



EU Type Examination Certificate CML 19ATEX1106X Issue 2

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **Range of E****F*, D****F and C****E* Cable Glands**
- 3 Manufacturer **Peppers Cable Glands Limited**
- 4 Address **Stanhope Road,
Camberley, Surrey,
GU15 3BT
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, Notified Body Number 2776, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 to the Directive.

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 EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.
- 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

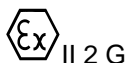
EN 60079-1:2014

EN 60079-7:2015

EN 60079-31:2014

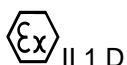
- 10 The equipment shall be marked with the following:

E****F* and D****F



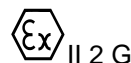
Ex db IIC Gb

Ex eb IIC Gb

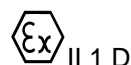


Ex ta IIIC Da

C****E*



Ex eb IIC Gb



Ex ta IIIC Da



11 Description

The Ranges of E****F*, D****F and C****E* Cable Glands are intended for use with SWA/Woven Steel Wire/Steel Tape/Braid armoured cables. Each comprises a threaded entry body, elastomeric sealing ring, armour cone, clamp ring and compression cap. The entry body is available with an optional outer deluge seal or an integral earthing clamp. D****F glands have a single flameproof seal and the E****F* glands have a double seal arrangement of flameproof and outer IP seal with extra compression cap and skid washer to suit. C****E* glands have only the outer IP seal arrangement. Seals are available in silicone and neoprene. Each gland type is available with an optional earth clamp arrangement on the entry body.

Glands are available in the size range 16 to 100 with ISO metric entry threads of M16 to M100 respectively. Alternative thread forms and sizes, NPT, NPSM, BSPT, BSPP, PG and ET are available. The E****F* and D****F glands have an ingress protection rating of IP66 and IP68 (50 m 7 days) and the C****E* glands have an IP66 rating.

Additional assembly options are described by the following designation coding: -

E****F* / D****F Cable Glands

Gland Type:	E****F*							
Available Part No's.:	E	*	*	*	*	*	F	*
		1	U	CF	A	IE		R
		2	W	CM	B			
		3	X		S			
		4						
Options	1	Neoprene Seal						
	2	Neoprene Seal with Lead Sheath Cable Continuity Washer						
	3	Silicone Seal						
	4	Silicone Seal with Lead Sheath Cable Continuity Washer						
	U	Steel Wire Armour/Woven Steel Wire/Steel Tape/Braid						
	W	Steel Wire Armour						
	X	Woven Steel Wire/Steel Tape/Braid						
	CF	Female thread conduit connector						
	CM	Male thread conduit connector						
	A	Aluminium material						
	B	Brass material						
	S	316 Stainless Steel material						
	IE	Integral Earth						
	R	Reduced Bore						



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Gland Type:	D*****F						
Available Part No's.:	D	*	*	*	*	*	F
		1	U	CF	A	IE	
		2	W	CM	B		
		3	X		S		
		4					
Options	1	Neoprene Seal					
	2	Neoprene Seal with Lead Sheath Cable Continuity Washer					
	3	Silicone Seal					
	4	Silicone Seal with Lead Sheath Cable Continuity Washer					
	U	Steel Wire Armour/Woven Steel Wire/Steel Tape/Braid					
	W	Steel Wire Armour					
	X	Woven Steel Wire/Steel Tape/Braid					
	CF	Female thread conduit connector					
	CM	Male thread conduit connector					
	A	Aluminium material					
	B	Brass material					
	S	316 Stainless Steel material					
	IE	Integral Earth					

NOTES: - * Type 3 & 4 (silicone) seals on to 9.3mm diameter
 ** The D*****F gland has no outer sheath sealing, so Min range is not applicable.

Gland Size	Standard Entry threads		Inner Sheath		Outer Sheath		Reduced Bore		Armour Dia./Thickness			
	Metric	NPT	Min	Max	Min**	Max	Min	Max	W-Wire armour	X-Braid & Tape	U-Wire Armour	U-Braid & Tape
16	M16	3/8"	3.5	8.4	8.4	13.5	4.9	10.0	0.9	0.15 – 0.35	0.8 - 1.25	0.2 - 0.8
20S	M20	1/2"	8.0	11.7	11.5	16.0	9.4	12.5	0.9 – 1.25	0.15 – 0.35	0.8 - 1.25	0.2 - 0.8
20	M20	1/2"	6.7*	14.0	15.5	21.1	12.0	17.6	0.9 – 1.25	0.15 – 0.50	0.8 - 1.25	0.2 - 0.8
25	M25	3/4"	13.0	20.0	20.3	27.4	16.8	23.9	1.25 – 1.6	0.15 – 0.50	1.25 - 1.6	0.2 - 0.8
32	M32	1"	19.0	26.3	26.7	34.0	23.2	30.5	1.6 – 2.0	0.15 – 0.55	1.6 - 2.0	0.3 - 1.2
40	M40	1 1/4"	25.0	32.2	33.0	40.6	28.6	36.2	1.6 – 2.0	0.2 – 0.6	1.6 - 2.0	0.3 - 1.2
50S	M50	1 1/2"	31.5	38.2	39.4	46.7	34.8	42.4	2.0 – 2.5	0.2 – 0.6	2.0 - 2.5	0.3 - 1.6
50H	M50	1 1/2"	31.5	38.2	45.7	53.2	41.1	48.5	2.0 – 2.5	0.2 – 0.6	2.0 - 2.5	0.3 - 1.6
50	M50	2"	36.5	44.1	45.7	53.2	41.1	48.5	2.0 – 2.5	0.3 – 0.8	2.0 - 2.5	0.3 - 1.6
63S	M63	2"	42.5	50.1	52.1	59.5	47.5	54.8	2.5	0.3 – 0.8	2.0 - 2.5	0.3 - 1.6



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NOTES: - * Type 3 & 4 (silicone) seals on to 9.3mm diameter
 ** The D*****F gland has no outer sheath sealing, so Min range is not applicable.

Gland Size	Standard Entry threads		Inner Sheath		Outer Sheath		Reduced Bore		Armour Dia./Thickness			
	Metric	NPT	Min	Max	Min**	Max	Min	Max	W-Wire armour	X-Braid & Tape	U-Wire Armour	U-Braid & Tape
63H	M63	2"	42.5	50.1	58.4	65.8	53.8	61.2	2.5	0.3 – 0.8	2.0 - 2.5	0.3 - 1.6
63	M63	2 ½"	49.5	56.0	58.4	65.8	53.8	61.2	2.5	0.3 – 0.8	2.0 - 2.5	0.3 - 1.6
75S	M75	2 ½"	54.5	62.0	64.8	72.2	60.2	68.0	2.5	0.3 – 1.0	2.0 - 2.5	0.5 - 1.6
75H	M75	2 ½"	54.5	62.0	71.1	78.0	66.5	73.4	2.5	0.3 – 1.0	2.0 - 2.5	0.5 - 1.6
75	M75	3"	60.5	68.0	71.1	78.0	66.5	73.4	2.5	0.3 – 1.0	2.0 - 2.5	0.5 - 1.6
80	M80	3"	62.2	72.0	77.0	84.0	71.9	79.4	3.15	0.45 – 1.0	3.15 - 4.0	0.5 - 1.6
80H	M80	3"	62.2	72.0	79.6	90.0	75.0	85.4	3.15	0.45 – 1.0	3.15 - 4.0	0.5 - 1.6
85	M85	3"	69.0	78.0	79.6	90.0	75.0	85.4	3.15	0.45 – 1.0	3.15 - 4.0	0.5 - 1.6
90	M90	3 ½"	74.0	84.0	88.0	96.0	82.0	91.4	3.15	0.45 – 1.0	3.15 - 4.0	0.5 - 1.6
90H	M90	3 ½"	74.0	84.0	92.0	102.0	87.4	97.4	3.15	0.45 – 1.0	3.15 - 4.0	0.5 - 1.6
100	M100	3 ½"	82.0	90.0	92.0	102.0	87.4	97.4	3.15	0.45 – 1.0	3.15 - 4.0	0.5 - 1.6

Type C***E* Cable Glands**

Gland Type: C*****E*

Available Part No's.: C * * * * * E *

1 U CF A IE R

3 W CM B S

X

- Options
- 1 Neoprene Seal
 - 3 Silicone Seal
 - U Steel Wire Armour/Woven Steel Wire/Steel Tape/Braid
 - W Steel Wire Armour
 - X Woven Steel Wire/Steel Tape/Braid
 - CF Female thread conduit connector
 - CM Male thread conduit connector
 - A Aluminium material
 - B Brass material
 - S 316 Stainless Steel material
 - IE Integral Earth
 - R Reduced Bore



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Gland Size	Standard Entry threads		Inner Sheath Max	Outer Sheath		Reduced Bore		Armour Dia./Thickness			
	Metric	NPT		Min	Max	Min	Max	W-Wire armour	X-Braid & Tape	U-Wire Armour	U-Braid & Tape
16	M16	3/8"	8.4	8.4	13.5	4.9	10.0	0.9	0.15 – 0.35	0.8 - 1.25	0.2 - 0.8
20S	M20	1/2"	11.7	11.5	16.0	9.4	12.5	0.9 – 1.25	0.15 – 0.35	0.8 - 1.25	0.2 - 0.8
20	M20	1/2"	14.0	15.5	21.1	12.0	17.6	0.9 – 1.25	0.15 – 0.50	0.8 - 1.25	0.2 - 0.8
25	M25	3/4"	20.0	20.3	27.4	16.8	23.9	1.25 – 1.6	0.15 – 0.50	1.25 - 1.6	0.2 - 0.8
32	M32	1"	26.3	26.7	34.0	23.2	30.5	1.6 – 2.0	0.15 – 0.55	1.6 - 2.0	0.3 - 1.2
40	M40	1 1/4"	32.2	33.0	40.6	28.6	36.2	1.6 – 2.0	0.2 – 0.6	1.6 - 2.0	0.3 - 1.2
50S	M50	1 1/2"	38.2	39.4	46.7	34.8	42.4	2.0 – 2.5	0.2 – 0.6	2.0 - 2.5	0.3 - 1.6
50H	M50	1 1/2"	38.2	45.7	53.2	41.1	48.5	2.0 – 2.5	0.2 – 0.6	2.0 - 2.5	0.3 - 1.6
50	M50	2"	44.1	45.7	53.2	41.1	48.5	2.0 – 2.5	0.3 – 0.8	2.0 - 2.5	0.3 - 1.6
63S	M63	2"	50.1	52.1	59.5	47.5	54.8	2.5	0.3 – 0.8	2.0 - 2.5	0.3 - 1.6
63H	M63	2"	50.1	58.4	65.8	53.8	61.2	2.5	0.3 – 0.8	2.0 - 2.5	0.3 - 1.6
63	M63	2 1/2"	56.0	58.4	65.8	53.8	61.2	2.5	0.3 – 0.8	2.0 - 2.5	0.3 - 1.6
75S	M75	2 1/2"	62.0	64.8	72.2	60.2	68.0	2.5	0.3 – 1.0	2.0 - 2.5	0.5 - 1.6
75H	M75	2 1/2"	62.0	71.1	78.0	66.5	73.4	2.5	0.3 – 1.0	2.0 - 2.5	0.5 - 1.6
75	M75	3"	68.0	71.1	78.0	66.5	73.4	2.5	0.3 – 1.0	2.0 - 2.5	0.5 - 1.6
80	M80	3"	72.0	77.0	84.0	71.9	79.4	3.15	0.45 – 1.0	3.15 - 4.0	0.5 - 1.6
80H	M80	3"	72.0	79.6	90.0	75.0	85.4	3.15	0.45 – 1.0	3.15 - 4.0	0.5 - 1.6
85	M85	3"	78.0	79.6	90.0	75.0	85.4	3.15	0.45 – 1.0	3.15 - 4.0	0.5 - 1.6
90	M90	3 1/2"	84.0	88.0	96.0	82.0	91.4	3.15	0.45 – 1.0	3.15 - 4.0	0.5 - 1.6
90H	M90	3 1/2"	84.0	92.0	102.0	87.4	97.4	3.15	0.45 – 1.0	3.15 - 4.0	0.5 - 1.6
100	M100	3 1/2"	90.0	92.0	102.0	87.4	97.4	3.15	0.45 – 1.0	3.15 - 4.0	0.5 - 1.6

Design options:

1. Cable glands can be fitted with multi-clamping clamp ring for all armour types. These glands, indicated with option code "U", are not available in aluminium material.
2. When fitted with neoprene seals the service temperature range of the glands is: -35°C to +90°C. When fitted with silicone seals the service temperature range of the glands is: -60°C to +180°C.
3. All gland types with parallel threaded entry threads may have a modified thread length of a minimum of 10 mm and be marked suitable only for 'Ex eb' applications.
4. All gland types with parallel threaded entry threads to be manufactured with a longer than 'standard' thread length to suit the end use application.
5. All gland types can be manufactured with larger than the 'standard' entry threads as listed within the product description.
6. All gland types with parallel threaded entry threads may optionally be modified and fitted with an O-ring seal.
7. All cable glands may be fitted with alternative component on the rear back to allow connection of conduits.



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Notes:

Sira 01ATEX1271X, Sira 09ATEX1221X and IECEx SIR 07.0097X are superseded by certificates CML 19ATEX1106X, CML 19ATEX4109X and IECEx CML 19.0031X.

The product covered by Issue 0 of this certificate remains identical to that previously covered by Sira 01ATEX1271X, Sira 09ATEX1221X and IECEx 07.0097X.

Where Sira 01ATEX1271X and/or Sira 09ATEX1221X and/or IECEx SIR 07.0097X is specified in other product certification, or other technical specifications, this certificate reference for the product shall be used in its place; updating of the other product certificate or technical specification is not required.

Variation 1

This variation introduces the following modifications:

- i. The recognition of minor drawing changes that do not affect the existing compliance.

Variation 2

This variation introduces the following modifications:

- i. To include Male and Female thread options to allow for connection of flexible or rigid conduit onto the rear end of the cable glands.
- ii. To change the cable gland name designation from E****F*, D****F and C****E* cable glands to E****F*, D****F and C****E* Cable Glands.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	17 Apr 2019	R12330A/00	Issue of Prime Certificate
1	10 Oct 2019	R12627/00	Introduction of Variation 1
2	08 Jan 2020	R12937/00	Introduction of Variation 2

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

13 Conditions of manufacture

None.



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14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

- i. The Ranges of E****F*, D****F and C****E* Cable Glands shall not be used in enclosures where the temperature, at the point of contact exceeds the following temperatures.
 - 35°C to +90°C for neoprene seal variants.
 - 60°C to 180°C for the silicone seal variants.
- ii. The ranges of E****F* and D****F Cable Glands, when installed in accordance with the manufacturer's instructions and with an appropriate enclosure on which they are fixed, are capable of providing an ingress protection of IP66 and IP68 (50 meters 7 days).
- iii. The Range of C****E* Cable Glands, when installed in accordance with the manufacturer's instructions and with an appropriate enclosure on which they are fixed, are capable of providing an ingress protection of IP66.
- iv. The threaded entry component threads without interface O-ring seals installed in an explosive dust atmosphere, within threaded entries, shall only be fitted into enclosures that have either:
 - parallel entries that will ensure that a minimum of 5 full threads of contact will be maintained, this is in accordance with clause 5.1.2 of EN 60079-31:2014,
 - tapered entries that will ensure that a minimum of 3 ½ full threads of contact will be maintained, this is in accordance with clause 5.1.2 of EN 60079-31:2014
- v. If the E****F*, D****F and C****E* type cable glands only grip the cable sheath and do not clamp the armour, or if they are used to terminate unarmoured, braided or screened cables, then they shall only be used for fixed installations, hence the cables shall be effectively clamped to prevent pulling or twisting.

Certificate Annex

Certificate Number CML 19ATEX1106X
Equipment Range of E****F*, D****F and C****E* Cable Glands
Manufacturer Peppers Cable Glands Limited



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

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
PCG/ATX/4M	1 of 1	4	17 Apr 2019	ATEX Component CAP PART 4M
PCG/ATX/CE	1 of 2	3	17 Apr 2019	ATEX Range Cable Glands for Armoured Cable C****E* Family
PCG/ATX/CE	2 of 2	3	17 Apr 2019	ATEX Range Cable Glands for Armoured Cable C****E* Family
PCG/ATX/E1W	1 of 2	8	17 Apr 2019	ATEX Range Cable Glands for Armoured Cable E****F* & D***F Family
PCG/ATX/E1W	2 of 2	8	17 Apr 2019	ATEX Range Cable Glands for Armoured Cable E****F* & D***F Family
PCG/ATX/3MU	1 of 1	1	17 Apr 2019	ATEX Component Cone Universal Clamping
PCG/ATX/10MU	1 of 1	1	17 Apr 2019	ATEX Component Clamp Ring Parts 10MU
PCG/ATX/1M	1 of 1	5	17 Apr 2019	ATEX Component Entry Body Parts 1M, 1M9
PCG/ATX/1MIE	1 of 1	8	17 Apr 2019	ATEX Component Entry Body – Integral Earth Part 1MIE
PCG/ATX/1MT	1 of 1	5	17 Apr 2019	ATEX Component Entry Body – NPT/BSPT Threads Parts 1MT, 1MT9
PCG/ATX/2M	1 of 1	10	17 Apr 2019	ATEX Component Seal – Parts 2MI, 2MIS, 2MO, 2MOS, 2MOZS
PCG/ATX/2MT	1 of 1	1	17 Apr 2019	ATEX Component Seal – Deluge Part 2MTRI
PCG/ATX/3M	1 of 1	7	17 Apr 2019	ATEX Component Cone Parts 3M, 3MX
PCG/ATX/5M	1 of 1	5	17 Apr 2019	ATEX Component Middle CAP PART 5M
PCG/ATX/6M	1 of 1	5	17 Apr 2019	ATEX Component Outer CAP PART 6M
PCG/ATX/10M	1 of 1	5	17 Apr 2019	ATEX Component Clamp Ring Parts 10MW, 10XX
PCG/ATX/11M	1 of 1	3	17 Apr 2019	ATEX Component SKID Washer Parts 11MO
PCG/ATX/16M	1 of 1	3	17 Apr 2019	ATEX Component Integral Earth Clamp Part 16M
PCG/ATX/PEXMP	1 of 1	4	17 Apr 2019	Hazardous Area Approved Products – Marking Plan
PCG/ETDMV	1 of 1	9	17 Apr 2019	Standard thread chart ATEX certified glands using “M”, “V” & “N” components
PCG/ETOR	1 of 1	12	17 Apr 2019	Accessory component entry thread O-Ring seal part OR

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Equipment Range of E****F*, D****F and C****E* Cable Glands

Manufacturer Peppers Cable Glands Limited



Drawing No	Sheets	Rev	Approved date	Title
PCG/ETRO	1 of 1	3	17 Apr 2019	Entry thread components run out specification Parts: - 1M, 1MIE, 1V, 31UL, 31V, 61M, 81AN, AR & SP
PCG/GESW	1 of 1	1	17 Apr 2019	SKID washer part GESW
PCG/LW2	1 of 1	8	17 Apr 2019	Accessory component continuity washer part LW2 (For E2**F)
PCG/MATS/AL	1 of 1	3	17 Apr 2019	Standard materials AL. Alloy ATEX certified glands using "M", "V" and "N" components
PCG/MATS/SB	1 of 1	5	17 Apr 2019	Standard materials ATEX certified glands using "M", "V" and "N" components
PCG/ORGD	1 of 1	6	17 Apr 2019	Component male threaded entry component O-Ring groove detail
PCG/PRE – PLT	1 of 1	2	17 Apr 2019	Peppers entry thread component PRE-PLATE thread manufacturing tolerances

Issue 1

Drawing No	Sheets	Rev	Approved date	Title
PCG/ATX/1M	1 of 1	6	10 Oct 2019	ATEX Component Entry Body Parts 1M, 1M9
PCG/ATX/1MIE	1 of 1	9	10 Oct 2019	ATEX Component Entry Body – Integral Earth Part 1MIE
PCG/ATX/1MT	1 of 1	6	10 Oct 2019	ATEX Component Entry Body – NPT/BSPT Threads Parts 1MT, 1MT9
PCG/ATX/2M	1 of 1	11	10 Oct 2019	ATEX Component Seal – Parts 2MI, 2MIS, 2MO, 2MOS, 2MOZS
PCG/ATX/3M	1 of 1	8	10 Oct 2019	ATEX Component Cone Parts 3M, 3MX
PCG/ATX/4M	1 of 1	5	10 Oct 2019	ATEX Component CAP PART 4M
PCG/ATX/5M	1 of 1	6	10 Oct 2019	ATEX Component Middle CAP PART 5M
PCG/ATX/6M	1 of 1	6	10 Oct 2019	ATEX Component Outer CAP PART 6M
PCG/ATX/11M	1 of 1	4	10 Oct 2019	ATEX Component Skid Washer Parts 11MO
PCG/ATX/16M	1 of 1	4	10 Oct 2019	ATEX Component Integral Earth Clamp Part 16M
PCG/ATX/E1W	1 to 2	9	10 Oct 2019	ATEX Range Cable Glands for Armoured Cable E****F* & D***F Family
PCG/ORGD	1 of 1	7	10 Oct 2019	Component Male Threaded Entry Component O-ring Groove Detail

Certificate Annex

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Manufacturer Peppers Cable Glands Limited



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Drawing No	Sheets	Rev	Approved date	Title
PCG/ATX/4CF	1 of 1	1	10 Jan 2020	ATEX Instrument Component CAP, Conduit Part 4CF
PCG/ATX/4CM	1 of 1	1	10 Jan 2020	ATEX Component Male Connector CAP Part 4CM
PCG/ATX/6CF	1 of 1	1	10 Jan 2020	ATEX Component Female Connector CAP Part 6CF
PCG/ATX/CE	1 of 2	4	10 Jan 2020	ATEX Range cable glands for armoured cable C****E* family
PCG/ATX/CE	2 of 2	3	10 Jan 2020	ATEX Range cable glands for armoured cable C****E* family
PCG/ATX/E1W	1 to 3	10	10 Jan 2020	ATEX Range cable glands for armoured cable E****F* & D****F family
PCG/ATX/6CM	1 of 1	1	10 Jan 2020	ATEX Component Male Connector CAP Part 6CM