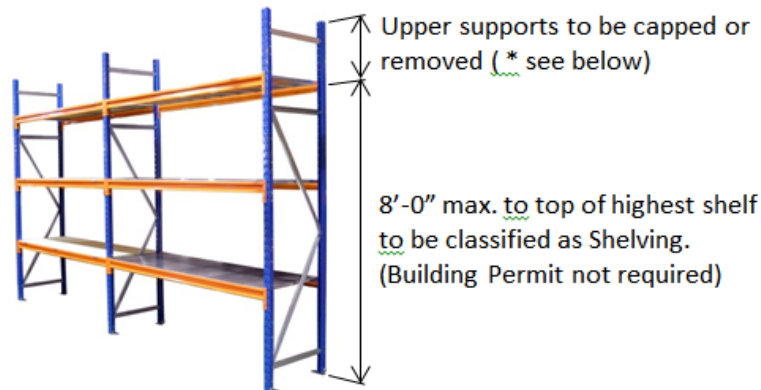


This Guide is to provide property owners, designers and contractors assistance when applying to install Racking / Vertical Storage Systems.

## Single Level Racking



1. If the system is 2.44 meters (8'-0") or less in height measured from floor level to the top of the highest shelf, the system is considered to be a **shelving unit and a building permit is not required provided;**
  - Shelving units are restrained as per the manufacturer's installation requirements.
  - Shelving units can be constructed of combustible or non-combustible materials.
  - Travel Distance and Exits Paths are maintained as per BC Building Code Requirements.
  - \* Supports extending above 2.44 meters (8'-0") are capped to prevent shelves from being placed above 2.44 meters (8'-0") in height.
  
2. If the storage system is greater than 2.44 meters (8'-0") in height measured from the floor level to the top of the highest shelf, the system is classified as **Racking and a Building Permit is required.**
  - Racking is to be Non-combustible construction (shelves excluded).
  - A Registered Professional is required to submit sealed drawings and Schedule B for the design of the racking. Supporting field reviews and Schedule C-B are also required.
  - Racking is to be seismically restrained to meet the requirements of Part 4 of the BC Building Code. The Registered Professional must also confirm the existing concrete slab will support the proposed point loads created by the racking. The BC Building Code does not reference standards such as CSA 344 or the Racking Manufacturers Institute (RMI), therefore designing to these standards is not acceptable.
  - If the building is sprinklered the design and installation of the sprinkler system for the building and the racking shall conform to NFPA 13 requirements (as referenced in the BC Building Code). A sprinkler permit is required for modifications to the existing system or for the installation of a new sprinkler system.

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*"This information is provided for convenience only and is not a substitution of applicable City Bylaws, Provincial or Federal Codes or Laws. You must satisfy yourself that any existing or proposed construction or other works complies with such Bylaws, Codes or other laws."*

## The following is required in order to apply for a Building Permit to install Racking / Vertical Storage Systems:

- Copies of liability insurance and a Schedule B for each Registered Professional. e.g., Structural, Geotechnical, Fire Suppression. (Field reviews and Schedule C-B are required upon completion)
- The following documents will provide the necessary information to apply for a building permit. These documents are available online (<http://www.mapleridge.ca/184/Building>) or at the Building Department front counter:
  - [Letter of Authorization](#) AND [Owners Acknowledgement of Responsibility Letter](#)
  - A Completed [Tenant Improvement Building Permit Application](#)
- 2 complete sets of Sealed construction drawings (Minimum sheet size 11x17), including;
  - Floor Plan(s) showing the layout of the racking including aisle widths, exit paths, etc.
  - Structural Drawings of racking including dimensions, size and material of structural members, all design criteria such as loading of the commodities, site classification, acceleration and velocity based site coefficients Fa and Fv.
- A letter from the Fire Protection Engineer or qualified sprinkler designer is required to confirm the adequacy of the existing sprinkler system or to specify the requirements for any required upgrades. The letter must include:
  - Type of commodity stored including hazard classification, i.e. Class I, II, III, IV, and the total height of the commodity on the racks.
  - Summary of the relevant requirements of the BC Building Code, BC Fire Code, NFPA 13 and any applicable standards referenced in NFPA 13.
  - The type of sprinkler system, including classification of occupancy, i.e. light hazard, ordinary hazard, extra hazard or special occupancy hazard.
  - If applicable, the design of any sprinkler system modification, new system, in rack sprinklers, fire alarm, standpipe, smoke alarms, detectors, etc.

## General Information:

- Designers should inform and educate the owner and / or users to inspect the installation for continuing conformance with specifications. The maintenance of racks to original manufacturer's specifications is the owner's responsibility as required by Worksafe BC. For additional information visit Worksafe B.C. at [www.worksafebc.com](http://www.worksafebc.com) or click the following link: [Worksafe BC Storage Rack Regulation 2018](#)
- In accordance with the BC Fire Code, the storage method and maximum height of storage shall be posted with a legible sign in a conspicuous location.
- The designer should refer to Part 3 of the BC Fire Code for requirements of type of products allowed in the building, aisle widths, clearances, height and size of storage and sprinkler systems.
- Sprinkler system designers and contractors should give special consideration to the details of water line connections between racks and buildings. In rack sprinklers are supported by the racks and attached to the ceiling / roof trusses. Fires after an earthquake are a problem if water lines are broken.
- The type and height of commodity stored shall meet the requirements of NFPA 13 and the BC Fire Code. If commodity stored is changed or modified, reassessment by professional engineer(s) for structural and / or sprinkler system may be required.

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## Additional requirements for Two Level Racking Systems.

Two Level  
Racking



- The walking platform shall be a catwalk system supported by the racking, providing access to the racking only. No open platform is permitted to be used for storage, manufacturing or assembly.
- A vertical storage unit that supports an intermediate elevated walking platform requires a building permit.
- With the exception of the shelves, the structure must be constructed of non-combustible material.
- The number, location and construction of guards and egress stairs for the catwalk system must conform to the requirements of the BC Building Code.
- Hard-wired, interconnected smoke alarm system(s) are required to cover the entire floor area containing the racking. If the catwalk system has a solid walking surface, smoke alarms shall be installed at each level.
- Should the building contain a fire alarm system then separate zone indication is required for the catwalk system.