

CESI

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Sezione Ordinaria
N. R.E.A. 429222
P.I. IT00793580150

Schema di certificazione

CESI-ATEX

Il CESI è stato autorizzato
dal governo italiano ad
operare quale organismo di
certificazione di apparecchi
e sistemi destinati a essere
utilizzati in atmosfera
potenzialmente esplosiva
con D.M. 1/3/1983, D.M.
19/6/1990, D.M. 20/7/1998
e D.M. 27/9/2000

CERTIFICATE



EC-TYPE EXAMINATION CERTIFICATE

- [1] **Equipment or Protective System intended for use
in potentially explosive atmospheres
Directive 94/9/EC**
- [2] EC-Type Examination Certificate number:
CESI 03 ATEX 098
- [3] Equipment: **Lighting fixtures series EVF and EVFC.**
- [4] Manufacturer: **COR.TEM S.p.A.**
- [5] Address: **Via Aquileia 10, Villesse (Gorizia) - Italy**
- [6] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [7] 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-A3/016736.
- [8] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
**EN 50014: 1997 + A1:A2 EN 50018: 2000 + A1 EN50019: 2000
EN 50281-1-1: 1998 + A1**
- [9] 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.
- [10] 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.
- [11] The marking of the equipment or protective system shall include the following:
**II 2 GD EEx d IIC T6, T5 IP66 T 85°, T 100°
II 2 GD EEx de IIC T6, T5 IP66 T 85°, T 100°**

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

Date 14 May 2003 - Translation issued the 14th May 2003

Prepared
Tiziano Cola

Verified
Mirko Balaz

Approved
Ulisse Colombo

CESI
CENTRO ELETTRTECNICO SPERIMENTALE ITALIANO
Business Unit Certificazione
Di Responsabile

[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 098**

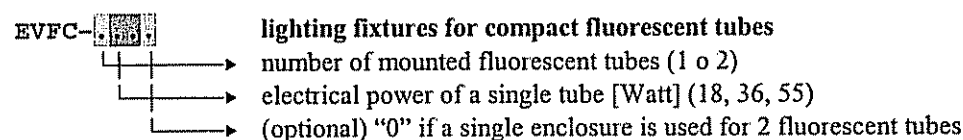
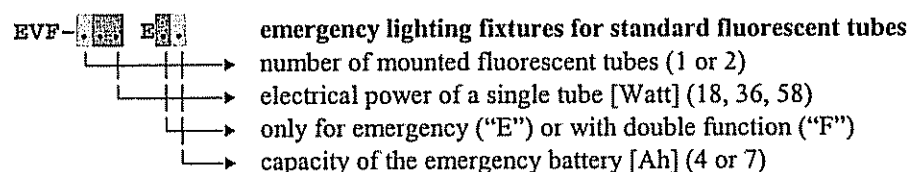
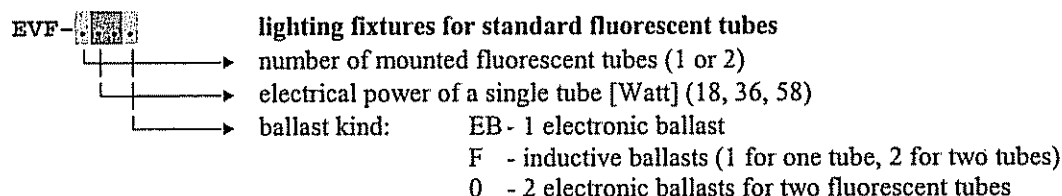
[15] **Description of equipment**

The enclosure of the lighting fixtures series EVF and EVFC are made up of three compartments joint together by means of particular cable passages which are integrant part of this certificate:

1. compartment for the ballast (electronic or inductive), execution EEx d
2. compartment for the terminals junction, execution EEx d or EEx e
3. compartment for the fluorescent tubes standard or compact, execution EEx d

For the usage as emergency lighting, the safety switch and the electronic inverter are mounted inside the ballast compartment while the rechargeable battery group, with the signalling led, are placed inside an adjacent compartment, execution EEx e.

The lighting fixtures series EVF and EVFC are defined through a code formed of the following fields (the coding is fully described on the attached drawings):



models list

Lighting fixtures for standard fluorescent tubes

- With inductive ballast
 - EVF-118F, EVF-136F, EVF-158F (1 fluorescent tube)
 - EVF-218F, EVF-236F, EVF-258F (2 ballasts per 2 fluorescent tubes)
- With electronic ballast
 - EVF-118EB, EVF-136EB, EVF-158EB (1 fluorescent tube)
 - EVF-218EB, EVF-236EB, EVF-258EB (1 ballast for 2 fluorescent tubes)
 - EVF-2180, EVF-2360, EVF-2580 (2 ballasts for 2 fluorescent tubes)
- With emergency group and electronic ballast (only emergency use)
 - EVF-118EE4, EVF-136EE4, EVF-158EE4 (4 Ah batteries)
 - EVF-118EE7, EVF-136EE7, EVF-158EE7 (7 Ah batteries)
- With emergency group and electronic ballast (normal and emergency use)
 - EVF-118EF4, EVF-136EF4, EVF-158EF4 (1 fluorescent tube and 4 Ah batteries)
 - EVF-218EF4, EVF-236EF4, EVF-258EF4 (2 fluorescent tubes and 4 Ah batteries)
 - EVF-118EF7, EVF-136EF7, EVF-158EF7 (1 fluorescent tube and 7 Ah batteries)
 - EVF-218EF7, EVF-236EF7, EVF-258EF7 (2 fluorescent tubes and 7 Ah batteries)

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Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 098**

Lighting fixtures for compact fluorescent tubes (only with electronic ballast)

EVFC-118, EVFC-136, EVFC-155	(1 compact tube)
EVFC-218, EVFC-236, EVFC-255	(2 compact tubes in two enclosures)
EVFC-2180, EVFC-2360, EVFC-2550	(2 compact tubes in the same enclosure)

Electrical characteristics

Rated voltage:	110/230 V (AC/DC)
Rated frequency:	50 ÷ 60 Hz
Rated power:	1 x 18 W (models EVF. 118 ...)
	1 x 36 W (models EVF. 136 ...)
	1 x 58 W (models EVF. 158 ...)
	2 x 18 W (models EVF. 218. ...)
	2 x 36 W (models EVF. 236. ...)
	2 x 58 W (models EVF. 258. ...)
	1 x 55 W (models EVFC 155)
	2 x 55 W (models EVFC 255.)

Protection

IP 66 (EN 60529: 1997)

For the models EVFC ...

Environment temperature	-20 °C ÷ +40 °C
Category 2G - Temperature class:	T 5
Category 2D - Maximum surface temperature:	T 100°

For the models EVF ... with electronic ballast

Environment temperature:	-20 °C ÷ +50 °C
Category 2G - Temperature class:	T 5
Category 2D - Maximum surface temperature:	T 100°

For the models EVF ... with electronic ballast

Environment temperature:	-20 °C ÷ +50 °C
Category 2G - Temperature class:	T 6
Category 2D - Maximum surface temperature:	T 85°

Cables entry

The accessory used for the cable entries and unused bores closing shall be object of separate certification:

- execution EEx d, in accordance to the standard EN 50014 and EN 50018, for the lighting fixtures in execution EEx d II C;
- execution EEx e, in accordance to the standard EN 50014 and EN 50019, for the lighting fixtures in execution EEx de II C;

The accessory shall be certificated in accordance to the standard EN 50281-1-1 and guarantee a minimum level of protection IP 66 in accordance to the standard EN 60529.

Warning label

When the temperature at the cable entry point is higher than 70 °C, suitable heat resisting cables shall be used.

[16] **Report n. EX-A3/016736**

Routine tests

The manufacturer shall carry out the routine tests prescribed at paragraph 24 of the EN 50014 standard, at paragraph 16 of the EN50018 and at paragraph 7 of EN 50019.

D.

[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 098**

The manufacturer is exempted from the overpressure test on the ballast compartments and terminals compartments (execution EEx d), since they overcame the test, static method, at a pressure equal to 4 times la corresponding reference pressure (34 bar, the ballast compartment, 24 bar, the terminals compartment).

For the fluorescent tube compartments, the overpressure test shall be carried out, in accordance to the paragraph 15.1.3.1 of the standard EN 50018, with static method, at a pressure of 11.5 bar.

For the lighting fixtures having the terminal compartment in execution EEx e (increased safety), the electric strength test shall be carried out at a voltage of 1500 V.

prot. EX-A3/016741 (attached to this certificate)

- drawing n. A1-4411 (1 sheet A1 format)	dated	20.02.2003
- drawing n. A1-4412 (1 sheet A1 format)	dated	20.02.2003
- drawing n. A1-4453 (1 sheet A1 format)	dated	20.02.2003
- drawing n. A1-4461 (1 sheet A1 format)	dated	20.02.2003
- drawing n. A3-4361 (1 sheet A3 format)	dated	20.02.2003
- drawing n. A3-4524 (1 sheet A3 format)	dated	20.02.2003
- drawing n. A3-4525 (1 sheet A3 format)	dated	20.02.2003
- drawing n. A3-4526 (1 sheet A3 format)	dated	20.02.2003
- drawing n. A4-4551 (2 sheets A4 format)	dated	20.02.2003
- drawing n. A4-4552 (1 sheet A4 format)	dated	20.02.2003
- EC declaration of conformity n° 0040 (1 sheet)	dated	20.02.2003
- Safety Instructions, use and maintenance (9 sheets)	dated	20.02.2003
- Technical note (3 sheets)	dated	20.02.2003

One copy of all the documents above mentioned is kept in CESI files.

[17] **Special conditions for safe use**

None.

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

Covered by standards fulfilment.

EXTENSION n. 01/08



to EC-Type Examination Certificate CESI 03ATEX098

Equipment: Luminaries series EVF ed EVFC

Manufacturer: **COR.TEM S.p.A.**

Address: Via Aquileia 10, Villesse (Gorizia) - Italy

Admitted variation

- Updating to new standards EN 60079-0 (2006), EN 60079-1 (2004), EN 60079-7 (2003), EN 61241-0 (2006), EN 61241-1 (2004)
- Updating of nameplate
- New maximum ambient temperature of + 55 °C
- New emergency lighting fixtures for 8 W fluorescent tube.

Equipment identification

The equipment series Ev and EVFC shall include the following markings.



II 2GD Ex d IIC T... ; Ex tD A21 IP66 T ... °C



II 2GD Ex de IIC T... ; Ex tD A21 IP66 T ... °C

New lighting fixtures for 8 W fluorescent tube are defined by the following codes:
EVF 18X ; EVF 18ENX , EVF 18EX

Cable entries

The accessory used for cable entries shall be certified according to the following Standards:

- protection mode "Ex d" : EN 60079-0, EN 60079-1, EN 61241-0, EN 61241-1.
- protection mode "Ex e" : EN 60079-0, EN 60079-7, EN 61241-0, EN 61241-1.

In both cases a minimum degree of protection IP 66 shall be guaranteed according to EN 60529 standards.

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 03ATEX098.

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date 04/09/2008 - translation issued 04/09/2008

prepared Sergio Mezzetti

verified Mirko Balaz

approved Fiorenzo Bregani

CESI S.p.A.
Divisione Energia
"Area Tecnica Certificazione"
Il Responsabile

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EXTENSION n. 01/08

to EC-Type Examination Certificate CESI 03ATEX098

Equipment identification (follows)

Electrical characteristics

Rated voltage	110/230 V (AD/DC)
Rated frequency	50 ÷ 60 Hz
Rated power	8W - 18W - 36W - 58W - 2x18W - 2x36W - 2x58 W (the rated power of each type of lamp is indicated in detail in the following table 1, 2 and 3)
Degree of protection (EN 60529)	IP 66
Ambient temperature	- 20 ÷ + 40 °C (type EVFC..) - 20 ÷ + 50 °C (type EVF.., EVF..EB, EVF..EF, EVF..EE, EVF..F) - 25 ÷ + 55 °C (type EVF...X, EVF..EB, EVF..EF, EVF..EE)

The temperature class and maximum surface temperature T of the lighting fixtures is a function of the enclosure size, of the maximum power dissipated in the inside and of the maximum ambient temperature as specified in the table 1, 2 and 3 and in the documentation annexed to this extension.

Table 1 – TEMPERATURE CLASS AND MAX. SURFACE TEMP. FOR LIGHTING FIXTURES IN AMBIENT TEMPERATURE UP TO + 40 °C

MOD.	LAMP.	TEMP.CLASS	MAX. SURFACE TEMP. (°C)
EVFC 118	1x18W	T5	100
EVFC 136	1x36W	T5	100
EVFC 155	1x55W	T5	100
EVFC 218	2x18W	T5	100
EVFC 236	2x36W	T5	100
EVFC 255	2x55W	T5	100
EVFC 2180	2x18W	T5	100
EVFC 2360	2x36W	T5	100
EVFC 2550	2x55W	T5	100

Table 2 – TEMPERATURE CLASS AND MAX. SURFACE TEMP. FOR LIGHTING FIXTURES IN AMBIENT TEMPERATURE UP TO + 50 °C

MOD.	LAMP.	TEMP.CLASS	MAX. SURFACE TEMP. (°C)
EVF 118..F	1x18W	T5	100
EVF 136..F	1x36W	T5	100
EVF 158..F	1x58W	T5	100
EVF 218..F	2x18W	T5	100
EVF 236..F	2x36W	T5	100
EVF 258..F	2x58W	T5	100

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EXTENSION n. 01/08

to EC-Type Examination Certificate CESI 03ATEX098

Table 3 – TEMPERATURE CLASS AND MAX. SURFACE TEMP. FOR LIGHTING FIXTURES IN AMBIENT TEMPERATURE UP TO + 50 °C (+ 55 °C)

MOD.	LAMP.	TEMP.CLASS +50°C (+ 55 °C)	MAX. SURFACE TEMP. (°C) +50°C (+ 55 °C)
EVF 18X	1x8W	T6 (T5)	85 (100)
EVF 118..EB	1x18W	T6 (T5)	85 (100)
EVF 136..EB	1x36W	T6 (T5)	85 (100)
EVF 158..EB	1x58W	T6 (T5)	85 (100)
EVF 218..EB	2x18W	T6 (T5)	85 (100)
EVF 236..EB	2x36W	T6 (T5)	85 (100)
EVF 258..EB	2x58W	T6 (T5)	85 (100)
EVF 18ENX	1x8W	T6 (T5)	85 (100)
EVF 118..EF	1x18W	T6 (T5)	85 (100)
EVF 136..EF	1x36W	T6 (T5)	85 (100)
EVF 158..EF	1x58W	T6 (T5)	85 (100)
EVF 218..EF	2x18W	T6 (T5)	85 (100)
EVF 236..EF	2x36W	T6 (T5)	85 (100)
EVF 258..EF	2x58W	T6 (T5)	85 (100)
EVF 18EX	1x8W	T6 (T5)	85 (100)
EVF 118..EE	1x18W	T6 (T5)	85 (100)
EVF 136..EE	1x36W	T6 (T5)	85 (100)
EVF 158..EE	1x58W	T6 (T5)	85 (100)
EVF 2180	2x18W	T6 (/)	85 (/)
EVF 2360	2x36W	T6 (/)	85 (/)
EVF 2580	2x58W	T6 (/)	85 (/)

Report n. EX-A8024704

Routine tests

The manufacturer shall carry out the routine tests prescribed at paragraph 27 of the EN 60079-0 Standard and at par. 24 of the EN 61241-0 Standard.

The routine overpressure test on fluorescent tube compartments shall be carried with the static method (clause 15.1.3.1 of EN 60079-1 standard) at the pressure of 11.5 bar.

The manufacturer is exempted from the overpressure test on the ballast compartments and terminal compartments (execution Ex d), since they have been submitted, with good outcome, to the overpressure test (static method) at a pressure corresponding to 4 time the reference pressure (34 bar, for ballast compartment; 24 bar, for terminal compartment).

For lighting fixtures having terminal compartment in execution "Ex e" the electric strength test shall be carried out at a voltage value of 1500V.

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EXTENSION n. 01/08

to EC-Type Examination Certificate CESI 03ATEX098

Descriptive documents (prot. EX-A8024710)

- Technical note A4-4968 (3 pg.)	Rev. 0	dated	02/04/2007
- Dwg. n. A4-4951	Rev. 0	dated	02/04/2007
- Dwg. n. A4-4952	Rev. 0	dated	02/04/2007
- Dwg. n. A2-5036 (2 sheet)	Rev. 0	dated	02/04/2007
- Safety instructions F-256 (10 pg.)	Rev. 1	dated	02/04/2007
- Document G1-0456/4-7 (21 pg.)		dated	02/04/2007
- EC declaration of conformity n. CE 0040		dated	02/04/2007

One copy of all documents is kept in CESI files.

Essential Health and Safety Requirements

Compliance with the Health and Safety Requirements has been assured by compliance with the following standards:

- EN 60079-0: 2006 - Electrical apparatus for explosive gas atmospheres.
Part 0: General requirements
- EN 60079-1: 2004 - Electrical apparatus for explosive gas atmospheres.
Part 1: Flameproof enclosure
- EN 60079-7: 2003 - Electrical apparatus for explosive gas atmospheres.
Part 7: Increased safety "e"
- EN 61241-0: 2006 - Electrical apparatus for use in the presence of combustible dust.
Part 0: General requirements
- EN 61241-1: 2004 - Electrical apparatus for use in the presence of combustible dust.
Part 1: Protection by enclosures "tD"

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