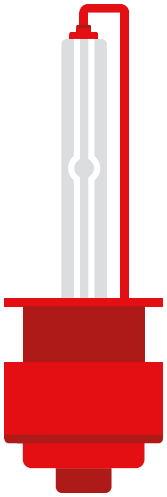
WORKING TOGETHER TO MANAGE BUSINESS RISK

Making light work of risk

Fluorescent and High Intensity Discharge (HID) Lights



Getting it right with your lights

Fluorescent and High Intensity Discharge (HID) lighting generate heat which can become a potential fire risk if these lighting systems are not well maintained or controlled. Dust, age, usage, environmental temperature, power quality, contact with water, damage, and manufacturing defects, can all be potential causes for your lights to become a serious fire and power outage risk.

Over the years, improvements have been made to modern versions of these lights, but there are several precautions that still need to be taken.

Be on the lookout

It may not always be obvious there are problems with your lighting. HID lighting is usually located in high roof bay areas, and this can make it difficult to detect signs of deterioration. The good thing with fluorescent lighting is that it's often used in areas that are easier to access and it's easier to spot deterioration. Here are some visual indicators to check for on a regular basis:

- Smoke, odour, or discoloration due to an overheated ballast
- Tube appears dim when compared to others in the area
- Tube flickering or blinking
- Delays in your lights switching on or not at all
- Tube blackening, usually seen at the end of the tube
- Tube bright at the ends and dull in the middle.

Location, location, location

Take time to plan your lighting to ensure the right areas are covered.

- Make sure approved fluorescent lighting fixtures are fitted in hazardous (classified) areas where a fire or explosion hazard can exist due to gas, vapor, dust, or fibres.
- Keep the position of lights to be over aisle spaces rather than over any storage areas. Relocate your storage systems to be away from directly under the lights if needed.
- Assess environmental conditions, including temperature, corrosiveness and humidity so that they won't deteriorate the condition of the lighting system.
- Avoid hanging other items from light fittings such as decorations, cabling, drapes etc.
- Maintain a clear space around the light fittings ensuring nothing is in direct or close contact with them.
- Remove any light fittings that are no longer required, including any extraneous wiring, so that all ignition sources are removed.

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Engage an electrician

You should always use a registered electrician to install and maintain your lighting systems in line with the manufacturer's guidelines. These should always be certified as code compliant upon completion

Ongoing maintenance

There's a lot to gain if you get your registered electrician to regularly maintain

- Check and maintain light fittings every 2–3 years.
- Install new tubes if they fail to light up properly and have the electrician investigate if the problem persists.
- Replace capacitors on at least a 10–year period. These normally have a lifespan of 5–10 years, though components can fail due to wear overtime and this can cause overheating that increases the likelihood of a fire.
- Replace components such as capacitors as soon as signs of damage or aging appear.
- Replace entire groups of ballasts or fixtures particularly where tubes are flickering or not working. Special handling and disposal precautions are necessary for ballasts and tubes.

How about HID?

- Replace HID lamps at 70% of their lifespan if the age is known. Lamps can wear down overtime and replacing them earlier on can prevent shattering onto combustible surfaces below causing fire.
- Power off HID lamps weekly for at least 15 minutes to reduce the likelihood of rupturing.
- HID bulbs should be replaced with 'O' rated (shrouded) bulbs. Alternatively use borosilicate or tempered soda lime glass diffusers (covers) on light fittings.
- Diffusers fitted to HID lights may increase the heat of the fitting, collect dust and insects, and increase maintenance costs. If diffusers are to be installed, confirm that the bulbs used are suitable for enclosed light fittings. Diffusers made from polycarbonate or similar plastic materials should not be used as these do not adequately contain hot material from failed bulbs.

Switched–on tips

- Changing HID and fluorescent fittings to LED lights. These are more energy efficient, cooler to run, and significantly reduce the risk of fire losses.
- Commission Thermographic Imaging checks of all switchboards that control your lighting systems so that any hot spots on fuses and componentry can be quickly identified.
- Always have fire extinguishers of the correct size and type on hand, and make sure these comply with NZS4503.
- Install a professionally monitored fire detection system that can provide an early warning of the presence of smoke and heat from a failing lighting or electrical system.

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