

ICC-ES Evaluation Report

ESR-4658

Reissued August 2024


This report also contains:

- CBC Supplement
- FBC Supplement

Subject to renewal August 2025

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<p>DIVISION: 05 00 00— METALS</p> <p>Section: 05 10 00— Structural Metal Framing</p> <p>Section: 05 12 00— Structural Steel Framing</p>	<p>REPORT HOLDER:</p> <p>EQUIPMENT MANAGEMENT SERVICES, LLC</p>	<p>EVALUATION SUBJECT:</p> <p>EQUIPMENT MANAGEMENT SERVICES (EMS) STRUCTURAL BUILDING MATERIALS</p>	
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1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2024, 2021, 2018 and 2015 [International Building Code® \(IBC\)](#)
- 2024, 2021, 2018 and 2015 [International Residential Code® \(IRC\)](#)

Properties evaluated:

- Structural - Materials

2.0 USES

EMS structural building materials are used in custom designed, factory built, building modules transported to the jobsite to construct site specific buildings.

3.0 DESCRIPTION

EMS Shipping Container Structures are site-specific, custom-designed, factory-built modules. The modules are transported to the jobsite and assembled to form a completed building. Shipping containers are used as the source of structural and non-structural building materials for constructing the modules. The steel structural building materials from the shipping containers and the quality control process for selecting shipping containers are the subject of this report. All other aspects of the modules are outside the scope of this report. The steel components of the shipping containers selected for use as structural building materials have been correlated to the appropriate ASTM International steel specification and are suitable for use with the design provisions specified in the American Institute of Steel Construction Specification for Structural Steel Buildings (AISC 360) or the American Iron and Steel Institute North American Specification for the Design of Cold-Formed Steel Structural Members (AISI S100), as applicable. The various components used, detail drawings of the components, steel specification for the steel used to fabricate the components, cross-reference to the equivalent ASTM standard, yield strength, and tensile strength used for design are specified in Equipment Management Services, LLC (EMS) Shipping Container Design Manual, dated July 14, 2020.

4.0 DESIGN AND INSTALLATION

The structural building materials used in the building modules must be designed in accordance with the AISC 360 or AISI S100, as applicable. The design of the building module must be in compliance with the IBC and installation of the building modules must be in accordance with the approved plans. The approved plans must be available at the jobsite at all times.

5.0 CONDITIONS OF USE:

The EMS structural building materials described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The scope of the report is limited to the evaluation (verification) of the steel structural building materials used in construction of the building modules in the EMS facility for their suitability for use with AISC 360 and AISI S100. All other aspects of the building modules and the final structure, such as, but not limited to, structural design, plumbing and electrical are outside the scope of this report.
- 5.2 Where approved by the code official, the markings and existing data plates on the intermodal shipping containers are permitted to be removed before they are repurposed for use as building or structures or part of buildings or structures in accordance with Section 3114.3 of the 2024 IBC or Section 3115.3 of the 2021 IBC, as applicable.
- 5.3 The design of buildings or structures with repurposed intermodal shipping containers conforming to ISO 1496-1 shall be in accordance with Section 3114.8 of the 2024 IBC or Section 3115.8 of the 2021 IBC, as applicable.
- 5.4 Complete construction documents and calculations must be submitted to the code official for each specific project. The calculations and construction documents must be prepared and sealed by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. A copy of this report must be submitted in addition to all other required material when applying for a building permit.
- 5.5 The structural building materials are procured for use in the Equipment Management Services facility in Houston, Texas, under quality control programs with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the [ICC-ES Acceptance Criteria for Structural Building Materials from Shipping Containers \(AC462\)](#), dated October 2018 (editorially revised March 2024).

7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-4658) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.
- 7.2 In addition, each EMS Shipping Container Structure manufactured from shipping container materials shall be labeled with the Equipment Management Services, LLC name and address.
- 7.3 The report holder's contact information is the following:

EQUIPMENT MANAGEMENT SERVICES, LLC
6910 SOUTH LAKE HOUSTON PARKWAY
HOUSTON, TEXAS 77049
(713) 675-4442
www.ems-llc.com

DIVISION: 05 00 00—METALS**Section: 05 10 00—Structural Metal Framing****Section: 05 12 00—Structural Steel Framing****REPORT HOLDER:****EQUIPMENT MANAGEMENT SERVICES, LLC****EVALUATION SUBJECT:****EQUIPMENT MANAGEMENT SERVICES (EMS) STRUCTURAL BUILDING MATERIALS****1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that EMS structural building materials, described in ICC-ES evaluation report ESR-4658, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2022 California Building Code (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2022 California Residential Code (CRC)

2.0 CONCLUSIONS**2.1 CBC:**

The EMS structural building materials, described in Sections 2.0 through 7.0 of the evaluation report ESR-4658, complies with CBC Chapter 22, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 16, 17 and 22, as applicable.

2.1.1 OSHPD:

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

2.2 CRC:

The EMS structural building materials, described in Sections 2.0 through 7.0 of the evaluation report ESR-4658, complies with CRC Chapter 3, provided the design and installation are in accordance with the 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report and the additional requirements of CRC Chapter 3, as applicable.

This supplement expires concurrently with the evaluation report, reissued August 2024.

DIVISION: 05 00 00—METALS**Section: 05 10 00—Structural Metal Framing****Section: 05 12 00—Structural Steel Framing****REPORT HOLDER:****EQUIPMENT MANAGEMENT SERVICES, LLC****EVALUATION SUBJECT:****EQUIPMENT MANAGEMENT SERVICES (EMS) STRUCTURAL BUILDING MATERIALS****1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that Equipment Management Services (EMS) Structural Building Materials, described in ICC-ES evaluation report ESR-4658, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2023 Florida Building Code—Building
- 2023 Florida Building Code—Residential

2.0 CONCLUSIONS

The Equipment Management Services (EMS) Structural Building Materials, described in Sections 2.0 through 7.0 of evaluation report ESR-4658, comply with the *Florida Building Code—Building* and the *Florida Building Code—Residential*. The design requirements must be determined in accordance with the *Florida Building Code—Building* and *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-4658 for the 2021 *International Building Code*® (IBC) meet the requirements of the *Florida Building Code—Building* and *Florida Building Code—Residential*, as applicable.

Use of the Equipment Management Services (EMS) Structural Building Materials has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code-Building* or the *Florida Building Code-Residential* with the following conditions:

- The design and installation are in accordance with additional requirements of *Florida Building Code—Building* Chapter 16 (High-Velocity Hurricane Zones) and Chapter 22 (High-Velocity Hurricane Zones), as applicable.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

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