

# ICC-ES Evaluation Report

ESR-5005

Reissued October 2025

Revised November 2025

Subject to renewal October 2026

This report also contains:

- [City of Chicago Supplement](#)
- [City of LA Supplement](#)
- [CA Supplement](#)
- [FL Supplement w/HVHZ](#)

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|                                                                                            |                                                                                    |                                                                                        |                                                                                     |
|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <p><b>DIVISION: 31 00 00 — EARTHWORK</b></p> <p><b>Section: 31 63 00 — Bored Piles</b></p> | <p><b>REPORT HOLDER:</b></p> <p><b>INDEPENDENCE MATERIALS GROUP, LLC (IMG)</b></p> | <p><b>EVALUATION SUBJECT:</b></p> <p><b>IMG PUSH PIER MODEL NO. IMG PP21617-34</b></p> |  |
|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|

## 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® \(IRC\)](#)

Property evaluated:

Structural

## 2.0 USES

The IMG Push Pier is used to underpin existing uncracked concrete foundations to transfer compression loads from the concrete foundation to soil material with adequate bearing capacity.

When the IMG Push Pier is installed in structures regulated under the IRC, an engineered design is required in accordance with IRC Section R301.1.3.

## 3.0 DESCRIPTION

**3.1 General:** IMG model PP21617-34 is a push pier system consisting of a bracket body, an external sleeve, a starter pipe that is hydraulically advanced to a firm bearing strata, tube extensions, a pier cap and lifting hardware. See Figure 1.

### 3.2 System Components and Materials:

The push pier components are fabricated from the materials described in the approved quality documentation. These materials primarily consist of steel plate complying with ASTM A36 or ASTM A572 Grade 50 and various sizes of steel tubing complying with ASTM A500 or A513. The starter pipe and extensions are hot-dip galvanized in accordance with ASTM A1057 with a minimum galvanized thickness of 0.85 to 1.19 mils (0.02 to 0.03 mm). Other components are available with or without a galvanized finish

**3.2.1 Bracket Body:** This component, #PP21617-34BA, primarily consists of flat plate which is cut and bent as needed; a 4 x 0.188 x 11<sup>3</sup>/<sub>16</sub> inch (102 x 4.8 x 284 mm) tube body; and two spacer tubes.

**3.2.2 External Sleeve:** This component, #PP21617-48ESA, primarily consists of a 3.5 x 0.216 x 48 inch (89 x 5.5 x 1,219 mm) tube. A ring is added at the end of the tube or the end is flared, to act as a stop.

**3.2.3 Starter Pipe:** This component, #PP21617-50SPA, primarily consists of a 2.875 x 0.165 inch (73 x 4 mm) tube which is nominally 4 feet (1.2 m) long, together with a friction reducing collar or similar accessory.

**3.2.4 Extension:** This component, #PP21617-36PTA, primarily consists of a 2.875 x 0.165 inch (73 x 4.2 mm) tube, together with a 2.5 x 0.188 x 6 inch (64 x 4.8 x 152 mm) tube. The two pieces of tubing are dimpled so they interlock. See Figure 2.

**3.2.5 Pier Cap Plate:** This component, #PP21617-34CAP A, consists of a <sup>3</sup>/<sub>4</sub>-inch-long (19 mm) ring welded to a 1 x 4 x 9 inch (25 x 102 x 229 mm) bar.

**3.2.6 Lifting Hardware:** Lifting hardware options are shown in [Table 1](#).

## 4.0 DESIGN AND INSTALLATION

### 4.1 Design:

**4.1.1 General:** Engineering calculations (analysis and design) and drawings, must be prepared by a registered design professional, submitted to and be subjected to the approval of the code official for each project, and must be based on accepted engineering principles, as described in IBC Section 1604.4 and must conform to IBC Section 1810. The design method for the steel components is in Allowable Strength Design (ASD) as described in IBC Section 1602 and AISC 360 Section B3.4. The engineering analysis must address hydraulically driven foundation system performance related to structural and geotechnical requirements.

A soil investigation report in accordance with IBC Section 1803 or IRC Section R401.4, as applicable, must be submitted for each project, when requested by the authority having jurisdiction. The soil interaction capacity between the pier and the soil including the required safety factor and the soil effects of the hydraulically driven steel pier installation must be determined in accordance with the applicable code by a registered design professional.

**4.1.2 Bracket Capacity:** The allowable compression load rating of the push pier bracket with a maximum unsupported length below the bracket bearing plate of 5 feet (1.52 m) is 28.1 kips (125 kN). The concrete foundation must be designed and justified to the satisfaction of the code official with due consideration to the eccentricity of the applied loads, including reactions provided by the brackets, acting on the concrete foundation. Only localized limits states related to capacity of the steel bracket and the bracket interaction with the supporting pier have been evaluated in this evaluation report. Other limit states are outside the scope of this evaluation and must be determined by the registered design professional.

**4.1.3 Tube Shaft Capacity:** The tube shaft capacity has not been evaluated and is outside the scope of this report.

**4.2 Installation:** The IMG Push Pier must be installed by IMG LLC's certified and trained installers in accordance with the site-specific approved construction documents (engineering plans and specifications), the manufacturer's installation instructions and this report, including the following conditions:

1. A site survey is necessary of the area where the piers are going to be driven to locate any possible interference such as utilities, plumbing, electrical or phone lines.
2. An area of approximately 2.5 square feet (0.23 square meter) to a depth of 8.5 inches (216 mm) below the bottom of the footing will need to be excavated at each pier location. The excavated concrete bearing surface shall be free of all soil, debris, and loose concrete prior to installation of the push pier system.
3. The bearing area around the footing must be a smooth and level condition while adjusting the face of the stem wall to vertical at the point of the bracket attachment. Notching of the concrete footing may be necessary and shall be performed under the guidance of a registered design professional and approval of the code official.
4. The existing structure is used as a reaction force with a hydraulic pump and cylinder combination to drive the pier into the soil.
5. Adjacent piers must not be advanced simultaneously.
6. All the excavated soil at each pile location must be replaced and compacted after the piles are installed.
7. The IMG Push Pier Installation Instructions must be available on the job site at the time of installation.

### 4.3 Special inspection

Special inspection is required in accordance with IBC Section 1705.7, except as indicated in IBC Section 1704.2. Items to be recorded and confirmed by the special inspector must include, but are not limited to, the following:

1. Verification of the product manufacturer, and the manufacturer's certification of installers.

2. Product identification, including lead sections, extension sections, brackets, bolts, and nuts, as specified in the construction documents and this evaluation report.
3. Installation procedures anticipated and actual piling depth.
4. Tip elevations, the installation pressure and final depth of the driven foundation system.
5. Inclination and position/location of hydraulically driven steel piles.
6. Compliance of the installation with the approved construction documents and this evaluation report.

## 5.0 CONDITIONS OF USE:

The IMG Push Pier 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 IMG Push Pier is manufactured, identified, and installed in accordance with this report, the approved construction documents, and the manufacturer's published installation instructions. In the event of a conflict between this report, the approved construction documents, and the manufacturer's published installation instructions, the most restrictive governs.
- 5.2 Construction documents and calculations must be submitted to the code official showing how the push pier has been designed and showing that the design loads do not exceed the bracket capacity described in this report. These calculations must be prepared by a registered design professional when required by the statutes in the jurisdiction where the project is to be constructed.
- 5.3 This evaluation report does not address seismic loading for this system, existing footing suitability or attachment requirements to existing footings.
- 5.4 Installation of the hydraulically driven pile systems must be limited to support of uncracked normal-weight concrete, as determined in accordance with the applicable code.
- 5.5 Brackets must be used only to support structures that are laterally braced as defined in IBC Section 1810.2.2.
- 5.6 Corrosion resistance and durability are outside the scope of this evaluation report.
- 5.7 The IMG Push Pier bracket is rated for compression loading only. Lateral and uplift loading from wind and seismic are outside the scope of this evaluation report and must be carried by the existing shallow foundation and verified by a registered design professional. The capacity of other components of the push pier foundation system and interaction of the system with the soil is outside the scope of this report.
- 5.8 The effects of reduced lateral sliding resistance due to uplift of the concrete foundation must be considered.
- 5.9 The adequacy of the concrete structures that are supported by the IMG Push Pier must be justified to the satisfaction of the code official.
- 5.10 Special inspection is provided in accordance with Section 4.3 of this report.
- 5.11 Settlement of the hydraulically driven pile is outside the scope of this evaluation report and must be determined by a registered design professional as required in IBC Section 1810.2.3.
- 5.12 The IMG Push Pier is manufactured under a quality control program with inspections by ICC-ES.

## 6.0 EVIDENCE SUBMITTED

- 6.1 A report of bracket eccentric compression load tests in accordance with ASTM E72.
- 6.2 [Quality documentation in accordance with the ICC-ES Acceptance Criteria for Quality Documentation \(AC10\)](#) dated May 2022.

## 7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-5005) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.
- 7.2 In addition, the components of the Push Pier must be marked with the model number.

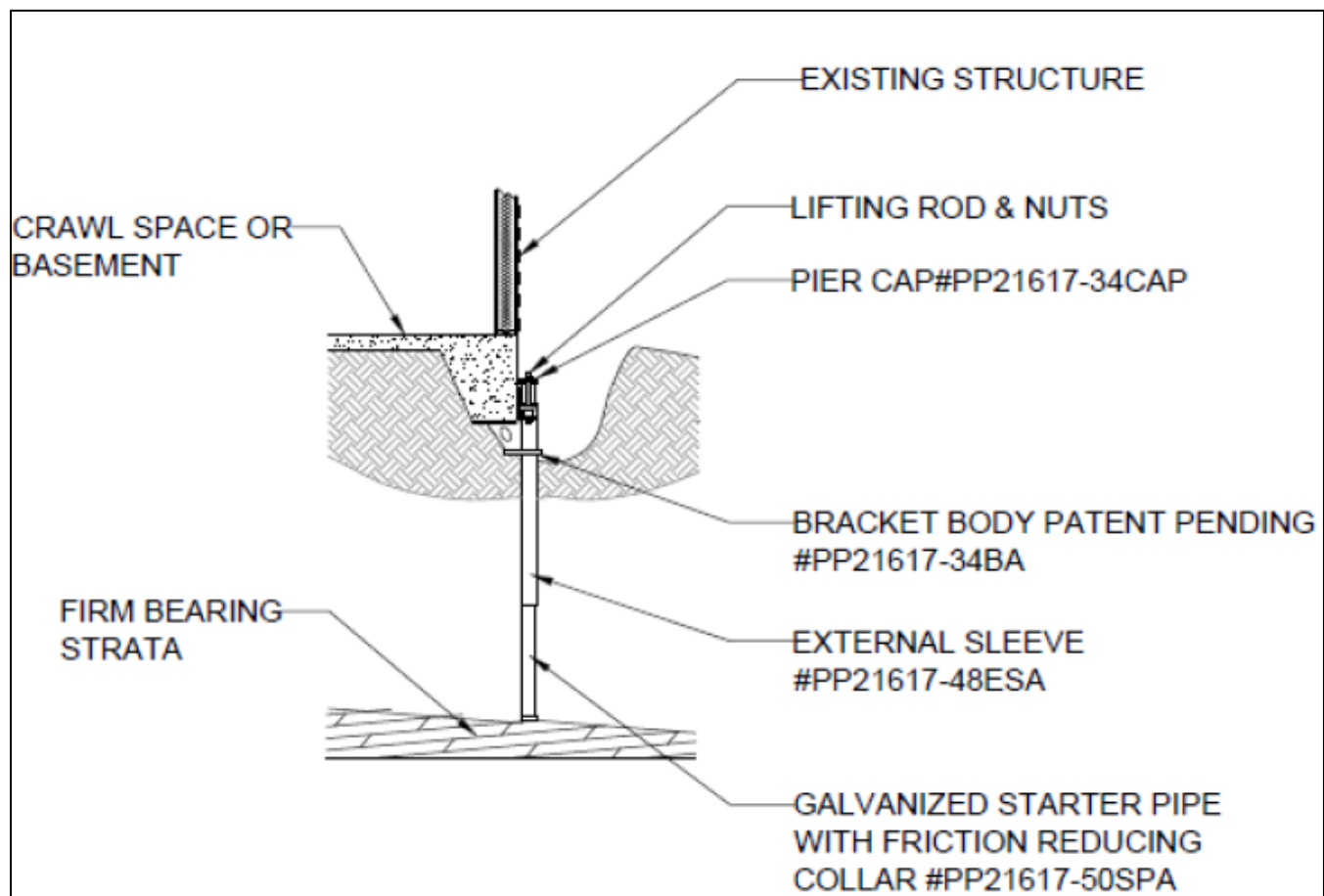
7.3 The report holder's contact information is the following:

**INDEPENDENCE MATERIALS GROUP, LLC (IMG)**  
**1741 CORPORATE LANDING PARKWAY**  
**VIRGINIA BEACH, VIRGINIA 23454**  
**(803) 807-8629**  
[www.independencematerialsgroup.com](http://www.independencematerialsgroup.com)

**TABLE 1—APPROVED THREADED RODS AND NUTS**

| Lifting Rod                   | Lifting Rod Steel     | Nut                                                                  | Nut Steel  |  |
|-------------------------------|-----------------------|----------------------------------------------------------------------|------------|--|
| $\frac{3}{4}$ " - 10 unc      | ASTM A193<br>Grade B7 | $\frac{3}{4}$ "-10 Heavy Hex                                         | ASTM A193  |  |
|                               |                       |                                                                      |            |  |
| $\frac{3}{4}$ " 4.5 Coil Rod* | ASTM A108<br>GR 1045  | $\frac{3}{4}$ " - 4.5 Coil Nut (2) Nuts<br>required per rod end      | ASTM A1035 |  |
|                               |                       | $\frac{3}{4}$ " - 4.5 Heavy Coil Nut (1) Nut<br>required per rod end | ASTM A1045 |  |

\* Coil rod material has minimum 69750 psi (481 MPa) yield strength and 96550 psi (666 MPa) minimum ultimate tensile strength.



**FIGURE 1—PP21617-34 BRACKET ASSEMBLY**

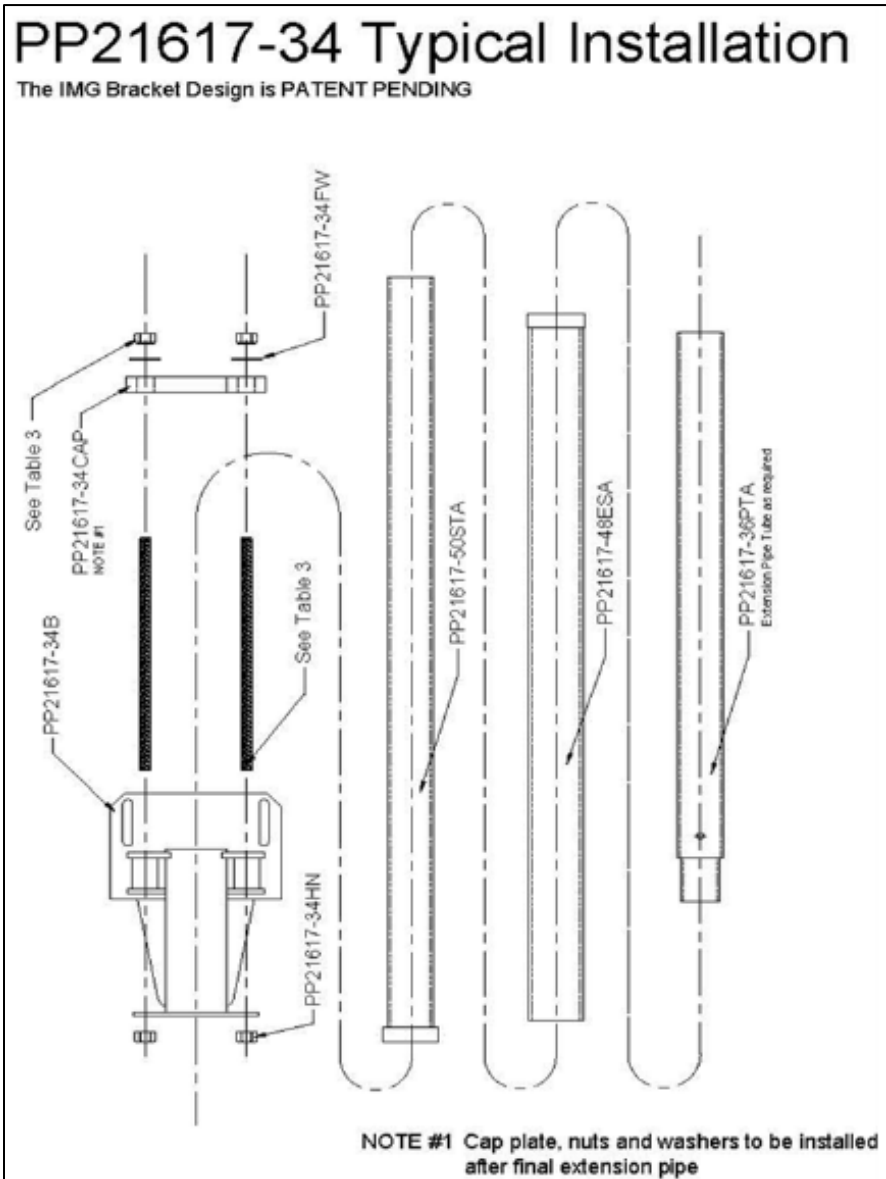


FIGURE 1 (Continued) —PP21617-34 BRACKET ASSEMBLY

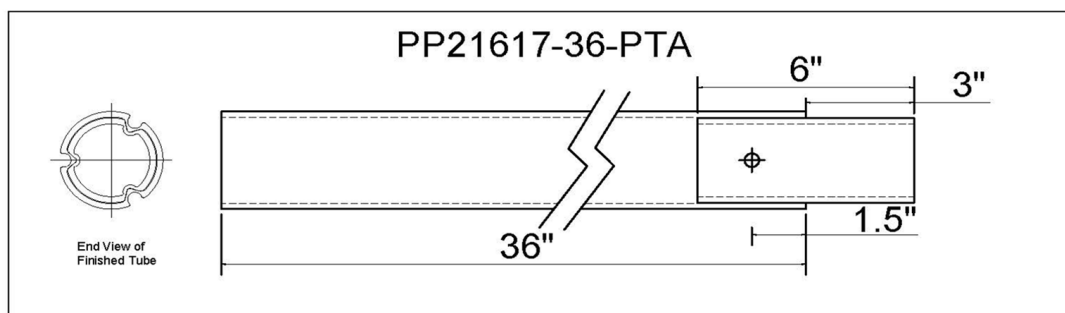


FIGURE 2—PUSH PIN COUPLER DETAILS

## ICC-ES Evaluation Report

## ESR-5005 City of Chicago Supplement

Reissued October 2025

Revised November 2025

*This report is subject to renewal October 2026.*

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**DIVISION: 31 00 00—EARTHWORK**

**Section: 31 63 00—Bored Piles**

### REPORT HOLDER:

**INDEPENDENCE MATERIALS GROUP, LLC (IMG)**

### EVALUATION SUBJECT:

**IMG PUSH PIER MODEL NO. IMG PP21617-34**

### 1.0 REPORT PURPOSE AND SCOPE

#### Purpose:

The purpose of this evaluation report supplement is to indicate that the IMG Push Pier, described in ICC-ES evaluation report [ESR-5005](#) has also been evaluated for compliance with the Chicago Construction Codes (Title 14 of the Chicago Municipal Code) as noted below.

#### Applicable code editions:

- 2019 *Chicago Building Code* (Title 14B)

### 2.0 CONCLUSIONS

The IMG Push Pier, described in Sections 2.0 through 7.0 of the evaluation report [ESR-5005](#), complies with Title 14B, and is subject to the conditions of use described in this supplement.

### 3.0 CONDITIONS OF USE

The IMG Push Pier described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-5005](#).
- The design, installation, conditions of use and identification of the IMG Push Pier are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report [ESR-5005](#).
- The design of the tube shaft shall comply with Section 1810 of Title 14B.
- Special inspection in accordance with Section 1705.7 of Title 14B and Section 4.3 of [ESR-5005](#) is required, except as indicated in Section 1704.2 of Title 14B.

This supplement expires concurrently with the evaluation report, reissued October 2025 and revised November 2025.

## ICC-ES Evaluation Report

## ESR-5005 City of LA Supplement

Issued November 2025

*This report is subject to renewal October 2026.*

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**DIVISION: 31 00 00—EARTHWORK**

**Section: 31 63 00—Bored Piles**

### REPORT HOLDER:

**INDEPENDENCE MATERIALS GROUP, LLC (IMG)**

### EVALUATION SUBJECT:

**IMG PUSH PIER MODEL NO. IMG PP21617-34**

### 1.0 REPORT PURPOSE AND SCOPE

#### Purpose:

The purpose of this evaluation report supplement is to indicate that the IMG Push Pier, described in ICC-ES evaluation report [ESR-5005](#), has also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

#### Applicable code editions:

- 2023 *City of Los Angeles Building Code* (LABC)
- 2023 *City of Los Angeles Residential Code* (LARC)

### 2.0 CONCLUSIONS

The IMG Push Pier described in Sections 2.0 through 7.0 of the evaluation report [ESR-5005](#), complies with LABC Chapter 18, and the LARC, and is subject to the conditions of use described in this supplement.

### 3.0 CONDITIONS OF USE

The IMG Push Pier described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-5005](#).
- The design, installation, conditions of use and identification of the IMG Push Pier are in accordance with the 2021 *International Building Code*® (IBC) and 2021 *International Residential Code*® (IRC) provisions, as applicable, noted in the evaluation report [ESR-5005](#).
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.
- The IMG Push Pier is used to underpin foundations of existing structures or to retrofit or remediate deficient foundations of existing structures and must not be used to support new structures.
- The IMG Push Pier must not be used to resist any horizontal or uplift loads.
- Under the LARC, an engineered design in accordance with LARC Section R301.1.3 must be submitted.

This supplement expires concurrently with the evaluation report issued October 2025 and revised November 2025.

# ICC-ES Evaluation Report

# ESR-5005 CA Supplement

Reissued October 2025

Revised November 2025

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**DIVISION: 31 00 00—EARTHWORK**

**Section: 31 63 00—Bored Piles**

## REPORT HOLDER:

**INDEPENDENCE MATERIALS GROUP, LLC (IMG)**

## EVALUATION SUBJECT:

**IMG PUSH PIER MODEL NO. IMG PP21617-34**

## 1.0 REPORT PURPOSE AND SCOPE

### Purpose:

The purpose of this evaluation report supplement is to indicate that IMG Push Pier, described in ICC-ES evaluation report [ESR-5005](#), has also been evaluated for compliance with the code noted below.

### Applicable code editions:

- 2025 and 2022 *California Building Code* (CBC)
- 2025 and 2022 *California Residential Code* (CRC)

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.

## 2.0 CONCLUSIONS

### 2.1 CBC:

The IMG Push Pier, described in Sections 2.0 through 7.0 of the evaluation report [ESR-5005](#), complies with CBC Chapter 18, provided the design and installation are in accordance with the 2024 and 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 16, 17, and 18 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 IMG Push Pier, described in Sections 2.0 through 7.0 of the evaluation report [ESR-5005](#), complies with CRC Chapter 3, 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 Chapter 3.

This supplement expires concurrently with the evaluation report, reissued October 2025 and revised November 2025.

# ICC-ES Evaluation Report

# ESR-5005 FL Supplement w/ HVHZ

Reissued October 2025

Revised November 2025

*This report is subject to renewal October 2026.*

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**Section: 31 63 00—Bored Piles**

## REPORT HOLDER:

**INDEPENDENCE MATERIALS GROUP, LLC (IMG)**

## EVALUATION SUBJECT:

**IMG PUSH PIER MODEL NO. IMG PP21617-34**

## 1.0 REPORT PURPOSE AND SCOPE

### Purpose:

The purpose of this evaluation report supplement is to indicate that the IMG Push Pier, described in ICC-ES evaluation report [ESR-5005](#), has 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 IMG Push Pier, described in Sections 2.0 through 7.0 of ICC-ES evaluation report [ESR-5005](#), complies with the *Florida Building Code—Building* or the *Florida Building Code—Residential*. The design requirements must be determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report [ESR-5005](#) for the 2021 *International Building Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable.

Use of the IMG Push Pier 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*.

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). Florida Rule 61G20-3 is applicable to products and/or systems which comprise the building envelope and structural frame for compliance with the structural requirements of the Florida Building Code.

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