



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 CES 10.0001X** Issue No.: **1** Certificate history:
Issue No. 1 (2015-5-29)
Issue No. 0 (2010-5-18)

Status: **Current**

Date of Issue: **2015-05-29** Page 1 of 4

Applicant: **CORTEM S.p.A.**
Via Aquileia 10
I - 34070 Villesse (GO)
Italy

Electrical Apparatus: **Range of Adaptors, Plugs and Fittings RE, REB, REM, REN and PLG**
Optional accessory:

Type of Protection: **Flameproof enclosure "d", Increased safety "e", Dust ignition protection "t"**

Marking: **Ex d IIC Gb
Ex e IIC Gb
Ex tb IIIC Db
IP 66/67.**

Approved for issue on behalf of the IECEx
Certification Body:

Mirko Balaz

Position:

Head of ExCB

Signature:
(for printed version)

Date:

29-5-2015

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.

Certificate issued by:

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

CESI
CESI S.p.A.

Testing & Certification Division
Business Area Certification
Il Responsabile
(Roberto Piccin)



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Manufacturer: **CORTEM S.p.A.**
Via Aquileia 10
I - 34070 Villesse (GO)
Italy

Additional 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 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
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:
IT/CES/ExTR10.0005/00

IT/CES/ExTR10.0005/01

Quality Assessment Report:

IT/CES/QAR06.0002/09



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Adaptors series RE., REB., REM. and REN. are suitable to be mounted on cable conduits, on flameproof enclosures and on increased safety enclosures. They are used for coupling equipments, pipes and hubs having different threaded or plane entries, changing a male thread into a female thread or vice versa, larger thread diameter into smaller thread diameter or vice versa. Besides they are suitable to connect parts with different threads.

The male closing Plugs series PLG. are suitable for closing female hubs or unused openings on Ex d conduit or Ex d or Ex e enclosures. They are identified by a code as follows:

- RE: Adaptor male-female;
- REB: Adaptor female-male;
- REM: Adaptor female-female;
- REN: Adaptor male-male;
- PLG: Male closing plug.

For further information see Annex.

CONDITIONS OF CERTIFICATION: YES as shown below:

- The coupling of the adaptors and plugs with the conduits or enclosures shall be made as indicated by the manufacturer in the documents annexed to this certificate in order respect the type of protection of the electrical apparatus on which the adaptors and plugs are mounted.
- The adaptors and plugs shall be mounted at the conduit or at the electrical apparatus in such a way that accidental rotation and loosening will be prevented.
- Adaptors and plugs with diameter lower than 25 mm made of Aluminium alloy cannot be used.
- The adaptors and plugs shall be installed in such a way that the temperature at the mounting point will remain within the following service temperature ranges:
 - -20 + + 80 °C for types made of Galvanised steel ASTM A105, Stainless steel, Brass, Aluminium alloy;
 - -40 + + 150 °C for types made of Galvanised steel ASTM A203, Stainless steel, Brass, Aluminium alloy;
 - -50 + + 150 °C for types made of stainless steel only.
- The degree of protection IP 66/67 according to the IEC 60529 standard will be guaranteed for the adaptors and plugs if the holes into which adaptors and plugs are mounted are suitably sealed. To this scope the correct positioning of the gaskets (for cylindrical threads) or the application of sealant on the threads (for tapered threads), shall be done as indicated in the manufacturer instruction.



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

Variation 1.1

To the Adaptors and Plugs types RE., REB., REM., REN. and PLG. certificate have been removed the female-female Couplings type EM. and the male-male Nipples type NP., scope of separate assessing procedure.

Variation 1.2

The Adaptors and Plugs type RE., REB., REM., REN. and PLG. originally assessed in compliance with IEC 60079-0:2004, IEC 60079-1:2003, IEC 61241-0:2004 and IEC 61241-1:2004, have been re-assessed on the basis of the Standards IEC 60079-0:2011, IEC 60079-1:2007 and IEC 60079-31:2008.

Upgraded the marking of the equipment in compliance to the new Standards assessed, including the equipment protection level (EPL) "Gb" and "Db".

Variation 1.3

The Adaptors and Plugs type RE., REB., REM., REN. and PLG. have been updated to the engaged thread lengths regarding the tapered threads in compliance to the Clause 5.3 and Table no. 4 of IEC 60079-1 Standard.

Variation 1.4

To Adaptors and Plugs type RE., REB., REM., REN. and PLG. have been extended the Ambient/Service temperature ranges as follows:

- -20 ++ 80 °C for types made of Galvanised steel ASTM A105, Stainless steel, Brass, Aluminium alloy;
- -40 ++ 150 °C for types made of Galvanised steel ASTM A203, Stainless steel, Brass, Aluminium alloy;
- -50 ++ 150 °C for types made of stainless steel only.



IECEX Certificate of Conformity



Prod. B5027007

Annex to certificate:
Applicant:

IECEX CES 10.0001X Issue No.:1 of 2015-05-29
COR.TEM S.p.A., Via Aquileia 10,
I - 34070 Villesse (GO), Italy

Electrical Apparatus:

Range of Adaptors, Plugs and Fittings RE, REB, REM, REN, PLG,

Identification and description of the fittings

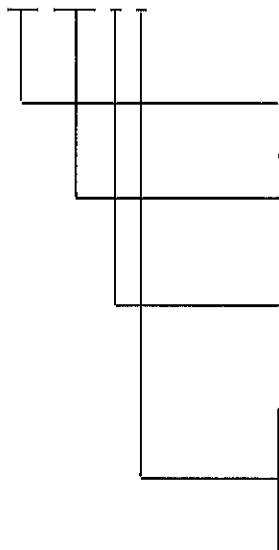
The adaptors, plugs and fittings can be manufactured in stainless steel, carbon steel, nickel-alloy steel, aluminium alloy and brass. For adaptors, plugs and fittings with nominal size of thread equal or lower than 25 mm aluminium alloy shall not be used.

The adaptors and plugs with cylindrical male threads have a sealing edge machined for fitting a silicone gasket which guarantees the degree of protection IP 66/67. For all other threads the degree of protection IP 66/67 is achieved with sealant put at least on two complete threads of the threaded coupling.

For Standard RE.., REB.., REM.. and REN.. Adaptors both types of threads are the same and they are identified by a standard code. When the types of threads are different (as example NPT type on first side and Metric type on second side) they are considered as specials and the identification coding system is different.

Identification of adaptors (standard codes):

*** **** * *



Code which identifies the series:

- RE: Adaptor male-female
- REB: Adaptor female-male
- REM: Adaptor female-female
- REN: Adaptor male-male

Size of adaptors (see Table 1)

Type of threads (same type for both of adaptor threads):

- N: NPT ANSI/ASME B1.20.1
- C: GAS ISO 228-1
- blank: Gk (CEI EN 60079-1, Annex 1)

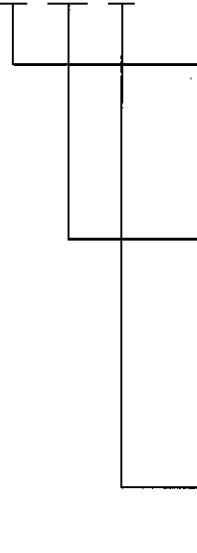
Type of material:

- A: Aluminium alloy
- B: Nickel-plated brass
- S: Stainless steel
- G: Galvanized carbon steel ASTM A105
- GL: Galvanized nickel-alloy steel ASTM A203

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Coding system for male plugs type PLG.. is shown in the follow:

PLG ** *** **



Code which identifies the size (see table 2)

Type of thread:

- N: NPT ANSI/ASME B1.20.1
- I: ISO 261 pitch 1,5
- IX2: ISO 261 pitch 2
- NC: NPSM ANSI/ASME B1.20.1
- P: PG DIN 40430
- C: GAS ISO 228-1
- blank: Gk (CEI EN 60079-1, Annex 1)

Type of material:

- A: Aluminum alloy
- B: Nickel plated brass
- S: Stainless steel
- G: Galvanized carbon steel ASTM A105
- GL: Galvanized nickel-alloy steel ASTM A203



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Prot: B5027007

Annex to certificate:
Applicant:

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COR.TEM S.p.A., Via Aquileia 10,
I - 34070 Villesse (GO), Italy

Electrical Apparatus:

Range of Adaptors, Plugs and Fittings RE, REB, REM, REN, PLG,

Standard sizes and threads of Adaptors series RE., REB., REM. and REN. are listed on the following Table 1:

Table 1:

Adaptor sizes		Adaptor sizes		Adaptor sizes		Adaptor sizes		Adaptor sizes		Adaptor sizes	
Code	Threads	Code	Threads	Code	Threads	Code	Threads	Code	Threads	Code	Threads
3814	3/8"-1/4"	11	1/2" - 1/2"	61	2" - 1/2"	81	3" - 1/2"	101	4" - 1/2"	121	5" - 1/2"
114	1/2"-1/4"	21	3/4" - 1/2"	62	2" - 3/4"	82	3" - 3/4"	102	4" - 3/4"	122	5" - 3/4"
138	1/2"- 3/8"	22	3/4"- 3/4"	63	2"- 1"	83	3"- 1"	103	4"- 1"	123	5"- 1"
214	3/4"- 1/4"	31	1" - 1/2"	64	2"-1 1/4"	84	3"-1 1/4"	104	4"-1 1/4"	124	5"-1 1/4"
238	3/4"- 3/8"	32	1" - 3/4"	65	2" - 1 1/2"	85	3"-1 1/2"	105	4" - 1 1/2"	125	5" - 1 1/2"
314	1" - 1/4"	33	1" - 1"	66	2" - 2"	86	3" - 2"	106	4" - 2"	126	5" - 2"
338	1" - 3/8"	41	1 1/4" - 1/2"	71	2 1/2" - 1/2"	87	3" - 2 1/2"	107	4" - 2 1/2"	127	5" - 2 1/2"
414	1 1/4" - 1/4"	42	1 1/4" - 3/4"	72	2 1/2" - 3/4"	88	3" - 3"	108	4" - 3"	128	5" - 3"
438	1 1/4" - 3/8"	43	1 1/4" - 1"	73	2 1/2" - 1"	91	3 1/2" - 1/2"	109	4" - 3 1/2"	129	5" - 3 1/2"
514	1 1/2" - 1/4"	44	1 1/4" - 1 1/4"	74	2 1/2" - 1 1/4"	92	3 1/2" - 3/4"	1010	4" - 4"	1210	5" - 4"
538	1 1/2" - 3/8"	51	1 1/2" - 1/2"	75	2 1/2" - 1 1/2"	93	3 1/2" - 1"	--	--	1212	5" - 5"
614	2" - 1/4"	52	1 1/2" - 3/4"	76	2 1/2" - 2"	94	3 1/2" - 1 1/4"	--	--	1414	6" - 6"
638	2" - 3/8"	53	1 1/2" - 1"	77	2 1/2" - 2 1/2"	95	3 1/2" - 1 1/2"	--	--	--	--
--	--	54	1 1/2" - 1 1/4"	--	--	96	3 1/2" - 2"	--	--	--	--
--	--	55	1 1/2" - 1 1/2"	--	--	97	3 1/2" - 2 1/2"	--	--	--	--
--	--	--	--	--	--	98	3 1/2" - 3"	--	--	--	--
--	--	--	--	--	--	99	3 1/2" - 3 1/2"	--	--	--	--

Sizes and threads of special Adaptors and Plugs are listed on the following Table 2.

Table 2:

Size Code	Thread size		Size Code	Thread size	Size Code	Thread size
	NPT or NPSM or ISO 228-1	Gk				
02	1/4"	--	12	M 12x1,5	--	--
01	3/8"	--	16	M 16x1,5	--	--
1	1/2"	1/2	20	M 20x1,5	--	--
2	3/4"	3/4	25	M 25x1,5	--	--
3	1"	1	32	M 32x1,5	--	--
4	1 1/4"	1 1/4	40	M 40x1,5	--	--
5	1 1/2"	1 1/2	50	M 50x1,5	--	--
6	2"	2	63	M 63x1,5	63X2	M 63x2
7	2 1/2"	2 1/2	75	M 75x1,5	75X2	M 75x2
8	3"	3	90	M 90x1,5	90X2	M 90x2
9	3 1/2"	--	--	--	--	--
10	4"	4	100	M 100x1,5	100X2	M 100x2
--	--	--	110	M 110x1,5	110X2	M 110x2
12	5"	--	--	--	--	--
14	6"	--	--	--	--	--



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Prot. 05027007

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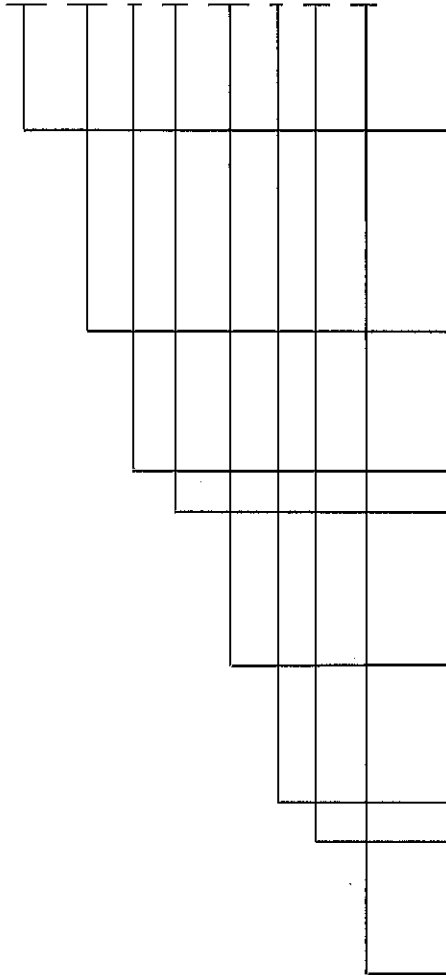
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I - 34070 Villesse (GO), Italy

Electrical Apparatus:

Range of Adaptors, Plugs and Fittings RE, REB, REM, REN, PLG,

Coding system for **special Adaptors** (coupling with different kind of thread on each side) types **RE.., REB.., REM..** and **REN..** is shown in the follow:

*** ** * ** ** * ** **



Code which identifies the series:

- **RE:** Adaptor male-female
- **REB:** Adaptor female-male
- **REM:** Adaptor female-female
- **REN:** Adaptor male-male

Type of first thread:

- **N:** NPT ANSI/ASME B1.20.1
- **I:** ISO 261 pitch 1,5
- **IX2:** ISO 261 pitch 2
- **NC:** NPSM ANSI/ASME B1.20.1
- **P:** PG DIN 40430
- **C:** GAS ISO 228-1
- **G:** Gk (CEI EN 60079-1, Annex 1)

Gender of first thread: M = male; F = female

Size of first thread (see Table 2)

Type of second thread:

- **N:** NPT ANSI/ASME B1.20.1
- **I:** ISO 261 pitch 1,5
- **IX2:** ISO 261 pitch 2
- **NC:** NPSM ANSI/ASME B1.20.1
- **P:** PG DIN 40430
- **C:** GAS ISO 228-1
- **G:** Gk (CEI EN 60079-1, Annex 1)

Gender of second thread: M = male; F = female

Size of second thread (see Table 2)

Type of material:

- **A:** Aluminum alloy
- **B:** Nickel-plated brass
- **S:** Stainless steel
- **G:** Galvanized carbon steel ASTM A105
- **GL:** Galvanized nickel-alloy steel ASTM A203

The adaptors and plugs shall be installed in such a way that the temperature at the mounting point will remain within the following service temperature ranges:

Adaptor or plug type	Materials	Gaskets	Min. Temperature	Max. Temperature
RE.., REB.., REM.., REN.., PLG..	Galvanised steel ASTM A105 Stainless steel, Brass, Aluminium alloy	Silicon	-20 °C	+80 °C
RE.., REB.., REM.., REN.., PLG..	Galvanised steel ASTM A203, Stainless steel, Brass, Aluminium alloy	Silicon	-40 °C	+150 °C
RE.., REB.., REM.., REN.., PLG..	Stainless steel	Silicon	-50 °C	+150 °C