



Fire/Rescue

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Fire/Rescue

Date: 9/15/2021 (Updated 1/6/2022)
To: All members
From: Steve Ptaszynski – Fire Inspector
Re: Storage of idle pallets

In 2014 the State of Wisconsin adopted NFPA 1 2012 edition as the model fire code. This adoption was mirrored by the Village (then town). This code has been in effect since at least 2009.

Effective 9/15/2021 during inspections of all occupancies, when the inspector identifies storage of idle pallets inside an unsprinklered or outside of a building the following codes will be enforced:

NFPA 1 2012

34.10.1 * General.

Idle pallets shall be stored outside or in a separate building designated for pallet storage, unless permitted by 34.10.2.

34.10.2 Indoor Storage.

Idle pallets shall be permitted to be stored in a building used for other storage or other purpose if the building is sprinklered in accordance with Section 13.3. *(See below for requirements)

Indoor storage in sprinklered buildings

Most sprinkler systems in ordinary hazard buildings were not designed for large quantity storage of idle pallets (unless the building processes pallets or during the original design there were specifications for large quantities of pallets). On field inspections it will be difficult to determine whether the building was designed specifically for the storage of idle pallets. Idle pallets are not allowed to be stored in racks unless the system was designed for rack storage of idle pallets.

NFPA 13 12.12.1.2 (2013)

Pallets are stored no higher than 6 ft (1.8 m) and each pile of no more than four stacks shall be separated from other pallet piles by at least 8 ft (1.4 m) of clear space or 25 ft (7.6 m) of commodity (from other storage).

34.10.3 Outdoor Storage.

Idle pallets stored outside shall be stored in accordance with Table 34.10.3(a) and Table 34.10.3(b).

Table 34.10.3(a) Required Clearance Between Outside Idle Pallet Storage and Other Yard Storage

Pile Size	Minimum Distance	
	ft	m
Under 50 pallets	20	6
50–200 pallets	30	9
Over 200 pallets	50	15

Table 34.10.3(b) Required Clearance Between Outside Idle Pallet Storage and Building

Wall Construction	Minimum Distance of Wall from Storage					
	Under 50 Pallets		50 to 200 Pallets		Over 200 Pallets	
	ft	m	ft	m	ft	m
Masonry with no openings	0	0	0	0	15	4.6
Masonry with wired glass in openings, outside sprinklers, and 1-hour doors	0	0	10	3	20	6
Masonry with wired or plain glass, outside sprinklers, and ½-hour doors	10	3	20	6	30	9
Wood or metal with outside sprinklers	10	3	20	6	30	9
Wood, metal, or other	20	6	30	9	50	15

Explanatory and additional information

(Explanation NFPA 1 A.34.10.1)

Idle pallet storage introduces a severe fire condition. Stacking idle pallets in piles is the best arrangement of combustibles to promote rapid spread of fire, heat release, and complete combustion. After pallets are used for a short time in warehouses, they dry out and edges become frayed and splintered. In this condition they are subject to easy ignition from a small ignition source. Again, high piling increases considerably both the challenge to sprinklers and the probability of involving a large number of pallets when fire occurs. Therefore storing idle pallets outdoors where possible is preferable. A fire in idle plastic or wooden pallets is one of the greatest challenges to sprinklers. The undersides of the pallets create a dry area on which a fire can grow and expand to other dry or partially wet areas. This process of jumping to other dry, closely located, parallel, combustible surfaces continues until the fire bursts through the top of the stack. Once this happens, very little water is able to reach the base of the fire. The only practical method of stopping a fire in a large concentration of pallets with ceiling sprinklers is by means of prewetting. In high stacks, prewetting cannot be done without abnormally high water supplies. The storage of idle pallets should not be permitted in an unsprinklered warehouse containing other storage.

Wisconsin SPS 314 has a visual schematic of storage outside of the building:

