



# ATEX EXPLAINED

Only certified torches & lights can be used in hazardous areas – an area in which special precautions are required when using electrical equipment due to the presence or chance of explosive atmospheres.



## Electrical Equipment Marking

The electrical equipment that has been assessed and tested and found to be in compliance with the relevant European Harmonised Standard, shall be marked with the certification coding as described below.

**ATEX MARKING – CE 0539 Ex II 1 GD**

<b>CE</b>	<b>0539</b>	<b>Ex</b>	<b>II</b>	<b>1</b>	<b>GD</b>
CE – mark permitted by the European Committee for the Electrotechnical Standardisation	Number of notified body (UL International Demko)	Ex – inside the Hexagon means Specific mark for Explosion Protection	II – means Group II equipment = Not for use in Mines	1 – means ATEX Category 1 (Old Zone 0)	GD – means tested for Gases, Vapours & Dust atmospheres

**CERTIFICATION CODE – EEx ia IIC T6 Tamb-40to+60°C**

<b>EEx</b>	<b>ia</b>	<b>IIC</b>	<b>T6</b>	<b>Tamb-40to+60°C</b>
EEx – means equipment tested under the latest European Harmonised Standard for use in Explosive atmospheres	ia – means intrinsic Safety 'i'	IIC Gas Grouping (Acetylene & Hydrogen)	T (1,2,3,4,5,6) is the equipment classification by its surface maximum. T1=450°C T2= 300°C T3=200°C T4=135°C T5=100°C T6=85°C	Ambient temperature range in service (Standard between -20 & +40°C not needed to show)

## Categories & Zones

Hazardous areas are further divided into Categories & Zones.

Categories	Zones		
	Gases	Dusts	Zone Criteria
Category 1 – Very high protection	Zone 0	Zone 20	Explosive atmosphere is continuously present or present for long periods (>1,000 hours per annum)
Category 2 – High protection	Zone 1	Zone 21	Explosive atmosphere is likely to occur in normal operations (>10 hours, <1,000 hours per annum)
Category 3 – Normal protection	Zone 2	Zone 22	Explosive atmosphere is unlikely to occur in normal operations, if it does it will only occur for short periods (>10 hours per annum)

## Example of Zones



## Protection Concepts

There are eight different recognised concepts of protection within Europe. These are detailed in the European EN50 series of Standards; 'electrical equipment for use in explosive atmosphere'. The most common concepts applicable to torches are listed below.

Protection Concepts	Symbol	Zone	Standard	How it works
Increased Safety	Ex e	1 & 2	EN 50019	Design ensures no arcs, sparks or hot surfaces
Non sparking	Ex n	2	EN 50021	No arcs, sparks or hot surfaces
Non sparking	Ex ia	0, 1 & 2	EN 50020	Limits energy of sparks, limits the temperature
	Ex ib	1 & 2	EN 50039	

## Gas Groups

The 'gases' are divided into two groups:

**Group I** for mines susceptible to Methane.

**Group II** for explosive gases in locations other than mines; this group is divided into three sub groups:

**IIA** for atmospheres containing propane or gases of an equivalent hazard.

**IIB** for atmospheres containing ethylene or gases of an equivalent hazard.

**IIC** for atmospheres containing hydrogen or gases of an equivalent hazard.

## Temperature Class

The auto-ignition temperature is the temperature, in °C, at which a gas will ignite spontaneously without another source of ignition. As these temperatures do not correspond directly with the gas groupings, a 'temperature classification' was established.

The temperature classification of the equipment to be used must not exceed that of the explosive atmosphere. i.e. the maximum temperature at the lens of a T4 rated torch will not exceed 135°C.

The gas groupings and the temperature codes are reflected in the markings that appear on our torches. These markings identify to the user the type of explosive atmosphere in which it can be safely used.

Temperature Class	Maximum Temp Limit °C
T1	450
T2	300
T3	200
T4	135
T5	100
T6	85

Peli™ Safety Torches comply with the ATEX directives and are certified to ATEX Zone 0 (Category 1) or Zone 1 (Category 2). The 9435 Area Lighting System is certified to Zone 2 (Category 3).

### MITYLITE™ ZONE 1

Cat No. 1900Z1

- Compact, pocket torch
- Twist on/off lens shroud
- High performance Xenon lamp module
- Shirt clip
- 2 x AAA batteries (included)



Ex II 2G Ex e ib IIB T4 Ex II 2D Ex ibD 21 IP6X T100°C

### VB3™ LED ZONE 1

Cat No. 2220Z1

- Hands-free clip on torch
- Head flips up to activate LEDs
- Head tilts 180° to aim light where you need it
- Excellent battery efficiency
- 2 x CR2032 3v coin cells (included)



Ex II 2G Ex ib IIC T6

### L1 LED ZONE 0

Cat No. 1930Z0

- End switch for momentary “blink” or constant “on” modes
- Lanyard with breakaway safety feature
- Pocket clip for easy attachment
- 4 x LR 44 1.5 coin cells (included)



Ex II 1G Ex ia IIC T6/T4

### MITYLITE™ 2340 ZONE 1

Cat No. 2340Z1

- Push button on/off tail switch
- Xenon beam
- Compact, hand torch
- 2 x AA batteries (not included)



Ex II 2G Ex e ib IIC T4

### MITYLITE™ 2AAA LED ZONE 0

Cat No. 1965Z0

- Compact LED pocket torch
- Corrosion-proof polymer body
- Clip for easy attachment
- Lightweight just 60g (inc. batteries)
- 2 x AAA batteries (included)



Ex II 1GD Ex ia IIC T4 Ga Ex iaD 20 IP65 T90°C Da

### STEALTHLITE™ ZONE 1

Cat No. 2400Z1

- One-handed safety switch
- Helmet mountable
- Adjustable wrist lanyard
- 4 x AA batteries (not included)



Ex II 2G Ex e ib IIC T4

### SABRELITE™ ZONE 1

Cat No. 2000Z1

- Beam pierces smoke & fog
- Twist on/off lens shroud
- Rugged body with a hi-impact polycarbonate lens
- Adjustable wrist lanyard
- Clip for easy attachment
- 3 x C-cells (not included)



Ex II 2G Ex e ib IIC T4 Ex II 2G Ex e ib IIC T150°C

### STEALTHLITE™ ZONE 0 LED

Cat No. 2410Z0

- Powerful LED
- One-handed safety switch
- Rugged body and polycarbonate lens
- Adjustable lanyard
- 4 x AA batteries (not included)



Ex II 1G Ga Ex ia IIC T4 Ex II 1D Da Ex iaD 20 IP66 T83°C

### SABRELITE™ ZONE 0 LED

Cat No. 2010Z0

- Powerful 109 lumen beam
- Twist on/off shroud
- Rugged lightweight resin body
- Adjustable lanyard
- 3 x C-cells (not included)



Ex II 1 G Ex ia IIC T4 Ga

### STEALTHLITE™ RECHARGEABLE LED

Cat No. 2460Z1

- One handed safety switch operation
- Rugged body with polycarbonate lens
- Smart Charger base with 240v charger and high-capacity industrial NiMH battery pack



Ex II 2G Ex ib IIC T4

**HEADSUP LITE™ ZONE 0**

Cat No. 2610Z0

- Dual mode LED headlight:-  
– 1 LED (Low) or 3 LEDs (High)
- Push button switch
- Lightweight just 90 grams
- 3 x AAA batteries (included)



**Ex** II 1G Ex ia IIC T4 Ga

**HEADSUP LITE™ ZONE 0**

Cat No. 2690Z0

- Easy twist bezel switch for gloved hand operation
- 90° pivoting head directs the light where required
- Atex Mining Group 1
- Compact, lightweight LED headlamp
- Powerful 60 lumen beam
- 3 x AAA batteries (included)



**Ex** I M1 Ex ia I Ma II 1 G Ex ia IIC T4 Ga II 1 D  
Ex ia IIIC T65°C Da IP65

**HEADSUP LITE™ ZONE 0**

Cat No. 2745Z0

- Compact, reliable LED headlamp for harsh conditions
- Weather resistant casing which allows for fast and easy battery change
- High and Low modes
- 3 x AAA batteries (included)



**Ex** II 1 G Ex ia IIC T4 Ga

**HEADSUP LITE™ ZONE 0**

Cat No. 2755Z0

- Bright, compact headlight for harsh conditions
- Weather resistant casing which allows for fast and easy battery change
- High, low and flashing modes
- Low battery warning
- 3 x AAA batteries (included)



**Ex** II 1 G Ex ia IIC T4 Ga

**3315 ZONE 0 LED**

Cat No. 3315Z0

- High performance super bright LED
- Lightweight compact design
- High impact ABS body
- 3 x AA batteries (included)



**Ex** II 1 G Ex ia IIC T4 Ga, II 1 D Ex ia IIIC T130°

**3610 LITTLE ED™ ZONE 0 LED**

Cat No. 3610Z0

- LED produces 126 lumen beam
- One handed safety switch operation
- Rugged body with polycarbonate lens
- Powerful right-angled light
- Stainless steel clip for hands-free use
- 4 x AA batteries (not included)



**Ex** II 1 G Ex ia IIC T4 Ga, II 1 D  
Ex ia IIIC T135°C Da IP66

**3660 LITTLE ED™ RECHARGEABLE LED**

Cat No. 3660Z1

- Powerful right-angled light
- Drop-in Smart Charger base with 240v charger hi-capacity NiMH battery pack
- One handed safety switch operation
- Rugged body with polycarbonate lens
- Stainless steel clip for hands-free use



**Ex** II 2G Ex ib IIC T4

**3715 ZONE 0 LED**

Cat No. 3715Z0

- Secure clip allows hands-free use
- 4 light modes: High/Low/Downcast/Signaling
- Up to 8.5 hours of battery run time (low setting)
- Lightweight at 400g yet tough ABS body
- Up to 174 lumens of LED brightness
- 4 mode battery level indicator
- Locking wheel securely holds 4 x AA batteries (not included)



**Ex** II 1G Ex ia IIC T4 Ga

**9435 Area Lighting System**

Cat No. 9435

- Portable, rechargeable worklight
- Dual power mode
- 1500 lumen output on high
- 10 hours of run time (economy mode)
- Silent operation – No fuel, no fumes
- Fully extendable mast with 360 degree rotating head
- LEDs offer energy efficiency
- Weight 7.98kg



**Ex** II 3 G Ex ic IIC T4



Waterproof



Rechargeable

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