

REDUCING WAREHOUSE FIRES

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INTRODUCTION

Whether your company is in the business of providing warehouse services, or you have a facility to store your company's products, fire is always a concern. What follows are guidelines to reduce the chances and diminish the damage of a warehouse fire.

PRIMARY STORAGE METHODS

Products are usually stored in two ways: on racks and on pallets. While racks pose a slightly greater fire hazard, due to the spaces between racks, both types of storage methods pose unique fire prevention challenges.

HAZARDS AND CONTROLS

Once a fire starts in a warehouse, it can be difficult to extinguish. Factors such as the type of commodity stored, packaging materials used, rack or pallet height, aisle spacing, and the presence of a sprinkler system can impact the damage done by a fire. Fires in warehouses are often caused by poor housekeeping, lack of smoking policies and the malfunctioning of forklifts, trucks and other equipment. All of these potential hazards can be controlled.

HOUSEKEEPING

Common to facilities of all sizes, good housekeeping is critical to overall fire prevention efforts. Regular cleaning, sweeping, and maintenance of a clutter-free workplace helps decrease the likelihood of a fire, and emphasizes to your employees the importance of neatness. A clean facility also reduces slips and falls and other injuries to employees and visitors – and it sends a positive message that your employees take pride in their workplace.

AISLES

Clear aisles make detecting and fighting a fire much more effective, and they also reduce the possibility of a fire jumping from rack to rack, which can easily overwhelm a sprinkler system.

FORKLIFTS, POWERED INDUSTRIAL TRUCKS AND OTHER EQUIPMENT

Improper use of power equipment is a major cause of fires in warehouses. Maintaining your equipment and providing proper employee training are the keys to helping prevent accidents and fires. Follow the manufacturer guidelines for service and maintenance of all warehouse vehicles. Conduct pre and post-shift inspections to assure continued safe operation. Adhere to Occupation Safety and Health Administration (OSHA) guidelines covering safety procedures, including employee training and certification.

In those warehouses where an in-rack sprinkler system is present, make sure all employees know where the sprinkler heads and safety shut-off valves are located. This is particularly important should a sprinkler head or a water pipe become activated or damaged.

SMOKING

Although prohibited in most warehouse facilities, smoking by employees and visitors remains a serious problem. Follow a strict no smoking policy and advise all employees that there will be strong consequences for smoking in the warehouse – from suspension to dismissal. Establish your policy in writing and post “No Smoking” signs throughout the warehouse and in visitor’s areas. Provide a designated smoking area with adequate ventilation and butt disposal containers.

AEROSOLS AND FLAMMABLES

Warehouses that store aerosols or hazardous flammable materials should establish safety procedures and controls to help keep fires from spreading to other areas of the facility. A separate, fenced area should be set aside to store hazardous materials and it should be maintained in accordance with protection and containment requirements of the National Fire Protection Association (NFPA) code 30B Code for manufacture and storage of aerosols. Consult with your fire sprinkler contractor about the specific requirements.

BUILDING SERVICES

A properly maintained building is an integral part of any loss prevention effort. Assure that your electrical system is up to code and that employees are not over-taxing outlets and fixtures. Keep at least a three-foot clearance from any suspended furnace located in the warehouse. Some businesses hang objects such as soda cans from the furnace to designate proper clearance.

Many warehouses are lit by metal halide high intensity discharge (HID) lamps, which might present a significant fire hazard. The characteristics of the mercury vapor gas inside metal halide HID lamps, as well as the lamp’s high operating temperature and pressure, can cause the fracture of the tubes, the expulsion of hot quartz fragments, and the ignition of nearby combustibles. The probability of a tube failure is likely to increase when metal halide HID lamps are not properly installed, used and maintained in accordance with manufacturer’s specifications.

Warehouse roofs should be clear of debris, which could plug drainage systems and cause leaks. Any leaks should be repaired immediately. Finally, proper building maintenance includes the sprinkler system. Follow the tips below to assure the reliability of this fire protection measure.

AUTOMATIC FIRE SPRINKLERS AND ALARMS

Clearly, one of the most effective warehouse firefighting tools is an automatic sprinkler system. A properly designed, tested and maintained sprinkler system is one of your best defenses once a fire has started. Sprinkler systems need to be maintained and tested per written standards provided by the NFPA as covered in NFPA 13 Standard for the installation of sprinkler systems and NFPA 25 Standard for inspection, testing and maintenance of water-based fire protection systems. These standards require that the system be tested at least quarterly and that a full inspection, conducted by a licensed and qualified sprinkler contractor, be completed annually.

Keep in mind that a sprinkler system is designed to control – not fully extinguish – a fire until the fire department arrives. If you have a sprinkler system, it is crucial that it be monitored by an Underwriters Laboratories (UL-listed) central station alarm company or by an approved alarm panel located on site and monitored 24x7x365. A monitored sprinkler system will help assure a faster response by the local fire department.

Another important reason for a monitored system is to provide an alert if a sprinkler head malfunctions or a pipe bursts. Once a sprinkler head is opened, there is no way to stop the water flow until someone physically turns the sprinkler valve(s) off. The sooner the fire department and/or building maintenance staff knows of a sprinkler leak or malfunction, the faster the water can be turned off – reducing potential damage to stock. This is especially critical when the facility is unoccupied.

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