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 18.0172**	Page 1 of 4	Certificate history:
			Issue 0 (2019-03-27)
Status:	**Current**	Issue No: 1	
Date of Issue:	2020-01-23		
Applicant:	**CMP Products Ltd** Unit 36 Nelson Way, Nelson Park East, Cramlington, NE23 1WH **United Kingdom**		
Equipment:	**A2F100, RA2F100, A2F100HC, RA2F100HC, A2e100, RA2e100, A2e100HC, RA2100HC, A2F100/M, RA2F100/M, A2F100HC/M, RA2F100HC/M & D3CDS Ranges of Cable Glands**		
Optional accessory:			
Type of Protection:	**Flameproof "db", Increased Safety "eb", Restricted Breathing "nR", Dust Ignition "ta"**		
Marking:	Ex db I Mb Ex eb I Mb Ex db IIC Gb* Ex eb IIC Gb* Ex nR IIC Gc* Ex ta IIIC Da* IP66 IP67 IP68 (30m for 12 hours) Ts: -60°C to +130°C *Not A2F100/M, RA2F100/M, A2F100HC/M & RA2F100HC/M Series		

Approved for issue on behalf of the IECEx Certification Body: **R C Marshall**

Position: **Certification Officer**

Signature: (for printed version)

Date: 2020-01-23

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

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

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Certificate No.: **IECEx CML 18.0172** Page 2 of 4

Date of issue: 2020-01-23 Issue No: 1

Manufacturer: **CMP Products Ltd**
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/ExTR18.0295/00 GB/CML/ExTR19.0239/00 GB/CML/ExTR20.0010/00

Quality Assessment Report:

GB/CML/QAR19.0001/00

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The A2F100, RA2F100, A2F100HC, RA2F100HC, A2e100, RA2e100, A2e100HC, RA2100HC, A2F100/M, RA2F100/M, A2F100HC/M, RA2F100HC/M & D3CDS Ranges of Cable Glands allow circular unarmoured or braided/screened cables to enter associated enclosures to which they are fitted (as defined by their coding) without compromising the explosion protection that it provides.

Refer to Annex for full description and conditions of manufacture.

SPECIFIC CONDITIONS OF USE: NO

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1:

This issue introduced the following changes:

1. The introduction of a universal certificate schedule drawing detailing critical parts.
2. The introduction of a new variant hose connection models A2F100HC (16) and RA2F100HC (16) for gland sizes 20 and 20L.
3. The introduction of the D3CDS model series.

Annex:

IECEx CML 18.0172 Iss. 1 Certificate Annex.pdf

Annexe to:	**IECEx CML 18.0172 Issue 1**
Applicant:	**CMP Products Ltd**
Apparatus:	**A2F100, RA2F100, A2F100HC, RA2F100HC, A2e100, RA2e100, A2e100HC, RA2100HC, A2F100/M, RA2F100/M, A2F100HC/M, RA2F100HC/M & D3CDS Ranges of Cable Glands**

Product Description

The A2F100, RA2F100, A2F100HC, RA2F100HC, A2e100, RA2e100, A2e100HC, RA2100HC, A2F100/M, RA2F100/M, A2F100HC/M, RA2F100HC/M & D3CDS Ranges of Cable Glands allow circular unarmoured or braided/screened cables to enter associated enclosures to which they are fitted (as defined by their coding) without compromising the explosion protection that it provides. They are manufactured from the following component parts:

- Metallic entry item hexagonal in form which is partially threaded at one end with a male metric or NPT thread used to secure the entry item to the associated enclosure. At the other end there is a partially turned external surface which is provided for placement of the product markings. At this end the internal profiled bore of the component is partially threaded with a female thread to accept engagement of the outer seal nut.
- Elastomeric sealing ring which is inserted into the female threaded end of the entry item which, when displaced by tightening of the outer seal nut, secures the incoming cable in place, along with providing ‘sealing’ and ingress protection.
- Metallic stepped skid washer hollow ‘top hat’ in form, is fitted into the recessed bore of the outer seal nut. Which upon tightening of the outer seal nut, aids axial displacement of the sealing ring and limits any twisting of the cable within the cable gland during installation.
- Metallic outer seal nut, hexagonal in form, is partially threaded at one end with a male thread which engages with the entry items and upon tightening displaces the sealing ring onto the cable. Internally the bore is recessed at one end to accommodate the stepped skid washer, and the other end is machined with an internal radius to reduce the risk of damage to cable sheath/jacket.
- Model code series suffixed 'HC' for all cable gland model series, up to either gland size 75S or gland size 75 (dependent upon model series), which includes an alternative nut that is extended to provide a plain circular portion, to facilitate the connection of a hose that provides additional mechanical and environmental protection of the cable terminated within the cable gland. The compression nut may alternatively be machined with a dimensionally equivalent 'smaller' certified gland size hose connection feature. In this instance the upper cable sealing diameter range being reduced accordingly.

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The cable gland and sealing ring sizes are determined by the entry thread and cable range take sizes:

Gland Size	Entry Thread			Cable Outer Sheath	
	Standard (Metric)	Standard (NPT)	Optional (NPT)	Min. (mm)	Max. (mm)
16	M16x1.5	3/8”	-	3.2	8.0
20S16	M20x1.5	½”	¾”	3.2	8.0
20S	M20x1.5	½”	¾”	6.5	11.2
20	M20x1.5	½”	¾”	7.0	13.5
20L	M20x1.5	½”	¾”	8.7	14
25	M25x1.5	¾”	1”	11.5	19.5
25L	M25x1.5	¾”	1”	14.0	20.0
32	M32x1.5	1”	1 ¼”	19.0	25.5
32L	M32x1.5	1”	1 ¼”	20.2	26.3
40	M40x1.5	1 ¼”	1 ½”	25.0	32.2
50S	M50x1.5	1 ½”	2”	31.0	38.2
50	M50x1.5	2”	2 ½”	35.6	44.0
63S	M63x1.5	2”	2 ½”	41.5	49.9
63	M63x1.5	2 ½”	3”	48.2	54.9
75S	M75x1.5	2 ½”	3”	54.0	61.9
75	M75x1.5	3”	3 ½”	61.1	67.9
90	M90x2.0	3 ½”	4”	66.6	79.9
100	M100x2.0	3 ½”	4”	76.0	89.0
115	M115x2.0	4”	5”	86.0	97.9
130	M130x2.0	5”	-	97.0	114.9

Design Options

The front threaded entry item may be manufactured with a profiled groove to captivate an ‘O’ ring seal which locates on the mating face of the associated enclosure. This option having the cable gland type designation prefixed with the letter R, e.g. RA2F100 Series.

The front threaded entry item may be manufactured with any larger metric or NPT thread form size from the sizes certified.

The optional use of an internally fitted brass or brass plated ingress disc between the seal and the stepped washer component parts within 'A2F100' Series & 'RA2F100' Series cable glands, gland sizes 16 through to and inclusive of 75S.

The option to manufacture with a low profile 'across corners' envelope cable gland sizes, with the cable gland size suffix code designation 'P':

Gland Size	16P	20S16P	20SP	20P	20LP	25P*	25LP*

(* not available in aluminium)

The differences to the standard cable gland sizes, are-

- The entry item component is machined from round bar, equal to the standard gland size across corners dimensions, with a central portion machined to a hexagonal profile, having reduced across flats from the standard gland size. Along with a minor increase in length resulting from an increase to the conical wall thickness.
- The gland nut component (dependent upon model series and gland size), having reduced across flats and across corners dimensions from the standard gland size. Along with their maximum innermost bore dimension being reduced.

D3CDS Range

The D3CDS Range of Cable Glands are identical to the A2F100 Range, except the outer seal nut is replaced with an item which houses a cone and clamping ring to terminate the braid of the associated cable. The D3CDS Range is only available in sizes 40 to 75.

Materials of manufacture:

A2F100, RAF100, A2F100HC, RA2F100HC, A2F100/M, RA2F100/M, A2F100HC/M & RA2F100HC/M Series of Cable Glands are manufactured in brass, stainless steel, mild steel and aluminium. All brass manufactured component parts can be optionally nickel plated. All mild steel manufactured components can be optionally zinc plated.

Examples of alternative entry component threadforms:

ET (Conduit)
PG
BSPP
BSPT
ISO
NPS

Metric entry threads of all model series to be manufactured with a pitch between 0.7 mm and 2.0 mm, with 1.5 mm as standard.

Notes:

IECEx SIR 16.0006 is superseded by this certificate.

The product covered by Issue 0 of this certificate remains identical to that previously covered by IECEx SIR 16.0006.

Where IECEx SIR 16.0006 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.

Conditions of Manufacture

The following are conditions of manufacture:

i. Cable gland metallic parts are to be supplied in alike materials, alternatively a brass or nickel plated brass stepped skid washer may be used within steel and stainless-steel glands.

ii. The front threaded entry item of any model range, when manufactured with a larger thread size to the standard metric or NPT sizes approved and detailed on the certification documentation will only differ as follows:

- These entry item dimensions must remain the same:
  - The front bore diameter and profile and sealing ring taper angle.
  - Outer seal engagement thread diameter and length.
- All other dimensions may be altered to match those of the larger approved cable gland size, provided that the overall cable gland protrusion length (whichever is greater between the original cable gland size or the larger approved cable gland size) is not exceeded.

iii. Cable gland model code series suffixed 'HC' manufacturer with a 3/8" NPT threaded spigot shall not be marked suitable for Group I applications.

iv. Cable gland sizes 25P and 25LP shall not be manufactured in aluminium.

v. Aluminium cable glands shall not be marked suitable for Group I applications.

vi. Cable Glands supplied with ingress discs shall not be marked suitable for Group I applications.

vii. Cable Glands supplied with ingress discs shall not be marked suitable for IPX7 or IPX8 applications.

Specific Conditions of Use

None.