



STORAGE RACKING SYSTEMS GUIDELINES

Purpose

This handout establishes a procedure for complete plan review submittals for any proposed storage pallet racks, movable shelf racks and stacker-racks in commercial or industrial buildings. Approval must be obtained from the Building Division before commencing any work.

Permits Required

A building permit is required for the following type of work:

- Permanently installed storage racks of any height.
- Nonfixed and movable racks over 5'-9" in height.
- Free-standing storage racks greater than 8 ft. in height shall be provided with structural calculations and details of anchorage.
- High-Piled Combustible Storage, as defined, shall meet the requirements in the California Fire Code and the Corona Fire Department high-piled storage guidelines. A separate Fire Department high-pile storage permit is required for storage systems greater than 12 ft. in height with more than 500 sq. ft. of storage, including isles. Note that all proposed combustible storage operations (rack or floor), regardless of height, may require a separate Fire Department operational permit. See Corona Fire's high-pile storage guidelines or contact them at (951)736-2220, Option #1, for more information.

The overall height of a high-piled storage rack is taken from the ground to "top of storage", even if the rack height is less than 12 ft.

Additional high-piled storage rack design includes information such as commodity clearance between top of storage; fire sprinkler head locations; aisle clearances; location and classification of commodities; types of fire suppression and fire detection systems, etc.

Plan Submittal for Construction

■ Three (3) complete sets of plans must be submitted; a completed Application form and plan check fee paid. Upon submittal of plans, they will be distributed to Building and Fire for review of interior racks. Racks installed on the exterior of the building will require an additional set of plans to be provided and will also be reviewed by Planning and Development Services in addition to those mentioned previously.

■ Two (2) sets of stamped and signed seismic calculation reports prepared by a professional engineer licensed in the State of California [if required].

■ Plans shall also specify any special inspection requirements for post-installed anchors, and any required accessible path of travel upgrades.

Plan Review Timelines

Allow a minimum of **10** business days for the first plan review; **5** business days for any subsequent reviews; plus processing.

Minimum Plan Requirements

Size

Minimum 18" x 24" plans drawn to scale, fully dimensioned and legible.

Information

1. Plot plan and/or cover sheet - job building/suite address; name, address and phone number of building/business owner, contractor and design professional; description of work including type of business, applicable codes, type of construction, occupancies, fire sprinklers.

2. Architectural plans - dimensioned floor plans identifying location and square footage of all storage areas, racks and shelving; exit door and exit sign locations; location and dimensions of smoke vents and curtain boards (if required). Aisle clearances between racks shall comply with California Building Code (CBC), Section 11B-403. Additionally, the minimum expenditure for required path of travel accessibility upgrades shall be made and proposed clearly on the plans per CBC 11B-202.4. Include accessibility details for upgrade work being undertaken to restrooms, parking, entryway, etc.

3. Structural plans - shelf & rack support base anchorage connection specifications and details to reinforced concrete slab, foundation, or floor framing system; vertical load bearing support; rack details depicting dimensions, number of tiers, and whether these are single, double, or multiple racks; shelving installation method, support and brace framing details. For drilled and inset expansion or epoxy type anchorage bolt systems, specify on the plans that "**Special Inspection**" shall be required per CBC chapter 17 and provide a schedule of special inspections. Structural design shall comply with the structural requirements of ASCE 7 15.5.3, ANSI/RMI MH 16.1. and CBC 2209.1. Mapped acceleration parameters shall be determined in accordance with CBC Section 1613.3.1.

Structural calculations are not required for fully freestanding racks less than 8 ft. in height; however, include anchorage connection details to concrete slab, foundation, or floor framing system for review.

The rack type (s) shall be clearly coordinated to match the plans.

4. Provide a list of standard notes per ANSI/RMI MH 16.1 on the plans.

Fees

Building fees are based on the amount of linear feet and location of the racks, i.e. interior or exterior of the building. Consult with a permit technician for details or see fee schedule available on the Building Division website.

Application Forms

Plan check and permit application forms are available on our website or may be requested at the Planning and Development Department, Building Division front counter during normal City Hall business hours.

Inspections

After permits are issued the below inspections are required:

1. Framing inspection - Building Division: After racks are installed, deputy anchorage reports available on site, prior to loading.

2. High-Pile storage inspection - Fire Dept.: After loading with commodities per approved plans.

3. Final inspection - Building Division: After Fire Department has signed off Final Approvals on both permits (building permit and high-pile storage permit) and all work completed per approved plans.