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 CES 15.0001X**

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Certificate history:
Issue 2 (2018-06-06)
Issue 1 (2016-06-24)
Issue 0 (2015-02-10)

Status: **Current**

Issue No: 3

Date of Issue: 2021-02-19

Applicant: **RCN S.r.l.**
Regione Torame, via Crevacuore
I-13011, Borgosesia (VC)
Italy

Equipment: **Barrier cable glands, series BXA.., BXC.., BXN.. and BXM..**

Optional accessory:

Type of Protection: **Flameproof enclosures ‘d’; increased safety 'e'; Dust ignition protection 't'**

Marking: **Ex db I Mb and Ex eb I Mb;**

Ex db IIC Gb and Ex eb IIC Gb

Ex tb III C Db

IP66 or IP66/68

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

Position: **Head of IECEx CB**

Signature:
(for printed version)

Date:

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 www.iecex.com or use of this QR Code.

Certificate issued by:

CESI
Centro Elettrotecnico
Sperimentale Italiano S.p.A.
Via Rubattino 54
20134 Milano
Italy

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Certificate No.: **IECEx CES 15.0001X** Page 2 of 4

Date of issue: 2021-02-19 Issue No: 3

Manufacturer: **RCN S.r.l.**
Regione Torame, via Crevacuore
I-13011, Borgosesia (VC)
Italy

Additional manufacturing locations:

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 60079-31:2013 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:

IT/CES/ExTR14.0036/00 IT/CES/ExTR14.0036/01 IT/CES/ExTR14.0036/02
IT/CES/ExTR14.0036/03

Quality Assessment Report:

FR/INE/QAR10.0003/09

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

Barrier cable glands series BXA.., BXN.., BXM.. and BXC.. are similar to normal cable glands, except a filling compound material is used to seal and clamp the individual cores of the cable, to prevent the transmission of an accidental internal ignition to the outside of the enclosure of the equipment on which they are mounted.

The Barrier cable glands series BXA.., BXN.., BXM.. and BXC.. are suitable for inserting circular cables with single or multiple cores into Ex db enclosures having threaded entries and Ex eb or Ex tb enclosures having either threaded or plane entries. Attachment of the glands to an enclosure is by means of the male threaded portion on the male body.

The epoxy resin is used to facilitate sealing between the cores and the filling pot and to clamp the cables to prevent pulling or twisting forces being transmitted to the conductors connections too. Ingress protection of IP66 or IP66/68 (30 m for 7 days) is maintained when the glands are installed in accordance with the manufacturer's instructions.

The cable glands characteristics are further described in the Annexe of this certificate.

SPECIFIC CONDITIONS OF USE: YES as shown below:
- The coupling of the Barrier cable glands with the enclosures shall be made as indicated by the manufacturer in the documents annexed to this certificate in order to respect the type of protection of the electrical apparatus on which Barrier cable glands are mounted.

- The Barrier cable glands shall be mounted at the electrical apparatus in such a way that accidental rotation and loosening will be prevented.

- When the cores will be fitted inside the sealing pot by filling compound, the mounting should guarantee a sufficient quantity of compound around each single core to ensure the clamping of the cemented joint. This shall be done as indicated in the manufacturer instructions.

- When the Barrier cable glands series BXA, BXM and BXC are designed for use in Group I (mines) applications:

  - the cables should be installed in compliance with the requirements of the local code of practice;
  - conduits should provide additional mechanical protection only.

- The Barrier cable glands series BXA, BXN, BXM and BXC have to be protected from hydraulic fluids, oils and greases when applied for Group I (mines) use.

- The Barrier cable glands made of Free-cutting leaded steel (AVP) or Aluminium alloy are admitted for Group II applications only.

- The Barrier cable glands should be installed within the following operative temperature range:

  - from - 60°C up to + 130°C.
  - from - 20°C up to + 130°C for types made of AVP steel.

- The flameproof joints are not intended to be repaired.

- The degree of protection IP66 or IP 66/68 (30 m for 7 days) according to the IEC 60529 standard will be guaranteed for the Barrier cable glands if the holes into which Barrier cable glands are mounted are suitably sealed. To this scope the correct application of sealant (for cylindrical and tapered threads) which guaranties an IP66 degree of protection on cylindrical threads and an IP66/68 degree of protection on tapered threads, or the correct positioning of the plain gaskets (for cylindrical threads only) which guaranties an IP66/68 degree of protection, shall be done as indicated in the manufacturer instructions.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Variation 3.1
The cable glands BXA.., BXN.., BXM.. and BXC... series originally assessed in compliance with IEC 60079-0: 2011 and IEC 60079-7:2015, have been re-assessed on the basis of the new edition of IEC 60079-0:2017 and IEC 60079-7:2017 Standards.

Annex:

RCN - IECEx CES 15.0001X - issue 03 - ANNEX BXA-BXC-BXN-BXM.pdf

IECEx Certificate of Conformity

Prot: C1003463

Annex to certificate: **IECEx CES 15.0001X Issue No.:3** of 2021-02-19

Applicant: **RCN S.r.l.,**
Regione Torame, via Crevacuore, I-13011 Borgosesia (VC), Italy

Electrical Apparatus: **Barrier Cable Glands, series BXA.., BXC.., BXN.. and BXM..**

General product information:

Barrier cable glands series **BXA..**, **BXN.., BXM..** and **BXC..** are similar to normal cable glands, except a filling compound material is used to seal and clamp the individual cores of the cable, to prevent the transmission of an accidental internal ignition to the outside of the enclosure of the equipment on which they are mounted.

The Barrier cable glands series **BXA..**, **BXN.., BXM..** and **BXC..** are suitable for inserting circular cables with single or multiple cores into Ex db enclosures having threaded entries and Ex eb or Ex tb enclosures having either threaded or plane entries. Attachment of the glands to an enclosure is by means of the male threaded portion on the male body.

The epoxy resin is used to facilitate sealing between the cores and the filling pot and to clamp the cables to prevent pulling or twisting forces being transmitted to the conductors connections too. Ingress protection of IP66 or IP66/68 (30 m for 7 days) is maintained when the glands are installed in accordance with the manufacturer's instructions.

The composition of Barrier cable gland series is as follow:

- Type **BXA..**: Barrier cable gland for non armoured cable with male insert for flexible conduit;
- Type **BXC..**: Barrier cable gland for non armoured cable with female threaded hub at exit;
- Type **BXN..**: Barrier cable gland for non armoured cable with standard back-nut;
- Type **BXM..** : Barrier cable gland for non armoured cable with male threaded hub at exit.

The Barrier cable glands series **BXA..**, **BXN.., BXM..** and **BXC..** have an operating temperature range from -60°C up to +130°C, while the ambient temperature range should be from -60°C up to +110°C. Barrier cable glands types made of AVP steel are restricted to the lower temperature range of -20°C.

The Barrier cable glands standard thread sizes are cylindrical ISO Metric 965/1 and ISO 965/3 from M16x1.5 up to M50x1.5 or tapered NPT ANSI/ASME B1.20.1 from 3/8" up to 1-½". Alternative available threads are cylindrical ISO 228/1 or Pg (DIN 40430).
The Barrier cable glands with M16, 3/8" and Pg11 threads are not admitted for Group I (mines) applications.

The IP66 degree of protection for Barrier cable glands with cylindrical threads is achieved with sealant put at least on two complete threads engaged of the threaded coupling while the IP 66/68 degree of protection is achieved with a Silicon flat washer. For all other threads (taper) the IP 66/68 degree of protection is achieved with sealant put at least on two complete threads engaged of the threaded coupling.

The Barrier cable glands are generally made of brass. The alternative materials Stainless steel, Free-cutting leaded steel (AVP) or Aluminium alloy can be supplied on demand.

The Barrier cable glands made of Free-cutting leaded steel (AVP) or Aluminium alloy are admitted for Group II applications only.

Constructional characteristics

Degree of protection (EN 60529):	IP 66 or IP 68 (30 m for 7 days).
Service temperature range:	- 60°C up to + 130 °C.
Service temperature range for types made of AVP steel:	minimum temp. restricted to -20C°.

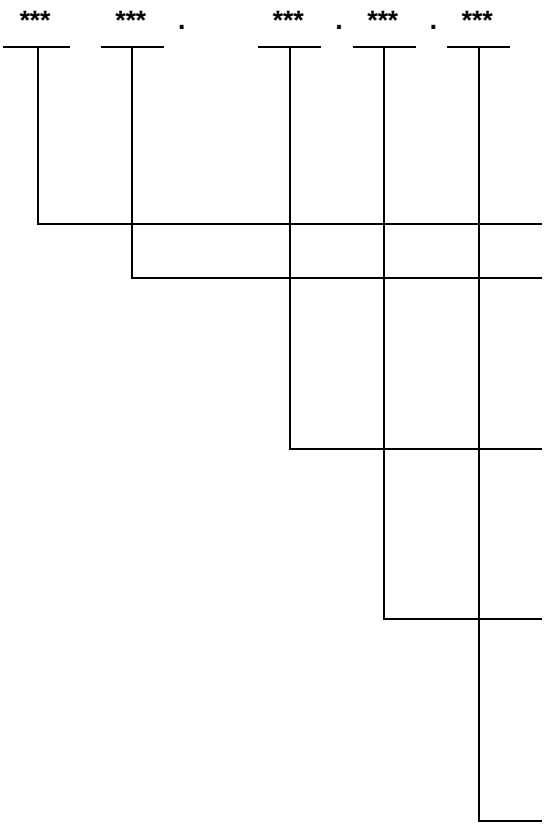
Prot: C1003463

Annex to certificate: **IECEx CES 15.0001X Issue No.:3** of 2021-02-19

Applicant: **RCN S.r.l.,**
Regione Torame, via Crevacuore, I-13011 Borgosesia (VC), Italy

Electrical Apparatus: **Barrier Cable Glands, series BXA.., BXC.., BXN.. and BXM..**

Identification of Barrier cable glands



Code which identifies the series:
- **BXA**: Barrier cable gland with male insert for flexible conduit
- **BXC**: Barrier cable gland with female threaded hub at exit
- **BXN**: Barrier cable gland with standard nut
- **BXM**: Barrier cable gland with male threaded hub at exit

Size (*see Table 1*)

Male thread:
- **I (16÷50)**: ISO metric pitch 1,5mm
- **B (16÷50)**: GAS 228-1
- **N (16÷50)** : NPT ANSI/ASME B1.20.1
- **P (16÷50)**: PG DIN 40430

Female thread (*for BXC only*) or Male thread (*for BXM only*):
- **I (16÷50)**: ISO metric pitch 1,5mm
- **B (16÷50)**: GAS 228-1
- **N (16÷50)** : NPT ANSI/ASME B1.20.1
- **P (16÷50)**: PG DIN 40430

Manufacturing material:
- **OT**: Brass
- **ON**: Nickel plated brass
- **S3,S4,S6**: AISI 303, 304, 316L
- **AVP**: AVP steel (only for Group II)
- **AL**: Aluminium alloy Al11S (only for Group II)

Standard sizes, thread sizes and cable characteristics are listed on the following Table 1:

Table 1:

Barrier cable glands type BX..							
Size	**Thread size**			**Cable dia. ranges**			**Max. cross sectional area of cores admitted** (mm^2)
	ISO 262 pitch 1.5	**NPT** or **ISO 228**	**Pg DIN 40430**	**Max Over multi cores** (mm)	**Max Over single core** (mm)	**Max. No. of cores** (*) (mm)	
16	M 16 (**) M 20	3/8" (**) 1/2"	11 (**) 13,5	9.4	8.0	10	50.2
20	M 20	1/2"	13,5 16	12.4	10.5	15	86.5
25	M 25	3/4"	21	17.6	14.0	30	153.9
32	M 32	1"	29	22.8	18.5	50	268.7
40	M 40	1" ¼	36	28.0	24.5	75	471.2
50	M 50	1" ½	36	34.5	29.5	80	683.1

(*) – For *Conductor diameter - Max. No. of cores* limits relationship details, referring to the manufacturer's documents.

(**) – The Barrier cable glands with M16, 3/8" and Pg11 threads are not admitted for Group I (mines) applications.