TYPE EXAMINATION STATEMENT
CATEGORY 3 EQUIPMENT

[1]

[2] **Equipment intended for use in potentially explosive atmospheres - ATEX**

[3] Type Examination Statement number: **IMQ 19 ATEX 020 X**

[4] PRODUCT: **Barrier cable glands for armoured and not armoured cables**

TYPE/SERIES: **NAVB..., NEVB...**

[5] MANUFACTURER: **Cortem S.p.A.**

[6] ADDRESS: **Via Aquileia, 10**
34070 Villesse (GO) – Italy

[7] This equipment and any acceptable variation thereto are specified in the annex to this statement and the documents therein referred to.

[8] IMQ states that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive 2014/34/EU with reference to the requirements covered by the standards below defined.

The examination and test results are recorded in Report No.: **AT18-0030053-01**

[9] Compliance with Essential Health and Safety Requirement given in the Directive, except for those listed at item 18 of the annex, has been assured by compliance with the requirements of the following standard:

EN 60079-0:2012 + EN 60079-0:2012/A11:2013; EN 60079-15:2010

[10] If the sign "X" is placed after the statement number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this statement

[11] This TYPE EXAMINATION STATEMENT relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this statement.

[12] The marking of the equipment or protective system shall include the following:

II 3G Ex nR IIC Gc

This document is composed of 5 pages including 1 annex

FIRST ISSUE: 2019 I 05 I 31

CURRENT ISSUE:

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B.U. PRODUCT CONFORMITY ASSESSMENT
CERTIFICATION SECTOR – MANAGER

[13] # ANNEX

[14] Type Examination Statement number: **IMQ 19 ATEX 020 X**

Description of product:

The barrier cable glands series NAVB ***, NEVB***, are designed for equipment with type of protection "nR" – restricted breathing.

The cable glands series NAVB *** (and its configurations NAVBN ***, NAVBF ***, NAVGB *** described in the following) are suitable for not armoured cables, with circular section.

The cable glands series NEVB*** are suitable for armoured cables, with circular section.

Cable glands consist of metal housing generally made of nickel-plated brass (galvanized steel and stainless steel can be used as alternative materials). Individual cores of cable pass through a resin bushing coupled with cable gland body and filled with bi-component resin.

Where the cable glands are provided with an IP compression gasket, this component is made of silicone compound.

The standard cable gland for non-armoured cables (NAVB series) includes a body to be coupled with a resin bushing (flameproof joint), a metallic/not-metallic made compression ring, and a nut.

In addition to standard series, following configurations are available:

-NAVBN: cable gland for non-armoured cables equipped with male threaded nut.

-NAVBF: cable gland for non-armoured cables equipped with female threaded nut.

-NAVBG: cable gland for non-armoured cables; this configuration includes an intermediate body housing a compression gasket, which acts on cable sheath. Assembling requires the use of a spacer between intermediate body and main body.

The cable gland for armoured cables (NEVB series) includes a main body to be coupled with a resin bushing (flameproof joint), armour clamping rings, an intermediate body, an IP compression gasket made of silicone compound and a nut.

[15]

In case of cylindrical threads, the installation of a silicone O-ring between cable gland body and enclosure wall is required to ensure the degree of protection IP66/IP67.

In case of tapered threads the use of a suitable sealant (according to Manufacturer's instructions), to be applied on the threads (at least two full threads) is required before fitting cable gland body to the entry of enclosure in order to guarantee the specified degree of protection.

Additional details on compression ring, IP gasket, O-ring, spacers are detailed in Table 2.

Cable glands are provided, on the side attached to enclosure, with the following main mounting threads type:

- NPT ANSI ASME B1.20.1
- Cylindrical threads according to ISO 965-1 and ISO 965-2, pitch 1.5.

Other threads type are permitted, according to details listed in key code.

Cable glands are suitable for high mechanical risk (7J).

Brand name: CORTEM; ELFIT; CORTEM GROUP.

[13] # ANNEX

[14] Type Examination Statement number: **IMQ 19 ATEX 020 X**

Models/Series Identification:

NAV * * * *

Cable gland type	
NAVB	Barrier cable gland for non-armoured cable.
NAVBN	Barrier cable gland for not-armoured cable, male threaded hub.
NAVBF	Barrier cable gland for not-armoured cable, female thread hub.
NAVGB	Barrier cable gland for not-armoured cable, with gasket.
NEVB	Barrier cable gland for armoured cable.

Execution	
NULL	Standard execution
A	Special execution[1]

Size
According to Tables 3 (example for ISO: 16, 20, 63S; example for NPT 2, 5, 5S)

[15.1]

Thread type	
I	cylindrical Metric ISO pitch 1,5 (ISO 965/1 and ISO 965/3)
IX1	cylindrical Metric ISO pitch 1 (ISO 965/1 and ISO 965/3)
IX2	cylindrical Metric ISO pitch 2 (ISO 965/1 and ISO 965/3)
N	tapered NPT ANSI/ASME B1.20.1
NC	cylindrical NPSM ANSI/ASME B1.20.1
null	tapered GAS UNI ISO 7/1
C	cylindrical GAS UNI 228/1
P	cylindrical PG DIN 40430 (not for Ex db)

Body material	
B	nickel plated brass
S	stainless steel
G	galvanized steel

[1] In special execution, body of cable gland differs from standard body for a major AC hexagon.

[13] **ANNEX**

[14] Type Examination Statement number: **IMQ 19 ATEX 020 X**

Table 1: Rated ambient temperature range (°C) and cables		
Serie:	**Rated ambient temperature**	**Cable type**
NAVB *** NAVBN *** NAVBF *** NAVGB ***	-60 ÷ 100 °C	Circular, not-armoured
NEVB ***	-60 ÷ 100 °C	Circular, armoured

	Table 2: Materials [1,2]						
Series	Body materials	Resin bushing	Sealing ring material (IP compression gasket)	O-ring gaskets	Compression ring	Conical armour rings	Spacers/internal rings
NAVB *** NAVBN *** NAVBF ***	Nickel plated brass Galvanized steel Stainless steel	Brass	-	Silicone	Nickel plated brass Galvanized steel Stainless steel Aluminium Polyphenylene sulfide compound (PPS)	-	-
NAVGB ***	Nickel plated brass Galvanized steel Stainless steel	Brass	Silicone compound	Silicone	Nickel plated brass Galvanized steel Stainless steel Aluminium Polyphenylene sulfide compound (PPS)	-	Spacer: Nickel plated brass Galvanized steel Stainless steel Aluminium
NEVB ***	Nickel plated brass Galvanized steel Stainless steel	Brass	Silicone compound	Silicone	-	Nickel plated brass Galvanized steel Stainless steel	Teflon internal ring
	[1] Non metallic materials (silicone compound used for sealing rings, O-ring gaskets and Teflon internal ring) are suitable for declared service temperature: -60 ÷ +100 °C [2]: Silicone material for O-ring gasket (use into main body and on cylindrical thread only) are suitable for declared service temperature: -60°C ÷ +200 °C						

[15.2] **Ratings**:
According to Table 1, for more details see drawings and instructions manual listed in DL-AT18-0030053-01.

[15.3] **Safety Ratings:** N/A

[15.4] **Ambient temperature and temperature classes:**
The cable glands are suitable for ambient temperature T_{amb}: -60°C ÷ +100°C.

[15.5] **Degree of protection (IP code):** IP66/67

[15.6] **Warnings:** warning marking not present.

[16] **Report:** AT18-0030053-01

Routine (factory) tests:

[16.1] The Manufacturer must carry out the routine test prescribed at clause 27 of the EN 60079-0.
No routine tests required according to reference-harmonised standards - listed in clause 1 of EN 60079-0 - concerning specific type of protections.

Conformity with the documentation:

[16.2] The manufacturer shall carry out the verifications or tests necessary to ensure that the product complies with the documentation.
Marking the equipment in accordance with Clause 29 of EN 60079-0, the manufacturer attests on his own responsibility that:

- the equipment has been constructed in accordance with the applicable requirements of the relevant

[13] **ANNEX**

[14] Type Examination Statement number: **IMQ 19 ATEX 020 X**

standards in safety matters;
the routine verifications and routine tests in 28.1 of EN 60079-0 have been successfully completed with positive results.

[16.3] **Installation conditions:**

Above referred equipment is foreseen to be installed in locations where there are environmental conditions, as clearly specified at clause 1, par. 2 of EN 60079-0.
Installation and use in atmospheric and environmental conditions that are out of above mentioned intervals request special considerations and additional measures by the side of installer or user.
These should be specified to the manufacturer by the user;

It is not a required by applicable standard listed in [9] that the certification body confirm suitability for the adverse conditions.
Installation of equipment has to proceed according to EN 60079-14.

Special Condition of use (X) / Schedule of limitations:

[17]

- The use of cable glands is allowed in the ambient temperature range -60°C ÷ +100°C.
- During assembly cable glands shall be tightened by applying the torque values defined by Manufacturer's instructions in order to ensure clamping of cable as well as to maintain the type of protection of the electrical equipment on which they are mounted.
- Where under rated conditions the temperature at entry point is higher than 70°C or 80°C at the branching point of the conductors the installation of cable glands is allowed if temperature at entry point or at the branching point is included in the ambient temperature range (-60°C ÷ +100°C).

[18] **Essential Health and safety Requirements:**

This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed in [9].
This Certificate **does not** cover hazards coming from environmental conditions different from those clearly and precisely indicated and covered in clause 1 of EN 60079-0.

ESHR 1.2.7 According Annex VIII of the Directive.
ESHR 1.4 Not verified.
ESHR 1.5 Not applicable.
ESHR 3 Not applicable.

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at [9], the following are considered relevant to this product, and conformity is demonstrated in the report:
None

[19] **Descriptive documents:**

DL-AT18-0030053-01 dated 2019-05-02.

[20] **Certification Validity Conditions:**

The present Statement is not referred to IMQ certification activities as Notified Body according to 2014/34/EU Directive. The validity of this Statement is subject to the condition that the manufacturer complies with the results of the document review and of the pertinent requirement if any included, recorded in the relevant copy of documentation as per 19.
One copy of the mentioned documentation is kept in IMQ file.

[21] **Variations:**

2019, May: First issue.