



ATEX

EXPLAINED



The ATEX Directive Explained

What is a Hazardous Area?

A 'Hazardous Area' is 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

CE	0539	Ex	II	1	GD
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

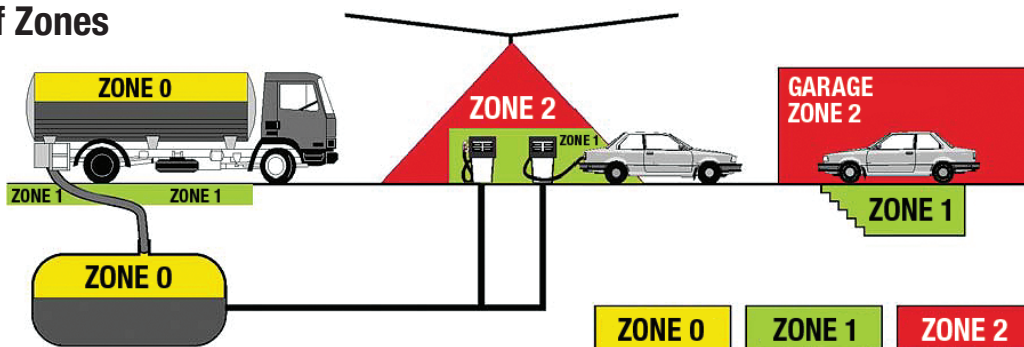
EEx	ia	IIC	T6	Tamb-40to+60°C
EEx – means equipment tested under the latest European Harmonised Standard for use in Explosive atmospheres	ia – means intrinsic Safety 'i'	IIC Gas Grouping (Acetylene & Hydrogen)	T (1,2,3,4,5,6) is the equipment classification by its surface maximum. T1=450°C T2= 300°C T3=200°C 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 Ex ib	0, 1 & 2 1 & 2	EN 50020 EN 50039	Limits energy of sparks, limits the temperature

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.

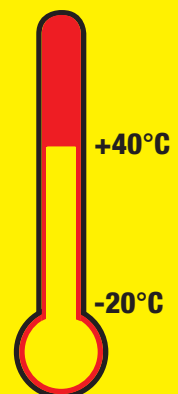
IIB for atmospheres containing ethylene or gases of an equivalent hazard.

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.

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



i.e. the maximum temperature at the lens of a T4 rated torch will not exceed 135°C.

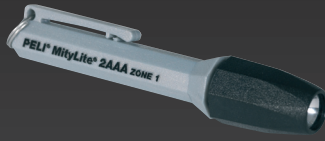
The gas groupings and the temperature codes are reflected in the markings that appear on our torches. These markings identify to the user the type of explosive atmosphere in which it can be safely used.

The following Torches comply with the ATEX directives and are certified to ATEX Zone 0 (Category 1) or Zone 1 (Category 2).

MITYLITE™ ZONE 1

Cat No. 1900Z1

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



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 1.5 coin cells (included)



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 supplied



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 C-cells (not included)



SABRELITE™ ZONE 1 RECOIL LED™

Cat No. 2010Z1

- Powerful 56 lumen beam
- 1 Watt LED using Recoil Technology
- Twist on/off shroud
- Rugged body
- Adjustable lanyard
- 3 C-cells (not included)



VB3™ LED ZONE 1

Cat No. 2220Z1

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



MITYLITE™ 2340 ZONE 1

Cat No. 2340Z1

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



STEALTHLITE™ ZONE 1

Cat No. 2400Z1

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



STEALTHLITE™ ZONE 0 RECOIL LED™

Cat No. 2410Z0

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



STEALTHLITE™ RECHARGEABLE

Cat No. 2460Z1

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



HEADS UP LITE™ ZONE 1

Cat No. 2610Z1

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



HEADS UP LITE™ ZONE 0

Cat No. 2690Z0

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



LITTLE ED™ ZONE 0 RECOIL LED™

Cat No. 3610Z0

- Recoil LED™ produces 72 lumen beam
- One handed safety switch operation
- Rugged body with polycarbonate lens
- Powerful right-angled light
- Stainless steel clip for hands-free use
- 4 AA batteries (not included)



LITTLE ED™ RECHARGEABLE LED

Cat No. 3660Z1

- Powerful right-angled light
- Featuring Recoil LED™ technology
- 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



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