



## Type Examination Certificate **CML 19ATEX4186X Issue 3**

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **TruSeal Range of Cable Glands & Plugs**
- 3 Manufacturer **CMP Products Ltd**
- 4 Address **Unit 36 Nelson Way,  
Nelson Park East,  
Cramlington,  
Northumberland,  
NE23 1WH,  
United Kingdom**

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 CML B.V., Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II of Directive 2014/34/EU.

The examination and test results are recorded in the confidential reports listed in Section 12.

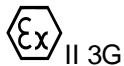
7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.

8 This Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Annex VIII apply to the manufacture of the equipment or component.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018                      EN IEC 60079-15:2019

10 The equipment shall be marked with the following:



II 3G

Ex nR IIC Gc

IP66 IP67 IP68 (30 m for 16 hours)

IP69 IP69K

Ts -60°C ≤ Ta ≤ +105°C TSM<sub>e</sub>, TSX<sub>e</sub> & TSZ<sub>e</sub> glands & TruSeal Plug

Ts -60°C ≤ Ta ≤ +95°C TSP<sub>e</sub> & TSP<sub>i</sub> glands



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## 11 Description

The TruSeal Range of Cable Glands comprises the TSM<sub>e</sub>, TSP<sub>e</sub>, TSP<sub>i</sub>, TSX<sub>e</sub> & TSZ<sub>e</sub> 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:

### TSM<sub>e</sub> 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.

### TSX<sub>e</sub> models

- As the TSM<sub>e</sub> 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.

### TSZ<sub>e</sub> models

As the TSM<sub>e</sub> models with the following additional part:

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

### TSP<sub>e</sub> & TSP<sub>i</sub> 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	M12x1.5	1/4"	3.0	6.5	-	-	-	-
16	M16x1.5	3/8"	3.0	7.0	3.0*	7.0	6.0	10.0
20	M20x1.5	1/2"	5.0	10.0	5.0**	10.0	9.0	14.0
25	M25x1.5	3/4"	9.0	15.5	9.0	15.5	12.5	18.0
32	M32x1.5	1"	12.5	19.0	12.5	19.0	17.0	25.0
40	M40x1.5	1 1/2"	19.0	27.0	19.0	27.0	24.0	32.0
50	M50x1.5	2"	22.0	32.0	22.0	32.0	28.0	38.0
63	M63x1.5	2 1/2"	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.



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### 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

### Variation 1

This variation introduces the following modification:

- i. The introduction of a slotted entry thread variant to the TSMe models to facilitate a braid termination using a locknut.



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## Variation 2

This variation introduces the following modification:

- i. Introduction of the TruSeal Plug Models.
- ii. Approval of IPX9 and IPX9(K) rating of the TruSeal Range of Cable Glands
- iii. Minor Drawing Clarifications
- iv. Update of standard reference from EN 60079-15:2010 to EN 60079-15:2019

## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	02 Aug 2019	R12382A/00	Issue of Prime Certificate
1	14 Nov 2019	R12905A/00	Introduction of Variation 1
2	08 Jul 2020	R13115A/00	Introduction of Variation 2
3	21 Aug 2020	-	Update to format

Note: Drawings that describe the equipment or component are listed in the Annex.

## 13 Conditions of Manufacture

None.

## 14 Specific Conditions of Use (Special Conditions)

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.

## Certificate Annex

**Certificate Number** CML 19ATEX4186X  
**Equipment** TruSeal Range of Cable Glands  
**Manufacturer** CMP Products Ltd



The following documents describe the equipment or component defined in this certificate:

### Issue 0

Drawing No	Sheets	Rev	Approved date	Title
GA1658	1 of 1	00	02 Aug 2019	TSM <sub>e</sub> /TMZ <sub>e</sub> General Arrangement
GA1658-1	1 of 1	0	02 Aug 2019	TSM <sub>e</sub> & TSZ <sub>e</sub> - Data
GA1658-2	1 of 1	0	02 Aug 2019	TSM <sub>e</sub> & TSZ <sub>e</sub> - Compliance Notes
GA1658-3	1 of 1	0	02 Aug 2019	TSM <sub>e</sub> & TSZ <sub>e</sub> - Marking
SCH0499	1 of 1	00	02 Aug 2019	TSM <sub>e</sub> /TMZ <sub>e</sub> Entry Item
SCH0499-1	1 of 1	0	02 Aug 2019	TSM <sub>e</sub> & TSZ <sub>e</sub> Entry Item - Data
SCH0500	1 of 1	00	02 Aug 2019	TSM <sub>e</sub> /TSZ <sub>e</sub> Outer Seal Nut
SCH0500-1	1 of 1	0	02 Aug 2019	TSM <sub>e</sub> & TSZ <sub>e</sub> Outer Seal Nut - Data
SCH0501	1 of 1	00	02 Aug 2019	TSZ <sub>e</sub> Spring Insert
SCH0501-1	1 of 1	0	02 Aug 2019	TSZ <sub>e</sub> Spring Insert - Data
GA1659	1 of 1	00	02 Aug 2019	TSX <sub>e</sub> General Arrangement
GA1659-1	1 of 1	0	02 Aug 2019	TSX <sub>e</sub> - Data
GA1659-2	1 of 1	0	02 Aug 2019	TSX <sub>e</sub> - Compliance Notes
GA1659-3	1 of 1	0	02 Aug 2019	TSX <sub>e</sub> - Marking
SCH0502	1 of 1	00	02 Aug 2019	TSX <sub>e</sub> Entry Item
SCH0502-1	1 of 1	0	02 Aug 2019	TSX <sub>e</sub> Entry Item - Data
SCH0503	1 of 1	00	02 Aug 2019	TSX <sub>e</sub> Outer Seal Nut
SCH0503-1	1 of 1	0	02 Aug 2019	TSX <sub>e</sub> Outer Seal Nut - Data
SCH0504	1 of 1	00	02 Aug 2019	TSX <sub>e</sub> EMC Cone & Ring
SCH0504-1	1 of 1	0	02 Aug 2019	TSX <sub>e</sub> EMC Cone & Ring - Data
SCH0505	1 of 1	00	02 Aug 2019	TSX <sub>e</sub> Bore Seal
SCH0505-1	1 of 1	0	02 Aug 2019	TSX <sub>e</sub> Bore Seal - Data
GA1660	1 of 1	00	02 Aug 2019	TSP <sub>e</sub> & TSP <sub>i</sub> General Arrangement
GA1660-1	1 of 1	0	02 Aug 2019	TSP <sub>e</sub> & TSP <sub>i</sub> - Data
GA1660-2	1 of 1	0	02 Aug 2019	TSP <sub>e</sub> & TSP <sub>i</sub> - Compliance Notes
GA1660-3	1 of 1	0	02 Aug 2019	TSP <sub>e</sub> & TSP <sub>i</sub> - Marking
SCH0506	1 of 1	00	02 Aug 2019	TSP <sub>e</sub> & TSP <sub>i</sub> Entry Item
SCH0506-1	1 of 1	0	02 Aug 2019	TSP <sub>e</sub> & TSP <sub>i</sub> Entry Item - Data
SCH0507	1 of 1	00	02 Aug 2019	TSP <sub>e</sub> & TSP <sub>i</sub> Outer Seal Nut
SCH0507-1	1 of 1	0	02 Aug 2019	TSP <sub>e</sub> & TSP <sub>i</sub> Outer Seal Nut - Data

## Certificate Annex

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Drawing No	Sheets	Rev	Approved date	Title
SCH0508	1 of 1	00	02 Aug 2019	TS Finger Insert
SCH0508-1	1 of 1	0	02 Aug 2019	TS Finger Insert - Data
SCH0509	1 to 2	00	02 Aug 2019	TS Dual & Standard Seal
SCH0509-1	1 of 1	0	02 Aug 2019	TS Dual & Standard Insert - Data
SCH0510	1 of 1	00	02 Aug 2019	TS EMC/Standard Locknut
SCH0510-1	1 of 1	0	02 Aug 2019	TS EMC & Standard Locknut - Data
SCH0511	1 of 1	00	02 Aug 2019	TS Entry Thread Seal
SCH0511-1	1 of 1	0	02 Aug 2019	TS Entry Thread Seal - Data

### Issue 1

Drawing No	Sheets	Rev	Approved date	Title
GA1658	1 of 1	01	14 Nov 2019	TSMe/TMZe General Arrangement
SCH0499	1 of 1	01	14 Nov 2019	TSMe/TMZe Entry Item
SCH0499-1	1 of 1	1	14 Nov 2019	TSMe & TSZe Entry Item - Data

### Issue 2

Drawing No	Sheets	Rev	Approved date	Title
SCH0537	1 of 1	00	08 Jul 2020	TruSeal Plug
SCH0537-1	1 of 1	0	08 Jul 2020	TruSeal Plug – Data
GA1658-2	1 of 1	1	08 Jul 2020	TSMe & TSZe - Compliance Notes
GA1659-2	1 of 1	1	08 Jul 2020	TSXe - Compliance Notes
GA1660-2	1 of 1	1	08 Jul 2020	TSPe & TSPi - Compliance Notes

### Issue 3

None