of Cable Glands comprises the TSMe, TSPe, TSPi, TSXe & TSZe models which allow circular unarmoured cable or braided/screened cable to enter associated enclosures to which they are fitted (as defined by their coding) without compromising the explosion protection that it provides. Alternatively, a TruSeal Plug can be used within one of the TruSeal Gland models above to provide Ingress Protection where the cable gland is not required. They are manufactured from the following component parts:

TSMe models

- Metallic entry item hexagonal in form which is threaded at both ends: one being a male metric or NPT thread used to secure the entry item to the associated enclosure; the other being for the fitting of the outer seal nut.
- Plastic finger insert which is located within the entry item which, when displaced by tightening the outer seal nut displaces the sealing ring(s).
- Elastomeric sealing rings which may be: single; dual inner; dual outer which, when displaced by the outer seal nut and finger insert secures the incoming cable, along with providing 'sealing' and ingress protection.
- Outer seal nut, domed in form with a hexagonal shoulder towards its base and with a female thread which engages with the entry item and upon tightening displaces the finger insert and consequently sealing ring(s) onto the cable.

TSXe models

- As the TSMe models with the following additional parts:
- Metallic EMC cone and ring which are located within the entry item to accommodate the screen or braid of the incoming cable.
- Elastomeric bore seal located between the EMC ring and finger insert.

TSZe models

As the TSMe models with the following additional part:

- Metallic EMC spring insert located between the finger insert and entry item for the attenuation of electrical interference.

TSPe & TSPi models

- Plastic entry item hexagonal in form which is threaded at one end with a male metric or NPT thread used to secure the entry item to the associated enclosure; the other being partially threaded for the fitting of the outer seal nut and which has a moulded finger insert feature which, when displaced by the outer seal nut displaces the sealing ring(s).

- Elastomeric sealing rings which may be: single; dual inner; dual outer which, when displaced by the outer seal nut and finger insert secures the incoming cable, along with providing 'sealing' and ingress protection.

- Outer seal nut, hexagonal in form with a female thread which engages with the entry item and upon tightening displaces the fingered feature and consequently sealing ring(s) onto the cable.

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

Gland Size	Entry Thread		Cable outer sheath Ø					
	Standard (Metric)	Standard (NPT)	Single Seal (Min.)	Single Seal (Max.)	Dual Inner (Min.)	Dual Inner (Max.)	Dual Outer (Min.	Dual Outer (Max.)
12	M12x 1.5	¼"	3.0	6.5	-	-	-	-
16	M16x 1.5	3/8 "	3.0	7.0	3.0*	7.0	6.0	10.0
20	M20x 1.5	½ "	5.0	10.0	5.0**	10.0	9.0	14.0
25	M25x 1.5	¾"	9.0	15.5	9.0	15.5	12.5	18.0
32	M32x 1.5	1"	12.5	19.0	12.5	19.0	17.0	25.0
40	M40x 1.5	1 ½ "	19.0	27.0	19.0	27.0	24.0	32.0
50	M50x 1.5	2"	22.0	32.0	22.0	32.0	28.0	38.0
63	M63x 1.5	2 ½"	28.0	39.0	28.0	39.0	37.0	48.0

All cable outer sheath dimensions in mm
* For the TSPe & TSPi size 16 gland, the minimum dual inner cable outer sheath dimension is 3.2 mm
** For the TSPe & TSPi size 20 gland, the minimum dual inner cable outer sheath dimension is 5.5 mm

Design Options
The front threaded entry item may be manufactured with a profiled groove to captivate an 'O' ring seal which locates on the mating face of the associated enclosure.

The front threaded entry item may be manufactured with any larger entry thread form size from the sizes certified.

The front threaded entry item may be manufactured with an alternative nearest equivalent recognised thread type and size to the metric thread sizes certified.

The TruSeal Range of Cable Glands may be supplied with a Transit Disc.

Materials of manufacture:

The TSMe, TSZe & TSXe Cable Gland ranges are manufactured in brass, stainless steel & mild steel. All brass manufactured component parts can be optionally nickel plated. All mild steel manufactured components can be optionally zinc plated

The TSPe & TSPi Cable Gland ranges are manufactured in polyamide.
The TruSeal Plug is manufactured in a Silicone Rubber.

Examples of alternative entry component thread forms:
ET (Conduit)
PG
BSPP
BSPT
ISO
NPSM
NPT

TruSeal Plug Models

There are three model types (A, B and C), that are suitable for the different sealing arrangements within the cable gland range, shown in the table below;

Gland Size	Truseal Plug Model
12	A
16S/16DI	B
16	C
20S / 20DI	B
20	C
25S /25DI	B
25	C
32S / 32DI	B
32	C
40S / 40DI	B
40	C
50S / 50DI	B
50	C
63S/63DI	B
63	C

Based on the following documentation: IECEx CML 19.0062X. Issue 2.

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 are Specific Conditions of Use.

i. The TruSeal TSPe & TSPi M12 & M16 Cable Glands have been tested to a mechanical impact of 4 J and therefore shall only be installed where the risk of mechanical impact is low.

ii. The TruSeal Range of Cable Glands are only suitable for fixed installations. The end user shall provide suitable additional clamping of the cable to ensure that pulling is not transmitted to the terminations.

iii. When a TruSeal M12 TSPe Cable Gland is installed where its service temperature exceeds +75°C, it shall be mounted such that it is adequately protected against the risk of mechanical impact.

iv. For TSPe & TSPi sizes M40, M50 & M63 - Under certain extreme circumstances may be a potential electrostatic charging hazard, clean only with a damp cloth.

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 Glands and Plugs
Model/Type : TruSeal; TSMe, TSZe, TSXe, TSPe, TSPi, and TruSeal Plug
Serial No. : ---
Ex Rating : Ex eb IIC Gb
Ex ta IIIC Da
Ex nR IIC Gc
-60°C ≤ Ta ≤ +105°C (TSMe, TSXe & TSZe glands and TruSeal Plug)
-60°C ≤ Ta ≤ +95°C (TSPe & TSPi glands)
IP66 IP67 IP68 (30 m for 16 hours)
IP69 IP69K
IA Certificate No : S-XPL/21.0014 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 14:12:43 +02'00'

M Lategan
Testing Officer
EXPLOLABS EXPLOSION PREVENTION SERVICES