



PRODUCT SPECIFICATIONS



STAR CINEMA IMAX
FITCBURG, WISCONSIN



PRODUCT DESCRIPTION

ECO-Block Insulated Concrete Forms (ICFs) consist of two sizes of expanded polystyrene (EPS) panels:

1. The Standard Panel System is 16" high, 48" long, and 2.5" thick
2. The 24" Panel System is 24" high, 48" long, and 2" thick

All panels have embedded plastic webs and plastic connectors that serve as a stay-in-place alternative formwork to that described in the Building Codes. ECO-Block ICFs form a solid monolithic concrete wall of uniform thickness which can be designed to ACI 318 for use in combustible and non-combustible construction.

CONCRETE

Concrete shall be normal weight concrete (2,000 psi minimum) complying with Chapter 19 of the I-Codes or Chapter 4 of the NBCC 2005 (See ECO-Block Installation Manual and ICC-ES ESR-1182).

VAPOR BARRIER

In Accordance with Section 1403 of the 2006 International Building Code, Exception 2, plain and reinforced concrete walls constructed in accordance with Chapter 19 do not require vapor retarder. Please check the local code requirements in your area to ensure compliance.

AIR BARRIER

ECO-Block ICF System has been tested in accordance with ASTM E283 (ATI Test Report No. 01-46236.01) and have shown to have an air infiltration rate less than 0.01 cfm/ft².

WATER-PROOFING OR DAMP-PROOFING

There are several good products on the market to meet the requirements for waterproofing or damp-proofing below grade. It is recommended by ECO-Block that the materials you choose have an ICC-ES Evaluation Report in order to ensure they are acceptable to the local building official as well as to protect your investment.

THERMAL RESISTANCE:

The thermal resistance of the ECO-Block ICF has been tested in accordance with ASTM C518 (Intertek Report #3026044) and found to have an R value of 22 for the in-place system. The ECO-Block ICF system effectively performs much better than that due to the fact there is no air infiltration through the system, there is a continuous thermal envelope over the wall surface, and there is a thermal mass effect created by insulating both sides of the concrete. Therefore, the equivalent R value required by a wood framed house to meet the same performance levels of the ECO-Block ICF would need to be approximately R-40. This value is often referred to as the effective R value of the ICF.

FIRE RESISTIVE CONSTRUCTION

ECO-Block can be used to construct fire resistance rated wall assemblies with the following ratings based on concrete core thickness:

CONCRETE THICKNESS (inches)	FIRE RESISTANCE RATING (hours)
4	2
6	4
8	4



SOUND TRANSMISSION CLASSIFICATION (STC)

The ECO-Block ICF system has been tested in accordance with ASTM E90 (ATI Test Report #01-46689.02). The STC rating of the ECO-Block ICF (with a 6" concrete core and ½" regular gypsum applied to one side only) is STC 51.

NOTE: A wood framed system of equivalent STC rating would be 2x4 studs spaced 16" o/c with 3 ½" of absorptive material, one layer of 5/8" Type X gypsum board on resilient channels spaced 16" o/c, and two layers of 5/8" Type X gypsum board on the other side. (Courtesy of 1995 NBCC Section A9.10.3.1 Wall #W5a)

WATER PENETRATION

The ECO-Block ICF system (with 6" concrete core) has been tested in accordance with ASTM E331 (ATI Test Report #01-46236.01) for water penetration of the envelope. The test was completed over a two hour duration with an equivalent rainfall of 8" of rain per hour and a pressure differential equivalent to an 80 mph wind load with the result that there was no visible leakage through the ECO-Block ICF system.

ELECTRICAL & CABLING

When installing wiring and cabling, a "chase" needs to be cut into the EPS. To create a vertical and/or horizontal chase in the EPS for wiring, a hot knife, router, or electric chain saw with a depth stop may be used. Angle the chase so it has a lip on the bottom to hold the cable in place or spot glue the wiring with EPS compatible low expansive polyurethane foam. The typical slot depth should be approximately 2" as current electrical codes require that all wiring be 1 ¼" deeper than the surface to which gypsum is attached. Please check local code requirements in your area to ensure compliance.

TIP: The horizontal chase is easier to cut at the intersection of the panels as the webs are purposely recessed ¼" from the top and bottom of the panels.

MOLD MITIGATION

Moisture and mold are elements of nature that need to be managed properly. ECO-Block ICFs can significantly reduce both through its vapor impermeability and the inorganic, no-mold nature of the material. For a contractor, this means reduced call-backs. For an owner, this means peace of mind.

EXTERIOR FINISH

All exterior wall finishes shall be installed in accordance with Chapter 15 of the International Building Code.

Stucco or synthetic stucco installation over ECO-Block is as specified by the stucco or synthetic stucco manufacturer. Typically, steel or fiberglass reinforcing mesh is attached to the ECO-Block webs via ½" Bostitch staples at 8" o/c vertical and horizontal. For further installation instructions, please reference the ICC-ES Evaluation Report for the specific stucco or synthetic stucco manufacturer. ECO-Block is also compatible with wood, cement board, vinyl, and other sidings.