



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: **BAS02ATEX2220X – Issue 4**

4 Equipment or Protective System: **WOLF TORCH TS-2X / TR-2X / TS-3X / TR-3X**

5 Manufacturer: **Wolf Safety Lamp Co Ltd**

6 Address: **Sheffield, S8 0YA**

7 This re-issued certificate extends EC – Type Examination Certificate No. BAS02ATEX2220X to apply to equipment or protective systems 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

8 The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. Baseefa, Notified Body Number 1180, is responsible only for the additional work relating to this re-issued certificate and any other supplementary certificate it has issued.

The examination and test results are recorded in confidential Report No's. **10(C)0684**

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

**EN 60079-0:2009 EN 60079-7:2007 EN 60079-11:2007 EN60079-31:2009**

except in respect of those requirements listed at item 18 of the Schedule.

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 and construction of the specified equipment or protective system. 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 :

**Ex** (see schedule)

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

Baseefa Customer Reference No. **1112**

Project File No. **10/0684**

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

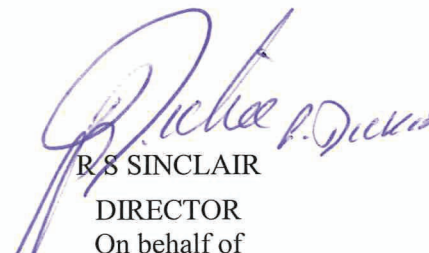
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**R S SINCLAIR**  
DIRECTOR  
On behalf of  
Baseefa



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## Schedule

14

Certificate Number BAS02ATEX2220X – Issue 4

### 15 Description of Equipment or Protective System

The Wolf Torches TS-2X, TR-2X, TS-3X and TR-3X are portable lights with a moulded plastic case and lens ring, and a toughened glass or plastic lens. The lens and metallised plastic reflector are held in place by the lens ring which screws into the torch body. Effective sealing is ensured by a nitrile or tpe seal fitted around the outer rim of the reflector.

The torch is available in two different body styles. The TS-XX has a straight body where the lens and reflector must be removed in order to insert and remove the batteries. The TR-XX has a right angled body where the lens is at 90° orientation to the batteries. A removable end cap is screwed onto the base of the torch body to allow insertion and removal of batteries. A nitrile "O" ring located in a groove in the torch body provides an effective seal.

The impact resistant enclosure provides ingress protection equivalent to IP67. The switch slider mechanism causes a rotating pinion passing through the torch body to force two metal contacts together.

Power is provided by means of two R20, LR20, IEC 60086 primary cells. The correct orientation of the batteries is clearly marked on the torch body.

An optional low power indicator may be fitted, illuminating an LED when the battery voltage falls below a pre-determined threshold.

The following Group I and Group II markings may be present:-

| Model Reference             | Permitted Cell Types | Group I & Group II Markings                                    |
|-----------------------------|----------------------|----------------------------------------------------------------|
| TS/TR-3X (where X ≥ 5)      | R20 / LR20           | Ⓔ I M1/II 1G Ex ia I Ma / IIC T3 Ga (T <sub>amb</sub> = +55°C) |
| TS/TR-2X                    | R20 / LR20           | Ⓔ II 2G Ex e ib IIC T3 Gb (T <sub>amb</sub> = +55°C)           |
| TS/TR-3X (where X = 0 to 2) |                      |                                                                |
| TS/TR-3X (where X = 3 or 4) | R20 / LR20           | Ⓔ I M2/II 2G Ex ib I Mb / IIC T3 Gb (T <sub>amb</sub> = +55°C) |
| TS/TR-3X (where X ≥ 5)      | R20 / LR20**         | Ⓔ I M1/II 1G Ex ia I Ma / IIC T4 Ga                            |
| TS/TR-2X                    | R20 / LR20**         | Ⓔ II 2G Ex e ib IIC T4 Gb                                      |
| TS/TR-3X (where X = 0 to 2) |                      |                                                                |
| TS/TR-3X (where X = 3 or 4) | R20 / LR20**         | Ⓔ I M2/II 2G Ex ib I Mb / IIC T4 Gb                            |
| TS/TR-2X                    | R20 / LR20*          | Ⓔ II 2G Ex e ib IIC T4 Gb (T <sub>amb</sub> = +55°C)           |
| TS/TR-3X (where X = 0 to 2) |                      |                                                                |
| TS/TR-3X (where X = 3 or 4) | R20 / LR20*          | Ⓔ I M2/II 2G Ex ib I Mb / IIC T4 Gb (T <sub>amb</sub> = +55°C) |
| TS/TR-2X                    | R20***               | Ⓔ II 2G Ex e ib IIC T6 Gb                                      |

The following cells are permitted for gas, vapour, mist and mining applications:-

LR20\* - Duracell Ultra, Energizer Alkaline, Energizer Industrial, Eveready Gold.

LR20\*\* - Varta Universal Alkaline, Varta Alkaline Value Pack, Varta Electric Power, Kodak Alkaline, Exide Alkaline, Cegassa Alkaline, Duracell Alkaline, Duracell Plus, HiTech Alkaline Professional, RS Alkaline, Sanyo Alkaline, Duracell Ultra, Energizer Alkaline, Energiser Industrial, Eveready Gold, Rayovac Maximum, Duracell Procell, Pifco Optimax.

R20\*\*\* - Eveready Superplus, Philips Longlife, Exide Super, Exide Premium, GP Greencell, GP Supercell.



The following Group III markings may be present:-

| Model Reference        | Permitted Cell Types | Group I & Group II Markings                         |
|------------------------|----------------------|-----------------------------------------------------|
| TS/TR-2X               | R20 / LR20           | II 2D Ex tb IIC T95°C Db (T <sub>amb</sub> = +55°C) |
| TS/TR-3X (where X < 5) |                      |                                                     |
| TS/TR-2X               | R20 / LR20           | II 2D Ex tb IIC T75°C Db                            |
| TS/TR-3X (where X < 5) |                      |                                                     |
| TS/TR-2X               | R20 / LR20           | II 2D Ex tb IIC T65°C Db                            |

If the torches are certified for dust atmospheres only there is no restriction on which R20 or LR20 cells are used.

The following bulb and LED combinations may be used within the temperature classifications indicated:-

| Bulb / LED |             |             | Ambient<br>(°C) | Gas Group<br>& T class | Dust temp<br>(°C) |
|------------|-------------|-------------|-----------------|------------------------|-------------------|
| Type       | Min Voltage | Max current |                 |                        |                   |
| halogen    | 2.4         | 0.85        | -20 to +55      | I<br>IIC T3<br>IIC T4  | 95                |
| xenon      | 2.4         | 0.93        |                 |                        |                   |
| krypton    | 2.2         | 0.85        |                 |                        |                   |
| vacuum     | 2.2         | 0.85        |                 |                        |                   |
| LED module | n/a         | n/a         | -20 to +40      | IIC T4                 | 75                |
| halogen    | 2.4         | 0.85        |                 |                        |                   |
| xenon      | 2.4         | 0.93        |                 |                        |                   |
| krypton    | 2.2         | 0.85        |                 |                        |                   |
| vacuum     | 2.2         | 0.85        | -20 to +40      | IIC T6                 | -                 |
| LED        | n/a         | n/a         |                 |                        |                   |
| vacuum     | 2.4         | 0.5         |                 |                        |                   |
| vacuum     | 2.4         | 0.5         | -20 to +40      | -                      | 65                |

#### 16 Report Number

10(C)0684

#### 17 Special Conditions for Safe Use

None additional to those listed previously.

#### 18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

#### 19 Drawings and Documents

New drawings submitted for this issue of certificate.

| Number | Sheet | Issue | Date     | Description                             |
|--------|-------|-------|----------|-----------------------------------------|
| TP-721 | 1     | 5     | 06/07/11 | Wolf ATEX Torch - 2 Cell - Straight     |
| TP-722 | 1     | 4     | 06/07/11 | Wolf ATEX Torch - 2 Cell - Straight     |
| TP-723 | 1     | 5     | 06/07/11 | Wolf ATEX Torch - 2 Cell - Right Angle  |
| TP-724 | 1     | 5     | 23/06/11 | Wolf ATEX Torch - 2 Cell - Right Angle  |
| TP-921 | 1     | 6     | 22/06/11 | Wolf ATEX Torch - Approval Code Options |



| Number | Sheet | Issue | Date     | Description                  |
|--------|-------|-------|----------|------------------------------|
| TP-951 | 1     | 1     | 05/07/11 | LED Lampholder - Control PCB |
| TP-952 | 1     | 2     | 25/07/11 | LED Lampholder - LED PCB     |

Previous versions of the above drawings are considered obsolete.

Current drawings also associated with this certificate.

| Number | Sheet | Issue | Date     | Description           |
|--------|-------|-------|----------|-----------------------|
| TP-821 | 1     | 2     | 27/03/03 | LED Indicator Circuit |

## 20 Certificate History

| Certificate No.                                                    | Date             | Comments                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BAS02ATEX2220X                                                     | 9 August 2002    | The release of the prime certificate. The associated test and assessment is documented in Test Reports 02(C)0011.                                                                                                                                                                                                                                                              |
| BAS02ATEX2220X/1                                                   | 20 May 2003      | To permit:-<br>i. Optional use of a spacer washer in the reflector assembly.<br>ii. Addition of a rib on the inside of the end cap.<br>iii. Inclusion of Pifco Optimax alkaline manganese LR20 batteries for T4 in 40°C ambient.<br>iv. A correction to the circuit diagram and addition of varying contact form.                                                              |
| BAS02ATEX2220X/2                                                   | 10 April 2006    | To permit:-<br>i. Minor drawing modifications to the end cap o-ring.<br>ii. The use of an alternative lens material.                                                                                                                                                                                                                                                           |
| BAS02ATEX2220<br>Issue 3                                           | 23 November 2009 | To permit mechanical changes. This issue incorporates previously issued primary and supplementary certificates into one certificate and confirms that the current design meets the requirements of EN 60079-0:2006, EN 60079-7:2007, EN 60079-11:2007, EN 61241-0:2006 and EN 61241-1:2004. In addition the marking is considered to meet the requirements of EN 60079-0:2009. |
| BAS02ATEX2220<br>Issue 4                                           | 2011 August 29   | To permit:-<br>i. The addition of an LED based bulb replacement module.<br>ii. The addition of Group I certification for LED module variants.<br>iii. The addition of Category 1 variants.                                                                                                                                                                                     |
| For drawings applicable to each issue, see original of that issue. |                  |                                                                                                                                                                                                                                                                                                                                                                                |