

# LEDs for Ex

## IECEx-certified lighting fixtures for hazardous areas

**Offshore oil platforms, refineries, shipyards, gas and oil tankers operate 24 hours a day. Most human activities may go at a reduced pace at night but the tanker will continue to trace its route across the ocean, the rig will continue to drill or pump oil, and refineries never stop refining crude oil. Night-shift crews need powerful and reliable lighting to be able to work when it is dark. Lighting fixtures, as with any other piece of equipment or device used in hazardous areas, have to be explosion-proof.**

### A growing trend

A growing trend for lighting fixtures designed for explosive environments is to replace conventional incandescent light bulbs, HDL (high-intensity discharge) or fluorescent lighting with LEDs. The benefits of using LEDs are numerous. Low voltage and low-operating temperatures make them safer to use in combustible atmospheres, excellent colour rendition improves night vision, instant switch-on provides added safety when entering dark areas. Because they last much longer than traditional lighting, they also reduce drastically the need for maintenance. And, last but not least, they consume much less energy than all the other types of light fixture.

### From floodlights to lifebuoys

LEDs can be used for all types of offshore lighting: from floodlights to exit signs, from berth and bunk lighting to linear lighting mounted on walls or floors for interior areas.

The risk factor is high for those working in harsh and extreme conditions. In case of an accident, their survival often depends on being detected as quickly as possible. Hence the importance of having safety kit they can rely on at all times. That is

why lifebuoys and lifejackets are also equipped with powerful and explosion-proof LED lights.

### Ex tested and certified

Companies such as Dialight and Hubbell, which offer high-specification LED lighting for hazardous areas, as well as the more conventional incandescent light bulbs, HDL or fluorescent lighting, have had their products tested and certified by IECEx, the IEC System for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres.

One UK-based company, Daniamant, which specializes in lifebuoy and lifejacket lights, also has a range of products for explosive environments that are IECEx-certified

and comply with three IEC International Standards:

- IEC 60079-0, *Explosive atmospheres - Part 0: Equipment - General requirements*
- IEC 60079-11, *Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"*
- IEC 60079-26, *Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga*

For Daniamant, as for all other companies producing lighting equipment for hazardous areas, having IECEx certification is essential for providing global access to markets and to avoid having to obtain individual approvals for each country.



*Oil rigs operate 24 hours a day, 7 days a week*



*Lifebuoy lights...*



*...and lifejacket lights facilitate detection in case of accidents at sea (Photos: Daniamant)*