To The Point
Idle Pallets

Pallets play an important role as storage aids in commercial warehouses, allowing for the efficient storage of various commodities. Palletizing permits the stacking of goods and facilitates storage within metal racks. Pallets also allow the easy movement of goods throughout facilities, from manufacturing to warehousing. Palletizing of goods can provide stable arrays of stored goods up to 45 feet high in some warehouses.

Types of Pallets

Pallets are typically four inches high and constructed of planks of wood or molded plastic. While both types of pallets perform essentially the same function, each has advantages and disadvantages.

Wood pallets are readily available, relatively inexpensive, and compatible with most forklift equipment. However, the inherent design of wood pallets creates open flue spaces that allow fires to spread rapidly once they get started.

Over time, wood pallets can dry out, and the edges become splintered, increasing the likelihood of a small ignition source starting a fire.

Plastic pallets are durable, easy to clean, and have the flexibility to be customized for specific operations, such as for the pharmaceutical and food industries. They are easily sanitized, lightweight, resistant to odor, and have a long service life span. However, when involved in a fire, plastic pallets release four times more heat than wood pallets, which often quickly overcome the sprinkler system as the fire burns out of control.

Hazards Presented by Idle Pallets

A commonly overlooked facility hazard is that idle pallets can greatly increase the fire load. The natural ebb and flow of goods in and out of facilities results in periods when idle pallets accumulate and are stored until needed. They are often stacked in a corner of the facility.

In addition, the undersides of the horizontal members of pallets are shielded from extinguishing agents. Because of this shielding, large quantities of water are necessary for adequate fire control. Improper storage of idle pallets can result in a catastrophic fire.

A recent incident involved a family-run, general storage warehouse operation. A large volume of idle pallets was temporarily stored in racks and aisles up to a height of 10 feet. A subcontractor was performing hot work in the warehouse and accidentally ignited a stack of idle wooden pallets due to a lack of proper safety precautions. The pallets' high fuel load contributed to the rapid fire spread that completely destroyed the 50,400 sq. ft. warehouse. The damages exceeded $5,000,000.

A Safer Facility

The following practices of storing idle pallets are listed in order of preference to safeguard your warehouse:

- Outdoor storage, separated by at least 50 feet away from the building
- Storage in a detached structure
- Indoor storage with fire protection in accordance with NFPA 13
- To provide for more flexible management of the fire hazard of idle pallets, control mode sprinklers, or ESFR sprinklers can be used for fire protection. The technical details of the required design for these systems can be found in NFPA 13.

Storage practices for small quantities of indoor idle wood pallets:

- No storage in racks
- Keep pallets stacks to a maximum height of six feet
- Store pallets in piles not exceeding four stacks
- Separate pallet piles with a clear space of eight feet or 25 feet of stored commodity

Storage practices for small quantities of indoor idle plastic pallets:

- No storage in racks
- Keep pallets stacks to a maximum height of four feet
- Store pallets in piles not exceeding two stacks
- Separate pallet piles with a clear space of eight feet or 25 feet of stored commodity

Learn More & Connect

For more information on protecting your business, contact your local risk engineer, visit the Chubb Risk Consulting Library, or check out www.chubb.com/engineering.

Fire-retardant plastic pallets offer added protection for companies looking for greater fire protection in their plants and warehouses. By meeting all the requirements of the UL 2335 performance specification, fire-retardant pallets present a hazard equal to or less than that presented by idle wood pallets. As a result, they can be introduced into a warehouse that currently uses wooden pallets without adding any increased fire risk.

Resources

National Fire Protection Association (NFPA), www.nfpa.org/codes-and-standards

- NFPA 1: Uniform Fire Code
- NFPA 13: Standard for the Installation of Sprinkler Systems

UL 2335: Fire Tests of Storage Pallets, www.shopulstandards.com/ProductDetail.aspx?productId=UL2335_2_S_20100728