



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 09.0131X** issue No.: **2**
Status: **Current**
Date of Issue: **2011-03-29** Page 1 of 5

Certificate history:
Issue No. 2 (2011-3-29)
Issue No. 1 (2010-4-27)
Issue No. 0 (2010-3-5)

Applicant: **Peppers Cable Glands Ltd**
Stanhope Road
Camberley
Surrey
GU15 3BT
United Kingdom

Electrical Apparatus: **AR range of Adaptors and Reducers SPA, SPB, SPMH and SPHH ranges of Stopping Plugs**
Optional accessory:

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

Marking: **Adaptors and Reducers**
Ex d IIC Gb / Ex d I Mb
Ex e IIC Gb / Ex e I Mb
Ex nR IIC Gc
Ex tb IIIC Db IP66/ 68
Stopping Plugs
Ex d IIC Gb / Ex d I Mb
Ex e IIC Gb / Ex e I Mb Ex nR IIC Gc
Ex tb IIIC Db IP6X (refer to the description)

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

D R Stubbings BA MIET

Position:

Certification Manager

*Signature:
(for printed version)*

Date:

2011-03-29

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](http://www.iecex.com).

Certificate issued by:

SIRA Certification Service
Rake Lane
Eccleston
Chester
CH4 9JN
United Kingdom

sira
CERTIFICATION



IECEx Certificate of Conformity

Certificate No.: IECEx SIR 09.0131X

Date of Issue: 2011-03-29

Issue No.: 2

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Manufacturer: **Peppers Cable Glands Ltd**
Stanhope Road
Camberley
Surrey
GU15 3BT
United Kingdom

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 : 2007-10 Edition: 5 | Explosive atmospheres - Part 0: Equipment - General requirements |
| IEC 60079-1 : 2007-04 Edition: 6 | Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d" |
| IEC 60079-15 : 2005-03 Edition: 3 | Electrical apparatus for explosive gas atmospheres Part 15: Construction, test and Marking of Type of Protection "n" electrical apparatus |
| 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/ExTR10.0037/00
GB/SIR/ExTR10.0038/00
GB/SIR/ExTR10.0073/00
GB/SIR/ExTR11.0074/00

Quality Assessment Report:

GB/SIR/QAR06.0018/01
GB/SIR/QAR06.0018/02
GB/SIR/QAR06.0018/03



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Refer to the Annexe for the Description, design options etc.

The Manufacturer shall comply with the following condition of manufacture:

1. Aluminium devices shall not be marked with any information indicating that they are suitable for Group I use.

CONDITIONS OF CERTIFICATION: YES as shown below:

1. The Stopping Plugs and Blanking elements shall not be used in conjunction with an adapter or reducer when installed in a flameproof enclosure.
2. Where Adapters and Reducers without sealing rings are installed in protection by enclosure (Ex t) equipment for use in explosive dust atmospheres, they shall only be fitted into enclosures offering a minimum of 5 full threads, in accordance with IEC 60079-31:2008 clause 5.1.1.
3. When no seal is fitted and the stopping plug is installed in an increased safety (Ex e) enclosure, the user shall ensure that a minimum degree of protection IP54 is maintained.
4. Where Stopping Plugs without sealing rings are installed in protection by enclosure (Ex t) equipment for use in explosive dust atmospheres, they may only be fitted into enclosures offering a minimum of 5 full threads, in accordance with IEC 60079-31:2008 clause 5.1.1
5. Adapters and Reducers shall not be used for the direct inter-connection of enclosures.
6. Only one adapter or reducer is to be used with any single cable entry on the associated equipment.
7. The products are approved for a temperature range at their point of mounting based upon the interface seal and material combinations of construction: See EQUIPMENT (continued) for Table



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EQUIPMENT(continued):

| | | | |
|---|---|-----------------------|--------------------|
| 0 | = | No seal fitted | (-100°C to +400°C) |
| 1 | = | Nitrile O-ring | (-30°C to +100°C) |
| 2 | = | Neoprene O-ring | (-35°C to +90°C) |
| 3 | = | Silicone O-ring | (-60°C to +200°C) |
| 4 | = | Fluorosilicone O-ring | (-55°C to +200°C) |
| 5 | = | Viton O-ring | (-20°C to +180°C) |
| 6 | = | EPDM O-ring | (-50°C to +110°C) |



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

| Issue 1 – this Issue introduced the following changes: | |
|--|---|
| 1. | The recognition of an increase in the width of the marking band on the adaptors. |
| 2. | To allow amendments to dimensions of the adaptors and reducers, the changes do not affect the type of protection. |
| Issue 2 – this Issue introduced the following change: | |
| 1 | The introduction of male to male and female to female adaptors was recognised, the description in the annexe is amended accordingly |

Annexe to: IECEx SIR 09.0131X Issue 2
Applicant: Peppers Cable Glands Ltd
Apparatus: AR range of Adaptors and Reducers and SPMH and SPHH ranges of Stopping Plugs



DESCRIPTION OF EQUIPMENT (Adaptors and Reducers)

The range of Adaptors and Reducers (Type 'AR') comprise a hollow hexagonal body, partly threaded at each end, one end having a male thread and the other a female thread. The Adaptors and Reducers are used to convert an existing threaded cable entry aperture to a different thread form and/or size. The Adaptors and Reducers may be machined with the thread forms and/or combinations as listed below. Their thread sizes are within the ranges specified but are limited based upon thread combinations certified within the manufacturer's documentation. Adaptors and reducers may also be fitted with an optional O-ring seal.

The products are manufactured with the following thread form options:

- M16/ M20/ M25/ M32/ M40/ M50/ M63/ M75/ M80/ M85/ M90/ M100 - ISO Metric to IEC 60423:1993, sizes above M75 may be manufactured with a 1.5 mm pitch
- 1/2"/ 3/4"/ 1"/ 1 1/4"/ 1 1/2"/ 2"/ 2 1/2"/ 3"/ 3 1/2"/ 4" NPT and NPSM to ANSI/ASME B1.20.1:1983 (R2001)
- 1/2"/ 3/4"/ 1"/ 1 1/4"/ 1 1/2"/ 2"/ 2 1/2"/ 3"/ 3 1/2"/ 4" – BSPP to BS EN ISO 228-1
- 1/2"/ 3/4"/ 1"/ 1 1/4"/ 1 1/2"/ 2"/ 2 1/2"/ 3"/ 3 1/2"/ 4" – BSPT to BS21:1985
- 7/ 9/ 11/ 13.5/ 16/ 21/ 29/ 36/ 42/ 48 PG to DIN 40430
- PG48F to NF C 68-312

Note: All threads manufactured in accordance with EN 60079-1:2007 (Ed.6) clauses 5.3 and C.2.2 (as applicable).

The Adaptors and Reducers may be manufactured with other thread forms, provided that they are in accordance with the applicable requirements of EN 60079-1:2007 clause 5.3 and C.2.2.

Note: All threads manufactured in accordance with EN/IEC 60079-1:2007 (Ed.6) clauses 5.3 and C.2.2 (as applicable).

The Adaptors and Reducers may be manufactured with other thread forms, provided that they are in accordance with the applicable requirements of EN 60079-1:2007 clause 5.3 and C.2.2.

Design Options

'O' Ring Seals

'O' ring seals materials fitted to male thread forms may be provided in the following materials to suit the application:

| | | |
|----------|----------------|-------|
| Nitrile | Silicone | Viton |
| Neoprene | Fluorosilicone | EPDM |

Annexe to: IECEx SIR 09.0131X Issue 2
Applicant: Peppers Cable Glands Ltd
Apparatus: AR range of Adaptors and Reducers and SPMH and SPHH ranges of Stopping Plugs



Material of manufacture and product coding:

The adaptor and Reducers may be manufactured from the following materials:

| | |
|--|-------------------------------------|
| Brass grade CW614 (CuZn 39Pb3)/ CZ121 3Pb | Stainless Steel 1.4404/ 316 S11 |
| Brass grade CW617N (CuZn 40Pb2)/ CZ122 | Stainless Steel 1.4401/ 316 S31 |
| Brass grade CW614N (CuZn 38Pb4)/ CZ121 4Pb | Stainless Steel 1.4301/ 304 |
| Brass grade Ecobrass C69300/ C87850 | Stainless Steel 1.4305/ 303 |
| Aluminium B21.1.90 AA6262T9/ 6262T9 ① | Aluminium AW6082/ AW 6262/ 6082TF ① |

① Not suitable for Group I use

Surface coating

The products may additionally be metallic plated with either: Nickel, Zinc or Tin (0.008 mm thick max.) to suit the application.

Annexe to: IECEx SIR 09.0131X Issue 2
Applicant: Peppers Cable Glands Ltd
Apparatus: AR range of Adaptors and Reducers and SPMH and SPHH ranges of Stopping Plugs



Product Type Ref

A-B-C-D-E-F-G

- A** Product Type
AR = Adaptor/Reducer
- B** Material of manufacture
- A = Aluminium
B = Brass
S = Stainless steel
- C** **IP Seal code**
- | | | | |
|---|---|-----------------------|--------------------|
| 0 | = | No seal fitted | (-100°C to +400°C) |
| 1 | = | Nitrile O-ring | (-30°C to +100°C) |
| 2 | = | Neoprene O-ring | (-35°C to +90°C) |
| 3 | = | Silicone O-ring | (-60°C to +200°C) |
| 4 | = | Fluorosilicone O-ring | (-55°C to +200°C) |
| 5 | = | Viton O-ring | (-20°C to +180°C) |
| 6 | = | EPDM O-ring | (-50°C to +110°C) |
- D** Certification order code
- E** Plating
- OO = Not plated
NP = Nickel plated
ZP = Zinc
- F** Male thread size and type
- G** Female thread size and type

The Adaptors and Reducers, when installed in accordance with the manufacturer's instructions, are capable of providing, with an enclosure on which they are fixed, an ingress protection rating of IP 66.

The Adaptors and Reducers with parallel threads and fitted with sealing rings, when installed in accordance with the manufacturer's instructions, are capable of providing, with an enclosure on which they are fixed, an ingress protection rating of IP 66 / IPX8 to 100 metres for 7 days.

The Adaptors and Reducers with tapered threads, fitted with sealing rings and installed in clearance holes, when installed in accordance with the manufacturer's instructions, are capable of providing, with an enclosure on which they are fixed, an ingress protection rating of IP 66 / IPX8 to 100 metres for 7 days.

Restricted breathing

AR Adaptors and Reducers with tapered threads provide a restricted breathing seal.

AR Adaptors and Reducers with parallel threads and fitted with appropriate sealing rings provide a restricted breathing seal.

AR Adaptors and reducers with tapered or parallel threads, installed into unthreaded entry holes and fitted with appropriate sealing rings provide a restricted breathing seal.

Annexe to: **IECEX SIR 09.0131X Issue 2**

Applicant: **Peppers Cable Glands Ltd**

Apparatus: **AR range of Adaptors and Reducers and SPMH and SPFH ranges of Stopping Plugs**



| | | Female thread | | | | | | | | | | | | | | | | | | |
|-------------|--------------------------|---------------|------|--------|------|------|------|------|------|------|---|---|---|---|---|---|---|--|--|--|
| | | PG | | | | | | | | | | | | | | | | | | |
| | | PG9 | PG11 | PG13.5 | PG16 | PG21 | PG29 | PG36 | PG42 | PG48 | | | | | | | | | | |
| Male thread | Metric | M16 | A | A | A | | | | | | | | | | | | | | | |
| | | M20 | R | A | A | A | A | | | | | | | | | | | | | |
| | | M25 | R | R | R | A | A | A | | | | | | | | | | | | |
| | | M32 | R | R | R | R | A | A | A | | | | | | | | | | | |
| | | M40 | R | R | R | R | R | A | A | A | | | | | | | | | | |
| | | M50 | R | R | R | R | R | R | A | A | A | | | | | | | | | |
| | | M63 | R | R | R | R | R | R | R | R | R | A | | | | | | | | |
| | | M75 | R | R | R | R | R | R | R | R | R | R | A | | | | | | | |
| | | M80 | R | R | R | R | R | R | R | R | R | R | R | A | | | | | | |
| | | M85 | R | R | R | R | R | R | R | R | R | R | R | R | A | | | | | |
| | | M90 | R | R | R | R | R | R | R | R | R | R | R | R | R | A | | | | |
| | | M100 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | A | | | |
| | NPT / NPSM / BSPT / BSPP | 1/2" | R* | A* | A* | A | A | | | | | | | | | | | | | |
| | | 3/4" | R | R | R | A | A | A | | | | | | | | | | | | |
| | | 1" | R | R | R | R | A | A | A | | | | | | | | | | | |
| | | 1 1/4" | R | R | R | R | R | A | A | A | | | | | | | | | | |
| | | 1 1/2" | R | R | R | R | R | R | A | A | A | | | | | | | | | |
| | | 2" | R | R | R | R | R | R | R | R | R | A | | | | | | | | |
| | | 2 1/2" | R | R | R | R | R | R | R | R | R | R | A | | | | | | | |
| | | 3" | R | R | R | R | R | R | R | R | R | R | R | A | | | | | | |
| | | 3 1/2" | R | R | R | R | R | R | R | R | R | R | R | R | A | | | | | |
| | | 4" | R | R | R | R | R | R | R | R | R | R | R | R | R | A | | | | |
| | PG | PG9 | A | A | A | A | | | | | | | | | | | | | | |
| | | PG11 | A | A | A | A | A | | | | | | | | | | | | | |
| | | PG13.5 | R | A | A | A | A | | | | | | | | | | | | | |
| | | PG16 | R | R | A | A | A | A | | | | | | | | | | | | |
| | | PG21 | R | R | R | R | A | A | A | | | | | | | | | | | |
| | | PG29 | R | R | R | R | R | A | A | A | | | | | | | | | | |
| | | PG36 | R | R | R | R | R | R | A | A | A | | | | | | | | | |
| | | PG42 | R | R | R | R | R | R | R | R | A | A | | | | | | | | |
| | | PG48 | R | R | R | R | R | R | R | R | R | A | | | | | | | | |

Annexe to: IECEx SIR 09.0131X Issue 2
Applicant: Peppers Cable Glands Ltd
Apparatus: AR range of Adaptors and Reducers and SPMH and SPHH ranges of Stopping Plugs



The adaptors may be male to male or female to female threads. The adaptors are designated as follows:

The product type is derived from the following options:

A-B-C-D-E-F-G

- A** Product Type
ARMM = Male to male adaptor
ARFF = Female to female adaptor
- B** IP Seal code
0 = No seal fitted (-100°C to +400°C)
1 = Nitrile O-ring (-30°C to +100°C)
2 = Neoprene O-ring (-35°C to +90°C)
3 = Silicone O-ring (-60°C to +200°C)
4 = Fluorosilicone O-ring (-55°C to +200°C)
5 = Viton O-ring (-20°C to +180°C)
6 = EPDM O-ring (-50°C to +110°C)
- C** Material of manufacture
A = Aluminium
B = Brass
S = Stainless steel
- D** Certification order code
- E** Plating
O = Not plated
NP = Nickel plated
ZP = Zinc
- F** First thread size and type
- G** Second thread size and type

Annexe to: IECEx SIR 09.0131X Issue 2
Applicant: Peppers Cable Glands Ltd
Apparatus: AR range of Adaptors and Reducers and SPMH and SPHH ranges of Stopping Plugs



DESCRIPTION OF EQUIPMENT (Stopping Plugs)

Notes:

The Stopping Plugs, where applicable, meet the requirements of IP66 and IP68. Refer to Product Description for full IP designation.

The Stopping Plugs comprise a cylindrical body, partly threaded at one end with a male thread. They are intended to fill unused cable entries in associated apparatus. The Type SPMH and SPHH Stopping Plugs may also be fitted with an optional O-ring seal.

The products are manufactured with the following external profiles and assigned the following prefix type designations:

SPHH Series - Hexagonal head

SPMH Series - Round dome head, with an external hexagonal socket recess

SPA Series - Round head, with an external face hexagonal socket recess

SPB Series - Round head, with an internal face hexagonal socket recess

The products are manufactured with the following thread form options:

M16/ M20/ M25/ M32/ M40/ M50/ M63/ M75/ M80/ M85/ M90/ M100 - ISO Metric to IEC 60423:1993, sizes above M75 may be manufactured with a 1.5 mm pitch

1/2" / 3/4" / 1" / 1 1/4" / 1 1/2" / 2" / 2 1/2" / 3" / 3 1/2" / 4" NPT and NPSM to ANSI/ASME B1.20.1:1983 (R2001)

1/2" / 3/4" / 1" / 1 1/4" / 1 1/2" / 2" / 2 1/2" / 3" / 3 1/2" / 4" - BSPP to BS EN ISO 228-1

1/2" / 3/4" / 1" / 1 1/4" / 1 1/2" / 2" / 2 1/2" / 3" / 3 1/2" / 4" - BSPT to BS21:1985

7/ 9/ 11/ 13.5/ 16/ 21/ 29/ 36/ 42/ 48 PG to DIN 40430

PG48F to NF C 68-312

Note: All threads are manufactured in accordance with EN 60079-1:2007 (Ed.6) clauses 5.3 and C.2.2 (as applicable).

The Stopping Plugs may be manufactured with other thread forms, provided that they are in accordance with the applicable requirements of EN 60079-1:2007 clause 5.3 and C.2.2.

Design Options:

O' ring seals

O' ring seals materials fitted to male thread forms may be provided in the following materials to suit the application:

| | | |
|----------|----------------|-------|
| Nitrile | Silicone | Viton |
| Neoprene | Fluorosilicone | EPDM |

Material of manufacture and marking:

The Stopping Plugs may be manufactured from the following materials:

| | |
|--|-------------------------------------|
| Brass grade CW614 (CuZn 39Pb3)/ CZ121 3Pb | Stainless Steel 1.4404/ 316 S11 |
| Brass grade CW617N (CuZn 40Pb2)/ CZ122 | Stainless Steel 1.4401/ 316 S31 |
| Brass grade CW614N (CuZn 38Pb4)/ CZ121 4Pb | Stainless Steel 1.4301/ 304 |
| Brass grade Ecobrass C69300/ C87850 | Stainless Steel 1.4305/ 303 |
| Aluminium B21.1.90 AA6262T9/ 6262T9 ① | Aluminium AW6082/ AW 6262/ 6082TF ① |

① Not suitable for Group I use

Annexe to: IECEx SIR 09.0131X Issue 2
Applicant: Peppers Cable Glands Ltd
Apparatus: AR range of Adaptors and Reducers and SPMH and SPHH ranges of Stopping Plugs



Surface coating:

The products may additionally be metal plated with either: Nickel or Zinc (0.008 mm thick max.) to suit the application.

Product Type Ref:

The product type reference is derived from the following options:

A-B-C-D-E-F (for SPMH and SPHH)

A-B-D-E-F (for SPA and SPB)

A Product Type

SPMH = Mushroom head stopping plug
SPHH = Hexagon head stopping plug
SPA = Type A stopping plug
SPB = Type B stopping plug

B Material of manufacture

A = Aluminium
B = Brass
S = Stainless Steel

C IP Seal code

0 = No seal fitted (-100°C to +400°C)
1 = Nitrile O-ring (-30°C to +100°C)
2 = Neoprene O-ring (-35°C to +90°C)
3 = Silicone O-ring (-60°C to +200°C)
4 = Fluorosilicone O-ring (-55°C to +200°C)
5 = Viton O-ring (-20°C to +180°C)
6 = EPDM O-ring (-50°C to +110°C)

D Certification order code

E Plating

OO = Not plated
NP = Nickel Plated
ZP = Zinc

F Thread Size

Metric = M16/ M20/ M25/ M32/ M40/ M50/ M63/ M75/ M80/ M85/ M90/ M100
NPT/ NPSM = 1/2" / 3/4" / 1" / 1 1/4" / 1 1/2" / 2" / 2 1/2" / 3" / 3 1/2" / 4"
BSPT/ BSPP
PG = 7/ 9/ 11/ 13.5/ 16/ 21/ 29/ 36/ 42/ 48
NF C 68-312 = PG48F

Annexe to: IECEx SIR 09.0131X Issue 2
Applicant: Peppers Cable Glands Ltd
Apparatus: AR range of Adaptors and Reducers and SPMH and SPHH ranges of Stopping Plugs



Degree of protection

The Stopping Plugs, when installed in accordance with the manufacturer’s instructions, are capable of providing, with an enclosure on which they are fixed, an ingress protection rating as defined in the table below.

| Stopping Plug Type | Entry Hole Type | IP6X | IPX6 | IPX8* |
|--|-----------------------|------|------|-------|
| SPMH parallel thread | Threaded or Clearance | X | X | |
| SPHH parallel thread | Threaded or Clearance | X | X | |
| SPA parallel thread | Threaded | X | X | |
| SPB parallel thread | Threaded | X | X | |
| SPMH parallel thread with sealing ring | Threaded or Clearance | X | X | X |
| SPHH parallel thread with sealing ring | Threaded or Clearance | X | X | X |
| SPMH tapered thread | Threaded or Clearance | X | X | |
| SPHH tapered thread | Threaded or Clearance | X | X | |
| SPA tapered thread | Threaded | X | X | |
| SPB tapered thread | Threaded | X | X | |
| SPMH tapered thread with sealing ring | Threaded | X | X | |
| SPHH tapered thread with sealing ring | Threaded | X | X | |
| SPMH tapered thread with sealing ring | Clearance | X | X | X |
| SPHH tapered thread with sealing ring | Clearance | X | X | X |

* IPX8 100 metres 7 days

When installed in unthreaded clearance holes, SPMH and SPHH stopping plugs shall be secured with an appropriate locknut and installed in accordance with the manufacturer’s instructions

Restricted breathing

SPMH and SPHH Stopping Plugs with parallel threads and fitted with appropriate sealing rings provide a restricted breathing seal.

SPMH and SPHH Stopping Plugs with tapered or parallel threads, installed into unthreaded entry holes and fitted with appropriate sealing rings provide a restricted breathing seal.