

# CUSTOMER FOCUS ON LOSS CONTROL

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## Fire Protection for Pallet Storage

Pallets are an important material handling tool for warehousing. However, *idle* pallets present a significant fire hazard: they provide a source of dry fuel, their frayed edges are subject to easy ignition, and their open construction provides flue spaces through which fire can grow very hot and spread quickly. A pallet fire can severely test a sprinkler system's ability to contain the fire, and may result in severe damage to a building's structure and its contents.

While most pallets are made of wood, the durability, reusability, and recyclability of newer plastic pallets has spurred an increase in the number of plastic pallets in use. While plastic pallets have many advantages over wooden pallets, including the capacity to be customized for specific operations (e.g., pharmaceutical and food industries), their greater flammability requires special attention to fire protection.

During a fire, plastic pallets will release more heat, (approximately twice that of wood), will burn for longer periods, and may melt and pool, contributing to rapid fire spread.

Before you consider a switch from wooden to plastic pallets, have your automatic sprinkler system evaluated by a qualified professional to determine if it will provide adequate protection for plastic pallets.

Preferred storage location for idle pallets:

- Store pallets outside and away from the main building, or in a detached, low-value building.
- Refer to *NFPA 231 Standard for General Storage* for the recommended clearance between outside idle pallet storage and the main building.

If you must store pallets inside, follow these guidelines:

- Eliminate or reduce the storage of idle combustible pallets.
- Limit the number of pallets on hand to the amount required for one day's operations.
- Prohibit storage of idle pallets in aisles or between racks.

For wood pallets:

- Store pallets flat and stack no higher than 6 feet; never stack them on end.
- Separate each pallet pile (no more than 4 stacks per pile) from other pallet piles by at least eight feet.
- Separate each pallet pile from other commodities by at least 25 feet.

For plastic pallets:

- Store pallets in a cutoff room. Storage should be separated from the remainder of the building by 3-hour-rated fire walls. The room should have at least one exterior wall, and storage should be piled no higher than 12 feet.
- When pallets are not within a cutoff room, storage should be piled no higher than 4 feet. Separate each pallet pile (no more than 2 stacks per pile) from other pallet piles by at least eight feet. Separate each pallet pile from other commodities by at least 25 feet.

For both wood and plastic idle pallets:

- Ensure that the sprinkler system is designed in accordance to *NFPA 231 Standard for General Storage*.

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