



Type Examination Certificate **CML 19ATEX4186X Issue 1**

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **TruSeal Range of Cable Glands**
- 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., Chamber of Commerce No 6738671, Hoogoorddreef 15, Amsterdam, 1101 BA, 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 60079-15:2010

- 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 (*declared by manufacturer and not endorsed by CML*)

Ts -60°C ≤ Ta ≤ +105°C *TSM_e, TSX_e & TSZ_e glands*

Ts -60°C ≤ Ta ≤ +95°C *TSP_e & TSP_i glands*



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11 Description

The TruSeal Range of Cable Glands comprises the TSM_e, TSP_e, TSP_i, TSX_e & TSZ_e 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. They are manufactured from the following component parts:

TSM_e 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_e models

As the TSM_e 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_e models

As the TSM_e models with the following additional part:

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

TSP_e & TSP_i 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.



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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:

TSM_e, TSZ_e & TSX_e 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 parts can be optionally zinc plated.

The TSP_e & TSP_i Cable Gland ranges are manufactured in polyamide.



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Examples of alternative entry component thread forms:

ET (Conduit)
PG
BSPP
BSPT
ISO
NPSM
NPT

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.

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 |

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 | TSMe/TMZe General Arrangement |
| GA1658-1 | 1 of 1 | 0 | 02 Aug 2019 | TSMe & TSZe - Data |
| GA1658-2 | 1 of 1 | 0 | 02 Aug 2019 | TSMe & TSZe - Compliance Notes |
| GA1658-3 | 1 of 1 | 0 | 02 Aug 2019 | TSMe & TSZe - Marking |
| SCH0499 | 1 of 1 | 00 | 02 Aug 2019 | TSMe/TMZe Entry Item |
| SCH0499-1 | 1 of 1 | 0 | 02 Aug 2019 | TSMe & TSZe Entry Item - Data |
| SCH0500 | 1 of 1 | 00 | 02 Aug 2019 | TSMe/TSZe Outer Seal Nut |
| SCH0500-1 | 1 of 1 | 0 | 02 Aug 2019 | TSMe & TSZe Outer Seal Nut - Data |
| SCH0501 | 1 of 1 | 00 | 02 Aug 2019 | TSZe Spring Insert |
| SCH0501-1 | 1 of 1 | 0 | 02 Aug 2019 | TSZe Spring Insert - Data |
| GA1659 | 1 of 1 | 00 | 02 Aug 2019 | TSXe General Arrangement |
| GA1659-1 | 1 of 1 | 0 | 02 Aug 2019 | TSXe - Data |
| GA1659-2 | 1 of 1 | 0 | 02 Aug 2019 | TSXe - Compliance Notes |
| GA1659-3 | 1 of 1 | 0 | 02 Aug 2019 | TSXe - Marking |
| SCH0502 | 1 of 1 | 00 | 02 Aug 2019 | TSXe Entry Item |
| SCH0502-1 | 1 of 1 | 0 | 02 Aug 2019 | TSXe Entry Item - Data |
| SCH0503 | 1 of 1 | 00 | 02 Aug 2019 | TSXe Outer Seal Nut |
| SCH0503-1 | 1 of 1 | 0 | 02 Aug 2019 | TSXe Outer Seal Nut - Data |
| SCH0504 | 1 of 1 | 00 | 02 Aug 2019 | TSXe EMC Cone & Ring |
| SCH0504-1 | 1 of 1 | 0 | 02 Aug 2019 | TSXe EMC Cone & Ring - Data |
| SCH0505 | 1 of 1 | 00 | 02 Aug 2019 | TSXe Bore Seal |
| SCH0505-1 | 1 of 1 | 0 | 02 Aug 2019 | TSXe Bore Seal - Data |
| GA1660 | 1 of 1 | 00 | 02 Aug 2019 | TSPe & TSPi General Arrangement |
| GA1660-1 | 1 of 1 | 0 | 02 Aug 2019 | TSPe & TSPi - Data |
| GA1660-2 | 1 of 1 | 0 | 02 Aug 2019 | TSPe & TSPi - Compliance Notes |
| GA1660-3 | 1 of 1 | 0 | 02 Aug 2019 | TSPe & TSPi - Marking |
| SCH0506 | 1 of 1 | 00 | 02 Aug 2019 | TSPe & TSPi Entry Item |
| SCH0506-1 | 1 of 1 | 0 | 02 Aug 2019 | TSPe & TSPi Entry Item - Data |
| SCH0507 | 1 of 1 | 00 | 02 Aug 2019 | TSPe & TSPi Outer Seal Nut |
| SCH0507-1 | 1 of 1 | 0 | 02 Aug 2019 | TSPe & TSPi 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 |

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|------------|--------|-----|---------------|--|
| GA1658 | 1 of 1 | 01 | 14 Nov 2019 | TSM _e /TMZ _e General Arrangement |
| SCH0499 | 1 of 1 | 01 | 14 Nov 2019 | TSM _e /TMZ _e Entry Item |
| SCH0499-1 | 1 of 1 | 1 | 14 Nov 2019 | TSM _e & TSZ _e Entry Item - Data |