



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 16.0062X | Page 1 of 4 | <u>Certificate history:</u> |
| Status: | Current | Issue No: 5 | Issue 4 (2022-07-26) |
| Date of Issue: | 2023-06-23 | | Issue 3 (2020-02-28) |
| Applicant: | CCG Cable Terminations (Pty) Ltd 33-37 Forge Road, Spartan Industrial Area, Kempton Park 1619 South Africa | | Issue 2 (2019-08-23) |
| Equipment: | Threaded Adaptors, Reducers, Unions, Couplers, Blanking Plugs, Insulated Adaptors, Adjustable Elbow / 'T' / 'Y' Adaptors, Swivel Adaptors, Swivel Couplers and Swivel Elbow / 45° Adaptors | | |
| Optional accessory: | | | |
| Type of Protection: | Flameproof Ex "db", Increased Safety Ex "eb", *Restricted Breathing Ex "nR", Dust Ignition Ex "ta" | | |
| Marking: | Ex db IIC Gb Ex db I Mb Ex eb IIC Gb Ex eb I Mb *Ex nR IIC Gc Ex ta IIIC Da IP65/66/67/68 (2m continuous) (Refer to Annex for service temperature range) *Threaded Adaptors, Reducers, Unions, Couplers, Blanking Plugs, Insulated Adaptors | | |

Approved for issue on behalf of the IECEx
Certification Body:

L A Brisk

Position:

Assistant Certification Manager

Signature:
(for printed version)

Date:
(for printed version)

23 June 2023

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United Kingdom





IECEX Certificate of Conformity

Certificate No.: **IECEX CML 16.0062X**

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Date of issue: 2023-06-23

Issue No: 5

Manufacturer: **CCG Cable Terminations (Pty) Ltd**
33-37 Forge Road, Spartan Industrial Area, Kempton Park 1619
South Africa

Manufacturing locations: **CCG Cable Terminations (Pty) Ltd**
33-37 Forge Road, Spartan Industrial
Area, Kempton Park 1619
South Africa

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/ExTR16.0080/00](#)
[GB/CML/ExTR20.0053/00](#)

[GB/CML/ExTR16.0130/00](#)
[GB/CML/ExTR22.0136/00](#)

[GB/CML/ExTR19.0166/00](#)
[GB/CML/ExTR23.0055/00](#)

Quality Assessment Report:

[ZA/ICS/QAR14.0001/08](#)



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Date of issue: 2023-06-23

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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptors, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors and Blanking Plugs are designed for inserting into enclosures having threaded entries, as appropriate for the type of protection.

Refer to Annex for full description and conditions of manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to Annex for specific conditions of use.



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Certificate No.: **IECEX CML 16.0062X**

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Date of issue: 2023-06-23

Issue No: 5

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1

This issue introduced the following change:

- i. To remove a redundant Condition of Manufacture and clarify a Condition of Certification.

Issue 2

This issue introduced the following changes:

- i. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, the document previously listed, IEC 60079-0:2011 Ed 6.0, was replaced by IEC 60079-0:2017, Ed 7.
- ii. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, the document previously listed, IEC 60079-15:2010 Ed 4.0, was replaced by IEC 60079-15:2017, Ed 5.
- iii. To assess and permit the addition of alternative gasket materials.
- iv. To allow standard adaptors, reducers, unions and couplers to be alternatively manufactured from aluminium (Group II & III only).
- v. The description and specific conditions of use have been updated accordingly to include the aluminium material option and the alternative gasket materials.
- vi. To allow the products to be manufactured with intermediate metric thread sizes.

Issue 3

This issue introduced the following change:

- i. To allow the increase of the maximum Metric thread sizes from M100 to M130.

Issue 4

This issue introduced the following changes:

- i. The transfer of the plastic blanking plugs from IECEx ICS 15.0007X to this certificate
- ii. To update the certificate format, and where applicable, the description has been updated in accordance with the modifications.
- iii. To update the coding from Ex tb IIIC Db to Ex ta IIIC Da.
- iv. To update IEC 60079-7 to the latest edition.
- v. To permit changes to the Specific Conditions of Use.
- vi. To allow the use of the grease for NPT threads to achieve IP68.
- vii. The addition of an Integral Earth Adaptor.
- viii. The addition of the RE-FLEx sealing cord.
- ix. The addition of E.T thread option.
- x. To update the certification drawings with minor corrections.

Issue 5

This issue introduced the following changes:

- i. The introduction of the Swivel 90°, 'T' and 'Y' Adaptors with the following modifications;
- ii. To update the name of the product from Swivel 90°, 'T' and 'Y' Adaptors to Adjustable Elbow, 'T' and 'Y' Adaptors
 - a. To update the coding from Ex tb IIIC Db to Ex ta IIIC Da.
 - b. To include ET threads.
 - c. To update EN IEC / IEC 60079-7 to the latest edition.
 - d. To allow the use of the grease for NPT threads to achieve IP68.
 - e. To update the product from a component to equipment.
- iii. The introduction of the Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors
- iv. To update the certificate with the following modifications;
 - a. To update the description as a result of the modifications.
 - b. To permit changes to the conditions of manufacture.
 - c. To permit changes to the specific conditions of use.

Annex:

[IECEX CML 16.0062X - Certificate Annex Iss 5.pdf](#)

Annexe to: IECEx CML 16.0062X Issue 5
Applicant: CCG Cable Terminations PTY LTD
Apparatus: Threaded Adaptors, Reducers, Unions, Couplers, Blanking Plugs, Insulated Adaptors, Adjustable Elbow / 'T' / 'Y' Adaptors, Swivel Adaptors, Swivel Couplers and Swivel Elbow /45° Adaptors

Description

The Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptors, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors and Blanking Plugs are designed for inserting into enclosures having threaded entries, as appropriate for the type of protection.

The following details the Model Nomenclature:

| Product Name | Model Nomenclature | Product Name | Model Nomenclature |
|------------------------------|--------------------|---|--------------------|
| Threaded Adaptors | AGZZZGYYYYE | Threaded Blanking Plugs | PFGZZZER |
| Integral Earth Adaptors | AGZZZGYYYYE - IE | Plastic blanking plugs | 3527ZZZ |
| Threaded Reducers | RGZZZGYYYYE | Where: P = METAL PLUG (Blanking element) 3527= PLASTIC PLUG (Blanking element) | |
| Threaded Unions | UGZZZGYYYYE | | |
| Threaded Couplers | CGZZZGYYYYE | | |
| Insulated Adaptors | AGZZZGYYYYE -INSA | | |
| Posi Adaptors | PAGZZZGYYYYE | | |
| Adjustable Elbow | AELBGZZZGYYYYE | | |
| Adjustable 'T' Adaptor | ATGZZZGYYYYE | | |
| Adjustable 'Y' Adaptor | AYGZZZGYYYYE | | |
| Swivel Adaptor | SAGZZZGYYYYE | | |
| Swivel Coupler | SCGZZZGYYYYE | | |
| Swivel Elbow Adaptor | SELBGZZZGYYYYE | | |
| Swivel 45° Adaptor | S45GZZZGYYYYE | | |
| Swivel Barrier Adaptor | SBAGZZZGYYYYE | | |
| Swivel Barrier Coupler | SBCGZZZGYYYYE | | |
| Swivel Barrier Elbow Adaptor | SBELBGZZZGYYYYE | | |
| Swivel Barrier 45° Adaptor | SB45GZZZGYYYYE | | |



Certificate Annex IECEx
 Version: 9.0 Approval: Approved

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| | |
|---|---|
| <p>Where:</p> <p>A = ADAPTOR</p> <p>R = REDUCER</p> <p>U = UNION</p> <p>C = COUPLER</p> <p>PA= POSI ADAPTOR</p> <p>AELB = ADJUSTABLE ELBOW</p> <p>AT = ADJUSTABLE 'T' ADAPTOR</p> <p>AY = ADJUSTABLE 'Y' ADAPTOR</p> <p>SA = SWIVEL ADAPTOR</p> <p>SC = SWIVEL COUPLER</p> <p>SELB = SWIVEL ELBOW ADAPTOR</p> <p>S45 = SWIVEL 45° ADAPTOR</p> <p>SBA = SWIVEL BARRIER ADAPTOR</p> <p>SBC = SWIVEL BARRIER COUPLER</p> <p>SBELB = SWIVEL BARRIER ELBOW ADAPTOR</p> <p>SB45 = SWIVEL BARRIER 45° ADAPTOR</p> <p>G = THREADFORM</p> <p>M = METRIC</p> <p>N = NPT</p> <p>NPSM = NPSM</p> <p>=</p> <p>B = BSPP</p> <p>BSPT = BSPT</p> <p>=</p> <p>P = PG</p> <p>G = EUROPE G (PARALLEL)</p> <p>GK = GK (TAPER)</p> <p>R = R (PARALLEL)</p> <p>RK = RK (TAPER)</p> <p>PF = JAPAN PF (PARALLEL)</p> <p>K = K mpy (TAPER)</p> <p>ET= ET</p> <p>ZZZ = MALE THREAD SIZE</p> <p>YYY = FEMALE THREAD SIZE</p> <p>E = Ex COMPONENT</p> <p>IE = INTEGRAL EARTH</p> <p>INSA = INSULATED ADAPTOR</p> | <p>F = TYPE</p> <p>S = STOPPER</p> <p>D = DOME HEAD</p> <p>H = HEX HEAD</p> <p>G = THREADFORM</p> <p>M = METRIC</p> <p>N = NPT</p> <p>B = BSPP</p> <p>BSPT = BSPT</p> <p>NPSM = NPSM</p> <p>P = PG</p> <p>G = EUROPE G (PARALLEL)</p> <p>GK = GK (TAPER)</p> <p>R = R (PARALLEL)</p> <p>RK = RK (TAPER)</p> <p>PF = JAPAN PF (PARALLEL)</p> <p>K = K mpy (TAPER)</p> <p>ET= ET</p> <p>ZZZ = THREAD SIZE</p> <p>E = Ex COMPONENT</p> <p>R= HEX ON REVERSE FACE</p> |
|---|---|

Where the thread size coding is as follows:

| Metric sizes | | | BSP/NPT/NPSM sizes | |
|--------------|-----------|------------|--------------------|-----------|
| 016 = M16 | 020 = M20 | 100 = M100 | 012 = ½" | 034 = ¾" |
| 025 = M25 | 032 = M32 | 110 = M110 | 001 = 1" | 114 = 1¼" |
| 040 = M40 | 050 = M50 | 120 = M120 | 112 = 1½" | 002 = 2" |
| 063 = M63 | 075 = M75 | 130 = M130 | 212 = 2½" | 003 = 3" |
| 080 = M80 | 090 = M90 | | 312 = 3½" | 004 = 4" |

For metric threads the pitch is:-

- M75 and smaller has 1.5mm pitch (minimum thread length 12mm) as standard with an optional pitch of 2mm (minimum thread length 16mm)
- M80 and larger has 2 mm pitch (minimum thread length 16mm) as standard with an optional pitch of 1,5mm (minimum thread length 12mm).
- Note: Intermediate metric thread sizes are allowed and use the same format of product and size coding, e.g., 033 = M33

Threaded Adaptors and Reducers

The Range of Threaded Adaptors and Reducers are used to convert a threaded entry from one thread size or type to another. The devices are manufactured from brass (nickel plated), stainless steel, mild steel, aluminium or bronze. A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted. The size and thread forms are shown in Tables 1 to 4:

Table 1, Metric to Metric

| Male (Metric) Size | Female (Metric) Size | | | | | | | | | | | | | |
|--------------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| | M16 | M20 | M25 | M32 | M40 | M50 | M63 | M75 | M80 | M90 | M100 | M110 | M120 | M130 |
| M16 | A | A | A | | | | | | | | | | | |
| M20 | R | A | A | A | | | | | | | | | | |
| M25 | R | R | A | A | A | | | | | | | | | |
| M32 | R | R | R | A | A | A | | | | | | | | |
| M40 | R | R | R | R | A | A | A | | | | | | | |
| M50 | R | R | R | R | R | A | A | A | | | | | | |
| M63 | R | R | R | R | R | R | A | A | A | | | | | |
| M75 | R | R | R | R | R | R | R | A | A | A | | | | |
| M80 | R | R | R | R | R | R | R | R | A | A | A | | | |
| M90 | R | R | R | R | R | R | R | R | R | A | A | A | | |
| M100 | R | R | R | R | R | R | R | R | R | R | A | A | A | |
| M110 | R | R | R | R | R | R | R | R | R | R | R | A | A | A |
| M120 | R | R | R | R | R | R | R | R | R | R | R | R | A | A |
| M130 | R | R | R | R | R | R | R | R | R | R | R | R | R | A |

A = Adaptor, R = Reducer

Table 2, Metric to BSP/NPT

| Male (Metric) Size | Female (BSP/NPT/NPSM) Size | | | | | | | | | |
|--------------------|----------------------------|------|------|--------|--------|------|--------|------|--------|----|
| | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 3 1/2" | 4" |
| M16 | A | A | | | | | | | | |
| M20 | A/R* | A | A | | | | | | | |
| M25 | R | A/R* | A | A | | | | | | |
| M32 | R | R | A/R* | A | A | | | | | |
| M40 | R | R | R | A/R* | A | A | | | | |
| M50 | R | R | R | R | A/R* | A | A | | | |
| M63 | R | R | R | R | R | A/R* | A | A | | |
| M75 | R | R | R | R | R | R | A/R* | A | A | |
| M80 | R | R | R | R | R | R | R | A/R* | A | A |
| M90 | R | R | R | R | R | R | R | R | A/R* | A |
| M100 | R | R | R | R | R | R | R | R | R | A |
| M110 | R | R | R | R | R | R | R | R | R | R |
| M120 | R | R | R | R | R | R | R | R | R | R |
| M130 | R | R | R | R | R | R | R | R | R | R |

A = Adaptor, R = Reducer; R* = Metric to NPT reducers only

Table 3, BSP/NPT/NPSM to Metric

| Male (BSP/NPT/NPSM) Size | Female (Metric) Size | | | | | | | | | | |
|--------------------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| | M16 | M20 | M25 | M32 | M40 | M50 | M63 | M75 | M80 | M90 | M100 |
| 1/2" | R | A | A | A | | | | | | | |
| 3/4" | R | R | A | A | A | | | | | | |
| 1" | R | R | R | A | A | A | | | | | |
| 1 1/4" | R | R | R | R | A | A | A | | | | |
| 1 1/2" | R | R | R | R | R | A | A | A | | | |
| 2" | R | R | R | R | R | R | A | A | A | | |
| 2 1/2" | R | R | R | R | R | R | R | A | A | A | |
| 3" | R | R | R | R | R | R | R | R | A | A | A |
| 3 1/2" | R | R | R | R | R | R | R | R | R | A | A |
| 4" | R | R | R | R | R | R | R | R | R | R | A |

A = Adaptor, R = Reducer

Table 4, BSP to BSP, BSP to NPT, BSP to NPSM, NPT to BSP, NPT to NPT, NPT to NPSM and NPSM to NPSM

| Male (BSP/NPT/NPSM) Size | Female (BSP/NPT/NPSM) Size | | | | | | | | | |
|--------------------------|----------------------------|------|----|--------|--------|----|--------|----|--------|----|
| | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 3 1/2" | 4" |
| 1/2" | A | A | A | | | | | | | |
| 3/4" | R | A | A | A | | | | | | |
| 1" | R | R | A | A | A | | | | | |
| 1 1/4" | R | R | R | A | A | A | | | | |
| 1 1/2" | R | R | R | R | A | A | A | | | |
| 2" | R | R | R | R | R | A | A | A | | |
| 2 1/2" | R | R | R | R | R | R | A | A | A | |
| 3" | R | R | R | R | R | R | R | A | A | A |
| 3 1/2" | R | R | R | R | R | R | R | R | A | A |
| 4" | R | R | R | R | R | R | R | R | R | A |

A = Adaptor, R = Reducer

Integral Earth Adaptors

Integral Earth Adaptors have identical male and female threads and are fitted with an earth stud to provide an earth connection for the cable gland fitted to them. The devices are manufactured from brass (nickel plated), stainless steel, mild steel, aluminium or bronze. A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted. The size and thread forms are M20 to M100 (metric) and 1/2" to 4" NPT.

Threaded Couplings/Unions

The Range of Threaded Couplings and Unions is designed to provide an intermediate part for fitting between certified cable glands and threaded entries of the same or different form and/or sizes of threads (Male to male – Couplings and female to female – Unions). The devices are manufactured from brass (nickel plated), stainless steel, aluminium, mild steel or bronze. A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted. The size and thread forms are shown in Tables 5 to 10:



Table 5, Couplings - Metric to Metric

| Male (Metric) Size | Male (Metric) Size | | | | | | | | | | | | | |
|--------------------|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| | M16 | M20 | M25 | M32 | M40 | M50 | M63 | M75 | M80 | M90 | M100 | M110 | M120 | M130 |
| M16 | X | | | | | | | | | | | | | |
| M20 | X | X | | | | | | | | | | | | |
| M25 | X | X | X | | | | | | | | | | | |
| M32 | | X | X | X | | | | | | | | | | |
| M40 | | X | X | X | X | | | | | | | | | |
| M50 | | | X | X | X | X | | | | | | | | |
| M63 | | | | X | X | X | X | | | | | | | |
| M75 | | | | | X | X | X | X | | | | | | |
| M80 | | | | | | X | X | X | X | | | | | |
| M90 | | | | | | | X | X | X | X | | | | |
| M100 | | | | | | | | X | X | X | X | | | |
| M110 | | | | | | | | | X | X | X | X | | |
| M120 | | | | | | | | | | X | X | X | X | |
| M130 | | | | | | | | | | | X | X | X | X |

Table 6, Couplings - BSP to BSP, BSP to NPT, BSP to NPSM, NPT to BSP and NPT to NPT, NPT to NPSM and NPSM to NPSM

| Male (BSP/NPT/NPSM) Size | Male (BSP/NPT/NPSM) Size | | | | | | | | | | |
|--------------------------|--------------------------|------|----|--------|--------|----|--------|----|--------|----|--|
| | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 3 1/2" | 4" | |
| 1/2" | X | | | | | | | | | | |
| 3/4" | X | X | | | | | | | | | |
| 1" | X | X | X | | | | | | | | |
| 1 1/4" | | X | X | X | | | | | | | |
| 1 1/2" | | X | X | X | X | | | | | | |
| 2" | | | X | X | X | X | | | | | |
| 2 1/2" | | | | X | X | X | X | | | | |
| 3" | | | | | X | X | X | X | | | |
| 3 1/2" | | | | | | X | X | X | X | | |
| 4" | | | | | | | X | X | X | X | |



Table 7, Coupling - BSP to Metric, NPSM to Metric and NPT to Metric

| Male (BSP/NPT/ NPSM) Size | Male (Metric) Size | | | | | | | | | | | | | |
|------------------------------------|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| | M16 | M20 | M25 | M32 | M40 | M50 | M63 | M75 | M80 | M90 | M100 | M110 | M120 | M130 |
| 1/2" | X | X | X | | | | | | | | | | | |
| 3/4" | X | X | X | X | X | | | | | | | | | |
| 1" | X | X | X | X | X | X | | | | | | | | |
| 1 1/4" | | X | X | X | X | X | X | | | | | | | |
| 1 1/2" | | X | X | X | X | X | X | X | | | | | | |
| 2" | | | X | X | X | X | X | X | X | | | | | |
| 2 1/2" | | | | X | X | X | X | X | X | X | | | | |
| 3" | | | | | X | X | X | X | X | X | X | X | X | X |
| 3 1/2" | | | | | | X | X | X | X | X | X | X | X | X |
| 4" | | | | | | | X | X | X | X | X | X | X | X |

Table 8, Unions - Metric to Metric

| Female (Metric) Size | Female (Metric) Size | | | | | | | | | | | | | |
|----------------------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| | M16 | M20 | M25 | M32 | M40 | M50 | M63 | M75 | M80 | M90 | M100 | M110 | M120 | M130 |
| M16 | X | | | | | | | | | | | | | |
| M20 | X | X | | | | | | | | | | | | |
| M25 | X | X | X | | | | | | | | | | | |
| M32 | X | X | X | X | | | | | | | | | | |
| M40 | X | X | X | X | X | | | | | | | | | |
| M50 | | X | X | X | X | X | | | | | | | | |
| M63 | | | X | X | X | X | X | | | | | | | |
| M75 | | | | X | X | X | X | X | | | | | | |
| M80 | | | | | X | X | X | X | X | | | | | |
| M90 | | | | | | X | X | X | X | X | | | | |
| M100 | | | | | | | X | X | X | X | X | | | |
| M110 | | | | | | | | X | X | X | X | X | | |
| M120 | | | | | | | | | X | X | X | X | X | |
| M130 | | | | | | | | | | X | X | X | X | X |



Table 9, Unions - BSP to BSP, BSP to NPT, BSP to NPSM, NPT to BSP, NPT to NPT, NPT to NPSM and NPSM to NPSM

| Female (BSP/NPT/NPSM) Size | Female (BSP/NPT) Size | | | | | | | | | |
|----------------------------|-----------------------|------|----|--------|--------|----|--------|----|--------|----|
| | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 3 1/2" | 4" |
| 1/2" | X | | | | | | | | | |
| 3/4" | X | X | | | | | | | | |
| 1" | X | X | X | | | | | | | |
| 1 1/4" | X | X | X | X | | | | | | |
| 1 1/2" | X | X | X | X | X | | | | | |
| 2" | | X | X | X | X | X | | | | |
| 2 1/2" | | | X | X | X | X | X | | | |
| 3" | | | | X | X | X | X | X | | |
| 3 1/2" | | | | | X | X | X | X | X | |
| 4" | | | | | | X | X | X | X | X |

Table 10, Union - Metric to BSP/NPT/NPSM

| Female (Metric) Size | Female (BSP/NPT/NPSM) Size | | | | | | | | | |
|----------------------|----------------------------|------|----|--------|--------|----|--------|----|--------|----|
| | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 3 1/2" | 4" |
| M16 | X | X | X | X | | | | | | |
| M20 | X | X | X | X | X | | | | | |
| M25 | X | X | X | X | X | X | | | | |
| M32 | X | X | X | X | X | X | X | | | |
| M40 | X | X | X | X | X | X | X | X | | |
| M50 | | X | X | X | X | X | X | X | X | |
| M63 | | | X | X | X | X | X | X | X | X |
| M75 | | | | X | X | X | X | X | X | X |
| M80 | | | | | X | X | X | X | X | X |
| M90 | | | | | | X | X | X | X | X |
| M100 | | | | | | | X | X | X | X |
| M110 | | | | | | | | X | X | X |
| M120 | | | | | | | | | X | X |
| M130 | | | | | | | | | | X |

Threaded Metallic Blanking Plugs

The Range of Threaded Metallic Blanking Plugs are designed for blanking off threaded entries in enclosures. The devices are manufactured from brass (nickel plated), stainless steel, mild steel, aluminium or bronze. A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted. The size and thread forms are shown in Table below:

| Hex. head | | Dome head | | Stopper (External Hex. Keyway) | | Stopper (Internal. Hex. Keyway) | |
|-----------|------------------|-----------|------------------|--------------------------------------|------------------|---------------------------------------|------------------|
| Metric | BSP/NPT/ NPSM | Metric | BSP/NPT/ NPSM | Metric | BSP/NPT/ NPSM | Metric | BSP/NPT/ NPSM |
| M16 | 1/2" | M16 | 1/2" | M16 | 1/2" | M16 | 1/2" |
| M20 | 3/4" | M20 | 3/4" | M20 | 3/4" | M20 | 3/4" |
| M25 | 1" | M25 | 1" | M25 | 1" | M25 | 1" |
| M32 | 1 1/4" | M32 | 1 1/4" | M32 | 1 1/4" | M32 | 1 1/4" |
| M40 | 1 1/2" | M40 | 1 1/2" | M40 | 1 1/2" | M40 | 1 1/2" |
| M50 | 2" | M50 | 2" | M50 | 2" | M50 | 2" |
| M63 | 2 1/2" | M63 | 2 1/2" | M63 | 2 1/2" | M63 | 2 1/2" |
| M75 | 3" | M75 | 3" | M75 | 3" | M75 | 3" |
| M80 | 3 1/2" | M80 | 3 1/2" | M80 | 3 1/2" | M80 | 3 1/2" |
| M90 | 4" | M90 | 4" | M90 | 4" | M90 | 4" |
| M100 | - | M100 | - | M100 | - | M100 | - |
| M110 | - | M110 | - | M110 | - | M110 | - |
| M120 | - | M120 | - | M120 | - | M120 | - |
| M130 | - | M130 | - | M130 | - | M130 | - |

Threaded Non-metallic Blanking Plugs

The Range of Threaded Non-metallic Blanking Plugs are designed for inserting into enclosures having metric threaded entries, as appropriate for the type of protection. A sealing gasket is used to maintain the IP rating.

The following sizes are covered by this approval:

M20 x 1.5
M25 x 1.5
M32 x 1.5
M40 x 1.5

Insulated Adaptors

The range of insulated adaptors are manufactured from a hollow cylindrical non-metallic insulated body with two metallic parts on opposite ends for male and female metric engagement with typically an enclosure and gland.

The insulated adaptor provides electrical insulation from one end to the other. The adaptor thread sizes are the same on both ends, e.g., M16 x 1.5 to M16 x 1.5. The following sizes are included in the range:

M16, M20, M25, M32, M40, M50, M63, M75, M80, M90, M100, M110, M120 & M130 (All 1.5 or 2.0 pitch, 6H/6g tolerance).

A sealing gasket is utilised on the male threaded part to maintain the IP rating.

Posi Adaptors

The Posi adaptor has a brass core with a corrosion-protecting outer skin compression moulded around it. The Posi adaptor also has an earthing stud connected through the corrosion protection (and insulating) skin.

The Posi Adaptor is an adaptor available only in the sizes

| MALE THREAD | FEMALE THREAD |
|----------------|----------------|
| M20 x 1.5 – 6g | M20 x 1.5 – 6g |
| M20 x 1.5 – 6g | M25 x 1.5 – 6g |
| M25 x 1.5 – 6g | M20 x 1.5 – 6g |
| M25 x 1.5 – 6g | M25 x 1.5 – 6g |

Adjustable Elbow, 'T' and 'Y' Adaptors

The Adjustable Elbow (90°), 'T' and 'Y' Adaptors are manufactured from brass or stainless steel with a male threaded portion at one end. The 90° adaptors have a single female thread, and the 'T' and 'Y' adaptors have two female threads. The 'T' adaptor has its male thread at 90° to each of the female threads and the female threads are at 180° to each other. The 'Y' adaptors have their threads spaced at 120° to each other.

90° adaptors are intended for use where space is limited and there may not be room to fit a gland and cable in the conventional manner. 'T' and 'Y' adaptors are used where two cable glands or a cable gland and another device (e.g. a breather drain plug) need to be fitted to a single entry hole.

The Adjustable 90°, 'T' and 'Y' adaptors are intended for fitting to a threaded hole for Ex db or Ex eb applications or to a plain hole, secured with a locknut, for Ex eb applications. The Adjustable Adaptors allow repositioning to align the cable in the desired direction when the adaptor is fully tightened.



The Adjustable 90°, 'T' and 'Y' Adaptors are available with Metric or BSPP male threads and either metric, NPT, ET, BSPP or BSPT female threads the same size or any size smaller than the male thread.

On the Adjustable 'T' and 'Y' adaptors the female threads do not need to be the same size as each other.

The Adjustable Adaptors are available with thread sizes M20, M25 & M32 or equivalent size in the other thread types.

A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted.

Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors

The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors are manufactured from brass, bronze, aluminium or stainless steel with a male threaded portion at one end. They are made in two parts connected together with a nut, and the junction between the two parts forms a serrated flamepath. The Swivel Adaptor, Swivel Elbow and Swivel 45° Adaptors have a single male and a single female thread, and the Swivel Coupler has two male threads.

The Swivel Adaptor or Coupler can be used to connect two pieces of Ex Equipment. The Swivel Elbow and 45° Adaptors are intended for use where space is limited and there may not be room to fit a gland and cable in the conventional manner.

The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors are intended for fitting to a threaded hole for Ex db or Ex eb applications or to a plain hole, secured with a locknut, for Ex eb applications. The Swivel Elbow / 45° Adaptors allow repositioning to align the cable in the desired direction when the adaptor is fully tightened.

The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors are available with Metric, NPT, ET, BSPP or BSPT threads the same size or with the female thread any size smaller than the male thread. The Swivel Coupler can also have one male thread smaller than the other,

The Swivel Adaptor or Swivel Coupler are available with thread sizes from M20 to M100, or equivalent size in the other thread types. The Swivel Elbow / 45° Adaptors are available with thread sizes from M20 to M63, or equivalent size in the other thread types. The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors can also be supplied with the male thread size one size larger. For example, a Swivel Elbow Adaptor body size that would normally have M50 male and female threads can also be supplied with an M63 male and an M50 female thread.

A non-metallic washer/gasket may be utilised on all parallel threads to ensure an IP66 rating. The devices maintain an IP65 rating with no washer fitted.

Swivel Barrier Adaptor, Swivel Barrier Coupler and Swivel Barrier Elbow / 45° Adaptors

The Swivel Barrier Adaptor, Swivel Barrier Coupler and Swivel Barrier Elbow / 45° Adaptors are the same basic construction as their equivalent non-barrier versions but additionally have a resin sleeve inside the male thread. The resin sleeve forms a flamepath with its mating part and is filled with 'Quickstop Ex' or 'Vortex' resin to form a barrier around the cable conductors.

Notes

1. All units are rated IP65 for any sealing arrangement. Units with parallel threads shall be used with the supplied washer if an IP rating of IP66/67/68 is required (IP66 for the Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors.) . NPT threads are at least IP65 as standard, but IP68 (2m) (IP66 for the Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors.) can be achieved if one of the following grease types is applied to the NPT thread before fitting:- Renolit Lubrene CA 700, Renolit LC-WP2, Renolit Lubrene LX 220 EP2, Renolit Moly LX 2 or Dow Corning 4 Electrical Compound.
2. RE-FLEx sealing cord can be used as an alternative to a standard sealing gasket to achieve IP66/68 (IP66 for the Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors.). It is intended as a retro-fit solution and must be installed according to the fitting instructions supplied with it.

Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Insulated and Posi adaptors shall not be marked for Group I applications.
- ii. Products made from aluminium shall not be marked for Group I.
- iii. The products listed in this certificate with intermediate metric entry thread sizes shall be constructed by enlarging the entry thread size of the standard size product immediately below the intermediate thread size. The minimum entry wall thickness and constructional parts utilised (other than the entry thread component) shall not differ from that of the standard size used.

Specific Conditions of Use

The following conditions relate to safe installation and/or use of the equipment.

General Conditions

- i. To maintain the IP rating, the installer shall ensure that the surface of the enclosure against which the sealing gasket seals is in good condition.
- ii. The sealing arrangement of the gland into the adaptor / reducer shall conform to the gland certification and IP rating requirements (as applicable).
- iii. When supplied with a washer/gasket, the following service temperatures apply:
 - HDPE gasket – T_{service} = -60°C to +95°C
 - Nylon gasket – T_{service} = -60°C to +100°C
 - PTFE gasket – T_{service} = -60°C to +160°C

Conditions for specific products

- i. A service temperature range of -20°C to +95°C shall not be exceeded for the insulated adaptor.
- ii. The tightening torque for the glands installed in the insulated adaptors may not exceed:

| Thread Size and Form | Tightening torque (Nm) | Thread Size and Form | Tightening torque (Nm) |
|----------------------|------------------------|----------------------|------------------------|
| M16 | 40 | M63 and 2"NPT | 115 |
| M20 and ½"NPT | 40 | M75 and 2 ½"NPT | 140 |
| M25 and ¾"NPT | 55 | M80 | 160 |
| M32 and 1"NPT | 65 | M90 and 3"NPT | 180 |
| M40 and 1 ¼"NPT | 80 | >M90 and >3"NPT | 200 |
| M50 and 1 ½"NPT | 100 | | |

Note: Non-metric NPT size torque values also apply to the equivalent BSP, BSPT and NPSM sizes.

- iii. A service temperature range of -20°C and +95°C (HDPE sealing gasket) or -20°C and +106°C (Nylon sealing gasket) shall not be exceeded for the plastic blanking plug.
- iv. The Swivel Adaptors, Swivel Couplers and Swivel Elbow / 45° Adaptors are only to be used in Group I applications where the risk of mechanical impact is low.
- v. The Swivel Barrier products shall only be used where the temperature is between:
 - Quickstop or Vortex resin type S50 / EPA: (-50°C and +95°C)
 - Quickstop or Vortex resin type FR/846: (-60°C and +100°C)

Components covered by Ex Certificates issued to older editions of Standards

None