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TYPE EXAMINATION CERTIFICATE

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: Sira 13ATEX4074X Issue: 0

4 Equipment: Cable Gland Types A**

5 Applicant: CMP Products Ltd

6 Address: Glasshouse Street

St Peters

Newcastle upon Tyne

NE6 1BS

- 7 This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- Sira Certification Service certifies that this equipment has been found to comply with the Essential Health and Safety Requirements that relate to the design of Category 3 equipment, which is intended for use in potentially explosive atmospheres. These Essential Health and Safety Requirements are given in Annex II to European Union Directive 94/9/EC of 23 March 1994.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

EN 60079-0:2012 EN 60079-15:2010

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

- If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- This TYPE EXAMINATION CERTIFICATE relates only to the design of the specified equipment, and not to specific items of equipment subsequently manufactured.
- 12 The marking of the equipment shall include the following:

(ξx)

II 3G Ex nR IIC Gc

Ta = -60°C to +130°C •

- -20°C to +200°C,
- · When fitted with the standard seal
- , When fitted with the high temperature seal

P J Walsh Technical Advisor

AWall

Project Number 27765

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Sira Certification Service

Rake Lane, Eccleston, Chester, CH4 9JN, England





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13 DESCRIPTION OF EQUIPMENT

Type designation A2F Range

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.

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.

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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.

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

BSPTBS 21:1985 standard threads only as clause 5.4, gauging to clause 5.2 system A

ISOISO 7/1:1982, gauging to ISO 7/2 clause 6.3 for external threads NPTANSI/ASME B1.20.1-1983 gauging to clause 8.1 for external threads

NPSMANSI/ASME B1.20.1-1983 gauging to clause 9 for external threads

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- The option to manufacture glands with entry threads that are one size up from the nominal quoted gland size.
- 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 | Entry thread 'B' version | Cable Sheath Ø (mm) | |
|------------|--------------|--------------------------|---------------------|-------|
| | | | Min. | Max. |
| 16 | M16 x 1.5 | - | 3.2 | 8.7 |
| 20s/16 | M20 x 1.5 | M25 x 1.5 | 3.2 | 8.7 |
| 20s | M20 x 1.5 | M25 x 1.5 | 6.1 | 11.7 |
| 20 | M20 x 1.5 | M25 x 1.5 | 6.5 | 14.0 |
| 25 | M25 x 1.5 | M32 x 1.5 | 11.1 | 20.0 |
| 32 | M32 x 1.5 | M40 x 1.5 | 17.0 | 26.3 |
| 40 | M40 x 1.5 | M50 x 1.5 | 23.5 | 32.2 |
| 50s | M50 x 1.5 | M63 x 1.5 | 31.0 | 38.2 |
| 50 | M50 x 1.5 | M63 x 1.5 | 35.6 | 44.1 |
| 63s | M63 x 1.5 | M75 x 1.5 | 41.5 | 50.0 |
| 63 | M63 x 1.5 | M75 x 1.5 | 47.2 | 56.0 |
| 75s | M75 x 1.5 | M90 x 2.0 | 54.0 | 62.0 |
| 75 | M75 x 1.5 | M90 x 2.0 | 61.1 | 68.0 |
| 90 | M90 x 2.0 | M100 x 2.0 | 66.6 | 80.0 |
| 100 | M100 x 2.0 | M115 x 2.0 | 76.0 | 91.0 |
| 115 | M115 x 2.0 | M130 x 2.0 | 86.0 | 98.0 |
| 130 | M130 x 2.0 | Not available | 97.0 | 115.0 |

A2F-FF and A2E-FF in these sizes only.

| Gland Size | Entry Thread | Entry thread 'B' version | Cable Outer Sheath (mm) | |
|------------|--------------|--------------------------|-------------------------|------------|
| | | - | Min. | Max. |
| 20s | M20 x 1.5 | M25 x 1.5 | 4.0 x 6.2 | 6.8 x 11.7 |
| 20 | M20 x 1.5 | M25 x 1.5 | 5.7 x 8.0 | 8.7 x 13.5 |

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

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| Issue | Date | Report number | Comment |
|-------|---------------|---------------|-----------------------------------|
| 0 | 29 April 2013 | R27765A/00 | The release of prime certificate. |

- 15 SPECIAL CONDITIONS FOR SAFE USE
- When the cable glands are supplied with an entry thread that is one size up from the nominal gland size, designated with the letter 'B' after the gland size, e.g. 32B****, they shall not be used with any adaptor device.
- 15.2 When assembled for fitting to flexible conduit, the conduit shall be effectively clamped to prevent twisting and pulling.
- 16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed reports listed in Section 14.2.

- 17 CONDITIONS OF CERTIFICATION
- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of Type Examination Certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

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Certificate Annexe

Certificate Number: Sira 13ATEX4074X
Equipment: Cable Gland Types A*

Applicant: CMP Products Ltd



Issue 0

| Drawing | Sheets | Rev. | Date (Sira Stamp) | Title |
|---------|--------|------|-------------------|--|
| GA177 | 1 of 1 | 05 | 13 Mar 13 | A2FRC General arrangement & marking |
| GA208 | 1 of 1 | 03 | 13 Mar 13 | A2F-FC General arrangement & marking |
| GA325 | 1 of 1 | 01 | 13 Mar 13 | A2F-HC General arrangement & marking |
| GA348 | 1 of 1 | 00 | 29 Apr 13 | A2F/ A2E General arrangement & marking |
| SCH0321 | 1 of 1 | 00 | 13 Mar 13 | Inner seal details |

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