Hillsborough County Florida
Development Services

Sufficiency Guidelines
Intermodal Shipping Containers

This document serves as a supplement guide for all Intermodal Shipping Containers. Following these guidelines will help ensure the application, plans and supporting documentation are complete and sufficient for permit submittal, which will ensure a timely review and response.

In addition to the requirements listed on this document, Intermodal Shipping Containers must also meet the sufficiency guidelines for your permit type:

- Residential Single-Family New Construction Sufficiency Guidelines
- Residential Additions Sufficiency Guideline
- Residential Accessory Structures (Over 150 SF) Permit Requirements
- New Commercial Building/Addition Permit Requirements
- New Commercial Shell Building Permit Requirements

1. **Plans shall be reviewed and approved by the building official through the Alternative Materials, Design and Methods of Construction and Equipment process (AMMR), in accordance with FBC-Building, Section 104.11.**
2. **The construction documents shall contain information to verify the dimensions and establish the physical properties of the steel components and wood floor components of the intermodal shipping container, including condition and structural integrity of structure, in addition to information required by FBC 107 and 1603.**
3. **Intermodal shipping containers shall bear an existing data plate as required by ISO 6346.**
4. **Protection against decay and termites.** Wood structural floors of intermodal shipping containers shall be protected from decay and termites in accordance with the applicable provisions of FBC Chapter 18 and FBC, Section 2304.12.
5. **Foundations.** Intermodal shipping containers repurposed for use as a permanent building or structure or as a part of buildings or structures shall be supported on foundations or other supporting structures designed and constructed in accordance with FBC Chapters 16-23. Intermodal shipping containers shall be anchored to foundations or other supporting structures as necessary to provide a continuous load path for all applicable design and environmental loads in accordance with FBC Chapter 16.
6. **Welds.** New welds and connections shall be equal to or greater than the original connections in accordance with FBC Chapter 22.
7. **Design Method Options:**

   A) Detailed design procedure. A structural analysis meeting the requirements shall be provided to demonstrate the structural adequacy of the intermodal shipping container in accordance with FBC-Building, Section 104.11. Structural Analysis provided should include:

   - Structural Material properties of the steel must be determined.
   - Structural Design Load path to be determined based on scope of work.

   This design method allows for the alteration of the shipping container's exterior envelope.

   Examples of permit types for this design method may include:

   - Alteration to existing shipping containers (adding windows/doors, exterior features).
   - Additions to existing shipping containers (Horizontal attachments or Vertical stacking of units)

   OR

B) Simplified structural design of single-unit containers. Single unit intermodal shipping containers shall conform to FBC-Building, Section 104.11. Single unit intermodal shipping containers conforming to the following limitations shall be permitted.

- The intermodal shipping container shall be a single-unit, stand-alone unit supported on a foundation and shall not be in contact with or supporting any other shipping container or structure.
- The intermodal shipping container top and bottom rails, corner castings, and columns or any portion thereof shall not be notched, cut, or removed in any manner.
- The intermodal shipping container shall be erected in a level and horizontal position with the floor located at the bottom.
- The intermodal shipping container shall be located in Seismic Design Category A, B, C or D.

Examples of permit types for this design method may include:

- Residential Accessory Structures (without any alterations).
- Commercial Accessory Structures (without any alterations).

8. Allowable Shear (Penetrations). Per FBC 104.11 Alternative materials, design and methods of construction and equipment, the allowable shear for the corrugated steel side walls and end walls for wind design and seismic design shall be in accordance with the following conditions:

- The total length of all openings in any individual side wall or end wall shall be limited to not more than 50 percent of the length of that side wall or end wall.
- Any full-height wall length, or portion thereof, less than 4’ (305 mm) shall not be considered as a portion of the lateral force-resisting system.
- All side walls or end walls used as a part of the lateral force-resisting system shall have an existing or new boundary element on all sides to form a continuous load path, or paths, with adequate strength and stiffness to transfer all forces from the point of application to the final point of resistance.
- A maximum of one penetration not greater than 6 inches (152 mm) in diameter for conduits, pipes, tubes or vents, or not greater than 16 square inches for electrical boxes, is permitted for each individual 8-foot (2438 mm) length of later force-resisting wall. Penetrations located in walls that are not part of the lateral force-resisting system shall not be limited in size or quantity. Existing intermodal shipping container vents shall not be considered a penetration.
- Where openings are made in container walls, floors or roofs, for doors, windows and other openings:
  - The openings shall be framed with steel elements that are designed in accordance with FBC Chapters 16 and 22.
  - The cross section and material grade or any new steel element shall be equal to or greater than the steel element removed.
- End wall doors designated as part of the lateral force-resisting system shall be welded closed.