

15 JUN 1981



BASEEFA

British Approvals Service
for
Electrical Equipment
in
Flammable Atmospheres

Certificate of Assurance

THIS IS TO CERTIFY THAT A WOLFLITE NO 251 MARK 1
manufactured by
THE WOLF SAFETY LAMP CO LTD
of Sheffield

designed and constructed in accordance with the Specification set out in the First Schedule and the documents therein referred to, has been found to comply with the requirements of BS 5501 : Part 6 : 1977 EN50 019 and SFA 3009 : 1972

This Certificate also applies to:

- 1) other apparatus conforming to the specification set out in the First Schedule
- 2) other apparatus conforming to the specification set out in the First Schedule, but having any variation specified in the Second Schedule

This Certificate is granted subject to the general conditions applicable to the Approval Service and any special conditions as may be prescribed.

This Certificate does not necessarily indicate that the apparatus may lawfully be used in particular industries or circumstances because such usage may be subject to statutory requirements.

Code : EEx es II T3

Test Report: BASEEFA No 79(e)56
and No 81(e)45 and Addendum to
81(e)45 dated 7 April 1981 and addendum
to TR 81(e)45 dated 19 May 1981
File : SFA 13/63/01

B HILL

Director

CERTIFICATE NO: Ex 81142 dated 18 May 1981
38/01/02

Certificate of Assurance

First

NUMBER Ex 81142

Schedule

DATED 18 May 1981

Sheet 1 of 2

APPARATUS

A WOLFLITE HANDLAMP NO 251 MARK 1 is a lamp in a plastic enclosure with rechargeable batteries. It is suitable for carrying by hand.

The general arrangement of the lamp is shown on drawing No S-251-292-1. The batteries for the lamp are two 5 ampere/hour sealed lead acid batteries, which may be either:

Chloride Cyclon type X001 or

General Electric type GE0250.

These batteries are contained in their own moulded case shown on drawing No M-251-292-6, which allows the batteries to be removed as one unit for replacement or recharging. The body shown on drawing No M-251-292-3 and the lens ring shown on drawing No M-251-292-4 are moulded in a polypropylene and polyethylene copolymer type GWM213. After releasing a locking screw with the special tool provided, which locks the switch in the OFF position, the lens ring may be unscrewed from the body to permit removal of the batteries or bulb and replacement. The lamp is intended to be opened only in a non hazardous area, and not left open longer than is required to change a battery or bulb. The plastic reflector and lens ring which may be made of polycarbonate or toughened glass, are clamped tight against a gasket in the lens ring by the reflector retaining ring, which screws into the lens ring. The pre-focus bulb rated at 3.6, 3.8 or 4 volts 1 amp is pressed into the back of the reflector by a spring loaded bulb cover which screws into the back of the reflector, thus forming a further enclosure of IP54 within the main IP54 enclosure for the back of the bulb. A battery retainer prevents the batteries from coming forward and damaging the bulb holder fixing in the reflector. The circuit includes a 1.25 amp ceramic body mineral filled cartridge fuse.

The switch is a hermetically sealed reed switch operated from a sliding magnet assembly external to the main enclosure, mounted conveniently below the carrying handle, which affords it protection from impact. The reed switch which is hermetically sealed in glass is protected by Special Protection, under paragraph 5.2 of SFA 3009 : 1972.

10 JUN 1982



BASEEFA

British Approvals Service
for
Electrical Equipment
in
Flammable Atmospheres

Certificate of Assurance

THIS IS TO CERTIFY THAT CERTIFICATE NO Ex 81142

Issued to

THE WOLF SAFETY LAMP COMPANY LTD
of Sheffield

is hereby extended to apply to apparatus conforming to the specification set out in the Schedules of the said Certificate but having the variation specified in the following Schedule.

Schedule

VARIATION TWO Alternative 'O' ring with increased thickness and an alternative orange coloured flanged washer (with inner lip forming an L cross-section) fitted in place of the original 'O' ring and plain sealing washer Part numbers 25102 and 25118 respectively.

<u>DRAWING Numbers</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
M-251-397	2	10.3.82	'O' ring seal
M-251-489	4	22.3.82	Stepped sealing washer

File: SFA 13/63/01

Code : EEx es II T3

B HILL
DIRECTOR

CERTIFICATE NO: Ex 81142/1 dated 29 April 1982
41/05

Certificate of Assurance

NUMBER Ex 81142

DATED 18 May 1981

First

Schedule

Sheet 2 of 2

A battery charger is supplied by Wolf Safety Lamp specifically for charging the battery from this lamp. The charger, and the battery assembly, during charging, are not covered by this certificate. Battery charging may only be done in a non hazardous area. The charger enclosure has a matching recess, with spring loaded terminals at the bottom, into which the battery fits. The battery charger circuit is designed such that it will detect full charge of the battery and switch the charging current to trickle when the batteries are fully charged, and this condition is indicated by a light on the charger.

The handlamp has a T4 rating for a maximum ambient of 35°C, or 170°C (T3) rating for a maximum ambient of 65°C. Due to the hazard of static electric build up, or possible damage to the polycarbonate lens, the lamp may only be cleaned with a wet cloth. Hydrocarbon solvents or a dry cloth are not suitable. This information is given on the label.

DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
S-251-292-1	5	30.3.81	General assembly
S-251-292-2	6	11.5.81	Parts list
M-251-292-3	4	26.3.79	Body moulding
M-251-292-4	5	2.7.79	Lens ring
M-251-292-7	7	26.3.81	Component drawing
M-251-292-5	4	2.7.79	Reflector retaining ring
M-251-292-8	4	2.7.79	Battery retainer
M-251-292-6	6	29.4.80	Battery box and lid
M-251-346-3	2	7.5.81	Certification and rating plate drawing

115 JUN 1981

Certificate of Assurance

Second Schedule

NUMBER Ex 81142

DATED 18 May 1981

VARIATION ONE

A WOLFLITE HANDLAMP NO 251 MARK 2 is similar to that described in the First Schedule, except that the batteries will remain in the lamp during recharging.

The lamp has two charging studs projecting from the underside of the body, each stud having a lead with two diodes in series and a push connector. One fits on to a tag on one terminal of the battery assembly, the other to a terminal strip on the lamp body directly connected to the other terminal of the battery. The diodes are connected such that they permit a charging current to flow, but prevent current flow out of the hand lamp from the battery. In addition, a vent hole is provided to prevent pressurisation of the enclosure due to gassing that could occur due to faulty charging of the cells. This vent hole is plugged with a porous permeable high density polyethylene (trade name "VYON F") filter, beneath the rating plate, which holds the filter in place. Details of these modifications are shown on Drawing No M-251-346-1. Due to the nature of the filter in the breather hole, the enclosure remains IP54. For this version of the lamp only batteries with a connection tag part no. 251E168 may be used. The hand lamp is designed to be clipped on to the charger, such that the 2 charging terminals make contact with the appropriate terminals of the charger. The charger circuit is designed such that it will detect full charge of the battery and switch the charging current to trickle when the batteries are fully charged, and this condition is indicated by a light on the charger. An alternative charger is available for charging the lamp in a vehicle. This version does not provide indication of the reduction to trickle charge mode.

DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
M-251-346-1	2	March 81	General assembly
S-251-346-2	2	30.3.81	Parts list



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British Approvals Service
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Certificate of Assurance

THIS IS TO CERTIFY THAT CERTIFICATE NO Ex 81142

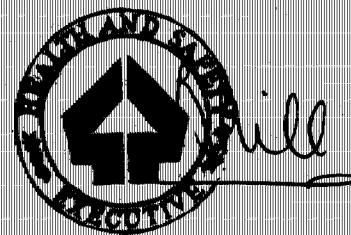
Issued to

THE WOLF SAFETY LAMP CO LTD
of Sheffield

is hereby extended to apply to apparatus conforming to the specification set out in the Schedules of the said Certificate but having the variation specified in the attached Schedule.

File: SFA 13/63/01

Test Report No : 82(e)243 dated 3.11.82



CERTIFICATE NO: Ex 81142/2 dated 9 November 1982
64/27

B HILL
DIRECTOR

Certificate of Assurance

Schedule

NUMBER Ex 81142/2

DATED 9 November 1982

VARIATION THREE Allows for the omission of the vent in the type 251 Mark 2 handlamp. The batteries fitted to the lamp are limited to the type Chloride cyclon type X001.

The apparatus shall be charged only in the safe area using the LC 251 MK I (HV) charger which operates from a 240/110V a.c. supply or the LC 251 MK II (LV) charger which operates from a 12/32V d.c. supply or 9/23V a.c. supply. These charger units operate in a constant-voltage, current limit mode and incorporate fuse links rated at 0.5A.

DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
M-LC 251-524	1	15.2.82	Type LC 251 MK I and II Charger P.C.B. Circuit
M-LC 251-523	2	28.10.82	Charger Schematic
M-251-566	1	1.11.82	BASEEFA label

VARIATION FOUR Allows for the use of an alternative label for the type 251 Mark 1 handlamp. The information remains the same but is re-positioned on the label.

DRAWING

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
M-251-563	2	1.11.82	BASEEFA label

22 AUG 1984



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British Approvals Service
for
Electrical Equipment
in
Flammable Atmospheres

Certificate of Assurance

THIS IS TO CERTIFY THAT CERTIFICATE NO Ex 81142

Issued to

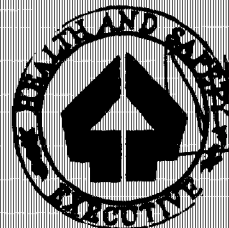
THE WOLF SAFETY LAMP CO LTD
of Sheffield

is hereby extended to apply to the apparatus conforming to the specification set out in the Schedule of the said Certificate but having the variation specified in the attached Schedule.

File: SFA 13/63/01

Sheet 1/2

CERTIFICATE NO: Ex 81142/3 dated 19 July 1984
64/30



B HILL
DIRECTOR

Certificate of Assurance

Schedule

NUMBER Ex 81142/3

DATED 19 July 1984

VARIATION FIVE IS INCORPORATED FROM A PREVIOUS LETTER OF ACCEPTANCE

VARIATION FIVE

L.O.A. dated 22 December 1982

Description of change

The charging circuit is modified to improve the consistency of operation and reduce the running temperature of Integrated Circuit 1.

The reference to the external fuse for the dual polarity version is omitted.

Drawings which have been reissued and up-dated to record this change are as follows:

DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
M-LC251-524	2	03.12.82	Type LC251 MkI and II Charger PCB Circuit
M-LC251-523	3	18.11.82	Charger Schematic

VARIATION SIX

To allow the use of the following alternative parts for the type 251 MkI and MkII handlamps: Plain wire ring circlip in place of the flat washer for the reflector distance piece. Neoprene rubber sleeve in place of brass for the fuse holder cap. Nylon housing and cap for magnet switch in place of brass. Alternative type 251TO9 reed switch.

DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
M-251-394	2	02.03.84	Reflector distance piece
M-251-393	2	08.07.83	Fuse holder cap
M-251-613	1	18.01.84	Magnet switch housing
M-251-612	1	18.01.84	Cap for magnet switch housing
ROL-0487	1	28.06.84	Reed switch

- 8 APR 1987



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**British Approvals Service
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Flammable Atmospheres**

Certificate of Assurance

THIS IS TO CERTIFY THAT APPARATUS CERTIFICATE NO Ex 81142

Issued to **THE WOLF SAFETY LAMP CO LTD**
 of Sheffield

is hereby extended to apply to the apparatus conforming to the specification set out in the Schedule of the said Certificate but having the variation specified in the attached Schedule.

File: **EECS 1112/03/001**
 (formerly SFA 13/63/01)

Test Report No: **87(e)054**
dated 31 March 1987

Code : **EEx es II T3**

Sheet 1/2

CERTIFICATE NO: Ex 81142/4 dated 31 March 1987
60/33



B HILL
DIRECTOR

Certificate of Assurance

Schedule

NUMBER Ex 81142/4

DATED 31 March 1987

- VARIATION SEVEN Removal of the 'O' ring seal (Part No. 25102) between the body and lens ring, to improve ventilation and reduce the possibility of an explosive mixture of battery gas accumulating within the enclosure.
- VARIATION EIGHT Alternative reflector (Part No. 251A21), with continuous aluminisation of the "Plexiglass" to form a conducting path between the reflecting surface and the bulb holder, thus removing a possible spark gap which might otherwise be subject to electrostatic discharge. This reflector is identified by a green dot, visible when assembled into a handlamp.
- VARIATION NINE Alternative moulding material CABELEC 3544 to form an "anti-static" version of the handlamp. The warning on the nameplate remains, to provide information on cleaning the polycarbonate lens. This version of the handlamp is identified with the letters "AS" impressed into the material of the lens ring and body, adjacent to the locking screw.



British Approvals Service for Electrical
Equipment in Flammable Atmospheres

Certificate of Assurance Variation

THIS IS TO CERTIFY THAT CERTIFICATE NO Ex 81142

Held by **THE WOLF SAFETY LAMP CO LTD**
of Sheffield

for the **A WOLFLITE NO 251 MARK 1**

is hereby extended to apply to the apparatus conforming to the specification set out in the Schedules of the said Certificate but having any variation specified in the attached Schedule.

A copy of this Supplementary Certificate shall be attached to the original certificate.

VARIATION TEN

Permits the Wolflite No 251 Mk1 and Mk2 to be fitted with an alternative reed switch, manufactured by F.R. Electronics to their Ref No DRH202 and Wolf Safety Lamp Co Ltd, Drawing No M-251-740, and Part No 25109.

DRAWING

Number	Issue	Date	Description
M-251-740	1	18.4.91	Reed Switch

File No: EECS 1112/03/001



CERTIFICATE NO: Ex 81142/5

Sheet 1/1

CC

Re-issued 11 December 1991 for Amendment

I M CLEARE
DIRECTOR EECS
22 August 1991



Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire, SK17 9JN, United Kingdom
Tel: 0298 26211 Fax: 0298 79514 Telex: 668113 RLSD G





Certificate of Assurance - Variation

SUPPLEMENTARY CERTIFICATE BAS No. Ex 81142/6

This is to certify that Apparatus Certificate number:

Ex 81142

held by:

THE WOLF SAFETY LAMP COMPANY LTD

of:

Saxon Road Works, Sheffield, S8 0YA

for the:

A WOLFLITE NR. 251 Mk. 1

is hereby extended to apply to the apparatus designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

File No: EECS 1112/03/001B

Sheet 1 of 2



This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances. Representation of equipment as "Certified" is valid only when the number of the prime certificate to which this certificate is a supplement is given on the relevant EECS Manufacturing Licence or Verification Certificate.

I M CLEARE
DIRECTOR
19 June 1996



Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire. SK17 9JN. United Kingdom
Tel: 01298 28000 Fax: 01298 28244



Registration Number
020
The use of the Accreditation
Mark indicates accreditation in
respect of those activities
covered by the accreditation
certificate number 020.



Supplementary Certificate BAS No. Ex 81142/6

VARIATION ELEVEN

To replace all of the original and supplementary drawings with four new drawings produced on CAD.

Certification Note:

In the Mk.1 version the battery pack has to be removed from the lantern for charging. The enclosure is sealed with an 'O' ring.

In the Mk.2 version the battery remains in the enclosure and charging is effected through contacts in the base of the lantern. The enclosure in this case has a certain degree of ventilation to limit any possible build up of hazardous gas during charging and charging is limited to the Wolfrite charger with built in charge limitation.

DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
W1-701	1	17.04.96	G.A. Wolfrite H-251 Mk.1
W2-701	1	22.04.96	G.A. Wolfrite H-251 Mk.2
W1-702	2	21.05.96	Contact and switch details
W1-801	1	17.04.96	Battery pack



Certificate of Assurance - Variation

SUPPLEMENTARY CERTIFICATE BAS No. Ex 81142/7

This is to certify that Apparatus Certificate number:

Ex 81142

held by:

THE WOLF SAFETY LAMP COMPANY LTD

of:

Saxon Road, Sheffield, S8 0YA

for the:

A WOLFLITE NR. 251 Mk. 1

is hereby extended to apply to the apparatus designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

File No: EECS 1112/03/001B

Sheet 1 of 2

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances. Representation of equipment as "Certified" is valid only when the number of the prime certificate to which this certificate is a supplement is given on the relevant EECS Manufacturing Licence or Verification Certificate.



**I M CLEARE
DIRECTOR**

1 August 2000



Electrical Equipment Certification Service
Health and Safety Executive
Harpur Hill, Buxton, Derbyshire. SK17 9JN. United Kingdom
Tel: 01298 28000 Fax: 01298 28244



Registration Number
020
The use of the Accreditation
Mark indicates accreditation in
respect of those activities
covered by the accreditation
certificate number 020.



Supplementary Certificate BAS No. Ex 81142/7

VARIATION TWELVE

To allow an alternative material for the battery retainer and reflector retaining ring which are internal components only.

The thickness of the certification label is reduced and the part numbers for the Mk2 chargers are changed.

DRAWINGS

<u>Number</u>	<u>Issue</u>	<u>Date</u>	<u>Description</u>
W1-701	2	13.07.00	G.A. Wolflite H-251 Mk.1
W2-701	2	13.07.00	G.A. Wolflite H-251 Mk.2



Certificate of Assurance - Variation

This is to certify that Apparatus Certificate number: **Ex81142**
held by: **Wolf Safety Lamp Company Limited**
of: **Saxon Road Works, Sheffield, S8 0YA**
for the: **WOLFLITE NO 251 MARK 1**

is hereby extended to apply to the apparatus designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate

The original certificate was issued by The Electrical Equipment Certification Service, which retains responsibility for its original documentation. Baseefa is responsible only for the additional work relating to this supplementary certificate and any other supplementary certificate it has issued.

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

Baseefa Customer Reference No. 1112

Project File No. 09/0169

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

R S SINCLAIR

DIRECTOR

On behalf of
Baseefa (2001) Ltd.

Baseefa

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Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa (2001) Ltd
Registered in England No. 4305578 at the above address



Schedule

Description of the variation

To allow the use of alternative materials for the body and lens ring.

Report No.

None

Drawings

Number	Issue	Date	Description
W1-701	3	4/3/09	General Arrangement mk.1
W2-701	3	4/3/09	General Arrangement mk.2

Special Conditions for Safe Use

None