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ICC-ES Evaluation Report
ESR-4106

Reissued December 2022

This report is subject to renewal October 2023.

DIVISION: 03 00 00—CONCRETE
Section: 03 11 19—Insulating Concrete Forming

REPORT HOLDER:

MONO SLAB® EZ FORM

EVALUATION SUBJECT:

MONO SLAB® EZ FORM—FROST PROTECTED SHALLOW FOUNDATION FORMING SYSTEM

1.0 EVALUATION SCOPE

Compliance with the following codes:

2015 and 2012 *International Residential Code®* (IRC)

Properties evaluated:

- Physical properties
- Surface-burning characteristics
- Thermal resistance

2.0 USES

Mono Slab® EZ Form—Frost Protected Shallow Foundation Forming System is a nonstructural stay-in-place expanded polystyrene insulation concrete forming system used to construct frost-protected shallow concrete footings and foundations. The forms remain in place after placement and curing of concrete to provide vertical and horizontal frost protection for shallow footings and foundations in accordance with IRC Section R403.3.

3.0 DESCRIPTION

3.1 General:

Mono Slab® EZ Form—Frost Protected Shallow Foundation Forming System consists of exterior and interior wedge shaped expanded polystyrene forms (see Figure 1). The interior forms are 8 feet long by 10 inches high by 12 inches wide (2438 mm by 254 mm by 305 mm) or 8 feet long by 16 inches high by 18 inches wide (2438 mm by 406 mm by 457 mm). Interior forms are used to construct concrete footings. The exterior wedge-shaped forms are 8 feet long (2438 mm) and are available in three different styles, Standard, Arctic, and Commercial, with varying widths and heights. See Figure 2 for dimensions. The exterior forms have a pre-formed slot to accommodate a nominal 2-by-8 wood board 8 feet long (2438 mm) used to interlock forms.

3.2 Foam Plastic Material:

The Mono Slab® EZ Forms are manufactured using BVPV Styrenics LLC's expanded polystyrene beads recognized in ESR-1798. The EPS foam plastic complies with ASTM C578, Type I, with a nominal density of 1.0 pcf (16.02 kg/m^3). The EPS foam plastic has a flame-spread index of 25 or less, and a smoke-developed index of 450 or less when tested at a thickness of 5 inches (127 mm) in accordance with ASTM E84.

3.3 Thermal Resistance:

The Mono Slab® EZ Forms have a nominal thermal resistance (*R*-value) of 3.6°F.ft^2.h/Btu per inch of thickness at a mean temperature of 75°F (24°C) in accordance with ASTM C578. The forms have a maximum vertical effective thermal resistance of 2.8°F.ft^2.h/Btu per inch of thickness and a horizontal effective thermal resistance of 1.3°F.ft^2.h/Btu per inch of thickness. Thicknesses of the forms are as follows:

FORM	TOP	BOTTOM
S1616-S	2 1/4 inches (57 mm)	16 inches (406 mm)
A1830-S	2 1/4 inches (57 mm)	30 inches (762 mm)
C2424-S	2 1/4 inches (57 mm)	24 inches 610 mm)

Linear interpolation is used to determine the thickness at any point between the top and bottom.

4.0 INSTALLATION

Mono Slab® EZ Forms—Frost Protected Shallow Foundation Forming System must be installed in accordance with IRC Section R403.3, the report holder's published installation instructions and this report. The report holder's published installation instructions and this report must be strictly adhered to, and a copy of the instructions must be available at the jobsite at all times. Footings and foundations must be designed and constructed in accordance with IRC Chapter 4.

Installation of the Mono Slab® EZ Forms—Frost Protected Shallow Foundation Forming System must start at one of the footing or foundation corners. A minimum of 16 inches (406 mm) of exterior Mono Slab® EZ Forms must be placed along intersecting walls. The forms must extend beyond the foundation perimeter of one intersecting wall. The extended portion must be removed prior to backfilling. A small slot must be cut into the extend form to accommodate a nominal 2-by-8 wood board. The

Mono Slab® forms are then connected by placing nominal 2-by-8 wood boards 8 feet long (2438 mm) into pre-formed slots. Wood boards must be staggered at form seams. The wood boards must be butted tightly against each other. At the corner, the wood board must be fastened together at corners with two minimum No. 8 by 3 inch long corrosion resistance screws (see Figure 3).

Exterior forms must be secured in place with nominal 1-by-2 wood stakes 24 inches (610 mm) long, placed 4 feet (1219 mm) on center along the perimeter. Mono Slab® EZ forms are placed along the perimeter walls, and connected by placing nominal 2-by-8 wood boards 8 feet (2438 mm) long into the pre-formed slots. Exterior forms must be backfilled prior to concrete pour. After concrete curing, the wood boards may be removed and replaced with the Mono Slab® 2-by-8 EPS filler piece.

For footing construction, interior Mono Slab® Forms are placed along the interior wall and must be secured in place with two nominal 1-by-2 wood stakes 18 inches (457 mm) long in each form on the back side. The interior side must be backfilled along the back side prior to concrete placement.

5.0 CONDITIONS OF USE

The Mono Slab® EZ Form—Frost Protected Shallow Foundation Forming 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 Installation must comply with this report and the report holder's published installation instructions, and the applicable code. In the event of conflict between the published installation instructions and this report, this report governs.

5.2 Footing depth must be a minimum 12 inches (305 mm) below ground surface.

5.3 The maximum vertical and horizontal effective thermal resistance must be used to determine minimum footing depth in accordance with Table R403.3 (1).

5.4 Horizontal insulation must be installed and designed in accordance with IRC R403.3 and Table R403.3 (1).

5.5 Mono Slab® EZ Form—Frost Protected Shallow Foundation Forming System must not be used where structural foundation loads are supported.

5.6 Use of the Mono Slab® EZ Form—Frost Protected Shallow Foundation Forming System with buildings where the monthly mean temperature is maintained as less than 64°F (18°C) is outside the scope of this report.

5.7 Use of the Mono Slab® EZ Form—Frost Protected Shallow Foundation Forming System in areas where the probability of termite infestation is "very heavy" must be in accordance with IRC Section R318.4. Areas of "very heavy" termite infestation must be determined in accordance with IRC Figure R301.2 (6).

5.8 The Mono Slab® EZ Form—Frost Protected Shallow Foundation Forming System is produced under a quality control program with inspections by ICC-ES in Watertown, South Dakota.

6.0 EVIDENCE SUBMITTED

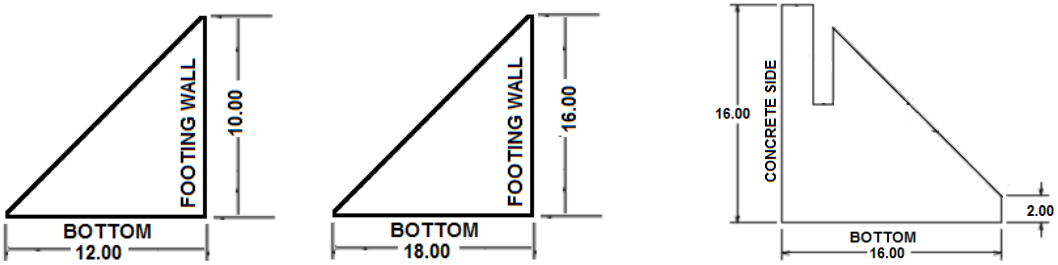
Data in accordance with the ICC-ES Acceptance Criteria for Foam Plastic Insulation (AC12), dated June 2015 (editorially revised May 2016).

7.0 IDENTIFICATION

7.1 The Mono Slab® EZ Form Forming System must bear a label with the product name; the manufacturing facility location; the date of manufacture; the density; the flame-spread index; the smoke-developed index; ASTM C578; and the evaluation report number (ESR-4106).

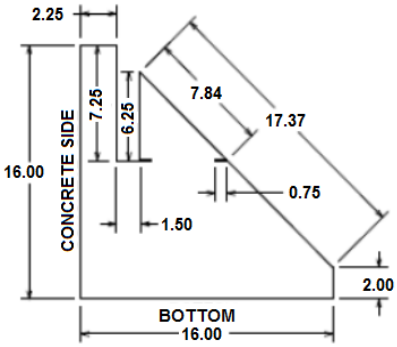
7.2 The report holder's contact information is the following:

MONO SLAB® EZ FORM
4126 QUAKIE LANE
ISLAND PARK, IDAHO 83429
(208) 521-0461
www.monoslabezform.com

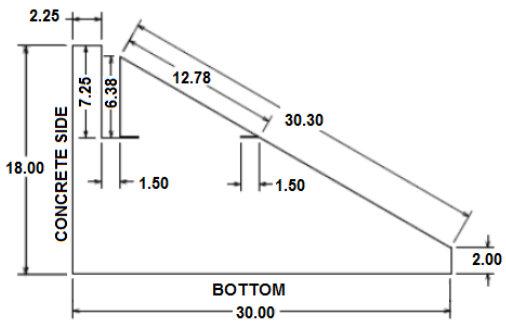


INTERIOR FOOTING FORM **STANDARD MONO SLAB EZ FORM EXTERIOR**

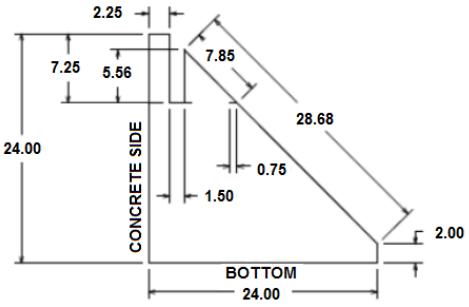
FIGURE 1—MONO SLAB® EZ FORMS



STANDARD MONO SLAB® EZ FORM
(S-1616)-S — 16" x 16" x 8'



ARCTIC MONO SLAB® EZ FORM
(A-1830-S) — 18" x 30" x 8'



COMMERCIAL MONO SLAB® EZ FORM
(C-2424-S) — 24" x 24" x 8'

FIGURE 2—EXTERIOR MONO SLAB® EZ FORM PROFILE DIMENSIONS

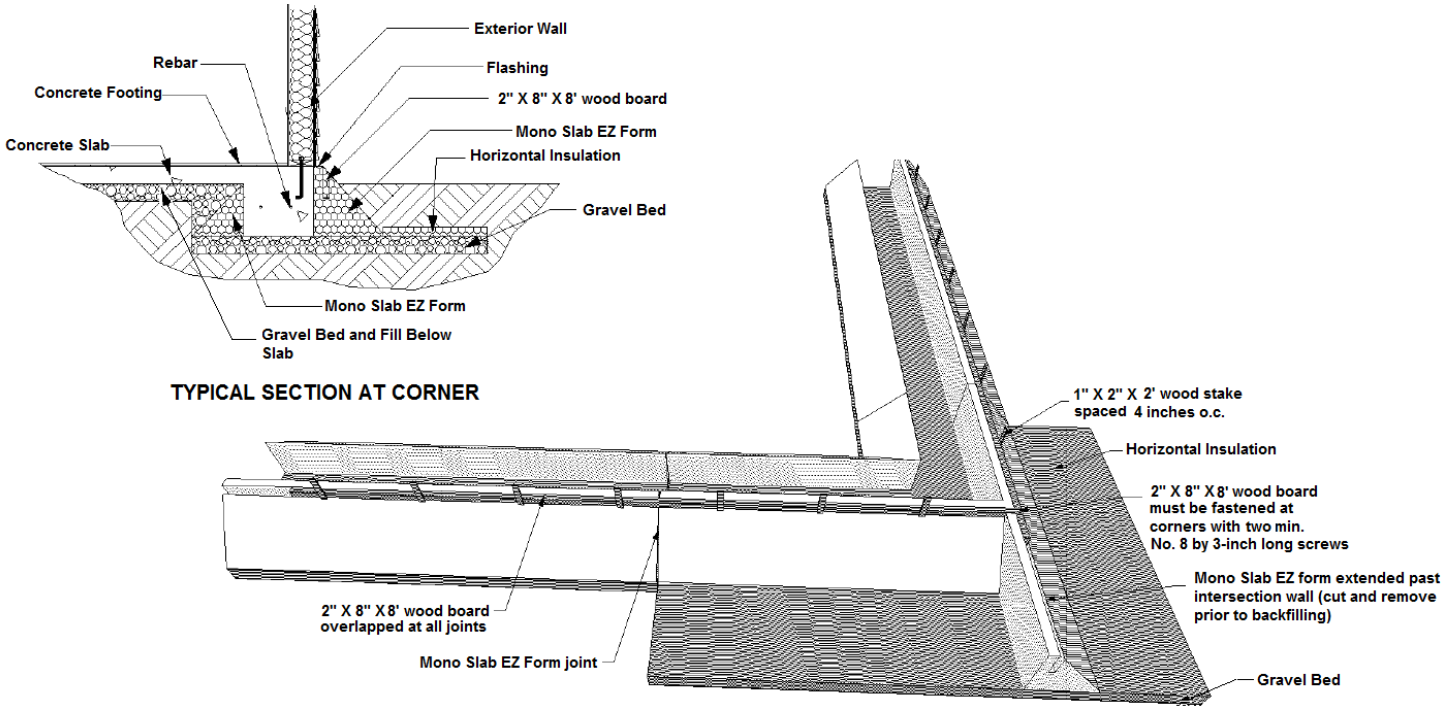


FIGURE 3—MONO SLAB® EZ FORM SHALLOW FROST PROTECTED FORMING SYSTEM FOOTING AND SLAB CORNER INSTALLATION

ICC-ES Evaluation Report

ESR-4106 CRC Supplement

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1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the Mono Slab® EZ Form—Frost Protected Shallow Foundation Forming System, described in ICC-ES evaluation report ESR-4106, has also been evaluated for compliance with the code noted below.

Applicable code edition:

2016 *California Residential Code* (CRC)

2.0 CONCLUSIONS

The Mono Slab® EZ Form—Frost Protected Shallow Foundation Forming System, described in Sections 2.0 through 7.0 of the main evaluation report ESR-4106, complies with CRC Chapters 3 and 4, provided the design and installation are in accordance with the *International Residential Code*® (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued December 2022.