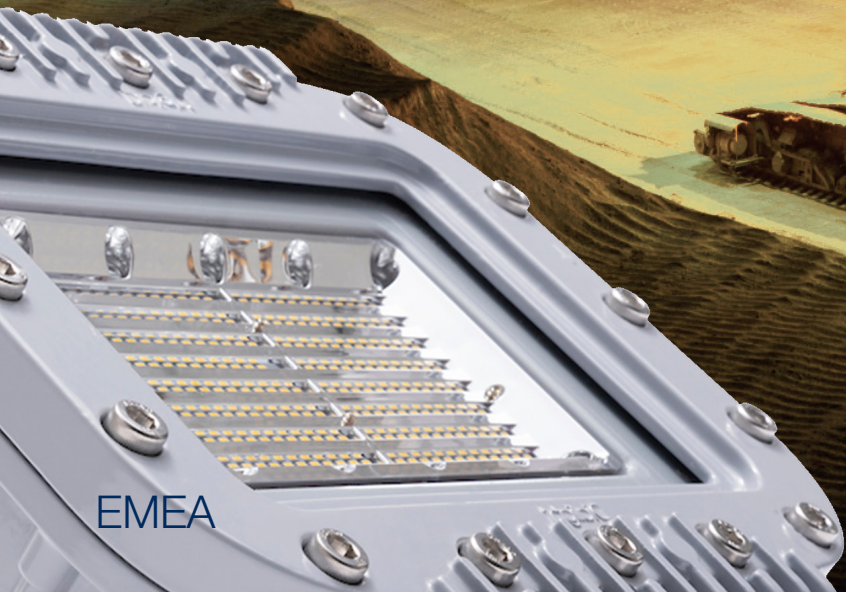


DIALIGHT INDUSTRIAL LED LIGHTING

For Metals
& Mining



Dialight

WHY LIGHTING MATTERS in Metals and Mining Applications

Lighting is of critical importance in Metals and Mining applications to maximise both safety and productivity. These sites are among the most dangerous to work due to extremely harsh conditions and explosive environments. It is without question that the lighting must be able to withstand combustible atmospheres and prevent explosions, while also providing clear illumination for workers to perform tasks safely.



Noisy, complex heavy machinery



High heat and high vibration



Chemical vapours, dust and debris



Physical hazards, such as slips, falls, and moving objects



Arc Flash



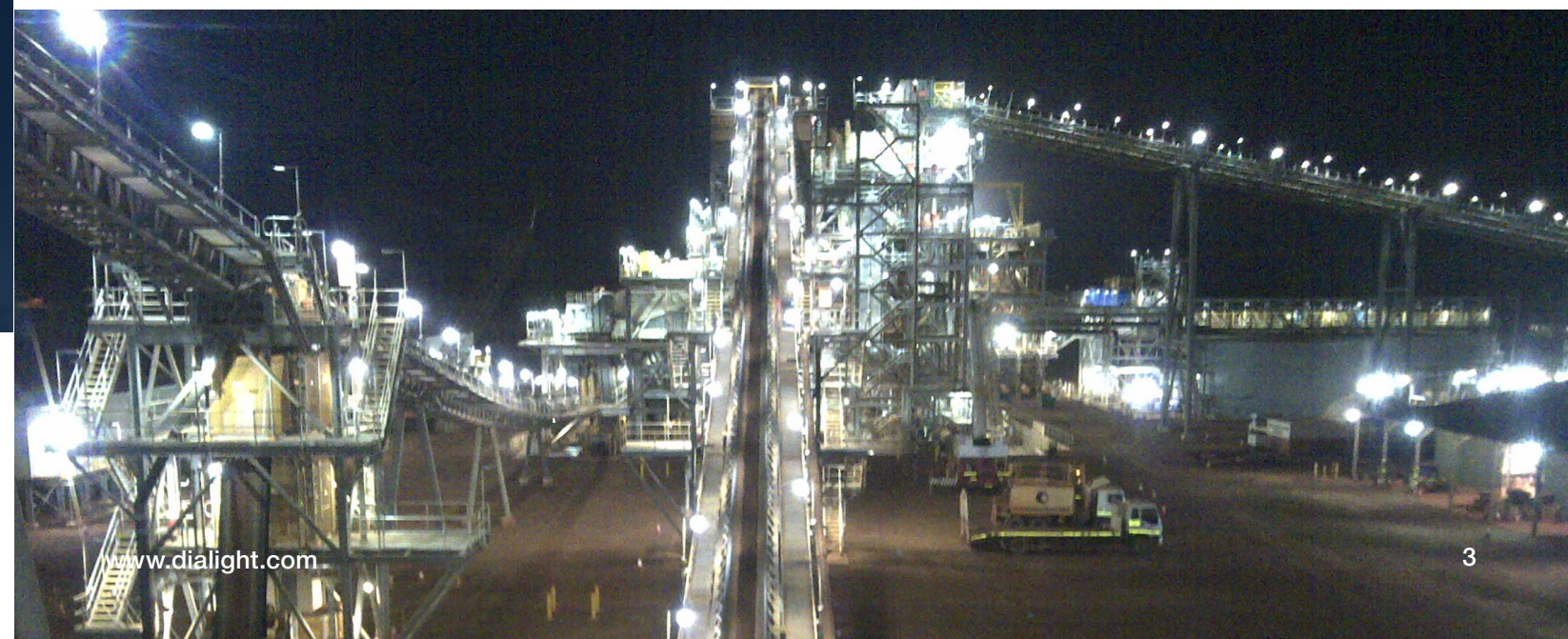
Flammable and explosive environments

INJURIES, ILLNESSES, AND WORKPLACE FATALITIES IN EUROPE

Poor illumination can contribute to tragic work site accidents and injuries. In 2017 alone, Eurostat and the International Labour Organization cited:



The Metals and Mining industries inherently involve risks and hazards that demand high quality lighting. When choosing a lighting partner for your facilities, care must be taken to ensure their products have proven to perform safely and reliably in your environments and offer a sustainable solution.



DIALIGHT SOLUTIONS for Metals and Mining Applications

Dialight is the world leader in industrial LED lighting technology with millions of fixtures installed worldwide. We specialise in lighting products designed for the world's harshest industrial environments – enabling industrial customers to reduce their energy costs, maintenance costs, and carbon footprint while maximising the safety and productivity of their employees and facility. From our signature High Bay line to our versatile Linear fixtures, Dialight offers a large selection of rugged products ideally suited for environments found within the Metals and Mining Industry.



WHERE TO USE DIALIGHT PRODUCTS in Metals and Mining Applications

METALS

- FURNACES
- WALKWAYS
- CRANES
- HOT MILL, PICKLING, AND COLD MILL PROCESSING AREAS
- ELECTRICAL EQUIPMENT ROOMS
- COIL STORAGE AND WAREHOUSES
- GENERAL AREAS
- MAINTENANCE SHOPS

MINING

- MILL PROCESS AREAS
- CONVEYORS
- GENERAL FLOOD LIGHTING FOR OPEN PITS
- POWER STATIONS
- EXCAVATOR DRAG LINES
- LOADING / UNLOADING AREAS
- WAREHOUSES AND GENERAL AREAS
- MAINTENANCE SHOPS

See product portfolio pages for more detailed product and ordering information

TECHNOLOGY DIFFERENTIATION

When choosing an LED Lighting partner, consider how their products are engineered, constructed and tested prior to making your decision. Most Dialight products are engineered to a **10 year warranty** and were designed with harsh environments, such as Metals and Mining applications, in mind.

CUSTOM POWER SUPPLIES

Long-life potted drivers with optimised thermal dissipation for protection against environmental contaminants and vibration related failures.

LOW MAINTENANCE MECHANICAL DESIGN

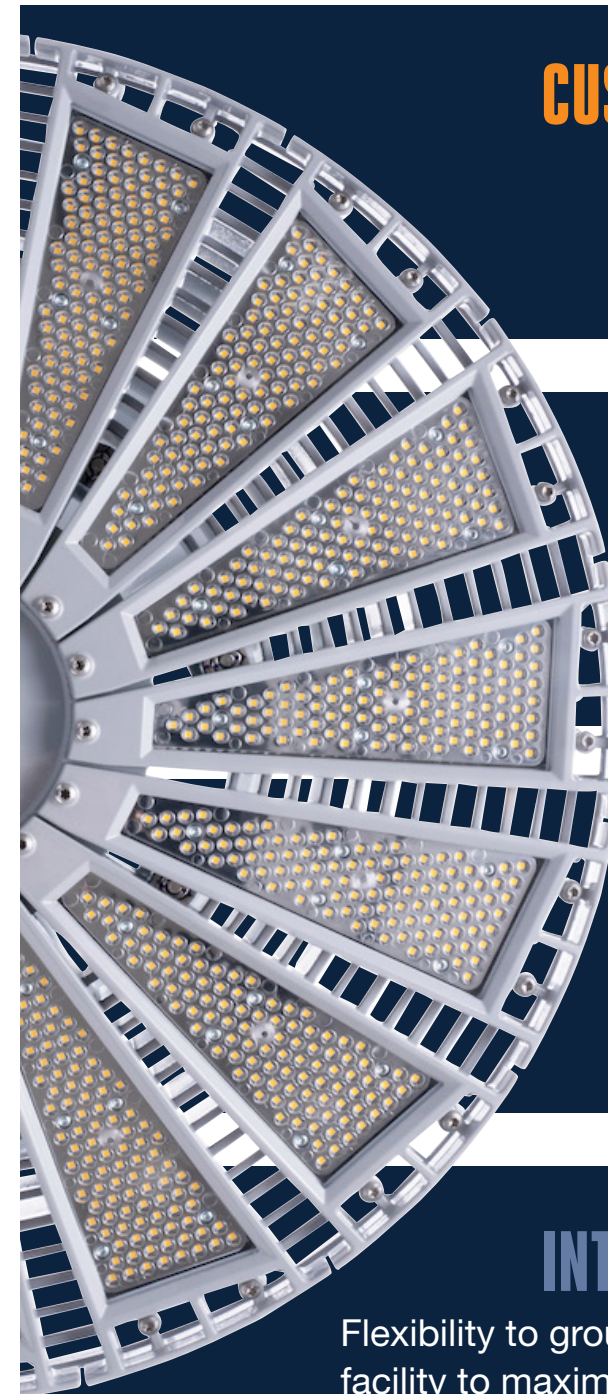
Sealed and optimised to reduce or eliminate the need for maintenance over the life of the fixture. Easy to install and retrofit to existing infrastructure.

LATEST LEDS AND ADVANCED OPTICS

Highly efficient, crisp, low-glare illumination. Lighting where you need it, not where you don't.

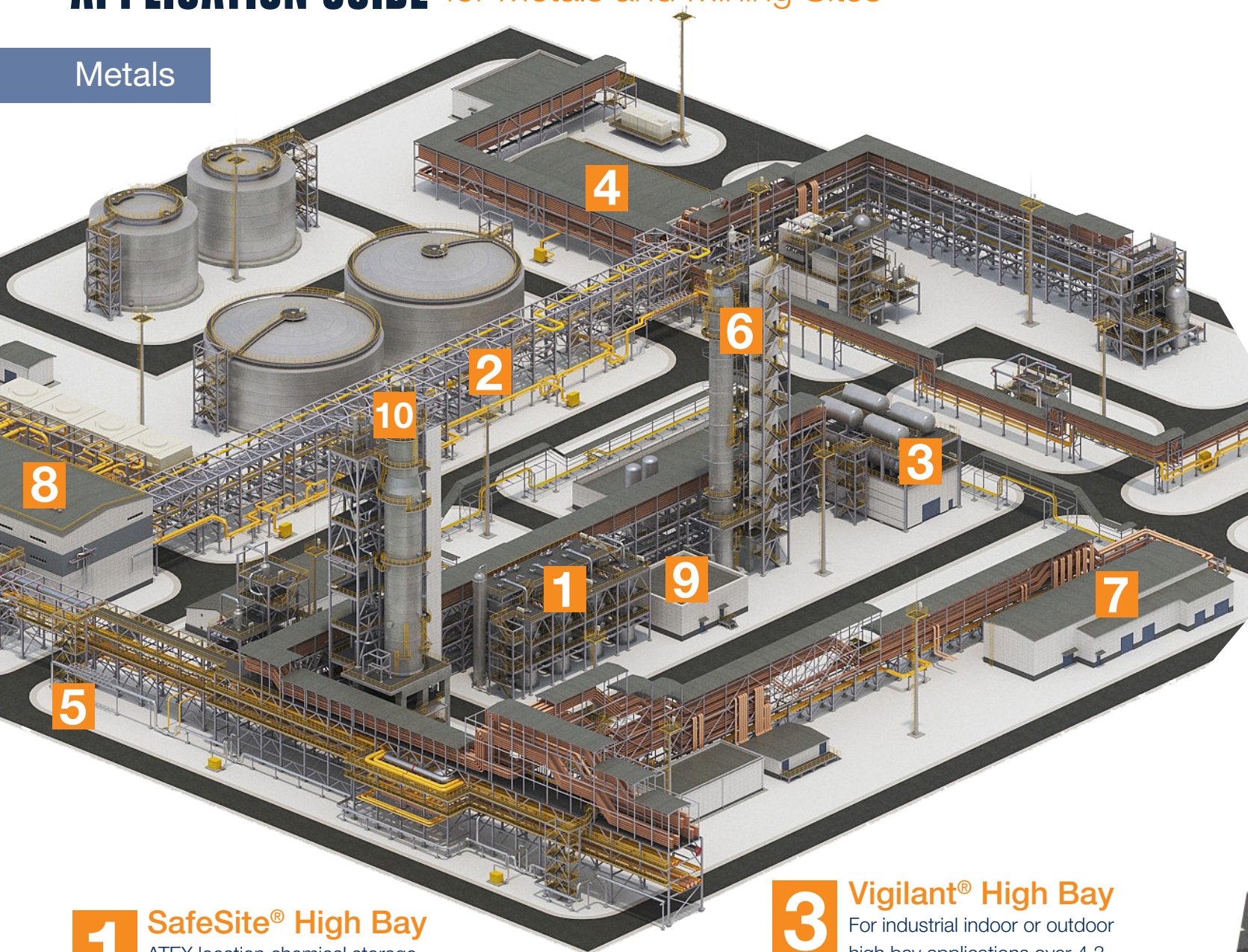
INTELLIGENT CONTROLS

Flexibility to group, dim and schedule lights around the unique needs of a facility to maximise energy savings. Plus, seamless integration with existing factory automation.

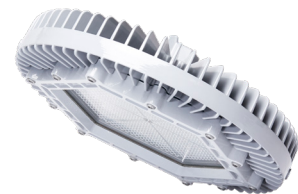


APPLICATION GUIDE for Metals and Mining Sites

Metals



1 SafeSite® High Bay
ATEX location chemical storage and processing



2 SafeSite® and Vigilant® Area Lights
For ATEX and industrial lower ceiling indoor or outdoor process and stanchion mount applications



3 Vigilant® High Bay
For industrial indoor or outdoor high bay applications over 4.3 metres



4 Vigilant® LED Bulkhead
For industrial lower ceiling indoor or outdoor applications where wider light distribution is critical



5 StreetSense® Street Light
For plant maintained roadways and general outdoor illumination



6 DuroSite® Flood Lights
For industrial indoor or outdoor flood lighting applications; multiple beam patterns available



7 Reliant™ High Bay
For indoor, light industrial applications and lighter-duty areas of heavy industrial facilities, such as warehouses



8 Vigilant® Low Profile High Output High Bay
For high ceiling high bay applications typically 12 metres or above



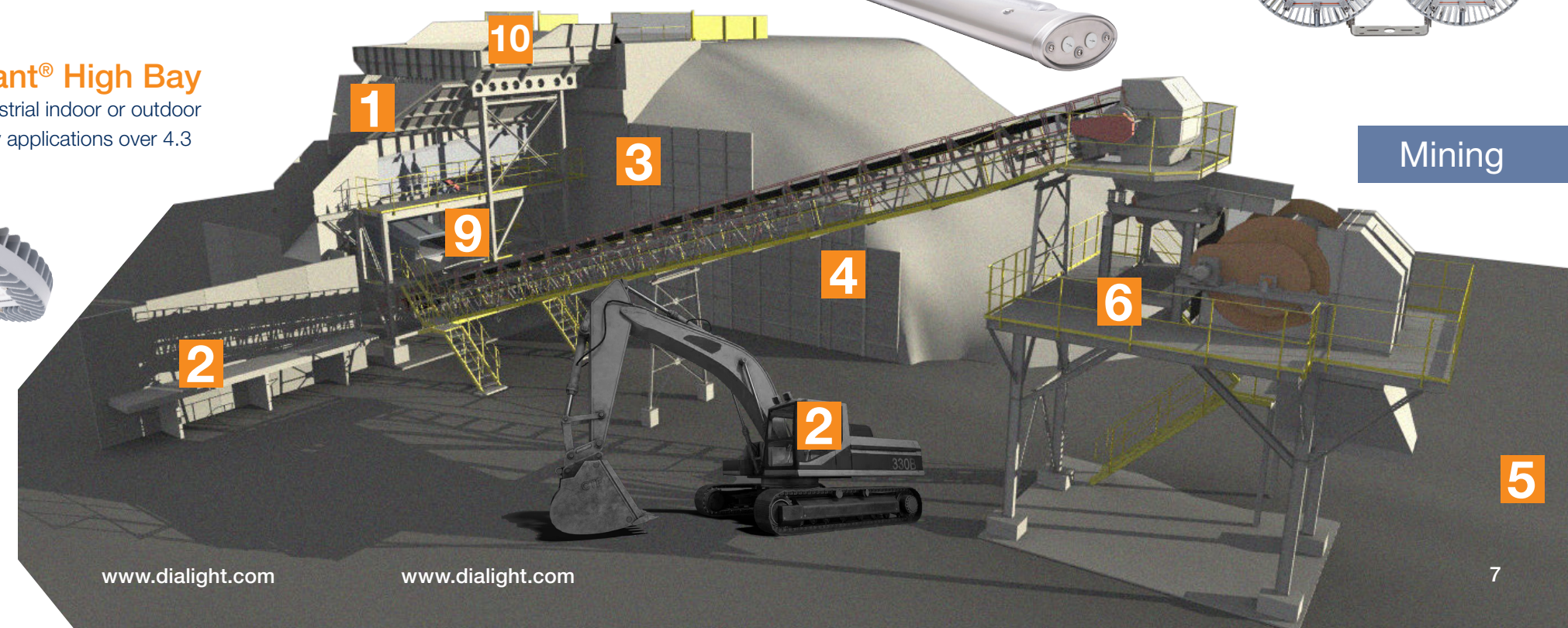
9 SafeSite® GRP and Stainless Steel Linear
For ATEX and industrial indoor or outdoor fluorescent strip/vapourite replacements, task or inspection lighting, electrical rooms, shops, and process areas. 764mm and 1244mm versions available



10 Vigilant® Dual Floodlight
For indoor or outdoor high power flood applications (Typical 1,000 watt or better HID replacement)



Mining



CASE STUDY **Olympus KeyMed** *Southend-on-Sea, England*

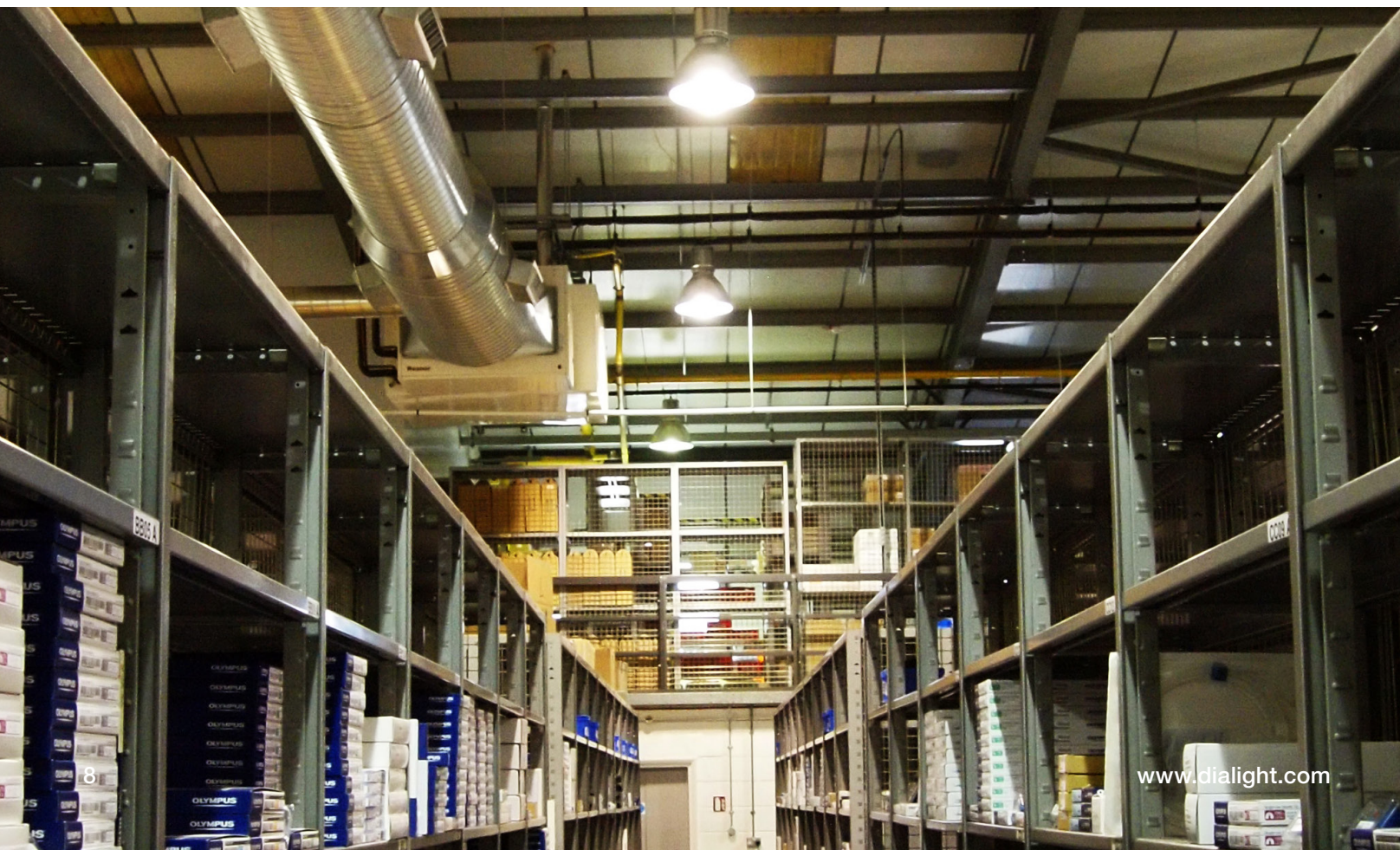
UK-based at Southend-on-Sea and employing over 1,000 people, Olympus KeyMed is a wholly-owned subsidiary of Olympus Corporation, Japan. As such it is an important part of the global Olympus network, with specific responsibility for the development and manufacture of medical equipment and industrial products for distribution world-wide.

Olympus KeyMed's Southend-on-Sea facility comprises warehousing and manufacturing with sheet metal as well as a paint shop. Here it not only produces medical and industrial products, but it is also the sole UK point of importation and distribution of all Olympus products.

"Our target is to reduce CO₂ emissions in the company by 50% by 2020 in both our buildings and our products," explains Chris Owen, Olympus KeyMed's Environmental & Improvement Engineer, "so that boosted our decision to change to a more energy efficient lighting solution. With over 100 metal halide high bay lights across our 3,380 square metre facility, we found that the 400W high bays were actually operating at 440W and accounting for 10% of our total energy usage."

Chris also found that the metal halide high bays were lasting two years at best or 15,000 hours on average, though replacement cycles could be shorter as a result of heat generated and accumulation of dirt. Additionally there was the ongoing chore of inspecting for failed lights and servicing those that had failed.

Before:

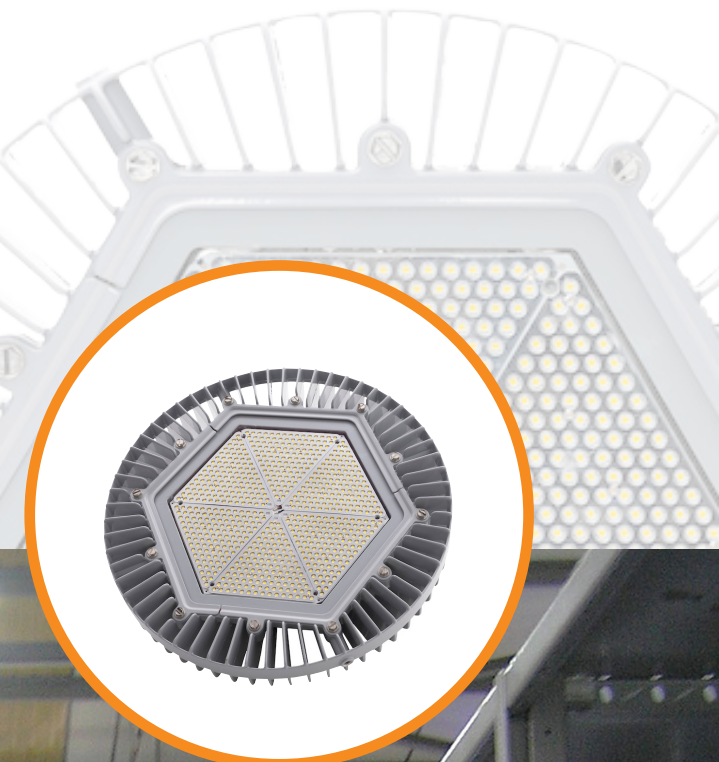


After researching the LED market, and with the recommendation of energy consultants Interior Control Ltd., Chris looked at LED technology specialist Dialight's energy efficient lighting solutions. He was immediately attracted by their five-year continuous performance guarantee and very low wattage which would enable him to comfortably recoup all of his cost through energy savings made within the guarantee period.

"It's a no-brainer," he said, "as these lights will actually last much longer than the guarantee period; so as a real bonus we will have no maintenance chore, or cost, ever again – really excellent! It's no wonder that the decision to purchase Dialight's LED lighting flew past our executive committee. With Dialight's 40 year LED experience and proven quality there was no other product which came close for price and durability."

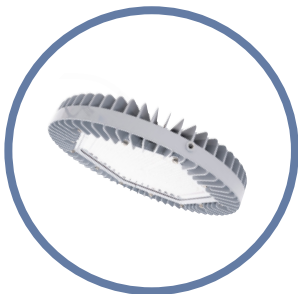
- 3,380 square metres
- Number of fixtures – 100+
- Replaced – 400W metal halide
- Mounting height – 12 metres
- Energy reduction – 68%
- CO₂ reduction – 85 tonnes per annum
- Watts/sqm reduced by 68%

After:



For more case study information please visit www.dialight.com.

PRODUCT PORTFOLIO High Bays



VIGILANT® HIGH BAY

For use in non-hazardous indoor and outdoor high bay and occasionally flood lighting applications. Replaces up to 1,000 watt traditional HID fixtures.

Ideally suited for:

- STORAGE/WAREHOUSE
- MAINTENANCE SHOPS
- BOILER ROOM

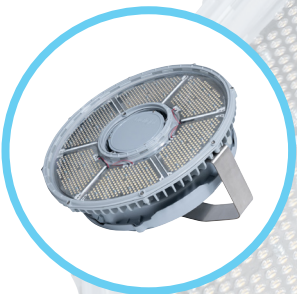


SAFESITE® HIGH BAY

For use in hazardous classified high bay applications where chemical vapours or explosive dusts are present. See technical spec sheet for applicable certifications.

Ideally suited for:

- PROCESS AREAS
- CHEMICAL STORAGE
- LOADING/UNLOADING

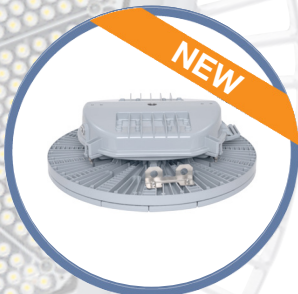


RELIANT™ HIGH BAY

For use in indoor non-hazardous applications to replace either HID or Fluorescent fixtures up to 1,000 watts where harsh environment protection is less of a concern.

Ideally suited for:

- STORAGE/WAREHOUSE
- MAINTENANCE SHOPS
- SHIPPING/RECEIVING



VIGILANT® LOW PROFILE HIGH OUTPUT HIGH BAY

For use in high output or high ceiling non-hazardous indoor and outdoor high bay applications. Replaces up to 1,500 watt traditional HID fixtures with mounting heights up to 100'.

Ideally suited for:

- STORAGE/WAREHOUSE
- BALL MILL



VIGILANT® LOW BAY

For use in indoor and outdoor lower mounting height high bay applications where wider light distribution is required. Replaces up to 250+ watt traditional HID fixtures.

Ideally suited for:

- WAREHOUSES
- MCC/ELECTRICAL ROOMS
- MAINTENANCE SHOPS

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PRODUCT PORTFOLIO High Bays

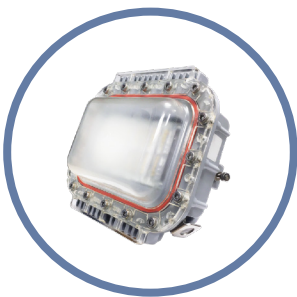
Part Number	Certification	Fixture Lumens	Wattage	lm/W	CCT	Lens	Beam Distribution
Vigilant® High Bay*							
HEE7MC2EDHWNGN	CE, ENEC, RCM	26,250	186	141	5000K (cool white)	Clear Glass	Medium
HEE7MC2CDHWNGN	CE, ENEC, RCM	19,500	129	151	5000K (cool white)	Clear Glass	Medium
HEE7MC2BDHWNGN	CE, ENEC, RCM	14,250	102	140	5000K (cool white)	Clear Glass	Medium
HEE7MC2ADHWNGN	CE, ENEC, RCM	11,250	80	141	5000K (cool white)	Clear Glass	Medium
SafeSite® High Bay							
HEA9MC4PNKCG	IECEEx / ATEX (Zone 1, Zone 2)	23,500	212	110	5000K (cool white)	Glass - Clear	Medium
HEA9MC4KNKCG	IECEEx / ATEX (Zone 1, Zone 2)	16,000	144	110	5000K (cool white)	Glass - Clear	Medium
HEA9MC4GNKCG	IECEEx / ATEX (Zone 1, Zone 2)	12,500	112	110	5000K (cool white)	Glass - Clear	Medium
HEA9MC4DNKCG	IECEEx / ATEX (Zone 1, Zone 2)	9,650	88	110	5000K (cool white)	Glass - Clear	Medium
Reliant™ High Bay*							
RRE4MC2JDHNNGN	CE / ENEC	33,800	232	146	5000K (cool white)	Clear Polycarbonate	Medium
RRE4MC2GDHNNGN	CE / ENEC	28,200	191	148	5000K (cool white)	Clear Polycarbonate	Medium
RRE4MC2EDHNNGN	CE / ENEC	22,800	159	143	5000K (cool white)	Clear Polycarbonate	Medium
RRE4MC2CDHNNGN	CE / ENEC	16,900	114	148	5000K (cool white)	Clear Polycarbonate	Medium
RRE4MC2BDHNNGN	CE / ENEC	13,400	91	147	5000K (cool white)	Clear Polycarbonate	Medium
RRE4MC2ADHNNGN	CE / ENEC	10,600	71	149	5000K (cool white)	Clear Polycarbonate	Medium

Neutral white options available, please consult local Dialight sales office for availability.

*Polycarbonate lens options available. Consult product spec sheet for more information.

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PRODUCT PORTFOLIO Area Lights



VIGILANT®
AREA LIGHT

This extremely versatile fixture series can be used in non-hazardous indoor and outdoor applications. See technical spec sheet for more information and additional accessories.

Ideally suited for:

- WALKWAYS
- TRANSPORT VEHICLE SUPPLEMENTAL LIGHTING
- LOADING/UNLOADING
- CONVEYORS



SAFESITE®
AREA LIGHT

For use in hazardous classified applications where chemical vapours or explosive dusts are present. See technical spec sheet for hazardous certifications and more information on additional accessories.

Ideally suited for:

- PROCESS AREAS
- WALKWAYS
- CONVEYORS
- LOADING/UNLOADING
- CHEMICAL STORAGE



VIGILANT® CONVEYOR
AREA LIGHT

With optics specifically designed to maximize pole spacing in conveyor and catwalk applications, the Dialight Conveyor Light offers a robust lighting solution for these challenging areas.

Ideally suited for:

- WALKWAYS
- TRANSPORT VEHICLE SUPPLEMENTAL LIGHTING
- LOADING/UNLOADING
- CONVEYORS

Part Number	Certification	Fixture Lumens	Wattage	lm/W	CCT	Lens	Beam Distribution	Mounting
Vigilant® Area Light								
ALE7BC26DBJUGN	CE, ENEC, RCM	5,700	40	143	5000K (cool white)	Glass - Clear	360°	316 stainless steel adjustable bracket
ALE7BC27DBJUGN	CE, ENEC, RCM	7,300	52	140	5000K (cool white)	Glass - Clear	360°	316 stainless steel adjustable bracket
ALE7BC29DBJUGN	CE, ENEC, RCM	9,000	66	136	5000K (cool white)	Glass - Clear	360°	316 stainless steel adjustable bracket
SafeSite® Area Light								
HZJA9C2N	IECEX/ATEX (Zone 1)	6,000	58	103	5000K (cool white)	Tempered Glass	360°	Junction Box
Vigilant® Conveyor Area Light								
ALE5WC27DYNUGN	CE, ENEC, RCM	6,700	64	106	5000K (cool white)	Polycarbonate	Wide	34mm slip-fit adapter

Neutral white options available, please consult local Dialight sales office for availability.
For more details on product specifications including mounting information, please visit www.dialight.com.

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PRODUCT PORTFOLIO Bulkheads



VIGILANT®
BULKHEAD

For use in non-hazardous indoor and outdoor applications, ideal for any industrial retrofit or greenfield environment.

Ideally suited for:

- PROCESS AREAS
- CONVEYORS
- WALKWAYS
- LOADING AND UNLOADING AREAS



VIGILANT® POLE MOUNT
BULKHEAD

For use in non-hazardous indoor and outdoor applications, ideal for any industrial retrofit or greenfield environment.

Ideally suited for:

- PROCESS AREAS
- CONVEYORS
- WALKWAYS
- LOADING AND UNLOADING AREAS

Part Number	Certification	Fixture Lumens	Wattage	lm/W	CCT	Lens	Beam Distribution
Vigilant® Bulkhead Standard and Emergency Options							
BHE4UC23NFNVGN	CE	3,100	22	144	5000K (cool white)	Clear Polycarbonate	Ultra-Wide (Type 1)
BHE4UC26NFNVGN	CE	6,400	45	142	5000K (cool white)	Clear Polycarbonate	Ultra-Wide (Type 1)
BHE4UCG3NFNVGG*	CE	3,100	25	124	5000K (cool white)	Clear Polycarbonate	Ultra-Wide (Type 1)
BHE4UCG6NFNVGG*	CE	6,400	48	133	5000K (cool white)	Clear Polycarbonate	Ultra-Wide (Type 1)
Vigilant® Bulkhead Pole Mount and Emergency Options							
BPE4UC23NNNVGN	CE	3,100	22	144	5000K (cool white)	Clear Polycarbonate	Ultra-Wide (Type 1)
BPE4UC26NNNVGN	CE	6,400	45	142	5000K (cool white)	Clear Polycarbonate	Ultra-Wide (Type 1)
BPE4UCG3NNNVGG*	CE	3,100	25	124	5000K (cool white)	Clear Polycarbonate	Ultra-Wide (Type 1)
BPE4UCG6NNNVGG*	CE	6,400	48	133	5000K (cool white)	Clear Polycarbonate	Ultra-Wide (Type 1)

*Emergency Battery Backup Model
Neutral white options available, please consult local Dialight sales office for availability.
For more details on product specifications including mounting information, please visit www.dialight.com.

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PRODUCT PORTFOLIO Floodlights



VIGILANT®
DUAL FLOODLIGHT

Round high lumen dual floodlight to replace up to 1500 watt HID units in nonhazardous areas. See technical spec sheet for more information on additional accessories, optical patterns, and hazardous certified options.

Ideally suited for:

GENERAL FLOOD LIGHTING

RAIL YARDS



DUROSITE®
10/15K FLOODLIGHT

Traditional square flood light designed to replace 250 watt and 400 watt HID units in non-hazardous areas. See technical spec sheet for information on additional accessories and optical patterns.

Ideally suited for:

LOADING/UNLOADING

CHEMICAL STORAGE



STREETSENSE®
ATEX STREET LIGHT

For use in plant maintained roadways, parking areas and general outdoor illumination.

Ideally suited for:

ROADWAYS/PARKING AREAS

Part Number	Certification	Fixture Lumens	Wattage	lm/W	CCT	Lens	Beam Distribution
Vigilant® Dual Floodlight							
FLEB66MC2NG	CE	56,000	385	145	5000K (cool white)	Clear Tempered Glass	35°
FLEBM0MC2NG	CE	54,000	385	140	5000K (cool white)	Clear Tempered Glass	92°
DuroSite® Floodlight							
FLE476MC4NG	CE	14,750	135	109	5000K (cool white)	Clear Tempered Glass	105° x 70°
FLE467MC4NG	CE	14,750	135	109	5000K (cool white)	Clear Tempered Glass	70° x 105°
FLE276MC2NG	CE	11,500	106	108	5000K (cool white)	Clear Tempered Glass	105° x 70°
FLE266MC2NG	CE	11,250	106	106	5000K (cool white)	Clear Tempered Glass	45°
StreetSense® ATEX Street Light							
SLA3C4SG	IECEX/ATEX (Zone 2)	5,500	65	85	5000K (cool white)	Glass - Clear	Type III
SLA3C4HG	IECEX/ATEX (Zone 2)	10,900	131	83	5000K (cool white)	Glass - Clear	Type III
SLA3C4CG	IECEX/ATEX (Zone 2)	20,250	252	80	5000K (cool white)	Glass - Clear	Type III

Neutral white options available, please consult local Dialight sales office for availability.

For more details on product specifications, please visit www.dialight.com.

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PRODUCT PORTFOLIO Linear Lights



SAFESITE®
GRP LINEAR

The latest addition to the linear family, featuring extremely durable glass reinforced polyester and our exclusive 10 year warranty. Available in 764mm and 1244mm varieties. For use in indoor and outdoor ATEX certified linear and low mounting height industrial applications where explosive gases may be present. Refer to Dialight website for more information.

Ideally suited for:

MCC/ELECTRICAL ROOMS

WALKWAYS

SHOP AREAS



SAFESITE®
STAINLESS STEEL LINEAR

Available in 764mm and 1244mm varieties. For use in indoor and outdoor ATEX certified linear and low mounting height industrial applications where explosive gases may be present. Refer to Dialight website for more information.

Ideally suited for:

LABORATORIES

PROCESS AREAS

Part Number	Certification	Fixture Lumens	Wattage	lm/W	CCT	Lens	Beam Distribution
SafeSite® GRP Linear							
P2ABMC23A54WGN	IECEX/ATEX (Zone 1, 2, 21 & 22), CE	2,875	25	115	5000K (cool white)	Textured Polycarbonate	Circular
P4ABMC26A54WGN	IECEX/ATEX (Zone 1, 2, 21 & 22), CE	5,750	47	123	5000K (cool white)	Textured Polycarbonate	Circular
P2BBMC23A54WGN	IECEX/ATEX (Zone 2, 21 & 22), CE	2,875	25	115	5000K (cool white)	Textured Polycarbonate	Circular
P4BBMC26A54WGN	IECEX/ATEX (Zone 2, 21 & 22), CE	5,750	47	123	5000K (cool white)	Textured Polycarbonate	Circular
P2ABMCG3A54WGG*	IECEX/ATEX (Zone 1, 2, 21 & 22), CE	2,875	29	99	5000K (cool white)	Textured Polycarbonate	Circular
P4ABMCG6A54WGG*	IECEX/ATEX (Zone 1, 2, 21 & 22), CE	5,750	51	113	5000K (cool white)	Textured Polycarbonate	Circular
P2BBMC23A54WGG*	IECEX/ATEX (Zone 2, 21 & 22), CE	2,875	29	99	5000K (cool white)	Textured Polycarbonate	Circular
P4BBMC26A54WGG*	IECEX/ATEX (Zone 2, 21 & 22), CE	5,750	51	113	5000K (cool white)	Textured Polycarbonate	Circular
SafeSite® Stainless Steel Linear							
ELA1C6MSSCB4	IECEX/ATEX (Zone 1, 21, Zone 2, 22)	2,600	34	76	5000K (cool white)	Clear Polycarbonate	Medium
ELA1C6RSSCB4	IECEX/ATEX (Zone 1, 21, Zone 2, 22)	5,100	67	76	5000K (cool white)	Clear Polycarbonate	Medium
ELEA2C7MSSCB4	IECEX/ATEX (Zone 1, 21, Zone 2, 22)	2,600	35	74	5000K (cool white)	Clear Tempered Glass	Medium
ELEA2C7RSSCB4	IECEX/ATEX (Zone 1, 21, Zone 2, 22)	5,100	70	73	5000K (cool white)	Clear Polycarbonate	Medium
ELA-1G3M-SSC	IECEX/ATEX (Zone 1, 21, Zone 2, 22)		34		Green	Clear Polycarbonate	Medium

Neutral white options available, please consult local Dialight sales office for availability.

For more details on product specifications, please visit www.dialight.com.

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HAZARDOUS LOCATIONS RATINGS



Fixed and portable fixtures for installation and use in hazardous areas.

Zones

The zone defines the probability of hazardous material being present in an explosive concentration in the atmosphere.

Zone	Hazardous Material in Surrounding Atmosphere
Zone 0, 20	Area in which an explosive gas / dust mixture is continuously present or present for long periods
Zone 1, 21	Area in which an explosive gas / dust mixture is likely to occur for short periods in normal operation
Zone 2, 22	Area in which an explosive gas / dust mixture is present for a very short time due to an abnormal condition

Protection Types

The protection types are used to denote the protection concept utilised in the devices.

Ex	Presence of Hazardous Material	Zones
Ex d	Flameproof (Explosion proof) Enclosure	1, 21, 2, 22
Ex e	Increased Safety	1, 21, 2, 22
Ex m	Encapsulation	1, 21, 2, 22
Ex n or N	Non incensive or/and normally no sparking circuits	2, 22

Temperature Ratings

Certified equipment is tested for maximum temperature rating by approval agencies.

Equipment for Group II receives a temperature code indicating the maximum temperatures of the product.

Temperature Rating	
T1	450°C
T2	300°C
T3	200°C
T4	135°C
T5	100°C
T6	85°C

Groups (Gas & Dust)

Equipment is tested for suitability in specified gas groups and dust groups.

Gas groups IIA, IIB, IIC. Dust groups IIIA, IIIB, IIIC

Group	Hazardous Material in Surrounding Atmosphere
Group IIA	Propane group
Group IIB	Ethylene group
Group IIC	Hydrogen group
Group IIIA	Combustible flyings
Group IIIB	Non-conductive dust
Group IIIC	Conductive dust

Dialight Europe Ltd

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