## TECHNICAL DATA

**CABLE GLAND TYPE** : T3CDS / T3CDSPB
**INGRESS PROTECTION** : IP66, IP67, IP68, NEMA 4X, DELUGE TO DTS01-91
**PROCESS CONTROL SYSTEM** : ISO 9001
: ISO / IEC 80079-34:2011



## EXPLOSIVE ATMOSPHERES CLASSIFICATION

**ATEX CERTIFICATION No** : CML 18ATEX1326X, CML 18ATEX4318X
**ATEX CERTIFICATION CODE** : Ⓔx II 2G, II 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da, Ⓔx II 3G Ex nR IIC Gc, Ⓔx IM2, Ex db I Mb, Ex eb I Mb
**UKEX CERTIFICATION No** : CML 21UKEX1258X, CML 21UKEX4259X
**UKEX CERTIFICATION CODE** : Ⓔx II 2G, II 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da, Ⓔx II 3G Ex nR IIC Gc, Ⓔx IM2, Ex db I Mb, Ex eb I Mb
**IECEx CERTIFICATION No** : IECEx CML 18.0183X
**IECEx CERTIFICATION CODE** : Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da, Ex db I Mb, Ex eb I Mb
**cCSAus CERTIFICATION No** : 1310517
**CSA us CERTIFICATION CODE*** : Class II Div 2, Groups E,F and G, Class III, Class I Zone 1 AEx e II, AEx nR II, Enclosure Type 3,4 and 4X, OIL RES II
**c CSA CERTIFICATION CODE** : Class I, Div 2, Groups A,B,C and D, Class II Div 2, Groups E,F and G, Class III, Ex d IIC, Ex e II, Ex nR II, Enclosure Type 3,4 and 4X
**UL CERTIFICATION NO** : E256367
**UL CERTIFICATION CODE** : Class I Zone 1, AEx e II

**T3CDS can be used in Class 1, Division 2 Locations for non-explosionproof applications in accordance with Article 501 of the NEC Code*

## INSTALLATION INSTRUCTIONS

Installation should only be performed by a competent person using the correct tools. Read all instructions before beginning installation.

## CERTIFICATION CONDITIONS

**ATEX, UKEX, IECEx & UL**

1. The T3** Type cable glands shall not be used to terminate on braided cables in group I applications.
2. The glands when used for terminating braided cables are only suitable for fixed installations. Cables must be effectively clamped to prevent pulling or twisting.
3. The interface between a cable entry device and its associated enclosure / cable entry will require additional sealing to achieve ingress protection (IP) ratings higher than IP54. The minimum protection level is IP54 for explosive gas atmospheres and IP6X for explosive dust atmospheres. Parallel threads (and tapered threads when using a non-threaded entry) require a CMP sealing washer or integral O-ring face seal (where available) to maintain IP66, 67 and 68 (when applicable). It is the installer's responsibility to ensure the IP rating is maintained at the interface.
   Note: When fitted to a threaded entry, all tapered threads will automatically provide an ingress protection rating of IP66.
4. A CMP earth tag should be used when it is necessary to provide an earth bond connection. CMP earth tags have been independently tested to comply with Category B rating specified in IEC 62444 (there are no ratings stated in IEC 60079-0). Ratings are shown in the associated table. CMP earth tags slip over the cable gland or accessory entry thread from inside/outside the enclosure and must be secured with a locknut (if fitted internally).
5. Metric entry threads comply with ISO 965-1 and ISO 965-3 with a 6g tolerance as required by IEC 60079-1:2014. The CMP standard metric thread pitch is 1.5mm for threads up to M75, and 2.0mm from M90 and above. Special thread pitches between 0.7 – 2.0mm are available on all products on request. See certificate for details of other thread types. NPT threads are in accordance with ASME B1.20.1-2013 gauging to Cl 3.2 for external threads. For details of other thread types refer to IECEx certificate.
6. Enclosures must be strong enough to support the cable and cable gland assembly. The enclosure surface finish must be smooth and flat to facilitate sealing with an O-ring or Entry Thread Sealing Washer for the required IP rating.
7. Enclosure walls must be sufficiently strong enough to support the cable and cable gland assembly. Enclosure entries shall be perpendicular. Any draft angles from the casting/moulding process should have a perpendicular flat spot machined to facilitate sealing with an O-ring or Entry Thread Sealing Washer.
8. CMP Products recommends that when using the cable gland with a through-hole, the hole must be circular, free of burrs and the diameter no larger than 0.7mm above the thread major diameter. A suitable CMP Products locknut shall be used to secure the product. See CMP Products catalogue for locknut options
9. Cable glands do not have any serviceable parts and are therefore not intended to be repaired.

**CSA us**

1. Cable gland connectors material may be of brass, aluminum or stainless steel.
2. Connectors with metric entry threads are only suitable for Areas Classified in ZONES unless fitted with an approved Metric to NPT thread conversion adaptor.
3. According to US (NEC) wiring method for the types of cables that can be used in Class I Zone 1 and 2 Classified Areas, should be in accordance of NFPA-70 installation wiring method restrictions.

**c CSA**

1. Cable gland connectors' material may be of brass, aluminium or stainless steel.
2. These glands are not suitable for use with flameproof enclosures installed in Group IIC atmospheres, which have a volume greater than 2000 cc (2 Litre).
3. These Glands are for use with Certified Marine Shipboard metal braided cables constructed according to CSA Std. 245 and IEEE45/IEC600092-353 Standards, or Certified equivalent), for use on Shipboards and Offshore Rigs/platforms only.
4. "Triton CDS" cable gland connectors when installed into Class I, Division 2 Classified Areas, are not suitable to be interfaced with an explosion proof enclosure containing arcing and sparking devices, unless installed in conjunction with an approved explosion proof sealing fitting.

| CMP Earth Tag Size | Short Circuit Ratings Symmetrical Fault Current (kA) for 1 second |
|---|---|
| 20 | 3.06 |
| 25 | 4.06 |
| 32 | 5.40 |
| 40 | 7.20 |
| 50 | 10.40 |
| 63 | 10.40 |
| 75 | 10.40 |

## ACCESSORIES

The following accessories are available from CMP Products, as optional extras, to assist with fixing, sealing and earthing: Locknut, Earth Tag, Serrated Washer, Entry Thread (I.P.) Sealing Washer, Shroud

CMP Products Limited on its sole responsibility declares that the equipment referred to herein conforms to the requirements of the ATEX Directive 2014/34/EU and UK statutory requirements SI 2016 No. 1107 (as amended). This is shown in the following harmonised/designated standards;
**EN 60079-0:2018, EN 60079-1:2014, EN 60079-7:2015 + A1:2018, EN 60079-15:2017, EN 60079-31:2014**

Malcolm Webber - Product Engineering Manager - (Authorised Person)
CMP Products Limited, Cramlington, NE23 1WH, UK

EU Economic Operator: CMP Products Germany GmbH. Address: Lukasstraße 25a, 52070 Aachen
17th March 2020

CE 2776
UK CA 2503

Notified Body: CML B.V., Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands

Approved Body: Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ

# INSTALLATION INSTRUCTIONS FOR CMP CABLE GLAND TYPES T3CDS & T3CDSPB INCLUDING COMBINATION SIZES

CABLE GLAND FOR USE WITH SINGLE WIRE ARMOUR (SWA), WIRE BRAID, STRIP, AND TAPE ARMOUR (T3CDSPB VERSION CAN ALSO BE USED ON CABLE WITH A LEAD SHEATH). FOR USE IN EXPLOSIVE ATMOSPHERES.

**CMP TRITON™ CDS™ DELUGE PROOF CABLE GLAND FEATURING COMPENSATING DISPLACEMENT SEAL SYSTEM.**

**INCORPORATING EU DECLARATION OF CONFORMITY TO DIRECTIVE 2014/34/EU AND UK STATUTORY REQUIREMENTS SI 2016 No. 1107 (AS AMENDED)**

### Outer Seal Tightening Guide

| Number of Turns to Tighten | GLAND SIZE | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20S16 | 20S | 20 | 25S | 25 | 32 | 40 | 50S | 50 | 63S | 63 | 75S | 75 |
| | CABLE DIAMETER | | | | | | | | | | | | |
| 0.5 | 13.2 | 15.9 | 20.9 | 22.0 | 26.2 | 33.9 | | | | | | | |
| 1 | 12.5 | 15.3 | 20.0 | 21.2 | 25.4 | 32.9 | 40.4 | 46.7 | 52.8 | 59.2 | 65.9 | 72.1 | 78.5 |
| 1.5 | 11.9 | 14.7 | 19.0 | 20.4 | 24.6 | 31.9 | 39.0 | 45.4 | 51.4 | 57.7 | 64.6 | 70.6 | 77.2 |
| 2 | 11.2 | 14.2 | 18.1 | 19.6 | 23.8 | 30.8 | 37.6 | 44.1 | 50.0 | 56.2 | 63.4 | 69.2 | 75.9 |
| 2.5 | 10.5 | 13.6 | 17.2 | 18.8 | 23.0 | 29.8 | 36.2 | 42.9 | 48.7 | 54.7 | 62.1 | 67.7 | 74.6 |
| 3 | 9.8 | 13.0 | 16.2 | 18.0 | 22.2 | 28.8 | 34.8 | 41.6 | 47.3 | 53.2 | 60.9 | 66.3 | 73.3 |
| 3.5 | 9.2 | 12.4 | 15.3 | 17.2 | 21.4 | 27.8 | 33.5 | 40.3 | 45.9 | 51.6 | 59.6 | 64.8 | 71.9 |
| 4 | 8.5 | 11.8 | 14.4 | 16.4 | 20.6 | 26.8 | 32.1 | 39.0 | 44.5 | 50.1 | 58.4 | 63.4 | 70.6 |
| 4.5 | 7.8 | 11.2 | 13.4 | 15.6 | 19.8 | 25.7 | 30.7 | 37.8 | 43.2 | 48.6 | 57.1 | 61.9 | 69.3 |
| 5 | 7.1 | 10.7 | 12.5 | 14.8 | 19.0 | 24.7 | 29.3 | 36.5 | 41.8 | 47.1 | 55.9 | 60.5 | 68.0 |
| 5.5 | 6.5 | 10.1 | 12.0 | 14.0 | 18.2 | 23.7 | 27.9 | 35.2 | 40.4 | 45.6 | 54.6 | 59.0 | 66.7 |
| 6 | 5.8 | 9.5 | | | | | | | | | | | |

***For combination sizes, use the larger size when referencing the Outer Seal Tightening Guide**
**Refer to Cable gland selection table on changes for UL certified products**

| Cable Gland Size | AVAILABLE ENTRY THREADS (OTHER ENTRY THREADS AVAILABLE) | | | | Cable Sealing Range | | | | Amour Clamping Range | | | | Hex Across Flats | Envelope Across Corners | Protrusion Length T3CDS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Metric | | NPT | | Inner Sheath Diameter | | Overall Cable Diameter | | Braid Cone (X) | | Amour Cone (W) | | | | |
| | Thread Size | Thread Length | Thread Size | Thread Length | Min | Max | Min | Max | Min | Max | Min | Max | Metric | Metric | |
| | | Min | | Min | | | | | | | | | Ref | Ref | Ref |
| 16 | M16 x 1.5 | 15 | 3/8" NPT | 15.3 | 3.1 | 8.7 | 6.1* | 13.2 | 0 | 0.8 | 0.80 | 1.25 | 24.0 | 26.4 | 78.70 |
| 16/20s | M16 x 1.5 | 15 | 3/8" NPT | 15.3 | 3.1 | 8.7 | 9.5 | 15.9 | 0 | 0.8 | 0.80 | 1.25 | 24.0 | 26.4 | 77.60 |
| 20s16 | M20 x 1.5 | 15 | 1/2" NPT | 19.9 | 3.1 | 8.7 | 6.1* | 13.2 | 0 | 0.8 | 0.80 | 1.25 | 24.0 | 26.4 | 78.70 |
| 20s16/20s | M20 x 1.5 | 15 | 1/2" NPT | 19.9 | 3.1 | 8.7 | 9.5 | 15.9 | 0 | 0.8 | 0.80 | 1.25 | 24.0 | 26.4 | 77.60 |
| 20s | M20 x 1.5 | 15 | 1/2" NPT | 19.9 | 6.1 | 11.7 | 9.5 | 15.9 | 0 | 0.8 | 0.80 | 1.25 | 24.0 | 26.4 | 78.70 |
| 20s/20 | M20 x 1.5 | 15 | 1/2" NPT | 19.9 | 6.1 | 11.7 | 12.5 | 20.9 | 0 | 0.8 | 0.80 | 1.25 | 30.5 | 33.6 | 73.90 |
| 20 | M20 x 1.5 | 15 | 1/2" NPT | 19.9 | 6.5 | 14.0 | 12.5 | 20.9 | 0 | 0.8 | 0.80 | 1.25 | 30.5 | 33.6 | 76.20 |
| 20/25s | M20 x 1.5 | 15 | 1/2" NPT | 19.9 | 6.5 | 14.0 | 14.0 | 22.0 | 0 | 1.1 | 1.25 | 1.60 | 37.5 | 41.3 | 82.00 |
| 20/25 | M20 x 1.5 | 15 | 1/2" NPT | 19.9 | 6.5 | 14.0 | 18.2 | 26.2 | 0 | 1.1 | 1.25 | 1.60 | 37.5 | 41.3 | 82.00 |
| 25s | M25 x 1.5 | 15 | 3/4" NPT | 20.2 | 11.1 | 20.0 | 14.0 | 22.0 | 0 | 1.1 | 1.25 | 1.60 | 37.5 | 41.3 | 88.80 |
| 25 | M25 x 1.5 | 15 | 3/4" NPT | 20.2 | 11.1 | 20.0 | 18.2 | 26.2 | 0 | 1.1 | 1.25 | 1.60 | 37.5 | 41.3 | 88.70 |
| 25/32 | M25 x 1.5 | 15 | 3/4" NPT | 20.2 | 11.1 | 20.0 | 23.7 | 33.9 | 0 | 1.2 | 1.60 | 2.00 | 46.0 | 50.6 | 90.00 |
| 32 | M32 x 1.5 | 15 | 1" NPT | 25.0 | 17.0 | 26.3 | 23.7 | 33.9 | 0 | 1.2 | 1.60 | 2.00 | 46.0 | 50.6 | 90.70 |
| 32/40 | M32 x 1.5 | 15 | 1" NPT | 25.0 | 17.0 | 26.3 | 27.9 | 40.4 | 0 | 1.2 | 1.60 | 2.00 | 55.0 | 60.5 | 92.00 |
| 40 | M40 x 1.5 | 15 | 1-1/4" NPT | 25.6 | 22.0 | 32.2 | 27.9 | 40.4 | 0 | 1.2 | 1.60 | 2.00 | 55.0 | 60.5 | 93.20 |
| 40/50s | M40 x 1.5 | 15 | 1-1/4" NPT | 25.6 | 22.0 | 32.2 | 35.2** | 46.7 | 0 | 1.5 | 2 | 2.50 | 60.0 | 66.0 | 102.00 |
| 50s | M50 x 1.5 | 15 | 1-1/2" NPT | 26.1 | 29.5 | 38.2 | 35.2** | 46.7 | 0 | 1.5 | 2 | 2.50 | 60.0 | 66.0 | 100.70 |
| 50S/50 | M50 x 1.5 | 15 | 1-1/2" NPT | 26.1 | 29.5 | 38.2 | 40.4 | 53.1 | 0 | 1.5 | 2 | 2.5 | 70 | 77 | 105 |
| 50 | M50 x 1.5 | 15 | 2" NPT | 26.9 | 35.6 | 44.1 | 40.4 | 53.1 | 0 | 1.5 | 2 | 2.5 | 70 | 77 | 105.8 |
| 50/63s | M50 x 1.5 | 15 | 2" NPT | 26.9 | 35.6 | 44.1 | 45.6 | 59.4 | 0 | 1.5 | 2 | 2.5 | 75 | 82.5 | 102 |
| 63s | M63 x 1.5 | 15 | 2" NPT | 26.9 | 40.1 | 50 | 45.6 | 59.4 | 0 | 1.5 | 2 | 2.5 | 75 | 82.5 | 102.5 |
| 63s/63 | M63 x 1.5 | 15 | 2" NPT | 26.9 | 40.1 | 50 | 54.6 | 65.9 | 0 | 1.5 | 2 | 2.5 | 80 | 88 | 105 |
| 63 | M63 x 1.5 | 15 | 2-1/2" NPT | 39.9 | 47.2 | 56 | 54.6 | 65.9 | 0 | 1.5 | 2 | 2.5 | 80 | 88 | 105.4 |
| 63/75s | M63 x 1.5 | 15 | 2-1/2" NPT | 39.9 | 47.2 | 56 | 59 | 72.1 | 0 | 1.5 | 2.5 | 3 | 90 | 99 | 111 |
| 75s | M75 x 1.5 | 15 | 2-1/2" NPT | 39.9 | 52.8 | 62 | 59 | 72.1 | 0 | 1.5 | 2.5 | 3 | 90 | 99 | 110.6 |
| 75s/75 | M75 x 1.5 | 15 | 2-1/2" NPT | 39.9 | 52.8 | 62 | 66.7 | 78.5 | 0 | 1.6 | 2.5 | 3 | 100 | 110 | 121 |
| 75 | M75 x 1.5 | 15 | 3" NPT | 41.5 | 59.1 | 68 | 66.7 | 78.5 | 0 | 1.6 | 2.5 | 3 | 100 | 110 | 120.3 |
| 75/90 | M75 x 1.5 | 15 | 3" NPT | 41.5 | 59.1 | 68 | 76.2 | 90.4 | 0 | 1.6 | 3.15 | 4 | 115 | 126.5 | 120 |
| 90 | M90 x 2.0 | 20 | 3" NPT | 41.5 | 66.6 | 80 | 76.2 | 90.4 | 0 | 1.6 | 3.15 | 4 | 115 | 126.5 | 138.9 |
| 90/100 | M90 x 2.0 | 20 | 3" NPT | 41.5 | 66.6 | 80 | 86.1 | 101.5 | 0 | 1.6 | 3.15 | 4 | 127 | 139.7 | 138 |
| 100 | M100 x 2.0 | 20 | 3-1/2" NPT | 42.8 | 76 | 91 | 86.1 | 101.5 | 0 | 1.6 | 3.15 | 4 | 127 | 139.7 | 128.2 |
| 100/115 | M100 x 2.0 | 20 | 3-1/2" NPT | 42.8 | 76 | 91 | 101.5 | 110.3 | 0 | 1.6 | 3.15 | 4 | 138 | 151.8 | 150 |
| 115 | M115 x 2.0 | 20 | 4" NPT | 44 | 86 | 98 | 101.5 | 110.3 | 0 | 1.6 | 3.15 | 4 | 138 | 151.8 | 161.3 |
| 115/130 | M115 x 2.0 | 20 | 4" NPT | 44 | 86 | 98 | 110.2 | 123.3 | 0 | 1.6 | 3.15 | 4 | 152.4 | 167.6 | 164 |
| 130 | M130 x 2.0 | 20 | 5" NPT | 46.8 | 97 | 115 | 110.2 | 123.3 | 0 | 1.6 | 3.15 | 4 | 152.4 | 167.6 | 173.3 |

*Dimensions are displayed in millimetres unless otherwise stated*

**Note: Temperature Range = -60°C to +130°C,**
**Sizes 100, 115, 130 and all combination sizes, NOT UL or CSA**

Stepped cone is for single wire armour and grooved cone is for all other armours, Insert "PB" into the code for T3CDSPB glands e.g. 20T3CDSPB1RA
* Minimum cable allowable for a UL product is 7.0mm **Minimum cable allowable for a UL product is 38.0mm

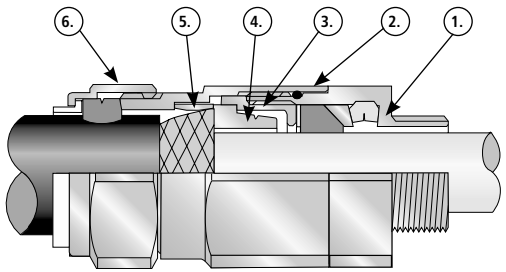
| FI408 | | |
|---|---|---|
| Certificate | Revision | Date |
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| IFS | 26 | 07/25 |
| ATEX / IECEx | 14 | 04/19 |
| CSA / cCSAus | 13 | - |
| UL | 13 | 02/20 |

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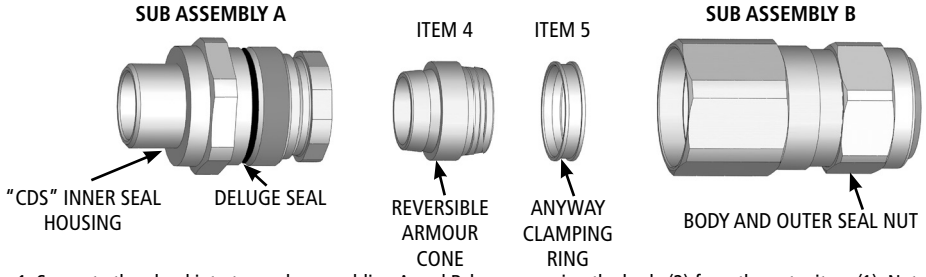
# INSTALLATION INSTRUCTIONS FOR CMP CABLE GLAND T3CDS & T3CDSPB

1. Entry Item
2. Body
3. Compensating Sleeve
4. Reversible Armour Cone
5. AnyWay Clamping Ring
6. Outer Seal Nut



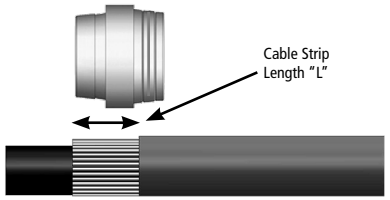

## PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE BEGINNING THE INSTALLATION

**CABLE GLAND COMPONENTS - It is not necessary to dismantle the cable gland any further than illustrated below**



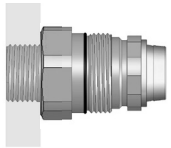

1. Separate the gland into two sub-assemblies, A and B, by unscrewing the body (2) from the entry item (1). Note that items (4) and (5) are loose items.

2. Prepare the cable by stripping back the cable outer sheath and armour to suit the equipment geometry. Expose the armour by stripping back the outer sheath further using the table below as a guide.

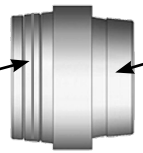



| CABLE GLAND SIZE | 20S/16, 20S, 20 | 25S, 25, 32, 40 | 50S, 50, 63S, 63 | 75S, 75, 90,100,115,130 |
|---|---|---|---|---|
| CABLE STRIP LENGTH "L" | 12 mm (0.472 inches) | 15 mm (0.591 inches) | 18 mm (0.709 inches) | 20 mm (0.787inches) |

3. Secure the entry components (sub-assembly A) into the equipment. (Not for remote installation)
When installing entry items that have an integrated o ring face seal via clearance/through holes, please refrain from rotating the entry item where possible. Hold the entry item stationary with the appropriate tool and tighten the locknut inside the enclosure to secure the gland.



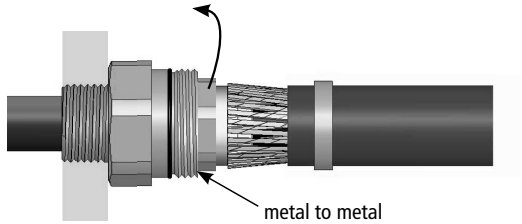
**<u>Grooved</u> side of cone outwards -** to terminate braid, strip armour, pliable wire or tape armour.



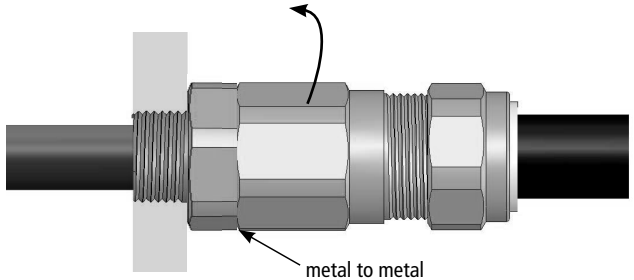
**<u>Stepped</u> side of cone outwards - to terminate SWA cable.**

4. Pass the cable through sub-assembly A, spacing the armour or braid evenly around the cone. Whilst continuing to push the cable forward to keep the cable braid or armour in contact with the cone, tighten the compensating sleeve (3) into the entry component (1) until all the threads are used. (Note that the internal compensator will prevent the cable gland inner seal from being overtightened onto the cable inner sheath.)

The inner sheath of the T3CDSPB gland contains a device to automatically make an electrical contact with the lead sheath on the cable as the cable is installed.




5. Terminate the cable by tightening the body (2) onto the entry component (1) using a spanner on each part. Tighten the body until the body and entry components are metal to metal and cannot be tightened further.

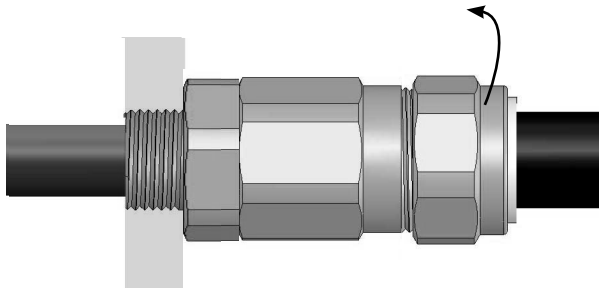



6. Only using finger pressure, tighten the outer seal nut assembly (8) until light resistance to tightening is met.

Then either use the outer seal tightening guide tape or table on the rear of the page to determine how much further to tighten the seal using a spanner (using the outer seal tightening guide is recomended).

Wrap the outer seal tightening guide tape around the cable to show the amount of spanner turns needed (as shown here). Make sure the correct side of the outer seal tightening guide tape is used depending on the cable gland size.






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