EVALUATION GUIDELINE FOR PLASTIC FOOTING FORM SYSTEMS

EG292

Approved February 2005

(Effective March 1, 2005)

PREFACE

Evaluation reports issued by ICC Evaluation Service, Inc. (ICC-ES), are based upon performance features of the International family of codes and other widely adopted code families, including the Uniform Codes, the BOCA National Codes, and the SBCCI Standard Codes. Section 104.11 of the *International Building Code*® reads as follows:

> The provisions of this code are not intended to prevent the installation of any materials or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

Similar provisions are contained in the Uniform Codes, the National Codes, and the Standard Codes.

This document has been issued to provide all interested parties with guidelines for demonstrating compliance with performance features of the applicable code(s) referenced in the document. The guideline has been approved by the ICC-ES Evaluation Committee, and is effective on the date shown above. All reports issued or reissued on or after the effective date must comply with this guideline, while reports issued prior to this date may be in compliance with this guideline or with the previous edition. If the guideline is an updated version from the previous edition, a solid vertical line (▌) in the margin within the guideline indicates a technical change, addition, or deletion from the previous edition. A deletion indicator (➜) is provided in the margin where a paragraph has been deleted if the deletion involved a technical change. This guideline may be further revised as the need dictates.

ICC-ES may consider alternate guidelines, provided the report applicant submits valid data demonstrating that the alternate guidelines are at least equivalent to the guidelines set forth in this document, and otherwise demonstrate compliance with the performance features of the codes. Notwithstanding that a product, material, or type or method of construction meets the requirements of the guidelines set forth in this document, or that it can be demonstrated that valid alternate guidelines are equivalent to the guidelines in this document and otherwise demonstrate compliance with the performance features of the codes, ICC-ES retains the right to refuse to issue or renew an evaluation report, if the product, material, or type or method of construction is such that either unusual care with its installation or use must be exercised for satisfactory performance, or if malfunctioning is apt to cause unreasonable property damage or personal injury or sickness relative to the benefits to be achieved by the use of the product, material, or type or method of construction.

EVALUATION GUIDELINE FOR PLASTIC FOOTING FORM SYSTEMS

1.0 INTRODUCTION

1.1 Purpose: The purpose of this evaluation guideline is to establish requirements for plastic footing form systems to be recognized in an ICC Evaluation Service, Inc. (ICC-ES), evaluation report under the 2003 *International Building Code*® (IBC), the 2003 *International Residential Code*® (IRC), the BOCA® *National Building Code*/1999 (BNBC), the 1999 *Standard Building Code*© (SBC), and the 1997 *Uniform Building Code*™ (UBC). Bases of recognition are IBC Sections 104.11 and 1906.1, IRC Section R104.11, BNBC Sections 106.4 and 1909.1, SBC Sections 103.7 and 1907.1 and UBC Sections 104.2.8 and 1906.1.

1.2 Scope: This evaluation guideline is applicable to plastic footing forms used in conjunction with fiber construction tubes to retain plain or reinforced concrete as forms for pad footings. These forms may be permitted to remain in place except that the fiber construction tube shall be removed to a point at least 12 inches (305 mm) below finished grade after the concrete has cured. This guideline includes test requirements to establish maximum and minimum backfill heights and concrete aggregate size and slump requirements.

1.3 Codes:

1.3.1 2003 *International Building Code*® (IBC), International Code Council.

1.3.2 2003 *International Residential Code*® (IRC), International Code Council.

1.3.3 BOCA® *National Building Code*/1999 (BNBC).

1.3.4 1999 *Standard Building Code*© (SBC).

1.3.5 1997 *Uniform Building Code*™ (UBC).

2.0 BASIC INFORMATION

2.1 General: The following information shall be submitted:

2.1.1 Product Description: Complete information concerning material specifications, thickness, size and the manufacturing process of the plastic footing forms.

2.1.2 Fiber Construction Tubes: The applicant shall specify the fiber construction tubes to be used.

2.1.3 Installation Instructions: Installation details and limitations, including minimum and maximum backfill requirements and method of compaction. The maximum pour lift heights and method of consolidation of the concrete shall be specified.

2.1.4 Packaging and Identification: A description of the method of packaging and field identification of the plastic footing forms. Identification provisions shall include the evaluation report number.

2.1.5 Field Preparation: A description of the methods of field-cutting and attachment and support of the fiber construction tube. Information regarding the length of time the footing forms can be exposed, at the jobsite, to environmental conditions such as ultraviolet exposure and freezing temperatures, shall be provided.

2.2 Testing Laboratories: Testing laboratories shall comply with Section 2.0 of the ICC-ES Acceptance Criteria for Test Reports (AC85) and Section 4.2 of the ICC-ES Rules of Procedure for Evaluation Reports.

2.3 Test Reports: Test reports shall comply with AC85.

2.4 Product Sampling: Sampling of the footing forms for tests under this criteria shall comply with Section 3.2 of AC85.

3.0 TEST AND PERFORMANCE REQUIREMENTS

3.1 Dimensions Test: For each size of plastic footing form, a minimum of two samples shall have the length, width, height and thickness measured. The measured dimensions shall be within 2 percent of the manufacturer's stated dimensions.

3.2 Buoyancy Test: Buoyancy tests shall be conducted in accordance with Section 4.1 of this guideline. The conditions of acceptance are that the location of the form at the top of the fiber construction tube, after concrete placement, shall be within $^1/_2$ inch (12.7 mm) both horizontally and vertically of its position before concrete placement. The purpose of this test is to establish the minimum backfill and bracing requirements to ensure that the forms will remain stable during the placement and curing of the concrete at the maximum concrete volume.

3.3 Deformation and Formability Test: The deformation and formability tests shall be conducted in accordance with Section 4.2 of this guideline. Due to concrete placement, the plastic footing form shall not deform in any direction more than $^1/_2$ inch (12.7 mm); there shall be no air pockets in the cured concrete in excess of $^1/_2$ inch (12.7 mm) in depth; and honeycombing shall not be present. The purpose of this test is to establish the maximum soil backfill and compaction requirements to ensure that the plastic footing form will not distort during installation and placement of concrete; and to demonstrate that the shape of the forms permits well-shaped footings to be formed.

4.0 TEST METHODS

4.1 Buoyancy Test: A minimum of one of each footing size shall be installed in accordance with the manufacturer's published installation instructions at the minimum recommended backfill height and using the largest fiber construction tube diameter and highest fiber construction tube height. Concrete having the smallest specified aggregate and the maximum specified concrete slump shall be placed in the plastic footing form and fiber construction tube in the manner described in the manufacturer's instructions. The footing tube location shall be measured prior to concrete placement and after the concrete has cured.

4.2 Deformation and Formability Test: A minimum of one of each footing size shall be installed in accordance with the manufacturer's published installation instructions at the maximum recommended backfill height and using the smallest fiber construction tube diameter and the shortest fiber construction tube height. This test shall be conducted with the concrete having the largest specified aggregate size at the minimum specified concrete slump. Once the concrete has cured, the form and backfill shall be removed and the formed concrete inspected for air pockets and honeycombing and dimensions in accordance with Section 3.3 of this guideline.

5.0 QUALITY CONTROL

5.1 A quality control manual for the plastic forms, complying with the ICC-ES Acceptance Criteria for Quality Control Manuals (AC10), shall be submitted.

5.2 Third-party follow-up inspections are not required under this evaluation guideline.

6.0 EVALUATION REPORT RECOGNITION

The evaluation report shall include the following:

1. The maximum and minimum backfill depths prior to placement of concrete.

2. The maximum concrete aggregate size, and maximum and minimum slump.

3. A statement that the backfill shall be clean and free of rocks and other deleterious materials.

4. A statement that the fiber construction tubes shall be removed to a point at least 12 inches (305 mm) below finished grade after the concrete has cured.

5. A statement that the design of the concrete footing is beyond the scope of the report and shall be in accordance with the applicable code.■