

# Racks/Conveyor Systems

## Storage Racks

- Site plans
- Floor plan layout detailing rack location, height and length of each system, width of aisles, ceiling/roof height, location of exits, and emergency egress lighting.
- Stamped structural engineer's design for anchorage of racks.
- Testing laboratory selection (special inspection)

**Include number of bays of racks, including length and height of each bay, in the scope.**

## Minimum Requirements for Construction Drawings

Plans shall be of sufficient clarity to indicate the location, nature, and extent of the work proposed and show that it will conform to the provisions of the adopted Codes and ordinances.

Acceptable drawings sizes are those that are larger than 11" x 17" and drawn to an appropriate scale as listed below.

Washington State law requires that any registered professional who prepares or supervises the preparation of drawings and construction documents stamp and sign such documents.

When special inspection is required by IBC Section 1704, the architect or engineer of record shall indicate the portions of work that require special inspection on the construction drawings.

## Site Plan

- 1. Scale and north arrow. (Preferred scale 1" = 20' or maximum 1" = 40').
- 2. Show basic data (Type of structure, square footage, dimensions, location).
- 3. Show dimensions of lot, distance to property lines, other buildings located on lot, street name, location, use, and vicinity map.

## Floor Plans

- 1. Specify scale and show north arrow (1/4" or 1/8" scale).
- 2. Provide dimensions, square footage and clearly label the use of all rooms or areas per IBC Sec. 302.
- 3. Load application and rack configuration drawings shall be submitted with each rack application.
- 4. Plans shall detail rack locations; height and length of each rack; width of aisles; ceiling/roof height; column type, size, dimension from column to rack, location of exits. Provide plan view, elevations of racks, manufacturer of anchors, and emergency egress lighting.
- 5. Provide calculations stamped by a Washington State licensed professional engineer. Steel storage racks may be designed per IBC Sec. 2209.1 and Sec. 15.5.3 of ASCE 7 (all others per IBC Chapter 16).
- 6. IBC 1705.13.4 and 1705.13.7 Storage racks and access floors. Periodic special inspection is required during the anchorage of access floors and storage racks 8 feet (2438 mm) or greater in height in structures assigned to Seismic Design Category D, E or F.
- 7. Vertical members of storage racks shall be protected from impact forces of operating equipment, or racks shall be designed so that failure of one vertical member will not cause collapse of more than the bay or bays directly supported by that member. (State on plans if incorporated in the calculations.)
- 8. Plans must list requirement(s) for special inspection per IBC Sec. 1705

- 9. Plans must show compliance with IBC Sec. 1013 "Exit Signs"
- 10. Plans must show compliance with IBC Sec. 1017 "Exit Access Travel Distance"
- 11. Plans must show compliance with IBC Sec. 1008 "Means of Egress Illumination"
- 12. Provide sufficient detail to allow for the classification of the commodity(ies) IFC Sec. 3203. For requirements pertaining to Hazardous Materials, aerosols, and flammable liquids, refer to those articles of the International Fire Code. This information must include the following:
  - a. The size, construction and type of materials being stored.
  - b. For any pallets containing plastics, indicate the % of plastics by weight or volume, per pallet, and classify as either a Group A, B or C plastic in accordance with IFC Sec 3203.7, as applicable.
  - c. Specify type and amount of packaging material.
  - d. Is pallet load encapsulated?
    - yes     no
  - e. Material handling aids used, (i.e. pallets, flat skids, etc.).
  - f. The arrangement of the commodity, (i.e. solid-pile, palletized or rack storage).
  - g. Type and size of shelving (if any).

13. Sprinkler system information per IFC Sec. 3206.4.

Sprinkler design density in gpm over design area. \_\_\_\_\_ gpm/sf over \_\_\_\_\_ sf.

Temperature rating of heads \_\_\_\_\_ °F.

- 14. Smoke and heat vents and curtain boards must be provided in accordance with IFC Tables 3206.7 and section 910.
  - a. Provide roof plan showing type and location of smoke and heat vents.

- b. Provide section showing draftstop construction. Draftstopping materials shall not be less than 1/2 inch gypsum board, 3/8 inch wood structural panel, 3/8 inch particleboard, 1-inch nominal lumber, cement fiberboard, batts or blankets of mineral wool or glass fiber, or other approved materials adequately supported. The integrity of draftstops shall be maintained. IBC Sec. 718.3.1.

- 15. Plans must show compliance with IFC Section 3206.6, "Building Access"

If racks are 12' and above, please also apply for a Fire > Process Permit > High-Pile Storage permit through the Citizen Portal on [KentWA.gov/PermitCenter](http://KentWA.gov/PermitCenter). Please note that you will need to reference your rack application tracking number when applying.

***I have checked the applicable boxes and have included those requirements in my submittal.***

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Print Name

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Signature

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Date