IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.: IECEx SIR 13.0023X issue No.:3

Status: **Current**

Date of Issue: **2014-12-17** Page 1 of 4

Certificate history:
Issue No. 3 (2014-12-17)
Issue No. 2 (2014-12-1)
Issue No. 1 (2013-7-3)
Issue No. 0 (2013-5-3)

Applicant:
CMP Products Ltd
Glasshouse Street
St Peters
Newcastle upon Tyne NE6 1BS
United Kingdom

Electrical Apparatus: **Cable Gland Types A****
Optional accessory:

Type of Protection: **Flameproof, Increased Safety, Restricted Breathing and Dust Protection by Enclosure**

Marking:
Ex e I Mb
Ex d I Mb
Ex e IIC Gb
Ex d IIC Gb
Ex nR IIC Gc
Ex ta IIIC Da

Approved for issue on behalf of the IECEx Certification Body: C Ellaby

Position: Deputy Certification Manager

Signature:
(for printed version)

Date: 2014-12-17

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 the Official IECEx Website.

Certificate issued by:
SIRA Certification Service
Rake Lane
Eccleston
Chester
CH4 9JN
United Kingdom

IECEx Certificate of Conformity

Certificate No.: IECEx SIR 13.0023X

Date of Issue: **2014-12-17** Issue No.: **3**

Manufacturer: **CMP Products Ltd**
Glasshouse Street
St Peters
Newcastle upon Tyne NE6 1BS
United Kingdom

Additional Manufacturing location (s):

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 electrical apparatus 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 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-15 : 2010 Edition: 4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
IEC 60079-31 : 2008 Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical 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 Report:
GB/SIR/ExTR13.0066/00 GB/SIR/ExTR14.0282/00 GB/SIR/ExTR14.0307/00

Quality Assessment Report:

GB/SIR/QAR07.0009/04

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Schedule

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

The A2F range of cable glands are metallic and are intended to terminate circular braided or unarmoured cables into a threaded entry point within enclosures without compromising the explosion protection provided by the enclosures in accordance with relevant codes of practice. They consist of a male-threaded front entry component and a seal actuation nut. The front entry component fitted with an elastomeric displacement sealing ring, and nylon 6 stepped skid washer, is intended to screw into an entry point of its associated enclosure. The seal actuation nut threads into the front entry component thereby effecting flameproof and environmental sealing onto the cable outer sheath.
For additional information refer to the Annexe

CONDITIONS OF CERTIFICATION: YES as shown below:

The user/installer shall comply with the following:

1. The cable glands shall only be used where the temperature, at the point of entry, is in the following ranges:

Outer sheath seal material	Temperature range	Colour I.D.
EPDM 70 (5079B115)	-60°C to +130°C.	Black
FKM 70 (9079B0662)	-20°C to +200°C	Red (muddy brown)

2. When the cable 'gland size' is supplied with an entry thread that is one size up from the standard cable 'gland size', e.g. M40 instead of M32, designated gland type prefixed 'B', they shall not be used with any thread adaptor/reducer.
3. Gland size 20 of cable glands types CA2F, CA2E, CA2F-RC, CA2F-FC, CA2F-HC, CA2F-FF and CA2E-FF shall not be used for Group I, Category M2 applications where there is a 'high' risk of mechanical damage.
4. For Ex d applications, cable glands types CA2F, CA2F-RC, CA2F-FC, CA2F-HC and CA2F-FF are to be installed in associated Ex d equipment having a minimum wall thickness as follows:
   10.5 mm minimum for cable gland having entry thread sizes M16x1.5 to M75x1.5.
   12.5 mm minimum for cable gland having entry thread sizes M90x2.0 to M115x2.0.

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

For Details of Certificate Changes refer to Annexe.

Annex: IECEx SIR 13.0023X Annexe Issue 3.pdf

Type designation A2E Range

The A2E range of cable glands are identical to the A2F range but with entry thread engagement lengths minimised

Type designation A2FRC Range

The A2FRC range of cable glands are intended to terminate circular braided or unarmoured cables into enclosures without compromising the explosion protection provided by the enclosures in accordance with relevant codes of practice. They consist of a male-threaded front entry component, a seal actuation nut and either an outer captivated or running coupling. The front entry component, fitted with an elastomeric displacement sealing ring is intended to screw into an entry point of its associated enclosure. The seal actuation nut threads into the front entry component thereby effecting flameproof and environmental sealing onto the cable outer sheath. The outer running coupling is retained in the seal actuation nut using the carbon steel 'C' clip, or a similar arrangement to allow free running thread connection to conduit.

Type designation A2F-FC Range

The A2F-FC range of cable glands is intended to terminate circular braided or unarmoured cables into enclosures without compromising the explosion protection provided by the enclosures in accordance with relevant codes of practice. They also provide an anchor for a flexible metallic conduit which can protect the cable from damage. They consist of a male-threaded front entry component, a seal actuation nut and a conduit anchor element that screws into the inside of the conduit. The front entry component, fitted with an elastomeric displacement sealing ring is intended to screw into an entry point of its associated enclosure. The seal actuation nut threads into the front entry component thereby effecting flameproof and environmental sealing onto the cable outer sheath. The conduit anchor is secured between the seal actuation nut and seal to form a skid washer.

Type designation A2F-HC Range

The A2F-HC range of cable glands is intended to terminate circular braided or unarmoured cables into enclosures without compromising the explosion protection provided by the enclosures in accordance with the relevant codes of practice. They also provide an anchor for a flexible hose which can protect the cable from damage. They consist of a male-threaded front entry component, a seal actuation nut with a hose anchor to which a hose can be attached using a jubilee clip or similar. The front entry component, fitted with an elastomeric displacement sealing ring and skid washer is intended to screw into an entry point of its associated enclosure. The seal actuation nut threads into the front entry component thereby effecting flameproof and environmental sealing onto the cable outer sheath.

Type designation A2F-FF Range

The A2F-FF range of cable glands are intended to terminate flat braided or unarmoured cables into a threaded entry point within enclosures without compromising the explosion protection provided by the enclosures in accordance with relevant codes of practice. They consist of a male-threaded front entry component and a seal actuation nut. The front entry component fitted with an elastomeric displacement sealing ring, and nylon 6 stepped skid washer, is intended to screw into an entry point of its associated enclosure. The seal actuation nut threads into the front entry component thereby effecting flameproof and environmental sealing onto the cable outer sheath.

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Type designation A2E-FF Range

The A2E-FF range of cable glands is identical to the A2F-FF range but with entry thread engagement lengths minimised

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. 25RA2F
- Materials of manufacture:
  Brass to EN12168:1998 Grade CuZn39Pb (CW614N)
  Mild steel to BS EN 10088-3:2005 Grade 220M07Pb
  Stainless steel to BS EN 10088-3:2005 Grade 316S11, 316S13, 316S31 or 316S33
  Aluminium alloy not inferior to grade 6082 to EN755,1-3:1996 or LM25 to BS EN 1676:2010 (Not Group I)
- 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 2779:1973 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 7/1:1982, gauging to ISO 7/2 clause 6.3 for external threads
NPT	ANSI/ASME B1.20.1-1983 gauging to clause 8.1 for external threads
NPSM	ANSI/ASME B1.20.1-1983 gauging to clause 9 for external threads

- Alternative material of manufacture of the skid washer to be the same as the gland material.
- Alternative 'C' clip plate finish (where applicable): Stainless steel
  Phosphor bronze
  Beryllium copper
- The option to fit a flat blanking disc between the seal and the skid washer to maintain a minimum IP66 ingress protection. The disc to be marked 'Exe only' to indicate that the gland is not suitable for use in Ex d applications when it is fitted.

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

Gland Size	Entry Thread	Cable Sheath Ø (mm)	
		Min.	Max.
16	M16 x 1.5	3.2	8.7
20s/16	M20 x 1.5	3.2	8.7
20s	M20 x 1.5	6.1	11.7
20	M20 x 1.5	6.5	14.0
25	M25 x 1.5	11.1	20.0
32	M32 x 1.5	17.0	26.3
40	M40 x 1.5	23.5	32.2
50s	M50 x 1.5	31.0	38.2
50	M50 x 1.5	35.6	44.1
63s	M63 x 1.5	41.5	50.0
63	M63 x 1.5	47.2	56.0
75s	M75 x 1.5	54.0	62.0
75	M75 x 1.5	61.1	68.0
90	M90 x 2.0	66.6	80.0

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Gland Size	Entry Thread	Cable Sheath Ø (mm)	
		Min.	Max.
100	M100 x 2.0	76.0	91.0
115	M115 x 2.0	86.0	98.0
130	M130 x 2.0	97.0	115.0

A2F-FF and A2E-FF in these sizes only

Gland Size	Entry Thread	Cable Outer Sheath (mm)	
		Min.	Max.
20s	M20 x 1.5	4.0 x 6.2	6.8 x 11.7
20	M20 x 1.5	5.7 x 8.0	8.7 x 13.5

Conditions of Manufacture

1. Cable gland types A2FRC, BA2FRC and CA2FRC shall not be marked suitable for Ex e I Mb, Ex d I Mb.

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Details of Certificate Changes

Issue 1 – this Issue introduced the following change:

1. Issued to correct a typographical error

Issue 2 – this Issue introduced the following changes:

1. The removal of the design option that allowed the standard cable glands to be manufactured with the next larger thread size ('B' versions), as a result, the associated Special Condition of Safe Use was removed and the entry thread and cable range-take sizes tables in the description were modified to remove the reference to the 'B' versions which can be found in the previous copy of the certificate.
2. The removal of the ambient temperature ranges from the marking requirements and the introduction of a Special Condition of Safe Use that includes this information.
3. The revision to product marking drawings to bring them into line with the marking specified in assessment report R27765A/00.

Issue 3 – this Issue introduced the following changes:

1. The introductions of a front entry component, manufactured in stainless steel, having the next metric thread size down to the standard 'gland size'. This option having the gland type designation prefixed with the letter C, e.g. 50s CA2F M40 instead of the standard 50s A2F M50.
Entry components are available in the following sizes:

Standard 'Gland Size'	Entry thread 'C' version
20S	M16 x 1.5
20	M16 x 1.5
25	M20 x 1.5
32	M25 x 1.5
40	M32 x 1.5
50S	M40 x 1.5

Standard 'Gland Size'	Entry thread 'C' version
63S	M50 x 1.5
75S	M63 x 1.5
90	M75 x 1.5
100	M90 x 2.0
115	M100 x 2.0
130	M115 x 2.0

2. The recognition of minor drawing amendments to drawing numbers GA177, GA208, GA325, GA348 and SCH0321 that do not affect the explosion protection concepts of the equipment.
3. The re introduction of a front entry component, having the next metric thread size up to the standard 'gland size'. This option having the gland type designation prefixed with the letter B, e.g. 32 BA2F M40 instead of the standard 32 A2F M32.
Entry components are available in the following sizes:

Standard 'Gland Size'	Entry thread 'B' version
20S/16	M25 x 1.5
20S	M25 x 1.5
20	M25 x 1.5
25	M32 x 1.5
32	M40 x 1.5
40	M50 x 1.5
50S	M63 x 1.5
50	M63 x 1.5

Standard 'Gland Size'	Entry thread 'B' version
63S	M75 x 1.5
63	M75 x 1.5
75S	M90 x 2.0
75	M90 x 2.0
90	M100 x 2.0
100	M115 x 2.0
115	M130 x 2.0
-	-

4. As a result of this Issue additional Conditions of Certification were introduced.
5. A Condition of Manufacture was introduced to allow the 'not applicable' marking note (restrictive marking) on certain types of products to be removed from the marking section.

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