

ICC-ES Evaluation Report

ESR-5765

Issued July 2025

This report also contains:

- [City of LA Supplement](#)

Subject to renewal July 2026

- [CA Supplement](#)

- [FL Supplement](#)

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DIVISION: 03 00 00— CONCRETE Section: 03 11 19— Insulating Concrete Forming	REPORT HOLDER: ECO BUILDING SYSTEMS CORP	EVALUATION SUBJECT: THE PERFECT BLOCK™ INSULATED COMPOSITE CONCRETE FORM (ICCF) WALL SYSTEM	
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1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2024 and 2021 [International Residential Code® \(IRC\)](#)

Property evaluated:

- Surface-burning characteristics

2.0 USES

The Perfect Block Insulated Composite Concrete Forms (ICCF) are used as stay-in-place formwork for containing structural concrete for casting of load-bearing and non-load bearing, below-grade and above-grade walls. The forms are used in construction of plain and reinforced concrete beams, lintels, exterior and interior walls, and foundation and retaining walls. The forms remain in place after the concrete cures and must be covered by an approved interior and exterior wall-finish material, as described in Sections 4.2.2 and 4.2.3, respectively.

3.0 DESCRIPTION

3.1 The Perfect Block ICCF: The Perfect Block ICCF is manufactured from a proprietary mixture of recycled expanded polystyrene, ground into aggregate beads, Portland cement, proprietary admixtures and water. The material has a density between 20 and 24 pcf (320 and 384 kg/m³). The ICCF block is nominally 10-inch thick (254 mm), 12-inch (305 mm) deep and 48 inches (1219 mm) long. The ICCF blocks have a flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84. When stacked in the final position, the blocks form vertical and horizontal cavities where reinforcement and concrete is placed. The ICCF block described in this report meet requirements of a 6-inch-thick (152 mm) screen-grid in accordance with IRC Table R608.3. In addition to the ICCF block, accessory ICCF blocks are also available. See [Figures 1, 2 and 3](#).

3.2 Concrete: Concrete must be normal-weight concrete complying IRC Section R404.1 and R608.5.1, having a maximum aggregate size in accordance with IRC Sections R404.1.3.3.3 and R608.5.1.3 and have a minimum compressive strength of 2,500 psi (17.2 MPa) at 28 days in buildings assigned to Seismic Design Category A, B and C and 3,000 psi (20.5 MPa) at 28 days in buildings assigned to Seismic Design Category D₀, D₁ and D₂.

3.3 Reinforcement: Deformed steel reinforcement bars must have a minimum specified yield stress of either 40 ksi (275 kPa) or 60 ksi (413 kPa), in accordance with IRC Sections R404.1.3.3.7.1 and R608.5.2.1.

3.4 Other Components: Wood members in contact with concrete for plates or windows and door framing must be treated with an approved wood preservative or be of a naturally durable species and must be attached with hot-dipped galvanized steel fasteners complying with 2024 IRC Section R304.3 (2021 IRC Section R317.3), as applicable. Materials other than wood, such as vinyl or aluminum, are permitted for window and door framing, if approved by the code official.

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 IRC Method: Concrete walls formed using ICCF blocks must be designed and constructed in accordance with IRC Sections R404.1.3 and R608, for 6-inch screen-grid systems.

4.1.2 Alternate IRC Method: When ICCF blocks are used to construct buildings that do not conform to the applicability limits in IRC Sections R404.1.3 and R608.2, construction must be in accordance with the prescriptive provisions of the 2017 Prescriptive Design of Exterior Concrete Walls for One- and Two-family Dwellings (PCA 100-17) under the IRC.

4.2 Installation:

4.2.1 General: The Perfect Block ICCF must be installed in accordance with the Eco Building Systems published installation instructions, this report and the applicable code. The published installation instructions and this report must be strictly adhered to, and a copy of the instructions must be available at all times on the jobsite during installation.

The ICCF blocks and resulting concrete walls must be supported on concrete footings complying with IRC Chapter 4. Vertical reinforcement bars embedded in footings must extend into the base of the wall system with the minimum development length, and into concrete walls with a minimum lap splice length conforming to IRC Section R608.5.4. Additional reinforcement around doors and windows must be described in the approved construction documents. Concrete quality, mixing and placement must comply with IRC Sections R404.1.3.3 and R608.5.1. Window and door openings must be built into the forms, with frames of the same dimensions as the “rough stud opening” specified by the window or door manufacturer, prior to the placement of concrete. Connections of concrete walls to footings, floors, ceilings and roofs must be in accordance with IRC Section R608.9. Anchor bolts used to connect wood ledgers and plates to the concrete must be cast in place, with the bolts sized and spaced as required by design and the applicable code. Details must be prepared to accommodate the specific job situation, in accordance with the applicable code, subject to the approval of the code official.

4.2.2 Interior Covering: The interior side of the ICCF blocks must be protected by an approved thermal barrier, such as ½-inch-thick (12.7 mm) gypsum wallboard installed in accordance with IRC Section R702, except for attic and crawl spaces that must comply with 2024 IRC Sections R303.5.3 and R303.5.4 (2021 IRC Sections R316.5.3 and R316.5.4).

4.2.3 Exterior Covering:

4.2.3.1 Above Grade: The ICCF blocks must be covered on the exterior with an approved wall covering in accordance with IRC Section R703.

4.2.3.2 Below Grade: Materials used to dampproof or waterproof basement walls must be specified by Eco Building Systems; must comply with the IRC or a current ICC-ES evaluation report; and must be compatible with the ICCF blocks. Damp proofing and waterproofing must comply with IRC Section R406. Drainage must comply with IRC Section R405.1. No backfill is permitted to be applied against the wall until the complete floor system is in place, unless the wall is designed as a freestanding wall that does not rely on the floor system for structural support.

4.2.4 Foundation Walls: Foundation stem walls constructed from the ICCFs that support wood-framed or concrete construction must be supported on concrete footings complying with the IRC. Design and installation of the ICCFs as foundation stem walls must comply with IRC Section R404.1.3. Vertical reinforcement size and spacing must be in accordance with IRC Tables R404.1.3.2(7). Alternate design and construction may be in accordance with ACI 332 or PCA 100.

4.2.5 Retaining Walls: The ICCFs may be used to construct a retaining wall, provided the retaining wall is designed in accordance with IRC Section R404.1.3.

5.0 CONDITIONS OF USE:

The Perfect Block Insulated Composite Concrete Form (ICCF) Wall System described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The ICCFs are manufactured, identified, and installed in accordance with this report and the Eco Building Systems Corp published installation instructions. If there is a conflict between the Eco Building Systems Corp published installation instructions and this report, this report governs.
- 5.2 The ICCFs must be separated from the interior of the building as described in Section 4.2.2 of this report.
- 5.3 Concrete quality, mixing and placement must comply with Section 4.2.1 of this report.
- 5.4 The ICCF blocks are produced under a quality control program with inspections by ICC-ES.

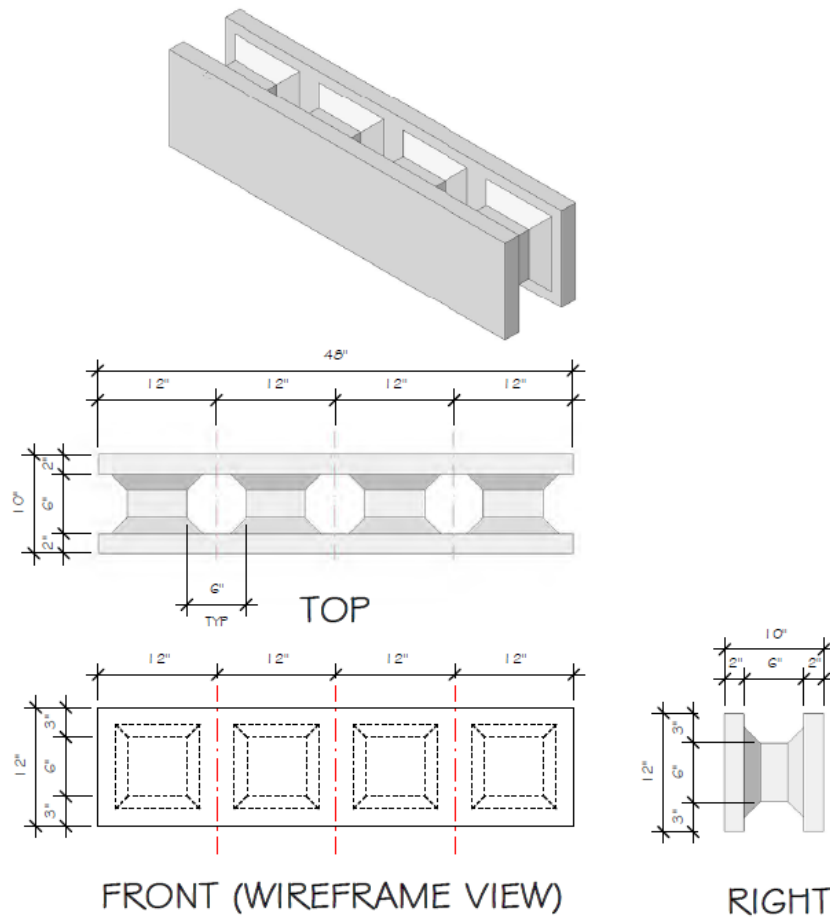
6.0 EVIDENCE SUBMITTED

- 6.1 Report of testing in accordance with ASTM E84.
- 6.2 Product drawings, specifications and installation instructions.
- 6.3 Quality control documentation in accordance with the [ICC-ES Acceptance Criteria for Quality Documentation \(AC10\)](#).

7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of electronic labeling, or the evaluation report number (ICC-ES ESR-5765) 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 ICCF block is labeled with the company name (ECO BUILDING SYSTEMS CORP), product description, and manufacture date and the evaluation report number (ESR-5765).
- 7.3 The report holder's contact information is the following:

ECO BUILDING SYSTEMS CORP
8960 W. LARKSPUR DRIVE, SUITE 105
PEORIA, ARIZONA 85381
(623) 271-1173
www.theperfectblock.com

Eco Building Systems Corp.[™]**EBS 10 INCH - 6" X 6" CORE BLOCK**
SPECIFICATIONS**FIGURE 1—ICCF BLOCK**

Eco Building Systems Corp.TM

EBS 10 INCH CORNER BLOCK SPECIFICATIONS

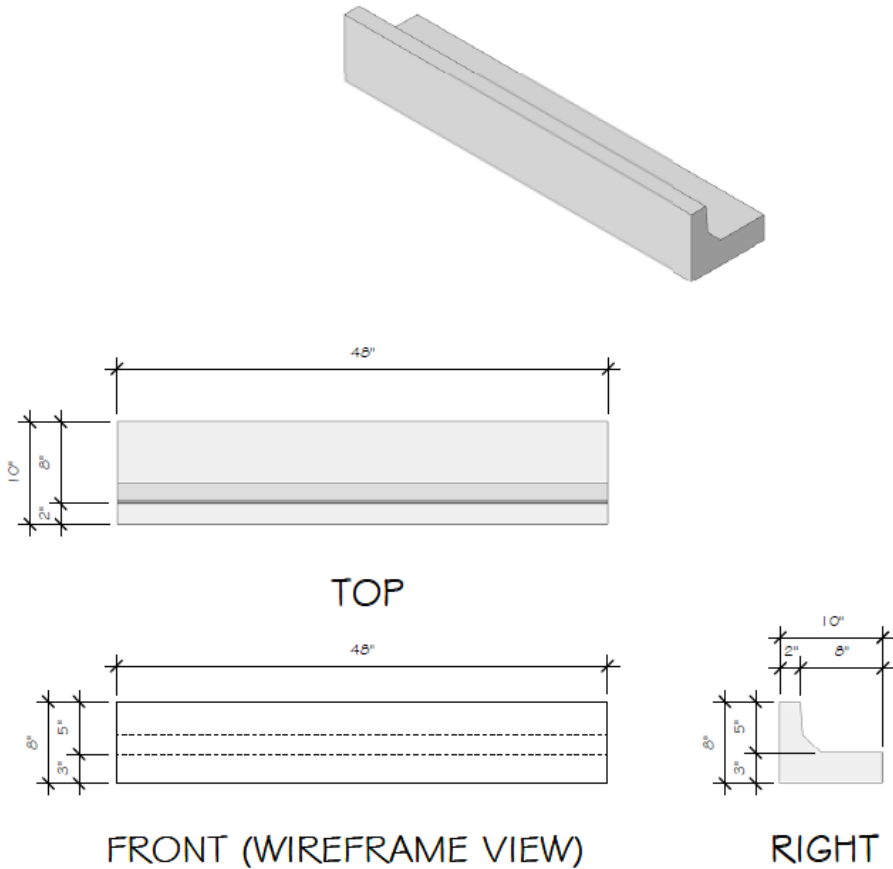


FIGURE 2—ICCF CORNER BLOCK

Eco Building Systems Corp.™

EBS 10 INCH END BLOCK SPECIFICATIONS

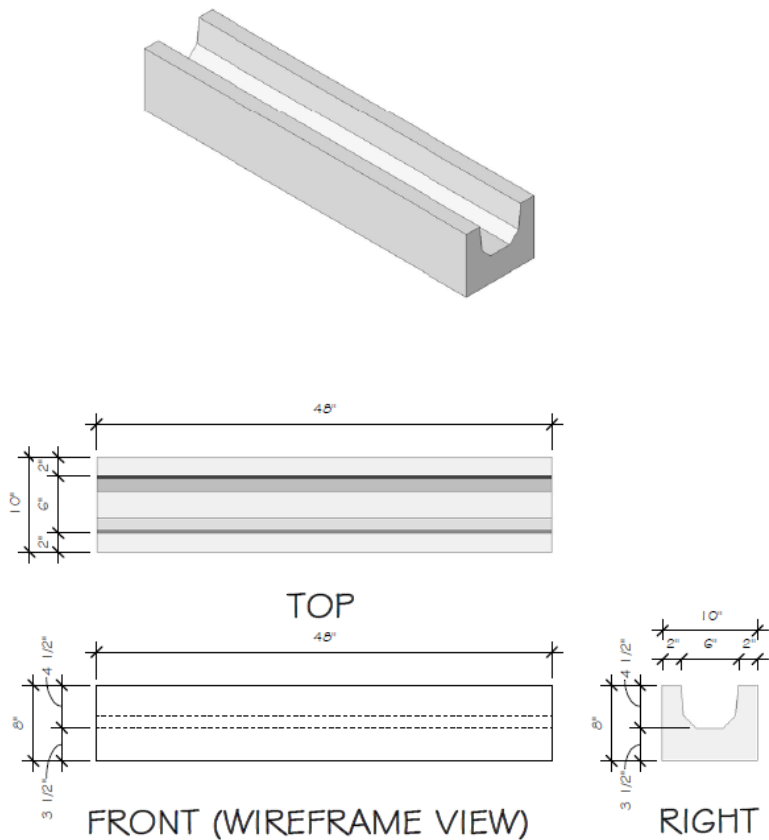


FIGURE 3—ICCF END BLOCK

ICC-ES Evaluation Report

ESR-5765 City of LA Supplement

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This report is subject to renewal July 2026.

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A Subsidiary of the International Code Council®

DIVISION: 03 00 00—CONCRETE

Section: 03 11 19—Insulating Concrete Forms

REPORT HOLDER:

ECO BUILDING SYSTEMS CORP

EVALUATION SUBJECT:

THE PERFECT BLOCK™ INSULATED COMPOSITE CONCRETE FORM (ICCF) WALL SYSTEM

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the Perfect Block Insulated Concrete Forms, described in ICC-ES evaluation report [ESR-5765](#), have also been evaluated for compliance with the code noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

Applicable code edition:

- 2023 *City of Los Angeles Residential Code* ([LARC](#))

2.0 CONCLUSIONS

The Perfect Block Insulated Concrete Forms, described in Sections 2.0 through 7.0 of the evaluation report [ESR-5765](#), comply with the LARC, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The Perfect Block Insulated Concrete Forms described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-5765](#).
- The design, installation, conditions of use and identification of the Perfect Block Insulated Concrete Forms are in accordance with the 2021 *International Residential Code*® (IRC) provisions, noted in the evaluation report [ESR-5765](#).
- The design and installation are in accordance with the additional requirements of LARC Chapters 3, 4 and 6, as applicable.

This supplement expires concurrently with the evaluation report issued July 2025.

ICC-ES Evaluation Report

ESR-5765 CA Supplement

Issued July 2025

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1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the Perfect Block Insulated Concrete Forms, described in ICC-ES evaluation report [ESR-5765](#), have also been evaluated for compliance with the codes noted below.

Applicable code edition(s):

- 2025 and 2022 California Residential Code (CRC)

2.0 CONCLUSIONS

2.1 CRC:

The Perfect Block Insulated Concrete Forms, described in Sections 2.0 through 7.0 of the evaluation report [ESR-5765](#), comply with CRC Chapters 3, 4 and 6, provided the design and installation are in accordance with the 2024 and 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report and the additional requirements of CRC Chapters 3, 4 and 6, as applicable.

This supplement expires concurrently with the evaluation report, issued July 2025.

DIVISION: 03 00 00—CONCRETE

Section: 03 11 19—Insulating Concrete Forms

REPORT HOLDER:

ECO BUILDING SYSTEMS CORP

EVALUATION SUBJECT:

THE PERFECT BLOCK™ INSULATED COMPOSITE CONCRETE FORM (ICCF) WALL SYSTEM

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the Perfect Block Insulated Concrete Forms, recognized in ICC-ES evaluation report [ESR-5765](#), have also been evaluated for compliance with the code noted below.

Applicable code editions:

- 2023 *Florida Building Code—Residential*

2.0 CONCLUSIONS

The Perfect Block Insulated Concrete Forms, described in Sections 2.0 through 7.0 of ICC-ES evaluation report [ESR-5765](#), complies with the *Florida Building Code—Residential*. The design requirements must be determined in accordance with the *Florida Building Code—Residential*. The installation requirements noted in ICC-ES evaluation report [ESR-5765](#) for the 2021 *International Residential Code*® meet the requirements of the *Florida Building Code—Residential*, with the following condition:

- In Section 4.1 of the evaluation report, for applications subject to Section R608 of the *Florida Building Code—Residential* is used in lieu of Section R608 of the 2021 IRC.

Use of the Perfect Block Insulated Concrete Forms for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Residential* is outside scope of this report.

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).

This supplement expires concurrently with the evaluation report issued July 2025.