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 07.0083X	issue No.:1
Status:	**Current**	
Date of Issue:	**2016-10-31**	Page 1 of 5

Certificate history:
Issue No. 1 (2016-10-31)
Issue No. 0 (2007-10-19)

Applicant: **CMP Products Limited**
Glasshouse Street
St Peters
Newcastle-upon-Tyne NE6 1BE
United Kingdom

Equipment: **TMCX and TMC Ranges of Cable Glands**
Optional accessory:

Type of Protection: **Flameproof, Increased Safety and Dust**

Marking: TMCX Range of Cable Glands
Ex d IIC Gb
Ex e IIC Gb
Ex ta IIIC Da IP66
TMC Range of Cable Glands
Ex e IIC Gb
Ex ta IIIC DA IP66

Approved for issue on behalf of the IECEx Certification Body: N Jones

Position: Certification Manager

Signature: (for printed version) pp P J Walsh.

Date: 2016-10-31

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
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom

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Manufacturer: **CMP Products Limited**
Glasshouse Street
St Peters
Newcastle-upon-Tyne NE6 1BE
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 60079-31 : 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/ExTR07.0105/00 GB/SIR/ExTR07.0115/00 GB/SIR/ExTR16.0255/00

Quality Assessment Report:

GB/SIR/QAR07.0009/00

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Schedule

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

The **TMCX range of barrier type cable glands** is designed for use with flexible MC-HL type cables. Each gland comprises a male-threaded front entry component, a compound tube, a rear component, a spring ring and an outer compression nut/seal arrangement.

The compound tube is fitted such that a spigot/combination joint is formed. It contains a setting compound that affects a flameproof seal around the cable cores passing through it and is mechanically retained. The cable is additionally retained by a spring ring compressed between the two components onto the corrugated metal armour sheath.

Additional sealing is achieved by the outer nut compressing a neoprene seal onto the cable sheath.

Cable and gland combinations/specifications are tabulated on CMP drawing GA167.

The **TMC range of compression type cable glands** is identical to the TMCX types but with the compound tube omitted and the front end component modified. Cable and gland combinations/specifications are tabulated on CMP drawing GA166.

CONDITIONS OF CERTIFICATION: YES as shown below:

Refer to the Annexe

IECEx Certificate of Conformity

Certificate No.: IECEx SIR 07.0083X

Date of Issue: **2016-10-31** Issue No.: **1**

EQUIPMENT(continued):

Design options

i. Alternative materials of manufacture:
Aluminium alloy to BS1474:1987 Grade 6082 or BS1490 Grade LM25 TF
Brass to BS2874:1986 Grade CuZn39Pb (CW614N)
Mild steel to BS970 Pt1:1991 Grade 220M07Pb
Stainless steel to BS970 Pt1:1991 Grades 316S11, 316S13, 316S31 or 316S33

ii. 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

IECEx Certificate of Conformity

Certificate No.: IECEx SIR 07.0083X

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

Refer to the Annexe

Annex: IECEx SIR 07.0083X Issue 1 Annexe.pdf

Issue 1 Changes

TMCX cable glands -

i. Revise the permitted number of cores and associated cable dimensional data passing through the compound pot (aligning with the TMC2X cable gland)

ii. Reduction of the permitted temperature range at the point of installation from '-60°C to +100°C' to '-60°C to +85°C', the conditions of certification and specific conditions for use being revised accordingly.

iii. Introduction of a modified metric and NPT compound tubes.

iv. Introduction of a modified metric and NPT threaded entry component.

v. Introduction of an alternative EPDM ingress seal for sizes 050s up to size 350

vi. Constructional changes to armour spacer.

vii. Introduction of M115/4 NPT threaded cable gland, designated size 400, which is identical to cable gland size 350 with the exception of having a larger cable entry thread.

viii. Clarification of the TMCX certified cable gland range.

Catalogue designation	Gland Size	Cable armour diameter range (mm)	Cable outer sheath diameter range (mm)	Max number of cores	Max diameter over core of single core cable (mm) *(See note 1)*	Max diameter of individual core of multi core cable (mm)	Max diameter over cores of multi core cable (mm)	Metric thread size	NPT thread size
TMCX050S	050S	8.69 – 12.7	8.99 – 13.9	11	8.94	2.47	9.91	-	½"
TMCX050	050	12.95 – 17.0	11.1 – 20.0	11	11.62	3.14	12.6	M20	½"
TMCX075	075	15.0 – 23.3	17.0 – 26.3	21	16.05	3.29	17.5	M25	¾"
TMCX100	100	19.7 – 29.2	22.0 – 32.2	38	21.46	3.33	23.6	M32	1"
TMCX125	125	27.5 – 35.2	29.5 – 38.2	59	27.19	3.43	30.0	M40	1¼"
TMCX150	150	33.5 – 41.1	35.6 – 44.1	89	33.09	3.37	36.6	M50	1½"
TMCX200S	200S	38.3 – 47.1	40.1 – 50.1	115	37.03	3.34	41.0	M50	2"
TMCX200	200	45.0 – 53.0	47.2 – 56.0	115	43.29	3.91	47.9	M63	2"
TMCX250S	250S	52.1 – 58.9	52.8 – 62.0	140	48.39	3.97	53.7	M63	2½"
TMCX250	250	57.0 – 64.6	59.1 – 68.0	140	53.93	4.43	59.9	M75	2½"
TMCX300	300	64.6 – 75.3	66.6 – 79.4	140	67.71	4.75	64.3	M90	3"
TMCX350	350	73.99 – 88.5	76.0 – 97.2	140	75.13	4.69	75.7	M100	3½"
TMCX400	400	73.99 – 88.5	76.0 – 97.2	200	75.13	5.17	83.6	M115	4"

Note 1 – when installing a single conductor/core only, through the barrier.

TMC cable glands -

ix. Introduction of an alternative EPDM ingress seal for sizes 050s up to size 350.

x. Clarification of the TMC certified cable gland cable range.

Catalogue designation	Gland Size	Cable armour diameter range (mm)	Cable outer sheath diameter range (mm)	Metric thread size	NPT thread size
TMC050S	050S	8.69 – 12.7	8.99 – 13.9	M20	½"
TMC050	050	12.95 – 17.0	11.1 – 20.0	M20	½"
TMC075	075	15.0 – 23.3	17.0 – 26.3	M25	¾"
TMC100	100	19.7 – 29.2	22.0 – 32.2	M32	1"
TMC125	125	27.5 – 35.2	29.5 – 38.2	M40	1¼"
TMC150	150	33.5 – 41.1	35.6 – 44.1	M50	1½"
TMC200S	200S	38.3 – 47.1	40.1 – 50.1	M50	2"
TMC200	200	45.0 – 53.0	47.2 – 56.0	M63	2"
TMC250S	250S	52.1 – 58.9	52.8 – 62.0	M63	2½"
TMC250	250	57.0 – 64.6	59.1 – 68.0	M75	2½"
TMC300	300	64.6 – 75.3	66.6 – 79.4	M90	3"
TMC350	350	73.99 – 88.5	76.0 – 97.2	M100	3½"
TMC400	400	73.99 – 88.5	76.0 – 97.2	M115	4"

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xi. Constructional changes to the entry component (item 1).

TMCX and TMC cable glands -

xii. To amend the product marking drawings to be in-line with the method and format of marking on the actual product.

xiii. Constructional changes to the compression nut.

xiv. Constructional changes to the main body.

xv. A revision to the specific conditions of use with regards to the cable glands interface sealing with an associated enclosure as follows:

"The interfaces between the cable glands and their associated enclosures/cable entry cannot be defined. Therefore it is the user's responsibility to ensure that the minimum ingress protection level (IP54 for explosive gas atmospheres and IP6X explosive dust atmospheres) is maintained at these interfaces, this can be achieved using the manufacturer's guidance, as given in the user installation manual, and reference to IEC 60079-14. (Note: When fitted within threaded entries, all tapered threads, will automatically provide an ingress protection rating IP6X.)"

xvi. To remove all previous issues of the following drawings, some of which have been replaced by a new drawing number, which some also include administrative and minor technical changes, making them common to both the TMCX and TMC cable glands.

Drawing number	Replaced by
SCH0265	SCH0372
SCH0266	SCH0376
SCH0267	SCH0374
SCH0268	SCH0379
SCH0269	SCH0354

xvii. Introduction of the following drawings into the certified document.

Drawing number	ATEX	IECEx
SCH0375	✓	✓
SCH0394	✓	✓
SCH0382	✓	✓
SCH0377	✓	✓
SCH0373	✓	✓
GA166 sheet 2*	✓	✓
GA167 sheet 2*	✓	✓

* Pictorial representation/clarification of option to have a cable gland size, manufactured with the next gland size threaded entry size. Permitting the following dimensional changes only:
- Entry thread
- O-ring groove
- Bar stock size increase.

xviii. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-0:2004 Ed 4, IEC 60079-1:2003 Ed 5, IEC 61241-0:2004 Ed 1 and IEC 61241-1:2004 Ed 1, were replaced by IEC 60079-0:2011 Ed 5, IEC 60079-1:2007 Ed 6, and IEC 60079-31: 2009 Ed1, the markings were updated accordingly.

Conditions Of Certification

i. The interfaces between the cable glands and their associated enclosures/cable entry cannot be defined. Therefore it is the user's responsibility to ensure that the minimum ingress protection level (IP54 for explosive gas atmospheres and IP6X explosive dust atmospheres) is maintained at these interfaces, this can be

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achieved using the manufacturer's guidance, as given in the user installation manual, and reference to IEC/EN 60079-14. (Note: When fitted within threaded entries, all tapered threads, will automatically provide an ingress protection rating IP6X.)

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

TMCX Types: -60°C to +85°C (Based upon sealing compound)
TMC Types: -60°C to 130°C

iii. TMCX & TMC cable glands > size 40 shall only be used on fixed installations and where the cable is effectively clamped.

iv. The TMCX cable glands comprise of a flameproof labyrinth joint having length and gap dimensions which are other than those specified in IEC 60079-1 and are not intended to be repaired.

v. The TMCX cable glands front threaded 'entry item' may be provided with, but not limited to, an alternative nearest equivalent recognised thread type and size to the metric thread, whilst maintaining a tolerance of fit, equal to or better than a medium fit to ISO 965-1 & ISO 965-3. Intended for use within existing installations only, that incorporate thread types that are no longer permitted by the current edition of IEC 60079-1, but comply with the requirements of IEC 60079-1:2001.

For example:

- ET - BS 31:1940 (1979) Table 'A'
- PG - DIN 40430:1971
- BSPP - BS2779:1986 class A full form for external threads
- BSPT - BS21:1985 standard threads only as clause 5.4, gauging to clause 5.2, system A.
- ISO - ISO 7/1:1994 gauging to ISO 7/2 clause 6.3 for external threads.
- NPSM - ANSI/ASME B1.20.1:1983 B1.20.1-1983 gauging to clause 9 for external threads.

Conditions Of Manufacture

i. The TMCX cable glands interface O-ring seal when fitted shall have a continuous operating temperature range at least equal to -60°C to +105°C

ii. The TMC cable glands interface O-ring seal when fitted shall have a continuous operating temperature range at least equal to -60°C to +150°C.

vi. The TMC cable glands front threaded entry item may be provided with, but not limited to, an alternative nearest equivalent recognised thread type and size to the metric thread, whilst maintaining a tolerance of fit, equal or better than, a medium fit to ISO 965-1 & ISO 965-3.

For example:

- ET - BS 31:1940 (1979) Table 'A'
- PG - DIN 40430:1971
- BSPP - BS2779:1986 class A full form for external threads
- BSPT - BS21:1985 standard threads only as clause 5.4, gauging to clause 5.2, system A.
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