



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx CML 18.0182X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 1	Issue 0 (2019-03-29)
Date of Issue:	2021-06-02		
Applicant:	CMP Products Limited Unit 36 Nelson Way Nelson Park East Cramlington Northumberland NE23 1WH United Kingdom		
Equipment:	Type PX** Cable Glands		
Optional accessory:			
Type of Protection:	Flameproof "db", Increased Safety "eb", Dust Protection by Enclosure "ta", Non-Sparking "nR"		
Marking:	Ex eb I Mb* Ex db I Mb* Ex eb IIC Gb Ex db IIC Gb Ex ta IIC Da Ex nR IIC Gc *Aluminium alloy is not acceptable for Group I applications -60°C to +85°C		

Approved for issue on behalf of the IECEx
Certification Body:

S. Roumbedakis

Position:

Technical Manager

Signature:
(for printed version)

Date:

2021-06-02

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Certificate issued by:

Eurofins E&E CML Limited
 Unit 1, Newport Business Park
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 Ellesmere Port, CH65 4LZ
 United Kingdom





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Date of issue: 2021-06-02

Issue No: 1

Manufacturer: **CMP Products Limited**
Unit 36 Nelson Way
Nelson Park East
Cramlington
Northumberland NE23 1WH
United Kingdom

Additional
manufacturing
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-15:2017 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:5.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

GB/CML/ExTR19.0038/00

GB/CML/ExTR20.0196/00

Quality Assessment Report:

GB/CML/QAR19.0001/02



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Date of issue: 2021-06-02

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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

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.

Refer to Annex for Full Description and Conditions of Manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to Certificate Annex.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1

This issue introduced the following changes:

1. Dimensional changes to part piece drawings.
2. Non-technical corrections to clarify product description.
3. Review and update against the latest technical standards.

Annex:

IECEx CML 18.0182X Certificate Annex Issue 1_1.pdf



Annexe to: IECEx CML 18.0182X Issue 1

Applicant: CMP Products Limited

Apparatus: Type PX** Cable Glands

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, PXLT, 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).

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- '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.

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.
- **'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.
- 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
- Metric entry threads of all model ranges may be manufactured with a thread pitch between 0.7mm and 2.0mm with 15.mm as standard.

Type designation code:

PX Armoured / Braided Cables

PX2K - Blank VAR - Blank REX - Blank FF - Blank PB - Blank W X - Blank R	Armoured cable gland with outer sheath sealing function. 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. Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution. No additional option applied. Fitted with a seal suitable for use with flat form cables. 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. Supplied with both armour and braid cone options. Supplied with armour cone only. Supplied with braid cone only. No additional option applied. Additional profiled groove and O-Ring seal applied to the entry item.
PXB2KX - Blank REX - Blank R	Armoured cable gland without outer sheath sealing function, supplied with braid cone. Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution. No additional option applied. Additional profiled groove and O-Ring seal applied to the entry item.



PX Unarmoured Cables

PXSS2K		Unarmoured cable gland.
	Blank VAR	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.
	Blank REX	Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.
	Blank FF	No additional option applied. Fitted with a seal suitable for use with flat form cables.
	Blank PB	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.
	Blank HC	No additional option applied. Replaces standard seal nut with a hose connector seal nut.
	Blank COMBO	Replaces main body and seal nut assembly with alternative design for cables with larger outer sheaths.
	Blank R	No additional option applied. Additional profiled groove and O-Ring seal applied to the entry item.

PXFC		Unarmoured cable gland with flexible conduit facility.
	Blank REX	Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.
	Blank R	No additional option applied. Additional profiled groove and 'O-Ring seal applied to the entry item.

PXLT		Unarmoured cable gland with Liquid Tight outer seal onto flexible conduit sheath.
	Blank REX	Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.
	Blank R	No additional option applied. Additional profiled groove and O-Ring seal applied to the entry item.

PXRC		Unarmoured cable gland with rigid and flexible conduit connection facility.
	Blank M	Supplied with female rear thread. Supplied with male rear thread.
	Blank REX	Supplied with epoxy putty sealing solution. Supplied with RapidEx resin sealing solution.
	Blank R	No additional option applied. Additional profiled groove and O-Ring seal applied to the entry item.



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 outer seal sheath range Ø (mm)		PX ^{**2} 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

¹ '2KX' and '2K' variants; see below.

² 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.

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.

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