



Code Requirements for Walk-In Refrigerators and Freezers

PURPOSE

To provide a compilation of code requirements of concern for site built structures used as walk-in refrigerators or freezers.

CODE REFERENCE

- 2016 California Building Code (CBC) and 2016 California Energy Standards

EXITING

- CBC 1010.1.1 limits exit doors to 4 feet wide. However, since 1010.1.2 allows overhead and sliding doors for spaces with an occupant load of 10 or less, swing doors larger than 4 feet wide can be approved since they are also limited to the opening forces to meet accessibility.
- CBC 1006.2.2.3 requires two exits for spaces 1000 sq ft or more, but with exceptions based on the quantity of refrigerants by volume as set forth in the California Mechanical Code.

ACCESSIBILITY

Employee Work Area:

- Per CBC 11B-203.9, employee work areas shall be designed and constructed to provide an accessible approach, accessible entrances and accessible exits. This includes landing sizes, ramps, thresholds, door opening force, door hardware and at least one 3 feet door providing a 32 inches clear width when user passage is required.
- A walk-in refrigerator or freezer that is accessory to a commercial kitchen may be considered an integral 'component' of work area equipment and shall not be required to provide access into and within the 'component'. However, access to the component, maneuvering clearance at the entrance to the 'component', and the opening width into the 'component' shall comply with the provisions for an accessible route

Customer Accessed Areas:

- Large retail walk-in refrigerated or freezer spaces that allow customer access, shall comply with all provisions of CBC 11B-811 for storage spaces in addition to complying the accessible route provisions of Division 4 of CBC Chapter 11B.
- Smaller reach-in units may only comply with the provisions of CBC 11B-811 for storage (i.e. approach, reach ranges and operable parts).]

STRUCTURAL

Structural calculations and plans are required. The panels used must be HCD approved, have a current ICC report, other similar recognized third party approval, or designed by a qualified civil engineer registered with the State of California (This option will require special inspection by a City approved inspection agency at the location where the panel is manufactured and the design of the panels must be submitted for review and approval. Deferred submittals are not allowed for this option).

ENERGY EFFICIENCY

- Walk-in refrigerators and freezers **3000 sq ft or larger** per section 120.6 of the 2016 energy standards, mandatory requirements for refrigerated warehouses:

Refrigerator walls and ceilings: R-28 min.

Freezer: R-36 min.

Roof/Ceiling: R-40 min.

Wall: R-36 min.

Floor: R-35 min.

- Walk-in refrigerators or freezers **under 3000 sq ft** per section 1605.1 (a) of the California Appliance Efficiency Standards, (see <http://www.energy.ca.gov/2015publications/CEC-400-2015-021/CEC-400-2015-021.pdf>)

Refrigerator walls, ceilings and doors: R-25 min.

Freezer walls, ceilings and doors: R-32 min.

Freezer floors: R-28 min.

- Strip or self-closing doors are required. Glass for doors and windows shall be double pane for refrigerators, and triple pane for freezers.
- As written, The Federal Energy Independence and Security Act of 2007, section 312, supersedes any California regulation issued prior to 2011 under title 20. The current California Appliance Efficiency Standards applies to products manufactured after January 1, 2009 and regulates appliances beyond those covered by the Federal act. Both are the same for walk-in refrigerators and freezers at this time.

MECHANICAL CODE

The mechanical plans must identify if the cooler and freezer rooms meet California Mechanical Code (CMC) 1104.1, 1104.2, and 1104.2.1.

FIRE CODE

In sprinklered buildings, the sprinklers shall be extended to the walk- in refrigerator or freezer with corrosion resistant heads.