# ICC-ES Evaluation Report

**ESR-5007**

*Reissued October 2024*

*Subject to renewal October 2025*

*This report also contains:*

- **FL Supplement**
- **City of Chicago Supplement**

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| DIVISION: 05 00 00 - METALS<br>Section: 05 50 00 – Metal Fabrications | REPORT HOLDER:<br>INDEPENDENCE MATERIALS GROUP, LLC (IMG) | EVALUATION SUBJECT:<br>INTELLIJACK SUPPORT COLUMNS | |
|---|---|---|---|

## 1.0 EVALUATION SCOPE

**Compliance with the following codes:**

- 2021, 2018, 2015 and 2012 *International Building Code®* (IBC)
- 2021, 2018, 2015 and 2012 *International Residential Code®* (IRC)

**Property evaluated:**

- Structural

## 2.0 USES

The IntelliJack Support Columns are used to transfer axial compressive loads from wood or steel beams to concrete footings. They may be used under the IBC and the IRC when an engineering design is prepared in accordance with IRC Section R301.1.3.

## 3.0 DESCRIPTION

### 3.1 General:

The IntelliJack Support Columns consist of a steel tube column with a bottom plate at one end and an adjustable screw assembly at the other end. The adjustable screw assembly consists of a base plate, threaded rod, top plate and collar. The IntelliJack Support Columns have been evaluated in nominal lengths up to 10 feet (3048 mm) and can be adjusted up to a maximum 5-inches (127 mm) in length. See Figure 1 for details.

### 3.2 Material:

**3.2.1 Steel Tube:** The steel tube comes in 3½ -inch-outside diameter (88.9 mm) and has a nominal thickness of 0.165-inch (4.2 mm). The tubing conforms to ASTM A500 Steel, Grade B-C with a minimum yield strength of 50 ksi (345 MPa) and a minimum tensile strength of 55 ksi (379 MPa). The tubes have a corrosion resistant coating finish.

**3.2.2 Bottom Plate Assembly:** The bottom plate assembly consists of ASTM A36 steel plate 3½ by 3½-inches (88.9 mm by 88.9 mm) square with a nominal thickness of ½-inch (12.7 mm); with a ¾-inch-long (19.1 mm) piece of 3-inch-outside-diameter (76.2 mm) ASTM A36 steel tube that is welded to the center of the plate. The bottom plate assembly has a corrosion resistant finish. See Figure 2 for details.

**3.2.3 Threaded Rod Assembly:** The threaded rod assembly consists of 1¼-inch-diameter (31.8 mm) by 10-inches long (254 mm) ASTM F1554, Grade 55 Steel threaded rod with matching 1¼-inch-diameter (31.8 mm) -7 ASTM A563, Grade A steel Heavy Hex Nut with a Zinc coating. One nut is welded to the threaded rod and one nut is used as a jam nut against the collar. See Figures 1 and 3 for details.

**3.2.4 Top Plate Assembly:** The top plate assembly consists of ASTM A36 steel plate 6-inches wide by 5-inches long (152.4 mm by 127 mm) with a nominal thickness of ½-inch (12.7mm); with a 1¼-inch-long (31.8 mm) by 1¾-inch-outside diameter (44.4 mm) ASTM A36 steel tube welded to the plate. The Top Plate Assembly has a corrosion resistant finish. See Figure 3 for details.

**3.2.5 Collar (threaded cap):** The collar is placed in one end of the steel tube. A threaded hole is in the center of the collar for the threaded rod. The collar is made from ASTM A1018 steel and has a corrosion resistant coating. See Figure 4 for details.

## 4.0 DESIGN AND INSTALLATION

### 4.1 Design:

Design loads [for allowable stress design (ASD) and for load and resistance factor design (LRFD)] shall be determined in accordance with 2021 IBC Section 1605.1 and must not exceed either the allowable loads or design strengths given in Table 1, as applicable. Design loads determined in accordance with 2018, 2015, and 2012 IBC Section 1605.3 [for allowable stress design (ASD)] must not exceed the allowable loads given in Table 1, as applicable. Design loads determined in accordance with 2018, 2015 and 2012 IBC Section 1605.2 [for load and resistance factor design (LRFD)] must not exceed the design strengths given in Table 1, as applicable. The capacity of the top and base steel plates must be calculated in accordance with applicable code requirements for the steel, concrete or wood, to determine whether or not the supplied steel plate thickness is adequate for the applied load interface (wood beams, steel beams or concrete).

### 4.2 Installation:

Installation of the IntelliJack Support Columns must comply with this report, the report holder's published installation instructions and the approved plans. The report holder's published installation instructions and the approved plans must be available at the jobsite at all times during installation.

The columns must be supported on code-complying foundations capable of supporting the imposed load. The columns must be placed vertically plumb in the desired position under the beam. The columns must be anchored to the foundation in accordance with the approved plans. The columns must be adjusted to ensure full bearing of the beam on the top plate. Maximum length adjustment of the columns is 5 inches (127 mm). After the column has been adjusted to the desired length, one screw thread immediately above the threaded cap must be damaged to one half its depth for a length of 1½ inches (38.1 mm) with a cold chisel to prevent vertical movement of the column. The top plate must be attached to the supported beam in accordance with the approved plans. After installation of the IntelliJack Support Column, the column may be encased in concrete to prevent movement after installation. Protection of the column shall in accordance with IBC Section 2203 and IRC Section R407.2.

## 5.0 CONDITIONS OF USE:

The IntelliJack Support Columns 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 column assemblies must be fabricated and installed in accordance with this report, the report holder's published installation instructions, the approved plans and the applicable code. In the event of a conflict between the report holder's published installation instructions and this report, the more restrictive requirement governs.

**5.2** Where required by the code official, engineering calculations and construction documents consistent with this report must be submitted to the code official for approval. The documents must address details of the attachment of the column to the structure, consistent with the requirements of this report. The documents must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

**5.3** Loading on the columns must be limited to concentric axial compressive loads, in accordance with Section 4.1. Other loading conditions, such as but not limited to, eccentric loads, tensile axial loads, bending loads, and lateral loads, are outside the scope of this report.

**5.4** Connections of the post to the foundation and the supported construction, and bearing capacity of the supported beam, are outside the scope of this report and must be approved by the code official.

**5.5** Maximum adjustment of the IntelliJack Support Columns is 5 inches (127 mm) and the overall column height must be limited to the maximum height given in Table 1.

**5.6** The IntelliJack Support Columns are manufactured under a quality control program with inspections by ICC-ES.

## 6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Adjustable Steel Columns (AC335), dated February 2008 (editorially revised January 2021).

## 7.0 IDENTIFICATION

**7.1** Product labeling includes the name of the report holder and the ICC-ES mark of conformity. The evaluation report number (ICC-ES ESR-5007) may be used in lieu of the mark of conformity.

The IntelliJack Support Columns are labeled with the report holder's name [Independence Materials Group, LLC (IMG)], the product name, the minimum and maximum lengths, the allowable load, 5 inches maximum adjustment height, and the ICC-ES evaluation report number (ESR-5007).

**7.2** 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**

**TABLE 1—LOAD CAPACITIES FOR INDEPENDENCE MATERIALS GROUP, LLC (IMG) INTELLIJACK SUPPORT COLUMNS[1,2,3,4]**

| $3^1/_2$-inch OUTSIDE DIAMETER TUBE | | |
|---|---|---|
| **NOMINAL SIZE (inch)** | **ALLOWABLE LOAD FOR ASD (lbf)** | **DESIGN STRENGTH FOR LRFD (lbf)** |
| 12 - 96 | 24,860 | 39,780 |
| 108 | 24,100 | 36,220 |
| 120 | 20,700 | 31,110 |

For **SI**: 1 inch = 25.4 mm, 1 lb = 4.4 N

[1]All steel tubes shall be in accordance with ASTM A500 with a minimum yield strength of 50 ksi (345 MPa) and a minimum tensile strength of 55 ksi (379 MPa).
[2]Nominal size is the column length at its shortest adjustment.
[3]All capacities are designed in accordance with AISC 360-16.
[4]LRFD Design Strength values must be compared to factored loads.

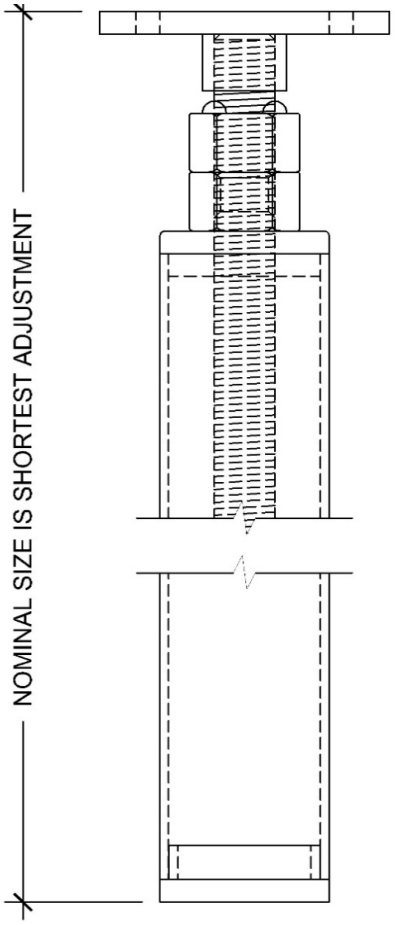


**FIGURE 1—OVERALL INTELLIJACK COLUMN ASSEMBLY**

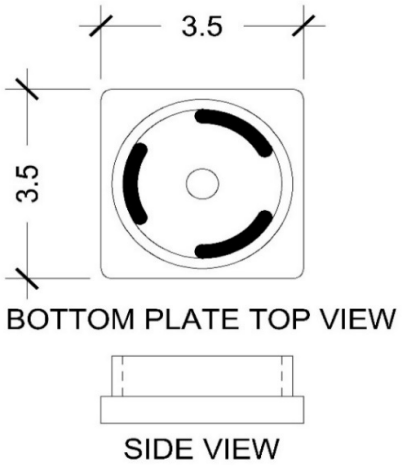


**FIGURE 2—BOTTOM PLATE ASSEMBLY**

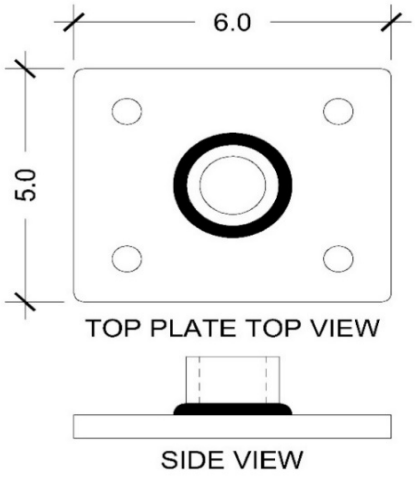


**FIGURE 3—TOP PLATE**

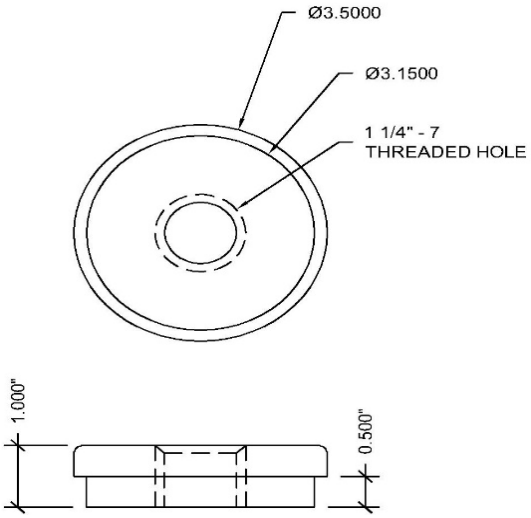


**FIGURE 4—COLLAR**

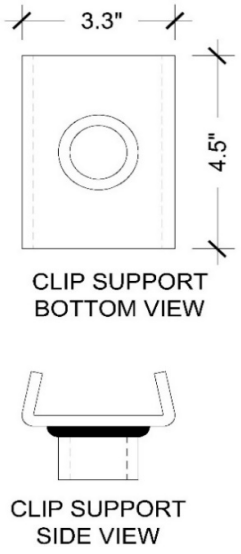


**FIGURE 5—CLIP SUPPORT SIDE VIEW**

**DIVISION: 05 00 00—METALS**
**Section: 05 50 00—Metal Fabrications**

**REPORT HOLDER:**

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

**EVALUATION SUBJECT:**

**INTELLIJACK SUPPORT COLUMNS**

## 1.0 REPORT PURPOSE AND SCOPE

**Purpose:**

The purpose of this evaluation report supplement is to indicate that the IntelliJack Support Columns, described in ICC-ES evaluation report ESR-5007, have also been evaluated for compliance with the Chicago Construction Codes (Title 14 of the Chicago Municipal Code) as noted below.

**Applicable code edition:**

2019 *Chicago Building Code* (Title 14B)

## 2.0 CONCLUSIONS

The IntelliJack Support Columns, described in Sections 2.0 through 7.0 of the evaluation report ESR-5007, comply with Title 14B, and are subject to the conditions of use described in this supplement.

## 3.0 CONDITIONS OF USE

The IntelliJack Support Columns described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report ESR-5007.
- The design, installation, conditions of use and identification of the IntelliJack Support Columns are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report ESR-5007.
- The design, installation and inspection are in accordance with additional requirements of Chapters 16 and 17 of Title 14B, as applicable.

This supplement expires concurrently with the evaluation report, reissued October 2024.

**DIVISION: 05 00 00—METALS**
**Section: 05 50 00—Metal Fabrications**

**REPORT HOLDER:**

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

**EVALUATION SUBJECT:**

**INTELLIJACK SUPPORT COLUMNS**

## 1.0 REPORT PURPOSE AND SCOPE

**Purpose:**

The purpose of this evaluation report supplement is to indicate that IntelliJack Support Columns, described in ICC-ES evaluation report ESR-5007, have also been evaluated for compliance with the codes noted below.

**Applicable code editions:**

- 2020 *Florida Building Code—Building*
- 2020 *Florida Building Code—Residential*

## 2.0 CONCLUSIONS

The IntelliJack Support Columns, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-5007, complies with the *Florida Building Code—Building* and *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-5007 for the 2018 *International Building Code®* meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential,* as applicable.

Use of the IntelliJack Support Columns have also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and the *Florida Building Code—Residential*, with the following condition:

- The minimum least dimension and minimum wall thickness of tubular steel columns must be in accordance with the *Florida Building Code—Building* Section 2219.1.

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, reissued October 2024.