
WALK-IN FREEZERS AND COLD STORAGE BOXES

IR A-14

References:

California Code of Regulations (CCR), Title 24
Part 1: California Administrative Code, Section 4-317

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Discipline: ALL

This Interpretation of Regulations (IR) is intended for use by the Division of the State Architect (DSA) staff, and as a resource for design professionals, to promote more uniform statewide criteria for plan review and construction inspection of projects within the jurisdiction of DSA which includes State of California public elementary and secondary schools (grades K-12), community colleges and state-owned or state-leased essential services buildings. This IR indicates an acceptable method for achieving compliance with applicable codes and regulations, although other methods proposed by design professionals may be considered by DSA.

This IR is reviewed on a regular basis and is subject to revision at any time. Please check the DSA web site for currently effective IRs. Only IRs listed in the document at <http://www.dgs.ca.gov/dsa/Resources/IRManual.aspx> at the time of plan submittal to DSA are considered applicable.

* Indicates alternative 2010 CBC section that can be used by community colleges, per 2010 CBC Section 1.9.2.2.

Purpose: This Interpretation of Regulations clarifies the Division of the State Architect (DSA) review and acceptance of walk-in freezers and cold storage boxes (WIF/CSB).

Background: DSA does not review the design and fabrication of pre-manufactured equipment, but does check anchorage of equipment to resist gravity and lateral loads. Walk-in freezers and cold storage boxes are typically constructed from prefabricated wall and roof panels interconnected with cam-locks. The strength of the cam-locks is determined by static tests. Some WIF/CSB may be designed with different interconnection systems for the panels.

Policy: DSA will accept WIF/CSB as pre-manufactured equipment for public school construction projects if the construction meets the indoor or outdoor installation requirements of this policy. Otherwise, WIF/CSB shall be designed to meet the requirements of California Building Code (CBC) for new buildings.

1. Requirements for Indoor Installation: The WIF/CSB units must be confined on three sides by walls capable of resisting seismic forces from the WIF/CSB units as prescribed by CBC Section 1613A (1613*) (Section 1632A in the 2001 CBC). Mechanical anchorage is not required, and restraint may be provided by bearing on walls or floor curbs. On the fourth side, with door, supplemental lateral bracing must be provided per Section 2.3.2 below. Supplementary bracing shall not block or interfere with doorways or means of egress.

2. Requirements for Outdoor Installation: Outdoor installation may be accepted as pre-manufactured equipment if the WIF/CSB unit meets the limitations and requirements of Sections 2.1 to 2.6 below.

2.1 Dimensional Limitation: WIF/CSB units are limited to 250 square foot of enclosed areas and ten feet in height.

2.2 Snow Load Limitation: Snow load shall be limited to the lesser of 20 psf or the manufacturer's recommendation.

2.3 Installation Options: Provide either fencing or supplemental lateral bracing around the perimeters as follow:

2.3.1 Fencing Option: Enclose the WIF/CSB unit by a fence with a clear space between the fence and the unit equal to the height of the unit, or

2.3.2 Supplementary Bracing Option: Provide supplemental lateral bracing around the perimeters of the WIF/CSB units, i.e. steel lateral frames, steel columns or bollards, etc. Supplementary bracing shall be designed to resist the required wind and/or seismic forces for new buildings per CBC Sections 1609A or 1609* and 1613A (1613*) respectively (Chapter 16A, Divisions III and IV in the 2001 CBC).

2.4 Anchorage: WIF/CSB units installed outside of building shall be anchored to resist the required wind and seismic forces required for new buildings per the CBC Sections 1609A (1609*) and 1613A (1613*) respectively (Chapter 16A, Divisions III and IV in the 2001 CBC).

2.5 DSA Review: DSA will check the foundation and anchorage capacities per Section 2.4 above, and the supplemental lateral bracing per Section 2.3.2 above. Provide plans, details, specifications, calculations, and any other information that are necessary to complete the DSA reviews.

2.6 Abutting a Building: When a WIF/CSB unit is located adjacent to another building, the WIF/CSB, if recommended by the manufacturer, may be attached to, and laterally supported by the building. A California registered architect or structural engineer shall provide calculations to verify the adequacy of the existing building to support the design forces imposed by the adjacent WIF/CSB unit.

Alternatively, the WIF/CSB may be separated from the adjacent building by a structural joint at least two inches clear and provided with supplementary lateral bracing on four sides in accordance with Section 2.3.2 above.

4. Fire Life Safety Requirements: An automatic fire sprinkler system is required for WIF/CSB units that are housed in or adjacent to a building protected or required to be protected by an automatic fire sprinkler system. DSA will check WIF/CSB units installed indoors.

4.1 When WIF/CSB are installed outdoors or adjacent to buildings, site plans showing all approved fire lanes shall be submitted. DSA will check the site plan to ensure no fire access lanes are obstructed by the WIF/CSB units.

5. Access Compliance Requirements: Commercial kitchens used only by employees are generally considered to be work stations requiring compliance with CBC Section 1123B.2 (32" clear entry opening, aisles, and floors and levels). Pre-manufactured walk-in coolers and freezers used only by employees within a commercial kitchen (work station) are considered to be kitchen equipment not requiring compliance with accessibility provisions.

However, if pre-manufactured walk-in freezers or cold storage boxes are used by students as a part of their education curriculum, or they are used by the general public, they are not considered to be a part of an employee only work station and therefore must meet all accessibility requirements of the California Building Code.