



INSTALLATION INSTRUCTIONS FOR CMP CABLE GLAND TYPE "E"

FOR TERMINATION OF CABLES WITH PLIABLE WIRE ARMOUR, TAPE ARMOUR (STA/DSTA), STRIP ARMOUR & SINGLE WIRE ARMOUR (SWA). FOR USE IN GROUP I HAZARDOUS LOCATIONS.

INCORPORATING EU DECLARATION OF CONFORMITY TO DIRECTIVE 2014/34/EU



E1FW/M - SWA Armour
E1FW/MF - Flange mounted version of E1FW/M
E1FX/M - Flexible Wire, Tape, Armour etc.



E1FX/MF - Flange mounted version of E1FX/M
E1FU/M - Universal Gland for all Armour Types
E1FU/MF - Flange mounted version of E1FU/M

TECHNICAL DATA

CABLE GLAND TYPE : E** Family of Glands
INGRESS PROTECTION : IP66 (IP67, 68 available on request)
PROCESS CONTROL SYSTEM : BS EN ISO 9001
: ISO/IEC 80079-34:2011

EXPLOSIVE ATMOSPHERES CLASSIFICATION

GLAND : CML 18ATEX1324X
ATEX CERTIFICATION No : Ⓜ I M2 Ex eb I Mb, Ex db I Mb
ATEX CERTIFICATION CODE : IECEx CML 18.0181X
IECEx CERTIFICATION No : Ex eb I Mb, Ex db I Mb
IECEx CERTIFICATION CODE : CML 18ATEX1332U
ATEX CERTIFICATION No : Ⓜ I M2 Ex db I Mb
ATEX CERTIFICATION CODE : IECEx CML 18.0189U
IECEx CERTIFICATION No : Ex db I Mb
IECEx CERTIFICATION CODE :

INSTALLATION INSTRUCTIONS
Installation should only be performed by a competent person using the correct tools. Spanners should be used for tightening. Read all instructions before beginning installation.

SPECIAL CONDITIONS FOR SAFE USE
For ATEX & IECEx certification:
1. The glands shall not be used to terminate braided cables.

- CERTIFICATION CONDITIONS**
- The E** Type cable glands shall not be used to terminate on braided cables in group I applications.
 - 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 installers 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.
Cable Glands are not intended to be repaired. If the product is damaged, the product is to be replaced.
 - 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 (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).
 - 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 8.1 for external threads. For details of other thread types refer to IECEx certificate.
 - 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.
 - Enclosure will need to be sufficiently strong 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.
 - CMP Products recommends 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.

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 the following standards:-
EN 60079-0:2009, EN 60079-1:2007, EN 60079-7:2007, BS 6121:1989, EN 62444:2013

J. Hichens
Jonathan Hichens - Lead Certification Engineer - (Authorised Person)
CMP Products Limited, Cramlington, NE23 1WH, UK
17th March 2020

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



Number of turns to tighten	Outer Seal Tightening Guide												
	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											

Cable Gland Size	Available Entry Threads (Alternate Metric Thread Lengths Available)					Cable Bedding Diameter		Overall Cable Diameter				Armour Range				Across Flats	Across Corners	Protusion Length	Combined Ordering Reference (*Brass Metric)			Shroud	Cable Gland Weight (Kgs)
	Standard		Option			Min	Max	Min	Max	Min	Max	Min	Max	Max	Max				Size	Type	Ordering Suffix		
	Metric	Thread Length (Metric)	NPT	Thread Length (NPT)	NPT											Grooved Cone	Stepped Cone						
20S/16	M20	15.0	1/2"	19.9	3/4"	3.1	8.6	6.1	13.1	0.3	1.0	0.8	1.25	24.0	26.4	72.5	20S16	E1FU	1RA/M	PVC04	0.157		
20S	M20	15.0	1/2"	19.9	3/4"	6.1	11.6	9.5	15.9	0.3	1.0	0.8	1.25	24.0	26.4	70.0	20S	E1FU	1RA/M	PVC04	0.157		
20	M20	15.0	1/2"	19.9	3/4"	6.5	13.9	12.5	20.9	0.4	1.0	0.8	1.25	30.5	33.6	73.0	20	E1FU	1RA/M	PVC06	0.206		
25S	M25	15.0	3/4"	20.2	1"	11.1	19.9	14.0	22.0	0.4	1.2	1.25	1.6	37.5	41.3	89.0	25S	E1FU	1RA/M	PVC09	0.325		
25	M25	15.0	3/4"	20.2	1"	11.1	19.9	18.2	26.2	0.4	1.2	1.25	1.6	37.5	41.3	89.0	25	E1FU	1RA/M	PVC09	0.325		
32	M32	15.0	1"	25.0	1 1/4"	17.0	26.2	23.7	33.9	0.4	1.2	1.6	2.0	46.0	50.6	86.0	32	E1FU	1RA/M	PVC11	0.430		
40	M40	15.0	1 1/4"	25.6	1 1/2"	22.0	32.1	27.9	40.4	0.4	1.6	1.6	2.0	55.0	60.5	90.0	40	E1FU	1RA/M	PVC15	0.620		
50S	M50	15.0	1 1/2"	26.1	2"	29.5	38.1	35.2	46.7	0.4	1.6	2.0	2.5	60.0	66.0	91.0	50S	E1FU	1RA/M	PVC18	0.750		
50	M50	15.0	2"	26.9	2 1/2"	35.6	44.0	40.4	53.0	0.6	1.6	2.0	2.5	70.1	77.1	95.0	50	E1FU	1RA/M	PVC21	0.950		
63S	M63	15.0	2"	26.9	2 1/2"	40.1	49.9	45.6	59.4	0.6	1.6	2.0	2.5	75.0	82.5	102.0	63S	E1FU	1RA/M	PVC23	1.337		
63	M63	15.0	2 1/2"	39.9	3"	47.2	55.9	54.6	65.8	0.6	1.6	2.0	2.5	80.0	88.0	104.0	63	E1FU	1RA/M	PVC25	1.340		
75S	M75	15.0	2 1/2"	39.9	3"	52.8	61.9	59.0	72.0	0.6	1.6	2.0	2.5	90.0	99.0	115.0	75S	E1FU	1RA/M	PVC28	2.110		
75	M75	15.0	3"	41.5	3 1/2"	59.1	67.9	66.7	78.4	0.6	1.6	2.5	3.0	100.0	110.0	117.0	75	E1FU	1RA/M	PVC30	2.420		

*Note : For material options please add the following suffix to change the Ordering Reference ; Brass (no suffix required), Nickel Plated Brass "5", 316 Grade Stainless Steel "4", Copper Free Aluminium "1"
For NPT options please add the following digits to the material suffix ; 1/2" = 31, 3/4" = 32, 1" = 33, 1 1/4" = 34, 1 1/2" = 35, 2" = 36, 2 1/2" = 37, 3" = 38, 3 1/2" = 39, 4" = 310 (Brass requires prefix "0")
Examples : 32E1FWM1RA534 = Nickel Plated Brass 1-1/4" NPT, 50E1FWM1RA035 = Brass 1-1/2" NPT, 25E1FWM1RA432 = Stainless Steel 3/4" NPT, 20E1FWM1RA5 = Nickel Plated Brass M20
Dimensions are displayed in millimetres unless otherwise stated

Order codes shown are for E1FU/M glands
For e.g. E1FW/M glands substitute E1FW/M for E1FU/M - e.g. 20E1FW1RA/M, For flange mounted glands add "F" to the order code e.g. 20E1FW1RA/MF.



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F1419		
Certificate	Revision	Date
IFS	14	01/21
ATEX/IECEx	9	01/21

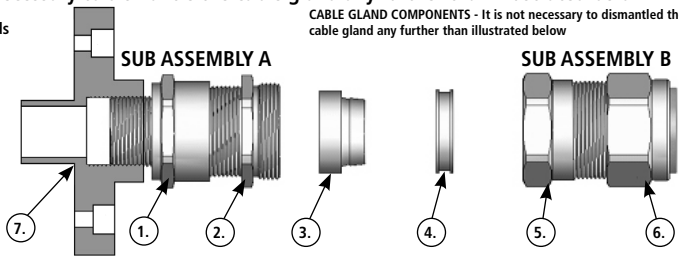
Cable Gland Selection Table

INSTALLATION INSTRUCTIONS FOR CMP CABLE GLAND TYPES "E"

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

- 1. Entry Component
- 2. Main Item
- 3. Detachable Armour Cone
- 4. AnyWay Clamping Ring
- 5. Body
- 6. Outer Seal Nut

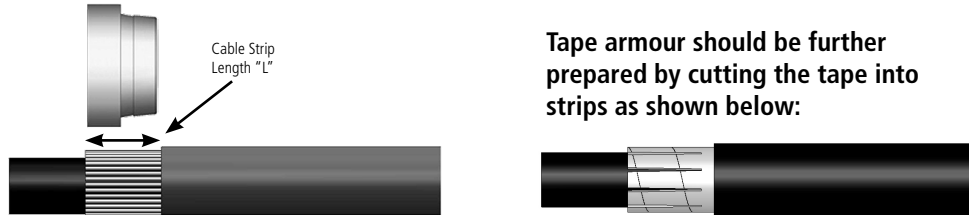
N.B. Flanged mounted glands are identical except that they are fitted with a CMP flange mount adaptor type MA/FT



PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE BEGINNING THE INSTALLATION

1. If required fit shroud over the cable outer sheath;

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. If applicable remove any tapes or wrappings to expose cable inner sheath.



Tape armour should be further prepared by cutting the tape into strips as shown below:

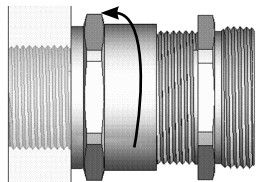
CABLE GLAND SIZE	20S/16, 20S, 20	25S, 25, 32, 40	50S, 50, 63S, 63	75S, 75, 90, 100, 115, 130
CABLE STRIP LENGTH "L"	12mm	15mm	18mm	20mm

2. Separate the gland into two sub-assemblies "A & B". Ensuring that the Outer Seal Nut (6) is relaxed, pass sub-assembly "B" over the cable outer sheath and armour followed by the "AnyWay" clamping ring (4).

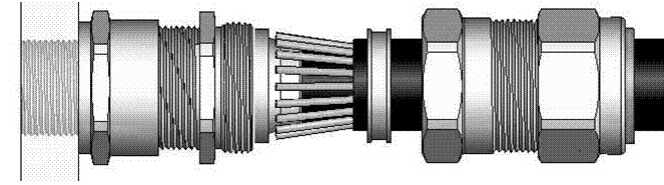


Note: On maximum size cables the clamping ring may only pass over the armour.

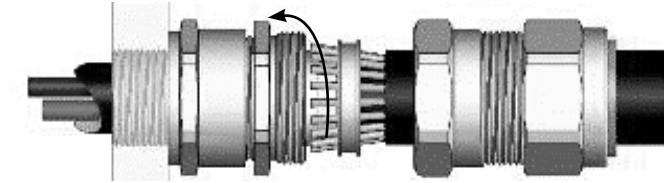
3. Ensure that the inner seal is relaxed by slackening the Main Item (2). Secure sub-assembly "A" into the equipment either by screwing the Entry Item (1) into a threaded hole or by securing it in a clearance hole using a locknut as applicable.



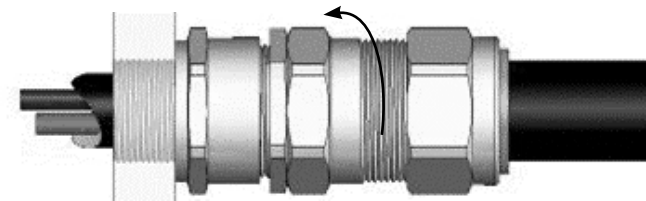
4. Locate the Armour Cone (3) into its recess in the Main Item (2). (N.B. For E1FU and E2FU variants, make sure the correct side of the cone is outermost - grooved for braid/tape armour and stepped for SWA). Pass the cable through sub-assembly "A" until the armour engaged with the cone. Spread the armour evenly around the cone.



5. While continuing to push the cable forward to maintain contact between the armour and the cone, tighten the Main Item (2) until the inner seal makes contact with the cable inner sheath (heavier resistance is felt at this point). Tighten a further full turn. **NOTE: The earthing device on E2* type glands will automatically engage the lead sheath.**



6. Hold the Main Item (2) with a spanner and tighten sub-assembly "B" onto sub-assembly "A" using a spanner until all available threads are used.



7. Only using finger pressure, tighten the outer seal nut assembly (6) 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 recommended).

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.

