



## High-Piled Combustible Storage

2021 IFC 3201.3- At the time of building permit application for new structures designed to accommodate high-piled storage or for requesting a change of occupancy/use, and at the time of application for a storage permit, plans and specifications shall be submitted for review and approval. In addition to the information required by the International Building Code, the storage permit submittal shall include the information specified in this section. The construction documents shall include all of the following:

1. Floor plan of the building showing locations and dimensions of high-piled storage areas.  
**HIGH-PILED STORAGE AREA.** The size of each high-piled storage area shall include the footprint of the actual high-piled storage racks, shelves or piles and the following aisles:
  - a. Interior aisles within the footprint of the storage area.
  - b. An aisle around the perimeter of the footprint with a minimum width as required in Section 3206.10.1 or the dimension to a full height wall, whichever is less.
2. Usable storage height for each storage area.
3. Number of tiers within each rack, if applicable.
4. Commodity clearance between top of storage and the sprinkler deflector for each storage arrangement.
5. Aisle dimensions between each storage array.
6. Maximum pile volume for each storage array.
7. Location and classification of commodities in accordance with Section 3203.
8. Location of commodities that are banded or encapsulated.
9. Location of required fire department access doors.
10. Type of fire protection systems.
11. Location of valves controlling the water supply of ceiling and in-rack sprinklers.
12. Type, location and specifications of smoke removal and curtain board systems.
13. Dimension and location of transverse and longitudinal flue spaces.
14. Additional information regarding required design features, commodities, storage arrangement and fire protection features within the high-piled storage area shall be provided at the time of permit, where required by the fire code official.

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### **Approved construction documents. 2021 IFC 3201.3.1**

Following approval of the construction documents, a copy of the approved plans shall be maintained on the premises in an approved location.

### **Approved storage layout. 3201.3.2**

A floor plan, of legible size, shall be provided, mounted on a wall and protected from damage. The floor plan shall be mounted in an approved location and show the following:

1. Locations, dimensions and rack layout of high-piled storage areas.
2. Design storage height for each storage area.
3. Types of commodities.
4. Commodity clearance between top of storage and the sprinkler deflector for each storage arrangement.
5. Aisle dimensions between each storage array.
6. For palletized and solid-piled storage, the maximum pile volume for each storage array.
7. Location and classification of commodities in accordance with Section 3203.
8. Location of required fire department access doors.
9. Location of valves controlling the water supply of ceiling and in-rack sprinklers.

### **3201.4 Fire safety and evacuation plan.**

Where required by the Section 403, a fire safety and evacuation plan shall be submitted at the time of permit application for review and approval. A copy of the approved fire safety and evacuation plan shall be maintained on the premises in an approved location.

### **3204.1 General Designation of High-Piled Storage Areas**

High-piled storage areas, and portions of high-piled storage areas intended for storage of a different commodity class than adjacent areas, shall be designed and specifically designated to contain Class I, Class II, Class III, Class IV or high-hazard commodities. The designation of a high-piled storage area, or portion thereof intended for storage of a different commodity class, shall be based on the highest hazard commodity class stored except as provided in Section 3204.2.

### **3205.7 Designation of storage heights.**

A visual method of indicating the maximum allowable storage height shall be provided.

Visual indicators for maximum storage height shall be required anywhere clear height of ceiling is 14 feet or greater that would accommodate high-piled storage. Where required, markings shall comply with the following:

1. Markings shall be on walls, columns, or racking systems positioned so markings are readily visible from the floor level and key work areas at all times (e.g., forklift aisles). Markings shall indicate the maximum storage height.
2. Lines shall be a minimum of 4 inches wide and be either reflective tape **OR** high-contrast paint to ensure visibility in various lighting conditions
3. Signs shall be used in combination with continuous striped or dotted lines, signs shall be installed in conspicuous locations at intervals of no less than one sign per 25 feet of row and indicate the maximum storage height. "MAX STORAGE HEIGHT: XX FEET."
4. Lettering on signs shall be a minimum of four (4) inches in height and stroke of no less than 0.5 inch **AND**; Shall be of a color that provides a contrast to the background itself **AND**; Materials shall be durable and appropriate for the environment to be used to avoid premature fading, wear, or abrasion during normal warehouse operations.