

NFPA 13-Proposed 2022 Edition
Standard for the Installation of Sprinkler Systems

TIA Log No.: 1560

Reference: Section 20.5.3.1.3

Comment Closing Date: March 18, 2021

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1. Revise Section 20.5.3.1.3 to read as follows:

20.5.3.1.3 Multiple-Row Racks. Unless the requirements from 20.5.3.1.3.1 ~~or~~ 20.5.3.1.3.2, or 20.5.3.1.3.3 are met, multiple-row racks without solid shelves shall be considered racks with solid shelves.

20.5.3.1.3.1 Multiple-row racks without solid shelves shall be considered open racks where both transverse and longitudinal flue spaces are provided at maximum 5 ft (1.5 m) intervals.

20.5.3.1.3.2 Multiple-row racks without solid shelves shall be considered open racks where transverse flue spaces are provided at maximum 5 ft (1.5m) intervals and the rack depth does not exceed 20 ft (6.1 m) between aisles that are a minimum width of 3.5 ft (1.1 m).

20.5.3.1.3.3 Multiple-row racks without solid shelves shall be considered open racks where transverse flue spaces are provided at maximum 5 ft (1.5 m) intervals and the rack depth does not exceed 20 ft (6.1 m) as defined by a minimum aisle of not less than 3.5 ft (1.1 m) at the front of the rack and a vertical barrier at the back of the rack.

(A) The vertical barrier shall consist of either minimum 3/8 in. (10 mm) plywood or particleboard, 22 gauge (0.78 mm) sheet metal, or equivalent material.

(B) The vertical barrier shall span the entire length of the multiple-row rack as well as start a maximum 4 in. (100 mm) above the floor and extend to the maximum height of storage.

Substantiation: The 2022 language would require multiple-row racks that meet the guidelines of 20.5.3.1.3.2, except for a minimum 3-1/2 ft (1.1 m) wide aisle, to be considered as racks with solid shelving and thus require in-rack sprinklers at every tier level of storage due to the size of the shielded area. The 3-1/2 ft (1.1 m) wide aisle is needed to help ensure that the fire cannot jump from one multiple-row rack to an adjacent rack, thus its purpose is to help avoid unacceptable horizontal flame spread between two adjacent racks. What the proposed new language will do is provide another alternative option to the 3-1/2 ft (1.1 m) wide aisle by allowing the installation of a vertical barrier to prevent horizontal flame spread from the multiple-row rack to an adjacent one (in the same manner a full-height wall would do the same). Depending on the type of multiple-row rack system installed, there will be times when a building owner can maximize their storage footprint by placing two maximum 20 ft (6.1 m) deep multiple-row racks, with adequate transverse flue spaces, back-to-back with a space separation of less than 3-1/2 ft (1.1 m). By allowing the installation of a vertical barrier to be an acceptable alternative to a minimum 3-1/2 ft (1.1 m) wide aisle, building owners will have the option to increase their storage footprint without having to install in-rack sprinklers at every tier level.

Emergency Nature: The proposed TIA intends to offer to the public a benefit that would lessen a recognized (known) hazard or ameliorate a continuing dangerous condition or situation.

If this proposed language is delayed until the 2025 cycle, building owners will lose the opportunity to have another acceptable option for the protection of multiple-row racks. As a result, they will either have to lose valuable storage space or needlessly incur the expense of installing in-rack sprinklers at every tier level of storage.