

City of Peachtree Corners
RACKING SYSTEM
CODE COMPLIANCE GUIDELINES

Plan review and permit requirements for storage systems including but not limited to pallet racks, movable shelf racks, stacker racks, shelving systems, and conveyors. For the purpose of this document, racks are typically loaded with materials using mechanical equipment in contrast to shelving which receives materials manually. Refer to the Building Code Compliance Checklist for additional requirements and permitting procedure.

Plan review is based on the following information:

DATE OF REVIEW: _____

PROJECT NAME: _____

PROJECT ADDRESS: _____

TYPE OF OCCUPANCY: _____ TYPE OF CONSTRUCTION: _____

List of applicable codes:

International Building Code -2012 Edition with Georgia State Amendments
International Mechanical Code -2012 Edition with Georgia State Amendments
International Fuel Gas Code -2012 Edition with Georgia State Amendments
International Plumbing Code -2012 Edition with Georgia State Amendments
NFPA National Electrical Code - 2014 Edition
International Energy Conservation Code -2009 Edition with Georgia State Amendments

Requirements and permitting procedure:

1. Racks/Conveyors/Shelving which requires a building permits (if one or more of the following conditions applies):

- a. Racks/Conveyors/Shelving with storage level at more than 7 feet above the supporting floor; or
- b. Racks/Shelving which occupy a floor area (excluding aisles) greater than 1200 sq. ft.; or
- c. Racks/Shelving with rated load capacity per storage level greater than 500 lbs.; or
- d. Electrical work associated with conveyors; or
- e. Relocated racks/conveyors/shelving previously installed at another location which satisfies one or more of the conditions indicated per items 1.a, 1.b., 1.c., or 1.d.

2. Racks/Conveyors/Shelving which requires design by a Georgia Registered Professional Engineer: (if one or more of the following conditions applies):

- a. Racks/Conveyors/Shelving with storage level at more than 10 feet above the supporting floor; or
- b. Racks/Shelving which occupy a floor area (excluding aisles) greater than 3000 sq. ft.; or
- c. Racks/Shelving with rated load capacity per storage level greater than 1000 lbs.; or
- d. Existing racks/shelving which satisfy one or more of the conditions indicated per items 2.a, 2.b, or 2.c. and are located in a space to be used by a tenant of occupancy classification which is different from the previous tenant; or
- e. Relocated racks/conveyors/shelving previously installed at another location which satisfies one or more of the conditions indicated per items 2.a, 2.b., or 2.c.

3. Plan review & permit process:

- a. To begin the plan review process, submit three (3) complete sets of the required documentation stated in item 4 to the Building Plan Review Section.
 - b. Separate submittal and approvals are required from Gwinnett County Fire Plan Review.
- b. The building permit fee is assessed at a rate of \$.005 x the installation costs in addition to a fee of fifty (50) dollars for Certificate of Completion (C. C.).

4. Documentation required for issuance of a building permit:

- a. Provide tenant floor plan layout (with key plan) clearly locating all proposed racks/conveyors/shelving by dimensioning aisle widths and distances from permanent fixtures including but not limited to racks/conveyors/shelving, walls, equipment, and exit doors. The key plan shall schematically identify the specific floor area of the overall building footprint within which the proposed racks/conveyors/shelving are to be located.
- b. Provide rack configuration drawings for storage racks and elevation drawings for conveyors/shelving. Drawings shall clearly indicate the material, size, location, and orientation of each structural component which comprises the racks/conveyors/shelving.

- c. Provide details which clearly indicate the required anchorage at the base of racks/conveyors/shelving to the supporting structure including type, size, spacing, and embedment depth of required anchors. Anchorage details shall be sealed and signed by a professional engineer registered in the state of Georgia for racks/conveyors/shelving which require engineering design per item 2.
- d. Provide electrical plans for conveyors (seal and signature by a professional engineer registered in the state of Georgia is required for each project with a construction cost of \$100,000 or greater).
- e. Provide design calculations which have been sealed and signed by a professional engineer registered in the state of Georgia for racks/conveyors/shelving which require engineering design per item 2. (Refer to item 5 for design calculations requirements.)

5. Design calculations requirements: (only required for racks/conveyors/shelving which require engineering design per item 2.)

- a. Calculations shall demonstrate the structural adequacy of the applicable racks/conveyors/shelving (including structural members and connections) to support the superimposed weight of contents and to resist the required seismic design forces in accordance with the requirements of Georgia State Minimum Standard Building Code with current Amendments (IBC) (refer to the list of applicable codes) sections 1613.3 (seismic), 2209.1 (for steel racks/conveyors/shelving only), and 1997 Rack Manufacturers Institute Specification for the Design, Testing, and Utilization of Industrial Steel Storage Racks (2012 RMI Specifications) (for steel racks/conveyors/shelving only).
- b. Steel racks/conveyors/shelving shall be designed in accordance with the load combinations of section 2 of the 1997 Rack Manufacturers Institute Standard Specification for the Design, Testing, and Utilization of Industrial Steel Storage Racks (2012 RMI Specifications) for either the ASD design method (section 2.1) or the LRFD design method (section 2.2) as required per IBC 2012 section 2209.1.
- c. Calculations shall indicate the maximum weight of contents for each level of racks/conveyors/shelving.
- d. Calculations shall document the required size of each structural framing component (including but not limited to posts, beams, and bracing) and specify the corresponding member connections (including but not limited to beam-post, post-base plate, brace-post).
- e. Calculations shall document the structural adequacy of the existing floor structure to support the concentrated post loads from racks/conveyors/shelving.
- f. Calculations for cantilever racks, drive-in and drive-thru racks, portable racks, and rack buildings shall be in accordance with appropriate design specifications published by nationally recognized technical organizations including but not limited to AISC, ASCE, and AISI and shall address the requirements of items 5.a., 5.c. (design values only), in addition to the requirements of IBC 2012 chapter 22.