

CESI

CERTIFICATE



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Registro Imprese di Milano
Sezione Ordinaria
N. R.E.A. 429222
P.I. IT00793580150

Schema di certificazione

CESI-ATEX

[1] EC-TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use
in potentially explosive atmospheres
Directive 94/9/EC**

[3] EC-Type Examination Certificate number:

CESI 11 ATEX 014U

[4] Equipment: Conductors bushings type CB

[5] Manufacturer: **CORTEM S.p.A.**

[6] Address: Via Aquileia 10, I-34070 Villesse (GO) - Italy

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] CESI, notified body n. 0722 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report n. EX-B1006199

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0: 2006, EN 60079-1: 2007, EN 60079-7: 2007

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

[11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

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



I M2 Ex d I



II 2 G Ex d IIC / Ex de IIC

This certificate may only be reproduced in its entirety and without any change, schedule included.

Date February 24th 2011 - Translation issued the February 24th 2011

Prepared
M.T.

Verified
Mirko Balaz

Approved
Fiorenzo Bregani

CESI S.p.A.
Testing & Certification Division

[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 11ATEX 014U**

[15] **Description of equipment**

The conductor bushings type CB, made in resin with bolt in brass or copper, are used as electrical connection between flameproof sides of enclosures or between flameproof side and increased safety side of enclosures. They are available in 4 series depending of the voltages: 440Vac, 690Vac or 1100Vac, and type of resin.

Bushings type CB*-440/1 (NU510-1 resin):

Type	Rated Voltage	Connection Thread
		Metric pitch 1,5mm
CB2-440/1	440 V	M12x1,5
CB4-440/1	440 V	M14x1,5
CB5-440/1	440 V	M16x1,5
CB6-440/1	440 V	M20x1,5
CB7-440/1	440 V	M24x1,5
CB8-440/1	440 V	M26x1,5
CB9-440/1	440 V	M27x1,5
CB10-440/1	440 V	M30x1,5
CB12-440/1	440 V	M36x1,5
CB16-440/1	440 V	M42x1,5
CB20-440/1	440 V	M48x1,5

Bushings type CB*-690/1 (NU510-1 resin) and bushings type CB*-690 (NU514 resin):

Type	Rated Voltage	Connection Thread
		Metric pitch 1,5mm
CB2-690	690 V	M12x1,5
CB4-690	690 V	M14x1,5
CB5-690	690 V	M16x1,5
CB6-690	690 V	M20x1,5
CB7-690	690 V	M24x1,5
CB8-690	690 V	M26x1,5
CB9-690	690 V	M27x1,5
CB10-690	690 V	M30x1,5
CB12-690	690 V	M36x1,5
CB16-690	690 V	M42x1,5
CB20-690	690 V	M48x1,5

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Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 11ATEX 014U**

Bushings type CB*-1100 (NU514 resin):

Type	Rated Voltage	Connection Thread
		Metric pitch 1,5mm
CB2-1100	1100 V	M12x1,5
CB4-1100	1100 V	M14x1,5
CB5-1100	1100 V	M16x1,5
CB6-1100	1100 V	M20x1,5
CB7-1100	1100 V	M24x1,5
CB8-1100	1100 V	M26x1,5
CB9-1100	1100 V	M27x1,5
CB10-1100	1100 V	M30x1,5
CB12-1100	1100 V	M36x1,5
CB16-1100	1100 V	M42x1,5
CB20-1100	1100 V	M48x1,5

Operating temperature range: $-50 \div +150$ °C

When the maximum current-carrying capacity of the bushing conductor studs and the connecting leads is determined, the self-heating and the heating of the enclosure at the place of installation at maximum permissible ambient temperature must be taken as a basis.

The detailed description of the conductors bushings type CB and their constructional characteristics are mentioned into manufacturer documents.

[16] **Report n. EX-B1006199**

Routine tests

The manufacturer shall carried out the routine tests prescribed at clause 27 of the EN60079-0 standard.

On the conductors bushings type CB the dielectric test with applied voltage shall be performed (according to clause 7.1 of the EN 60079-7) at $2U+1000V$ between the supply terminals and earth (U = rated voltage).

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Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 11ATEX 014U**

Descriptive documents (prot. EX-B1006211)

- Technical Note A4-5424	(pages 5)	dated	21.07.2010
- Safety, maintenance and mounting instructions F-343	(pages 8)	dated	21.07.2010
- Drawing A3-5425 – Cylindrical threads		dated	21.07.2010
- Drawing A3-5426 – Conductors bushing type CB750		dated	21.07.2010
- Drawing A3-5427 – Conductors bushing type CB1100		dated	21.07.2010
- Drawing A3-5428 – Marking and chosen conductors bushing		dated	21.07.2010
- Drawing A3-5429 – Minimum clearance for conductors bushing		dated	21.07.2010
- Drawing A3-5430 – Assembly of counter-rotation clamps		dated	21.07.2010
- Drawing A3-5431 – Different feeding attacks for conductors bushing		dated	21.07.2010
- Drawing A3-5432 – Clearances and creepage distances for conductors bushing type CB750 and CB1100		dated	21.07.2010
- Drawing A4-5433 – Clamping method for conductor bushing		dated	21.07.2010
- Drawing A4-5434 – Resin method for conductor bushing		dated	21.07.2010
- CB Attestation of conformity N°0090		dated	21.07.2010

One copy of all documents is kept in CESI files.

[17] **Schedule of limitations**

The conductors shall be connected inside enclosures according to one of the type of protection indicated in the EN 60079-0 standard.

The conductor bushings type CB shall be installed as indicated by the manufacturer in the documents annexed to this certificate; respecting the minimum distances (clearance), which have to be kept during the assembling process and the connection by the user.

The conductor bushings type CB shall be fixed in the electrical apparatus in such a way that rotation and self-loosening will be prevented.

If the reference pressure of flameproof enclosure exceeds 20 bar, the bushing shall be included in the type test according to EN 60079-1, section 15.1.3 (overpressure test), as required by the certification of the electrical apparatus which they are installed.

Cable type shall be established taking into account the heating due to the current flowing in the conductors, the heating of the enclosure and the ambient temperature.

The service temperature of bushings type CB is $-50 \div +150$ °C.

[18] **Essential Health and Safety Requirements**

Covered by EN standards mentioned at page 1.