



High-Piled Combustible Storage Permit Requirements

A code summary is a compilation of code sections related to a specific occupancy or permit. This code summary lists sections of code pertaining to occupancies and operations as defined by the **California Fire Code**. Under each heading, you will find the corresponding code language and the reference cited. These requirements pertain to existing buildings. New construction may be subject to additional requirements. Please feel free to direct any questions to Fire Prevention at (650) 558-7600 or info@ccfd.org

Permit Requirement

If the top of storage exceeds 12 feet in height, or high-hazard commodities such as Group A plastics, flammable liquids, or pallets exceed 6 feet in height, then a permit is required.

If batteries are being stored at any height, a permit may be required.

Exception: High-piled combustible storage is permitted without obtaining a permit if the storage is not classified as 'high-hazard' and if it is confined to a clearly identified space that does not exceed 500 sq ft.

Permit Application Documents

When applying for a high-piled combustible storage permit, the following information is required to be included along with the application:

1. Locations, dimensions, and rack layout of high-piled storage areas.
2. Design of storage height for each storage area.
3. Types of commodities.
4. Commodity clearance between the top of the 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 2025 CFC §3203.
8. Location of required fire department access doors.
9. Location of valves controlling the water supply of ceiling and in-rack sprinklers.
10. When required by 2025 CFC §403, a fire safety and evacuation plan.

Technical Assistance

Due to the complexity of high-piled storage requirements, it is recommended that the permit applicant utilize a qualified engineer, specialist, or fire safety specialist to design the layout of the storage area and the associated fire protection systems.

For high-piled storage areas exceeding 12,000 sq ft or areas containing high-hazard commodities, a technical report and opinion from a qualified professional are required.

Evacuation Plan

An approved fire safety and evacuation plan in accordance with §404 shall be prepared for buildings with high-piled combustible storage in any of the following situations (CFC §403.10.5):

1. The high-piled storage area exceeds 500,000 sq ft for Class 1-IV commodities.
2. The high-piled storage exceeds 300,000 sq ft for high-hazard commodities.
3. The high-piled storage is located in a Group H occupancy.
4. The high-piled storage is located in a Group F occupancy with an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
5. The high-piled storage is located in a Group M occupancy with an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
6. Where required by the fire code official for other high-piled storage areas.
7. Where lithium-ion and lithium metal batteries are being stored, in accordance with §403.10.6

Classification of Commodities

Table 3203.8 of the 2025 California Fire Code shall be used to determine the commodity classification for various products and materials. Products not found in the list shall be classified based on the classification description in §3203.2 through 3203.6 and the products they most nearly represent in Table 3203.8. Table 3203.8 considers the product and the packaging if listed with the item. Products with additional packaging consisting of Group A plastics shall be classified in accordance with §3203.9.

The commodity classifications are based on products with or without wood pallets. Where plastic pallets are used, the commodity classification shall be modified in accordance with §3203.10.

Designation of High-Piled Storage Areas

High-piled storage areas, and portions of high-piled storage areas intended for storage of a different commodity classification 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 CFC Section 3204.2, or designation may be based upon engineering analysis (see CFC Chapter 32). (CFC 3204.1)

Housekeeping & Maintenance

The approved storage layout shall be verified and evaluated annually in accordance with 3201.3.2. Modifications or changes to the provisions of the approved storage layout shall not be made without the prior approval of the fire department. (CFC Section 3205.1)

Smoking Shall be Prohibited

Approved "No Smoking" signs shall be conspicuously posted throughout the storage area. (CFC 3205.4)

Aisle Maintenance required.

When restocking is not being conducted, aisles shall be kept clear of storage, waste material, and debris. Fire department access doors, aisles, and exit doors shall not be obstructed. During restocking operations using manual stocking methods, a minimum unobstructed aisle width of 24 inches shall be maintained in 48-inch or smaller aisles, and a minimum unobstructed aisle width of one-half of the required aisle width shall be maintained in aisles greater than 48 inches. During mechanical stocking operations, a minimum unobstructed aisle width of 44 inches shall be maintained. (CFC 3205.5)

General Fire & Life Safety Provisions Required

Where required by Table 3206.2, fire detection systems, smoke and heat removal, draft curtains, and fire sprinkler design densities shall extend the lesser of 15' beyond the HPS area, or to a permanent partition. For fire protection of mixed commodities, the fire protection required by Table 3206.2 shall be for the most restrictive design requirements. (CFC 3206.2.1)

Separation of High-Piled Storage Areas

The aggregate of all high-piled storage areas within a building shall be used for the application of Table 3206.2 unless such areas are separated from each other by 1-hour fire barriers constructed in accordance with the California Building Code or are separated by 100 feet in a fully sprinklered building. (CFC 3206.3.2)

Automatic Sprinklers

When fire sprinklers are required by Table 3206.2 of the 2025 California Fire Code, an approved automatic sprinkler system shall be installed throughout the building and shall be designed for the type of storage arrangement as approved by the storage layout plan. (CFC 3206.4)

Determination of whether in-rack sprinklers are required can be found in Table 3208.3 of the 2022 California Fire Code.

Fire Detection Systems Required

Where fire detection is required by Table 3206.2 of the 2025 California Fire Code, an approved automatic fire detection system shall be installed throughout the high-piled storage area. The system shall be monitored in accordance with §907 of the 2025 California Fire Code. (CFC 3206.5)

Building Access Required

Fire apparatus access roads in accordance with §503 of the 2025 California Fire Code shall be provided within 150 feet of all portions of the exterior walls of buildings used for high-piled storage. If fire apparatus access roads cannot be installed, the fire code official is authorized (but not required) to require additional fire protection in lieu of access roads. (CFC 3206.6)

Smoke & Heat Removal Required

Where smoke and heat removal are required by Table 3206.2 of the 2025 California Fire Code, smoke and heat vents shall be provided in accordance with §910 of the 2025 California Fire Code. Smoke and heat vents shall be listed and labeled to indicate compliance with UL 793 or FM 4430 or ICC ES AC 331. They shall be capable of being operated by approved automatic and manual means. (CFC3206.8)

Aisle Requirements in Sprinklered Buildings

Aisles in sprinklered buildings shall be a minimum of 44 inches wide. Aisles shall be a minimum of 96 inches wide in high-piled storage areas exceeding 2500 square feet in area, which are accessible to the public and designated to contain high-hazard commodities. Aisles shall be a minimum of 96 inches wide in areas accessible to the public where mechanical stocking methods are used. (CFC 3206.10.1.1.)

Aisle Requirements in Non-sprinklered Buildings

Aisles in non-sprinklered buildings shall be a minimum of 96 inches wide. (CFC 3206.10.1.2.)

Clear Height Requirements

The required aisle width shall extend from floor to ceiling. Rack structural supports and catwalks are allowed to cross aisles at a minimum height of 6 feet 8 inches above finished floor level, provided that such supports do not interfere with the fire department hose stream trajectory. (CFC 3206.10.2)

Portable Fire Extinguishers Required

Portable fire extinguishers shall be provided in accordance with §906 of the 2025 California Fire Code. (CFC 3206.11)

System Maintenance Required

Fire detection, alarm, and extinguishing systems shall be maintained in an operative condition at all times and shall be replaced or repaired where defective. Non-required fire protection systems and equipment shall be inspected, tested, and maintained or removed in accordance with §901.8. (CFC 901.6)

Reference Table

TABLE 3206.2 GENERAL FIRE PROTECTION AND LIFE SAFETY REQUIREMENTS

COMMODITY CLASS	SIZE OF HIGH-PILED STORAGE AREA ^a (square feet) (see Sections 3206.2 and 3206.3)	ALL STORAGE AREAS (see Sections 3206, 3207 and 3208) ^b				SOLID-PILED STORAGE, SHELF STORAGE AND PALLETIZED STORAGE (see Section 3207.3)		
		Automatic fire-extinguishing system (see Section 3206.4)	Fire detection system (see Section 3206.5)	Fire department access doors (see Section 3206.7)	Smoke and heat removal (see Section 3206.8)	Maximum pile dimension ^c (feet)	Maximum permissible storage height ^d (feet)	Maximum pile volume (cubic feet)
I-IV	0–500	Not Required ^a	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required
	501–2,500	Not Required ^a	Yes ^g	Not Required	Not Required	120	40	100,000
	2,501–12,000 Open to the public	Yes	Not Required	Not Required	Not Required	120	40	400,000
	2,501–12,000 Not open to the public (Option 1)	Yes	Not Required	Not Required	Not Required	120	40	400,000
	2,501–12,000 Not open to the public (Option 2)	Not Required ^a	Yes	Yes	Yes ^{h, i}	120	30 ^e	200,000
	12,001–500,000	Yes	Not Required	Yes	Yes ^{h, i}	120	40	400,000
	Greater than 500,000 ^f	Yes	Not Required	Yes	Yes ^{h, i}	120	40	400,000
High hazard	0–500	Not Required ^a	Not Required	Not Required	Not Required	60	Not Required	Not Required
	501–2,500 Open to the public	Yes	Not Required	Not Required	Not Required	60	30	75,000
	501–2,500 Not open to the public (Option 1)	Yes	Not Required	Not Required	Not Required	60	30	75,000
	501–2,500 Not open to the public (Option 2)	Not Required ^a	Yes ^g	Yes	Yes ^{h, i}	60	20	50,000
	2,501–300,000	Yes	Not Required	Yes	Yes ^{h, i}	60	30	75,000
	Greater than 300,000 ^f	Yes	Not Required	Yes	Yes ^{h, i}	60	30	75,000

For SI: 1 foot = 304.8 mm, 1 cubic foot = 0.02832 m³, 1 square foot = 0.0929 m².

a. Where automatic sprinklers are required for reasons other than those in Chapter 32, the portion of the sprinkler system protecting the high-piled storage area shall be designed and installed in accordance with Sections 3207 and 3208.

b. For aisles, see Section 3206.10.

c. Piles shall be separated by aisles complying with Section 3206.10.

d. For storage in excess of the height indicated, special fire protection shall be provided in accordance with Note f where required by the fire code official. See Chapters 51 and 57 for special limitations for aerosols and flammable and combustible liquids, respectively.

e. For storage exceeding 30 feet in height, Option 1 shall be used.

f. Special fire protection provisions including, but not limited to, fire protection of exposed steel columns; increased sprinkler density; additional in-rack sprinklers, without associated reductions in ceiling sprinkler density; or fire department hose connections shall be provided where required by the fire code official.

g. Not required where an automatic fire-extinguishing system is designed and installed to protect the high-piled storage area in accordance with Sections 3207 and 3208.

h. Not required where storage areas with an exit access travel distance of 250 feet (76 200 mm) or less are protected by either early suppression fast response (ESFR) sprinkler systems or control mode special application sprinklers with a response time index of 50 (m · s)^{1/2} or less that are listed to control a fire in the stored commodities with 12 or fewer sprinklers, installed in accordance with Section 903.3.1.1.

i. Not required in frozen food warehouses used solely for storage of Class I and II commodities where protected by an approved automatic sprinkler system.