

# PLASTIC PALLETS: HAZARDS OF INDOOR USE AND STORAGE

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## INTRODUCTION

Industries have been using wood pallets for the storage and shipping of products for many years. However, the use of plastic pallets has gained popularity in recent years. The increased use of plastic pallets is because they are:

- Lighter weight
- Durable (They do not break apart the way wood pallets do.)
- Power washable
- Resistant to vermin

## HAZARDS

Plastic pallets represent a different hazard than that of wood pallets. According to the National Fire Protection Association (NFPA), when used indoors, plastic pallets increase the commodity classification within the building resulting in an increase in the sprinkler requirements for the building, storage, and operations. The combustibility of these pallets is different than that of wood pallets as they may burn hotter and potentially overpower the sprinkler system.

## CONSIDER THESE FACTS, WHICH SHOULD ALSO BE CONSIDERED FOR WOOD PALLETS

- The higher the stack, the greater the volatility, and challenge to the effectiveness of the sprinkler system.
- Most standard facility fire control systems are incapable of handling the fire and heat generated by a high stack of plastic pallets.
- Stacking pallets outdoors against or near the side of a building creates an increased fire hazard, as storage yards are not usually protected by sprinkler systems.
- Sprinkler density requirements increase exponentially with the height of the stored pallets.

**NOTE:** The NFPA has specific guidelines regarding fire sprinkler density requirements based on the type (i.e., un-reinforced or reinforced), height, and number of plastic pallets stored, sprinkler head temperature, and aisle space. If you have any questions, please contact your Allianz Risk Consultant for assistance.

## WHAT CAN BE DONE?

The preferred method to store empty plastic pallets is outside, in a fenced yard a safe distance from buildings and structures.

## OUTSIDE STORAGE GUIDELINES

- Remove all combustible materials from the area, such as cardboard, paper, and weeds.
- Keep pallets away from propane or other fuel tanks.
- Stabilize the stacking arrangement so they will not tip over.
- Keep pallets away from regular vehicular traffic (forklifts, delivery vans, trucks).
- Store pallets well within the property line to avoid the possibility of vandalism or arson.

However, if outdoor storage is not an option, consideration should be made to provide a detached structure for handling pallet storage.

**NOTE:** The NFPA has specific requirements regarding the distance from walls that idle plastic pallets must be stored. Wall construction, openings, and number of pallets being stored are all contributing factors to increased damage to the building. If you have any questions, please contact your Allianz Risk Consultant for assistance.

## CONCLUSIONS

Consider the current design of your sprinkler system. The design may have been satisfactory for operations, commodity, and storage configuration when using wood pallets.

However, the use of plastic pallets changes the design requirements and your sprinkler system may now be inadequate. Before changing to plastic pallets, consider if it is practical from a fire protection standpoint (e.g., there may be the need to upgrade your sprinkler system). Sprinkler design requirements can be found in NFPA 13, Standard for the Installation of Sprinkler Systems, 2019 edition in Chapter 20. Plastic pallets are specifically addressed in Section 20.14.2.

Design: [Graphic Design Centre](#)

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