EU Type Examination Certificate CML 18ATEX1325X Issue 0

1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

2 Equipment **Type PX** Cable Glands**

3 Manufacturer **CMP Products Limited**

4 Address 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, 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 60079-0:2018 EN 60079-1:2014 EN 60079-7:2015 +A1:2018

EN 60079-31:2014

10 The equipment shall be marked with the following:

Ex I M2	Ex II 2G	Ex II 1D
Ex eb I Mb*	Ex eb IIC Gb	Ex ta IIIC Da
Ex db I Mb*	Ex db IIC Gb	

*Aluminium alloy is not acceptable for Group I applications

-60°C to 85°C

H M Amos MIET
Certification Manager

11 Description

The Type PX** series ranges of barrier cable glands consist of a male-threaded front entry component, fitted with a barrier tube such that a spigot/combination joint is formed, which is intended to screw into an entry point of its associated enclosure in accordance with relevant codes of practice. The barrier tube is filled with a sealing material that creates a flameproof seal around the cable cores passing through it and is mechanically retained. The front entry component to main body mating thread may be fitted with an optional 'O' ring seal to provide increased ingress protection. Clamping of the armour or braid is effected by a combination of the front entry component and the different optional armour cone and reversible sleeve combinations within the main body being fastened together. An outer seal nut threads onto the main body and creates an environmental seal between the gland and cable outer sheath. The outer seal nut contains an elastomeric sealing ring and a Nylon 6 ferrule.

Materials of manufacture

- Brass to BS EN 12164:2011 / BS EN 12168:2011 Grade CuZn39Pb3 (CW614N)
- Mild Steel to BS EN 10277-2:2008 Grades 220M07, 230M07 (EN1A) / 220M07Pb, 230M07Pb (EN1APb)
- Stainless Steel to BS EN 10088-3:2014 GRADES 316S11, 316S13, 316S31, 316S33, 316L
- Aluminium to BS EN 573-3:2013 / BS EN 755-1-3:2008 Grade 6082 T6, 6262 T6 BS EN 1706:2010/ BS EN 1676:2010 Grade LM25 TF (Aluminium alloy is not acceptable for Group I applications)

Note:

- Sira 13ATEX1072X / Sira 10ATEX1172X and ITS 17ATEX102491X are superseded by this certificate.
- The product covered by Issue 0 of this certificate remains identical to that previously covered by the above certificates.
- Where the above are 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.

Design options

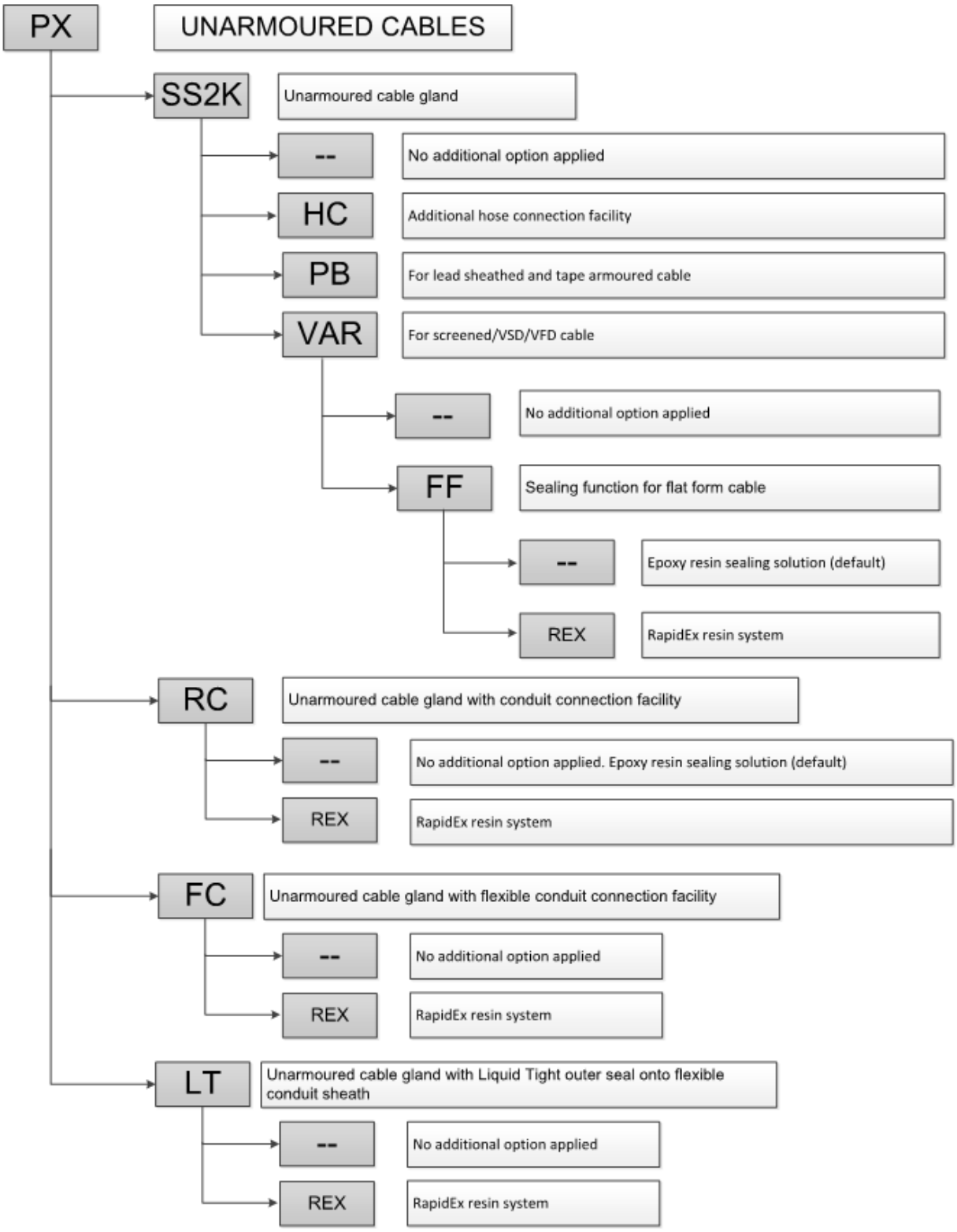
- The front entry component may be manufactured with a profiled groove to captivate an 'O' ring seal which locates on the mating face with the associated enclosure. This option having the gland type designation prefixed with the letter R, e.g. 25RPX2KW.
- Alternative entry component thread forms:

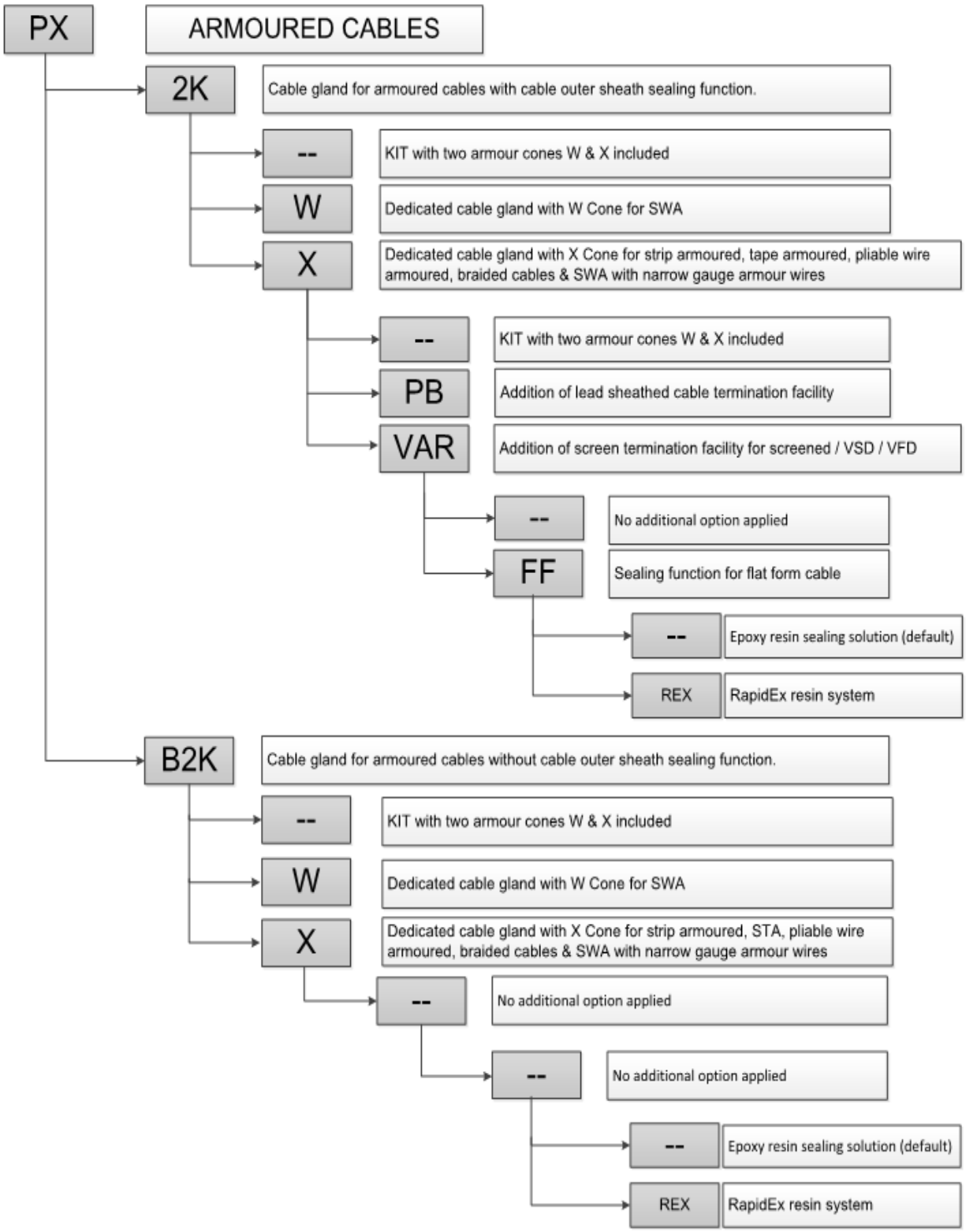
Metric	ISO 965-1, ISO965-3 medium fit (6g) for external threads
ET(Conduit)	BS 31:1940 (1979), Table A
PG	DIN 40430:1971
BSPP	BS 2779:1986 class A full form for external threads
BSPT	BS 21:1985 standard threads only as clause 5.4, gauging to clause 5.2 system A
ISO	ISO 7/1:1994, gauging to ISO 7/2 clause 6.3 for external threads
NPT	ANSI/ASME B1.20.1-2013 gauging to clause 3.2 for external threads

NPSM ANSI/ASME B1.20.1-2013 gauging to clause 6.4 for external threads

- Alternative material of manufacture of the ferrule to be the same as the gland material.
- The removal of the outer seal, nut and ferrule, along with the body component manufactured without the external mating thread. The cable gland being suitable for S.W.A armoured cables and is identified within type designation coding.
- The use of the barrier tube and spacer along with the manufacture of the front entry component with a female mating thread, to couple to an alternative main body, skid washer, seal and nut. The latter replacing other component parts. This variant being identified within type designation coding.
- PXSS2K range can be fitted with the outer seal nut from the PX** range as an alternative.
- PX type glands may be fitted with armour cones with alternative diameters to allow the clamping of smaller or larger armour wires.
- Alternative outer seal arrangement to allow the glands to be attached to flexible conduit.
- PX2K** range can be fitted with the outer seal nut assembly from the PKSS2K range as an alternative.
- Cable glands can be supplied with larger entry threads than those detailed, provided the hexagon bar size and across corners dimensions of the entry item also step up to that of another size detailed in this drawing pack or certificate, when selecting larger entry threads, only the entry item can be changed.
- A slower curing RapidEx resin is available in a formulation which allows slower curing for use at higher ambient installation temperatures.

Type designation code;




PX
ARMOURED CABLES
2K
Cable gland for armoured cables with cable outer sheath sealing function.
--
KIT with two armour cones W & X included
W
Dedicated cable gland with W Cone for SWA
X
Dedicated cable gland with X Cone for strip armoured, tape armoured, pliable wire armoured, braided cables & SWA with narrow gauge armour wires
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KIT with two armour cones W & X included
PB
Addition of lead sheathed cable termination facility
VAR
Addition of screen termination facility for screened / VSD / VFD
--
No additional option applied
FF
Sealing function for flat form cable
--
Epoxy resin sealing solution (default)
REX
RapidEx resin system
B2K
Cable gland for armoured cables without cable outer sheath sealing function.
--
KIT with two armour cones W & X included
W
Dedicated cable gland with W Cone for SWA
X
Dedicated cable gland with X Cone for strip armoured, STA, pliable wire armoured, braided cables & SWA with narrow gauge armour wires
--
No additional option applied
--
No additional option applied
--
Epoxy resin sealing solution (default)
REX
RapidEx resin system

Gland size	Entry thread	Max no. of cores (RAPIDEX)	Max. no. of cores (EP2122)	Max Ø over cores (mm)	SWA (mm)		SWA, STA, Strip armour, pliable wire armour[1] & wire braid (mm)		PXSS2K[2,3] outer seal sheath range Ø (mm)		PX**[3] outer seal sheath range Ø (mm)	
					Min	Max	Min	Max	Min	Max	Min	Max
20s/16	M20 x 1.5	21	21	12.6	0.8	1.25	0	0.8	3.1	8.7	6.1	13.2
20s	M20 x 1.5	21	21	12.6	0.8	1.25	0	0.8	6.1	11.7	9.5	15.9
20	M20 x 1.5	21	21	12.6	0.8	1.25	0	0.8	6.5	14.0	12.5	20.9
20L	M20 x 1.5	21	21	12.6	0.8	1.25	0	0.8	10.0	15.9	N/A	N/A
25s	M25 x 1.5	30	30	17.5	1.25	1.6	0	1.1	11.1	20.0	14.0	22.0
25	M25 x 1.5	30	30	17.5	1.25	1.6	0	1.1	11.1	20.0	18.2	26.2
32	M32 x 1.5	50	38	23.6	1.6	2.0	0	1.2	17.0	26.3	23.7	33.9
32L	M32 x 1.5	50	38	23.6	1.6	2.0	0	1.2	20.0	27.4	N/A	N/A
40	M40 x 1.5	59	59	30.0	1.6	2.0	0	1.2	22.0	32.1	27.9	40.4
50s	M50 x 1.5	89	89	36.6	2.0	2.5	0	1.2	29.5	38.2	35.2	46.7
50	M50 x 1.5	89	89	41.0	2.0	2.5	0	1.5	35.6	44.1	40.4	53.1
63s	M63 x 1.5	115	115	47.9	2.0	2.5	0	1.5	40.1	50.1	45.6	59.4
63	M63 x 1.5	115	115	53.7	2.0	2.5	0	1.5	47.2	56.0	54.6	65.9
75s	M75 x 1.5	140	140	59.9	2.0	2.5	0	1.5	52.8	62.0	59.0	72.1
75	M75 x 1.5	140	140	64.3	2.5	3.0	0	1.5	59.1	68.0	66.7	78.5
90	M90 x 2.0	200	200	75.3	3.0	3.5	0	1.6	66.6	79.4	76.2	90.4
100	M100 x 2.0	200	200	85.6	3.15	4.0	0	1.6	76.0	90.9	86.1	101.5

[1] '2KX' and '2K' variants; see below.

[2] including PX** fitted with alternative outer nut as drawing GA273.

[3] Not PXRC variant.

PX*-FF in these sizes only.

Gland size	Entry thread	Entry thread 'B' version	PXSS2K seal sheath range (mm)		Other PX* seal sheath range (mm)	
			Min	Max	Min	Max
20s	M20 x 1.5	M25 x 1.5	4.0 x 6.2	6.8 x 11.7	20s	M20 x 1.5
20	M20 x 1.5	M25 x 1.5	5.7 x 8.0	8.7 x 13.5	20	M20 x 1.5

PXFC and PXFC-LTPB Barrier Gland for Flexible Conduit

The PXFC (also known as the Flexicon EXD) range of barrier cable glands is intended to terminate circular braided, unarmoured cables or individual cores into enclosures without compromising the explosion protection provided by the enclosures.
The PXFC ranges of cable glands consist of a male-threaded front entry component, fitted with a compound tube such that a spigot/combination joint is formed, which is intended to screw into an entry point of its associated enclosure in accordance with relevant codes of practice.

The compound tube is filled with a sealing compound that effects a flameproof seal around the cable cores passing through it. The front entry component to main body mating thread may be fitted with an optional O-ring seal to provide increased ingress protection. Clamping of the flexible conduit is effected by a combination of the front entry component assembly and a rear seal washer, olive and conduit nut. The olive is compressed onto the conduit when the body component and conduit nut are tightened and affects environmental sealing onto the conduit outer sheath.

Design options

- Alternative materials of manufacture:
  Brass to BS 2874:1986 Grade CuZn39Pb (CW614N)
  Mild steel to BS 970 Pt1:1991 Grade 220M07Pb
  Stainless steel to BS 970 Pt1:1991 Grades 316S11, 316S13, 316S31 or 316S33
  Aluminium alloy to BS 1474:1987 Grade 6082 or BS 1490 Grade LM25 TF (Not Group I)
- Alternative entry component thread forms:
  Metric ISO 965-1; ISO 965-3 medium fit (6g) for external threads
  ET(Conduit) BS 31:1940 (1979), Table A; PG DIN 40430:1971
  BSPP BS 2779:1986 class A full form for external threads
  BSPT BS 21:1985 standard threads only as clause 5.4, gauging to clause 5.2 system A
  ISO ISO 7/1:1994, gauging to ISO 7/2 clause 6.3 for external threads
  NPT ANSI/ASME B1.20.1-2013 gauging to clause 8.1 for external threads
  NPSM ANSI/ASME B1.20.1-2013 gauging to clause 9 for external threads
  (the cable gland entry threads are to maintain compliance with the requirements of IEC 60079-1:2007 Clause 5.3 Tables 3 and 4 and clause C.2.2 as applicable):
- The option to manufacture glands with entry threads that are one size up from the nominal quoted gland size.

Gland size	Entry thread	Max No. of cores	Max dia over cores (mm)
20/19	M20 x 1.5	34	12.6
20	M20 x 1.5	34	12.6
25	M25 x 1.5	80	17.5
32	M32 x 1.5	115	23.6
40	M40 x 1.5	185	30.0
50	M50 x 1.5	343	41.0
63	M63 x 1.5	585	53.7

The PXFC-LTPB range of barrier cable glands is intended for anchoring flexible braided conduit and terminating braided or unarmoured cable.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	29/03/2019	R12060F/00	Issue of prime certificate.

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

13 Conditions of manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

13.1 Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.

14 Specific Conditions of Use (Special Conditions)

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

14.1 The glands when used for terminating braided cables are only suitable for fixed installations.

14.2 Cables must be effectively clamped to prevent pulling or twisting. The PXB2K, PXB2KX and PXB2KW glands are to be protected from hydraulic fluids, oils, and greases when applied for Group I use.

14.3 When assembled for fitting to flexible conduit, the conduit shall be effectively clamped to prevent twisting and pulling.

14.4 The PX range of cable glands with entry threads smaller than a M25 (or equivalent) size shall not be used for Group I, EPL Mb applications where there is a ‘high’ risk of mechanical damage.

Certificate Annex

Certificate Number	CML 18ATEX1325X
Equipment	Type PX** Cable Gland
Manufacturer	CMP Products Limited

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

Issue 0

Drawing No	Sheets	Rev	Approved date	**Title**
GA207	1 of 1	04	29/03/2019	PXFC-LT GA
GA352	1 of 1	02	29/03/2019	PX2K, PX2KW, PX2KX General Arrangement
GA353	1 of 1	02	29/03/2019	PXRC GA Drawing
GA354	1 to 2	02	29/03/2019	PXSS2K, PXSS2K Combination Gland and PXSS2K-HC GA
SCH0322	1 of 1	02	29/03/2019	Outer seal details
SCH0327	1 of 1	01	29/03/2019	PX & PXSS2K Entry item details
SCH0388	1 of 1	00	29/03/2019	Resin diaphragm seal
SCH0395	1 of 1	02	29/03/2019	TMCX compound tubes – NPT
SCH0396	1 of 1	02	29/03/2019	TMCX compound tubes – Metric