

**Type Examination Certificate    CML 21UKEX4215X    Issue 0****United Kingdom Conformity Assessment**

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended)
- 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 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, 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 Schedule 1 of the Regulations.

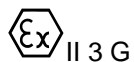
The examination and test results are recorded in the confidential reports listed in Section 12.

- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of 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. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.
- 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 IEC 60079-15:2019

- 10 The equipment shall be marked with the following:



Ex nR IIC Gc

-60°C to +85°C



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## 11 Description

The PX Range of Barrier Cable Glands are designed for explosive atmospheres consisting of a male-threaded front entry component and fitted with a barrier tube forming a spigot/combination joint, which is intended to screw into an entry point of an associated enclosure. The barrier tube can be filled with either, a putty compound or RapidEx resin material, creating a flameproof barrier seal around the cable cores. An optional O-Ring may be fitted to the enclosure entry thread to provide improved ingress protection. This range is comprised of the PX2K, PXSS2K, PXRC, PXL, and PXB2K models, with a choice of variants; W, X, HC, VAR, PB, FF, COMBO and REX. See 'type designation code' flow chart on pages 5 and 6 for the model variant combinations and 'Design Options' for additional components specific to each model.

### Materials for manufacture

The PX\*\* Cable Gland ranges are manufactured in brass, aluminium, stainless steel, and mild steel. All brass manufactured component parts can be optionally nickel-plated. All mild steel manufactured components can be optionally zinc plated. Stainless steel cable glands may be fitted with nickel-plated brass internal components.

### Design Options

#### PX2K models

- Standard:  
Gland entry device generally as stated above, but, supplied with the putty compound only, for barrier tube filling. Clamping of the armour or braid/screen of a cable; achieved by a combination of the front entry item, the supplied armour or braid cone, and clamping ring when combined with the main body component. An outer seal nut, which consists of an elastomeric seal and nylon identification ferrule, threads onto the main body and creates an environmental seal between the gland and the cable outer sheath.
- 'W' variant:  
As the PX2K model but is fitted with the armour cone only.
- 'X' variant:  
As the PX2K model but is fitted with the braid cone only.
- 'REX' variant  
As the PX2K model but is supplied with the RapidEx resin only, for barrier tube filling. Fitted with an additional resin dam component to retain the resin in the barrier tube while curing.
- 'PB' variant:  
As the PX2K model but is fitted with an additional metallic continuity device for use with inner lead sheathed, S.W.A. strip armoured and braided cables. The continuity device is clamped between a spacer and cone (armour or braid). The spacer has two design options depending on barrier compound used; RapidEx resin ('REX' variant) or putty compound (standard option).
- 'VAR' variant:  
As the PX2K model but is fitted with an additional metallic continuity device for use with Variable Speed Drive (VSD) / Variable Frequency Drive (VFD) cable and similar screened cables. Fitted with the standard armour cone with variant 'W' and fitted with a modified braid cone with variant 'X'.
- 'FF' variant:  
As the PX2K model but fitted with an outer sealing ring suitable for use with flat form cables instead of the standard seal. Only available in sizes 20s and 20.



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### PXB2KX models

- Standard:  
As the PX2K model, excluding the main body, seal nut, seal, and ferrule; these components are replaced by a PXB2K armour nut, for braided cables without an outer sheath sealing function.
- 'REX'  
As the PXB2K model but is supplied with the RapidEx resin only, for barrier tube filling. Fitted with an additional resin dam component to retain the resin while curing.

### PXSS2K models

- Standard:  
Gland entry device generally as stated above, but, supplied with the putty compound only, for barrier tube filling. Sealing of the unarmoured or braided/screened cable is via the outer seal nut, which consists of an elastomeric seal and nylon skid washer, threaded onto the main body and creates an environmental seal.
- 'REX' variant  
As the PXSS2K model but is supplied with the RapidEx resin only, for barrier tube filling. Fitted with an additional resin dam component to retain the resin in the barrier tube while curing.
- 'HC' variant:  
As the PXSS2K model but the seal nut is replaced with a hose connector seal nut.
- 'PB' variant:  
As the PXSS2K model but fitted with an additional metallic continuity device for use with inner lead sheathed S.W.A. strip armoured and braided cables.
- 'VAR' variant:  
As the PXSS2K model but is fitted with an additional metallic continuity device for use with Variable Speed Drive (VSD) / Variable Frequency Drive (VFD) and similar screened cables. The standard main body is replaced by an alternative design, which has an additional internal groove, machined to provide retention for the continuity device.
- 'FF' variant:  
As the PXSS2K model but fitted with an outer sealing ring suitable for use with flat form cables instead of the standard seal. Only available in sizes 20s and 20.
- 'COMBO' variant:  
As the PXSS2K model but fitted with an alternative main body designed to fit cables with a larger outer sheath diameter than the standard option permits. The size of the sealing nut assembly - nut, seal, and skid washer - depends on the diameter of the outer sheath of the cable required.

### PXRC models

- Standard:  
Gland entry device intended to terminate circular braided or unarmoured cables and individual cores into enclosures without compromising the explosion protection. Generally as stated above, but, supplied with the putty compound only, for barrier tube filling. A compression nut is threaded into the entry item retaining the compound tube and tube spacer, the coupler is retained via a circlip and provides, by way of a female thread, connection for rigid conduits, and, by way of a conduit fitting, flexible conduits.



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- 'M'  
As the PXRC standard model but the retained coupler provides connection for rigid conduits by way of a male thread, instead of a female thread.
- 'REX'  
As the PXRC / PXRCM models but is supplied with the RapidEx resin only, for barrier tube filling. Fitted with an additional resin dam component to retain the resin in the barrier tube while curing.

#### PXFC models

- Standard:  
Gland entry device intended to terminate circular braided or unarmoured cables and individual cores into enclosures without compromising the explosion protection. Generally as stated above, but, supplied with the putty compound only, for barrier tube filling. A compression nut is threaded into the entry item retaining the compound tube and tube spacer, the coupler is retained via a circlip and provides, by way of conduit thread, connection for flexible conduits only.
- 'REX'  
As the PXFC model but is supplied with the RapidEx resin only, for barrier tube filling. Fitted with an additional resin dam component to retain the resin while curing.

#### PXLT models

- Standard:  
Gland entry device generally as stated above, but, supplied with the putty compound only, for barrier tube filling. Intended to terminate circular braided or unarmoured cables and individual cores into enclosures without compromising the explosion protection. Clamping of the flexible conduit is achieved by a combination of the entry item assembly, tube spacer, conduit anchor, compression sleeve/olive, and compression nut. The compression sleeve/olive is bound to the conduit during assembly when the entry item and compression nut are tightened; thus providing an environmental seal onto the conduit outer sheath.
- 'REX'  
As the PXLT model but is supplied with the RapidEx resin only, for barrier tube filling. Fitted with an additional resin dam component to retain the resin while curing.

#### Additional Design Options

- The front entry component can 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'.
- Alternative entry component thread forms; Metric, ET (conduit), PG, BSPP, BSPT, ISO, NPT, and NPSM.
- Alternative material of manufacture of the ferrule and/or skid washer to be the same as the gland material, or nickel-plated brass.
- PXSS2K range can be fitted with the outer seal nut assembly from the PX2K range as an alternative.
- PX2K range glands can be fitted with the outer seal nut assembly from the PXSS2K range as an alternative.



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- PX2K, PX2KX, PX2KW, PXB2K, PXB2KX, and PXB2KW range glands can be fitted with armour cones with alternative diameters to allow for the clamping of smaller or larger armour wires, or braids.
- Cable glands can be supplied with larger entry threads than those detailed, provided the wall section is not compromised and IP protection is maintained at the interface.
- An alternative RapidEx resin formulation is available, where slower curing is required for use at higher ambient installation temperatures.
- Intermediate thread sizes are permitted, e.g. M28

**Type designation code:**

**PX Armoured / Braided Cables**

<p>— PX2K —</p> <ul style="list-style-type: none"> <li>Blank VAR</li> <li>Blank REX</li> <li>Blank FF</li> <li>Blank PB</li> <li>Blank W X</li> <li>Blank R</li> </ul>	<p>Armoured cable gland with outer sheath sealing function.</p> <p>No additional option applied. Fitted with an additional metallic continuity device for use with Variable Speed Drive (VSD) / Variable Frequency Drive (VFD) and similar screened cables.</p> <p>Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.</p> <p>No additional option applied. Fitted with a seal suitable for use with flat form cables.</p> <p>No additional option applied. Fitted with an additional metallic continuity device for use with inner lead sheathed S.W.A., strip armoured and braided cables.</p> <p>Supplied with both armour and braid cone options. Supplied with armour cone only. Supplied with braid cone only.</p> <p>No additional option applied. Additional profiled groove and O-Ring seal applied to the entry item.</p>
<p>— PXB2KX —</p> <ul style="list-style-type: none"> <li>Blank REX</li> <li>Blank R</li> </ul>	<p>Armoured cable gland without outer sheath sealing function, supplied with braid cone.</p> <p>Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.</p> <p>No additional option applied. Additional profiled groove and O-Ring seal applied to the entry item.</p>



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**PX Unarmoured Cables**

<p>-- PXSS2K --</p> <ul style="list-style-type: none"> <li>Blank VAR</li> <li>Blank REX</li> <li>Blank FF</li> <li>Blank PB</li> <li>Blank HC COMBO</li> <li>Blank R</li> </ul>	<p>Unarmoured cable gland.</p> <p>No additional option applied. Fitted with an additional metallic continuity device for use with Variable Speed Drive (VSD) / Variable Frequency Drive (VFD) and similar screened cables.</p> <p>Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.</p> <p>No additional option applied. Fitted with a seal suitable for use with flat form cables.</p> <p>No additional option applied. Fitted with an additional metallic continuity device for use with inner lead sheathed S.W.A., strip armoured and braided cables.</p> <p>No additional option applied. Replaces standard seal nut with a hose connector seal nut. Replaces main body and seal nut assembly with alternative design for cables with larger outer sheaths.</p> <p>No additional option applied. Additional profiled groove and O-Ring seal applied to the entry item.</p>
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<p>-- PXFC --</p> <ul style="list-style-type: none"> <li>Blank REX</li> <li>Blank R</li> </ul>	<p>Unarmoured cable gland with flexible conduit facility.</p> <p>Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.</p> <p>No additional option applied. Additional profiled groove and 'O-Ring seal applied to the entry item.</p>
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<p>-- PXLT --</p> <ul style="list-style-type: none"> <li>Blank REX</li> <li>Blank R</li> </ul>	<p>Unarmoured cable gland with Liquid Tight outer seal onto flexible conduit sheath.</p> <p>Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.</p> <p>No additional option applied. Additional profiled groove and O-Ring seal applied to the entry item.</p>
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<p>-- PXRC --</p> <ul style="list-style-type: none"> <li>Blank M</li> <li>Blank REX</li> <li>Blank R</li> </ul>	<p>Unarmoured cable gland with rigid and flexible conduit connection facility.</p> <p>Supplied with female rear thread. Supplied with male rear thread.</p> <p>Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.</p> <p>No additional option applied. Additional profiled groove and O-Ring seal applied to the entry item.</p>
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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 <sup>1</sup> & wire braid (mm)		PXSS2K <sup>2</sup> outer seal sheath range Ø (mm)		PX <sup>**2</sup> outer seal sheath range Ø (mm)	
					Min	Max	Min	Max	Min	Max	Min	Max
20s/16	M20 x 1.5	21	21	11.7	0.8	1.25	0.3	1.0	3.1	8.6	6.1	13.1
20s	M20 x 1.5	21	21	11.7	0.8	1.25	0.3	1.0	6.1	11.7	9.5	15.9
20	M20 x 1.5	21	21	12.6	0.8	1.25	0.4	1.0	6.5	14.0	12.5	20.9
20L	M20 x 1.5	21	21	12.6	0.8	1.25	0.4	1.0	10.0	15.9	N/A	N/A
25s	M25 x 1.5	30	30	17.5	1.25	1.6	0.4	1.2	NA	NA	14.0	22.0
25	M25 x 1.5	30	30	17.5	1.25	1.6	0.4	1.2	11.1	20.0	18.2	26.2
32	M32 x 1.5	50	38	23.6	1.6	2.0	0.4	1.2	17.0	26.3	23.7	33.9
32L	M32 x 1.5	50	38	23.6	1.6	2.0	0.4	1.2	20.0	27.4	N/A	N/A
40	M40 x 1.5	59	59	30.0	1.6	2.0	0.4	1.6	22.0	32.1	27.9	40.4
50s	M50 x 1.5	89	89	36.6	2.0	2.5	0.4	1.6	29.5	38.2	35.2	46.7
50	M50 x 1.5	115	115	41.0	2.0	2.5	0.6	1.6	35.6	44.0	40.4	53.0
63s	M63 x 1.5	115	115	47.9	2.0	2.5	0.6	1.6	40.1	49.9	45.6	59.4
63	M63 x 1.5	115	115	53.7	2.0	2.5	0.6	1.6	47.2	55.9	54.6	65.8
75s	M75 x 1.5	140	140	59.9	2.0	2.5	0.6	1.6	52.8	61.9	59.0	72.0
75	M75 x 1.5	140	140	64.3	2.5	3.15	0.6	1.6	59.1	67.9	66.7	78.4
90	M90 x 2.0	140	140	75.3	3.15	4.0	0.8	1.6	66.6	79.4	76.2	90.3
100	M100 x 2.0	200	200	83.6	3.15	4.0	0.8	1.6	76.0	90.9	86.1	101.4

<sup>1</sup> '2KX' and '2K' variants; see below.

<sup>2</sup> 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

PXLT in these sizes only.

Gland size	Entry thread	Max No. of cores	Max dia over cores (mm)
20	M20 x 1.5	21	12.6
25	M25 x 1.5	30	17.5
32	M32 x 1.5	50	23.6
40	M40 x 1.5	59	30.0
50	M50 x 1.5	89	41.0
63	M63 x 1.5	115	53.7

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



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## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	02 Jun 2021	R13114D/00	Issue of Prime Certificate

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

## 13 Conditions of Manufacture

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

- i. 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

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

- i. The glands when used for terminating braided cables are only suitable for fixed installations.
- ii. When assembled for fitting to flexible conduit, the conduit shall be effectively clamped to prevent twisting and pulling.



## Certificate Annex

**Certificate Number** CML 21UKEX4215X  
**Equipment** Type PX\*\* Cable Glands  
**Manufacturer** CMP Products Limited



The following documents describe the equipment defined in this certificate:

### Issue 0

For drawings describing the equipment, refer to certificate CML 18ATEX4317X Issue 1.