

Commercial Building Checklist

High-Piled Combustible Storage



E-PLAN
EXAM

Summary:

The following checklist will ensure that we have the necessary documents and information to review a High-Piled Combustible Storage submittal.

High-piled combustible storage is regulated in the building code under IBC Section 413 which references the IFC, specifically Chapter 32. High-piled combustible storage is not limited to combustible materials stored in racks. It also includes combustible materials stored in closely packed piles, combustible materials stored on pallets, and combustible materials stored on shelves. In general, storage in these configurations is only considered high-piled where the top of the storage is greater than 12' in height.

Note: Where required by the fire code official, high-piled combustible storage also includes certain high-hazard commodities, such as rubber tires, Group A plastics, flammable liquids, idle pallets, and similar commodities, where the top of storage is greater than 6' in height.

A public building, structure or place of employment shall be designed by an architect or an engineer, except as provided under ss. 443.14 and 443.15, Stats. in accordance with SPS 361.20. Where high-piled combustible storage is proposed in an existing building, it would be considered a level 2 alteration as it is a reconfiguration of space. All new construction elements, components, systems, and spaces shall comply with the requirements of the IBC, in accordance with IEBC 801.3.

General Requirements:

N/A Included

- ☐ ☐ The commodity classification as determined by IFC Section 3203. Commodities shall be classified as Class I, II, III, IV or high hazard.
Note: 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 combustible 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.
- ☐ ☐ All high-piled storage areas in the building and whether fire-resistance rated separation is provided between mixed occupancies, high-piled storage areas, or multiclass high-piled storage areas.
- ☐ ☐ Whether automatic sprinkler systems will be provided, required by IFC Sections 3207, 3208 and 3209.
- ☐ ☐ Whether fire detection, complying with IFC 3206.5, is required by IFC Table 3206.2.
- ☐ ☐ Whether building access, complying with IFC 3206.6, is required by IFC Table 3206.2.
- ☐ ☐ Whether smoke and heat removal, complying with IFC 910, is required by IFC Table 3206.2.
- ☐ ☐ Whether a Class I standpipe system, complying with IFC 905, are required to protect exit passageways for egress.
- ☐ ☐ Illustrate the location, width, and clear height of aisles complying with IFC 3206.9. Dead-end aisles shall comply with IFC 3206.9.3.
- ☐ ☐ The location of portable fire extinguishers required by IFC Section 906.

Solid-Piled Storage, Shelf Storage, and Palletized Storage:

N/A Included

- ☐ ☐ Pile dimensions, the maximum permissible storage height and pile volume permitted by IFC Table 3206.2.
- ☐ ☐ The height of shelf storage where provided.
- ☐ ☐ Whether a close array protection method has been selected for the design of the automatic sprinkler system.

Rack Storage:

N/A Included

- ☐ ☐ Whether the rack storage will be placed on plastic shelves.
- ☐ ☐ Whether the racks will be provided with or without solid shelving
- ☐ ☐ The configuration of the rack(s) (single-row, double-row, or multi-row).
- ☐ ☐ Whether flue spaces are required in accordance with IFC Table 3208.3.

Automated Storage:

N/A Included

- ☐ ☐ Whether carousel storage will be provided.

Specialty Storage:

N/A Included

- ☐ ☐ Whether the use is a records storage facility used for combustible paper records.

Signing & Sealing Plans:

- Signing and sealing of plans shall comply with SPS 361.31(1). When the total building volume exceeds 50,000 cubic feet, the construction documents shall be prepared, signed, and sealed by a registered design professional in accordance with ch. 443, Stats., and s. A-E 2.02.
- Each sheet shall be individually signed / sealed. If more than one sheet is bound together in a PDF plan set, the registrant may sign/seal and date only the title or index sheet if the signed sheet identifies clearly all other sheets comprising the bound PDF plan set.

Plan Review Fees:

When plans for high-piled combustible storage are submitted, the plan review fee will be assessed in one of the following ways:

1. When the high-piled combustible storage is part of a larger new construction, alteration, or addition project; and the entire scope of work is submitted by the same registered design professional; then the total square footage of the space will be used to assess the plan review fee.
2. When the plans are limited to the high-piled combustible storage elements, the size of the storage area will be used to assess the plan review fee.

Pre-manufactured and pre-engineered structural components submittals:

Structural component plans for steel racks shall be submitted with the plans, or as a separate plan. When the component plans are submitted with the plans, there will be no additional plan review fees assessed. When they are submitted separately, the fee for "structural plans and other component submittals" outlined in the municipality's fee schedule will apply.