



1. **EC-TYPE EXAMINATION CERTIFICATE**
2. **Equipment or Protective System Intended for use in
Potentially explosive atmospheres
Directive 94/9/EC**
3. Reference: **VTT 03 ATEX 046**
4. Equipment: **Portable Luminaire**
Certified type: **SLAM HORNET 1x11W RL**
5. Manufactured by: **Centaurea Oy**
6. Address: **Viilutie 4
60510 Hyllykallio
Finland**
7. This equipment or protective system and any acceptable variations thereto is specified in the schedule and possible supplement(s) to this Certificate and the documents therein referred to.
8. VTT Industrial Systems, notified body number 0537, in accordance with Article 9 of the Council Directive 94/9/EC of 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 system intended for use in potentially explosive atmospheres given in Annex II to the Directive

The examination and test results are recorded in confidential report no. TUO26-032698.
9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 50014 (1997) + A1&A2
EN 50019 (2000)
EN 50028 (1987)
EN 50281-1-1 (1998)**



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:

**II 2 GD****EEx em II T3****IP 66 80 °C**

Espoo, 16.06.2003

VTT INDUSTRIAL SYSTEMS
Electrical Ex-apparatus**I018**
(EN45004, IIite A)Martti Siirola
Research scientistRisto Sulonen
Senior research scientist

13. **Schedule**14. **EC-TYPE EXAMINATION CERTIFICATE VTT 03 ATEX 046**

15. Description of Equipment

Portable Luminaire: Slam Hornet 1x11 W RLRated values

Power	1x11 W
Voltage	24 V, 110 V or 230 V AC/DC
I_{kmax}	35 A

Construction

Portable luminaire with one fluorescent lamp and electronic ballast. The lamp cap with connecting terminals and the electronic ballast circuits have been moulded with silicone rubber. The assembly, lamp and ballast, together with connecting devices for supply cable and reflector has been built into the enclosure made of polycarbonate tube with plastic endplates. The polycarbonate cover has been treated with a conductive polymer which makes the tube light green. The luminaire is fitted with a cable H07RN-F or a cable having at least equally robust construction. A plug is not covered by the Certificate.

Degree of protection IP 66

Drawings and documents:

Number	Date	Description
10666_1	2003-02-14	Exploded view
SH111ARL	2003-02-14	Parts list
10666c	2003-0-05	Dimensions drawing
DE13	26.4.98	Circuit Diagram of the 24 V electronic ballast
DE13C-EEEx		Component list of the 24 V electronic ballast
DE13.JOB	26.4.98	Lay-out of the PCB of the 24 V electronic ballast
pfcd13A	5.07.98	Circuit Diagram of the 110-230 V electronic ballast
PFCDE13A	19.12.1998	Component list of the 110-230 V electronic ballast
PFCDE13	5.7.98	Lay-out of the PCB of the 110-230 V electronic ballast.

16. Report No. TUO26-032698.

17. Special conditions for safe use

None

18. Essential Health and Safety Requirements

Met by the compliance with the standards EN 50014, EN 50019, EN 50028 and EN 50281-1-1.

Espoo, 16.06.2003

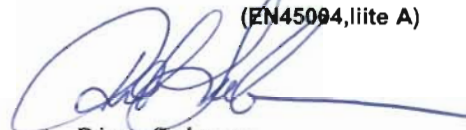
VTT INDUSTRIAL SYSTEMS
Electrical Ex-apparatus



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Reserach scientist



I018
(EN45094, liite A)



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SUPPLEMENT TO EC-TYPE EXAMINATION CERTIFICATES
VTT 03 ATEX 041, VTT 03 ATEX 046, VTT 03 ATEX 070, VTT 03 ATEX 071
and VTT 03 ATEX 074

Requested by:

Centaurea Oy, FINLAND

Apparatus:

Portable luminaire,

Certified types : **SLAM HORNET 2 x 36 W, 1 x 11 W RL, 1 x 11 W,
LINEAR 2 x 36 W and 1 x 36 W**

Scope of the certificates

The certified equipment fulfil the requirements for the category I D equipment in the standard EN 50281-1-1 (1998) and can be marked as



II 1 D

Special conditions for safe use

The equipment shall be used only so that over 5 mm dust layers cannot form on them.

The sign "X" shall be added after the certificate number on the marking plate indicating that the equipment is subject to this special conditions for safe use and in the instructions the user shall be informed accordingly.

Espoo, 24.6.2004

VTT INDUSTRIAL SYSTEMS
Electrical Ex-apparatus



I018
(EN45004, liite A)



Martti Siirola
Research scientist



Risto Sulonen
Senior research scientist

Certificate or supplement without signatures shall not be valid.

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

**SUPPLEMENT 1 TO EC-TYPE EXAMINATION CERTIFICATE
VTT 03 ATEX 046**Requested by:**Centaurea Oy, FINLAND**Apparatus:**Portable luminaire assembly,**Certified type: **SLAM HORNET 1 x 11 W RL**Variation of the construction

The Certificate is extended to apply to apparatus designed and constructed in accordance with the specification set out in the Annex of the said Certificate but having **the moulded electronic ballasts** specified in the drawings:

- TM71411C, 24 V; KA7141 (dated 1995-10-20), KA7141B.pcb (dated 2005-10-04) and TM71411C 24 V 11W COLD CATHODE (dated 2005-10-03)
- TM70701B, 110 V; KA7172 (dated 1997-03-06), KA7172B.pcb (dated 2005-09-27) and TM71701B 110 V 11W COLD CATHODE (dated 2005-09-28)
- TM71721B, 220 V; KA7172 (dated 1997-03-06), KA7172B.pcb (dated 2005-09-27) and TM71721B 230 W 11W COLD CATHODE (dated 2005-09-28)

Test Report:

TUO26-056265

Espoo, 19.10.2005

VTT INDUSTRIAL SYSTEMS
Electrical Ex-apparatus**I018**
(EN45004, liite A)Martti Siirola
Research scientistJari Kettunen
Research engineer

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**SUPPLEMENT 2 TO EC-TYPE EXAMINATION CERTIFICATE
VTT 03 ATEX 046**Requested by:**Centaurea Oy, FINLAND**Apparatus:**Portable luminaire,****Certified type: Slam Hornet 1 x 11 W RL**Variation of the construction

The Certificate is extended to apply to apparatus designed and constructed in accordance with the specification set out in the Annex of the said Certificate but having **the electronic ballast, type TM71432B 42VAC/DC**, specified in the drawings:

KA71431F	2005-06-16	Circuit diagram
Ka71431F.pcb	2006-09-20	Lay-out of the electronic ballast's PCB
TM71432B	2006-09-13	Data sheet by Teknoware Oy
TM71432B	2006-09-19	Failure analysis by Teknoware Oy

Markings:

The apparatus shall be marked with following marking:

**II 2 GD****EEx em II T3
IP 66 80°C**

Espoo, 11.10.2006

VTT TECHNICAL RESEARCH CENTRE OF FINLAND

**Martti Siirola**
Research scientist**Jari Kettunen**
Research engineer

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**SUPPLEMENT TO EC-TYPE EXAMINATION CERTIFICATE
VTT 02 ATEX 016, VTT 03 ATEX 041, VTT 03 ATEX 042, VTT 03 ATEX
046, VTT 03 ATEX 071, VTT 03 ATEX 074 and VTT 04 ATEX 084**

Requested by:

Centaurea Oy, FINLAND

Apparatus:

Portable luminaires,

**Certified type: Slam Hornet 1 x 11 W RL, 1 x 18 W, 1 x 36 W, 2 x 36 W, 2 x 36 W
Linear, 3 x 40 W**

Summary:

Above-mentioned luminaires fulfill requirements of the standard EN 60079-7:2007 clause 6.3.2.3 (the asymmetric pulse test and the asymmetric power dissipation test). Test results are recorded in VTT Test Report no. VTT-S-05590-07.

Espoo, 18.6.2007

VTT TECHNICAL RESEARCH CENTRE OF FINLAND



Risto Sulonen
Senior research scientist



Jari Kettunen
Research engineer

**SUPPLEMENT 3 TO EC-TYPE EXAMINATION CERTIFICATE
VTT 03 ATEX 046**

Requested by:

Centaurea Oy, FINLAND

Apparatus:

Portable luminaire,

Certified type: **Slam Hornet 1 x 11 W RL**

Extension of ratings

The Certificate is extended to apply to apparatus with frequencies:

0 Hz, 50 Hz and 60 Hz

Espoo, 22.6.2009

VTT, TECHNICAL RESEARCH CENTRE OF FINLAND



Martti Siirola
Research scientist



Risto Sulonen
Senior research scientist