

High Intensity Discharge (HID) Lighting

Safeguarding your business

High Intensity Discharge (HID) lighting is commonly used in high bay factories and warehouses, and has recently been identified as the cause of a number of significant fire losses both in Australia and overseas.

A number of different types of HID lights are in use, the most common types include; Metal Halide, Mercury Vapour and Sodium Vapour. These lights utilise electrodes within a gas filled quartz or ceramic arc tube within a glass outer bulb, which operates at very high temperatures and pressures (up to 1,300°C and 3-6 Bar of pressure). While most lights will operate for many hours without incident, a small but significant number may suffer explosive failure of the arc tube resulting in a shower of very hot glass fragments and other material.

Explosive failures can occur as a result of physical damage or impact; escape of gases from the arc tube, thermal shock caused by contact with water, incompatible replacement parts such as ballasts and bulbs, or general aging of components caused by many hours of use. If explosive failure occurs above or close to combustible materials, a fire may result.

Following are some helpful hints to help you avoid fires caused by HID lights:

Inspection

- > Conduct a visual inspection of all installed lighting and identify the location of any HID lights.
- > Ensure that HID lights are not installed directly above, or in close proximity (at least 1 metre horizontally) to where combustible materials may be stored.
- > Identify any light fittings that show signs of physical damage. Immediately switch off these lights until replacement / repair can be performed by a licensed electrician.

Protection

- > HID bulbs should be enclosed, including being fitted with an outer hood and containment lens (diffuser cover).
- > HID bulbs should be of a type that has double shrouding to prevent the outer glass from rupturing should the arc tube explode.
- > Protect lamps from water or moisture.

Maintenance

- > Replacement of bulbs, and other general maintenance, should only be conducted by qualified electricians, using appropriate manufacturer specified replacement parts.
- > All staff, particularly Forklift Drivers, should be advised to report any damage to light fittings immediately. Damaged lights should then be switched off until replacement / repair can be performed.
- > Bulbs that switch off, then on again by themselves, need to be replaced immediately.
- > Lights that are operated continuously should be cycled off for at least 15 minutes each week. Lights which flicker, take longer to come back on, or produce weaker or different coloured light should be replaced.
- > Globes should be replaced when they reach 70% of rated life-span (normally expressed in hours of use).
- > Consideration should be given to doing 'Group Relamping' (e.g. all the lamps in a given area are replaced at a scheduled time). This method can actually result in significant savings in labour costs and disruption to business.

Upgrades

- > If contemplating a lighting upgrade, consideration should be given to LED high bay lighting, as this is not only safer, but may also provide significant savings in electricity costs.

Self-assessment checklist

Company name

Location

Simply complete the self-assessment checklist below to help you identify potential hazards. If you answer 'False' to any of the questions below, further consideration and risk management may be required. We recommend you contact your Broker, or Acerta, for expert advice.

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- | | | |
|--|-------------------------------|--------------------------------|
| 1. An inspection has been conducted to identify the location of all HID lights? | <input type="checkbox"/> True | <input type="checkbox"/> False |
| 2. HID lights are not located above, or within 1 metre horizontally, of where combustible materials may be stored? | <input type="checkbox"/> True | <input type="checkbox"/> False |
| 3. Lights show no signs of physical damage or impact? | <input type="checkbox"/> True | <input type="checkbox"/> False |
| 4. All HID lights are fully enclosed by hoods and containment lens? | <input type="checkbox"/> True | <input type="checkbox"/> False |
| 5. All HID bulbs have double shrouding to protect against arc tube explosion? | <input type="checkbox"/> True | <input type="checkbox"/> False |
| 6. All HID lights are protected from exposure to water or moisture? | <input type="checkbox"/> True | <input type="checkbox"/> False |
| 7. Maintenance of HID lights is only performed by a licensed electrician, using manufacturer specified replacement parts? | <input type="checkbox"/> True | <input type="checkbox"/> False |
| 8. All staff, particularly Forklift Drivers, have been advised to report damage to HID lights immediately? | <input type="checkbox"/> True | <input type="checkbox"/> False |
| 9. There are no bulbs malfunctioning by going off and back on again by themselves? | <input type="checkbox"/> True | <input type="checkbox"/> False |
| 10. If lights are continuously operated day and night, they are cycled off for at least 15 minutes each week, and restarting performance is observed for faults? | <input type="checkbox"/> True | <input type="checkbox"/> False |
| 11. Globes are replaced when they reach 70% of their rated life-span? | <input type="checkbox"/> True | <input type="checkbox"/> False |
| 12. Group relamping is performed when single lamps require replacement? | <input type="checkbox"/> True | <input type="checkbox"/> False |

Name

Signature

Date

This fact sheet has been developed by the team at Acerta to provide you with relevant information and tips to help you manage risk.

As a part of the Guild Group, Acerta has extensive experience in commercial insurance and risk management. Together, your Broker and Acerta can work with you to assist in safeguarding your business by managing risk.

We suggest you file this completed checklist for future reference.

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