ICC-ES Evaluation Report

ESR-4900

Issued June 2024

Subject to renewal June 2025

DIVISION: 31 00 00 – EARTHWORK **Section: 31 60 00 – Special Foundations and Load-Bearing Elements**	**REPORT HOLDER:** **EVERSTRONG STRUCTURES CORP**	**EVALUATION SUBJECT:** **EVER-JACK**	

1.0 EVALUATION SCOPE

Compliance with the following codes:

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

Properties evaluated:

- Structural
- Low Temperature Durability

2.0 USES

The Ever-Jack is used for the support of post columns in under-floor spaces, such as crawl spaces, in buildings of Type V construction under the IBC or any construction under the IRC. Ever-Jacks are used as individual, isolated footings supporting downward vertical loads only.

3.0 DESCRIPTION

The Ever-Jack is a molded composite footing assembly comprised of components formed by an injection molding process. The Ever-Jack components include a base, cap bolt and boot disc. The base and cap bolt components are manufactured from a proprietary composite of polypropylene and fiber reinforcement, and the boot disc component is manufactured from ABS plastic.

The base component is a circular, ribbed pad with an internally threaded cylindrical shaft which extends vertically from the center of the base. The cap bolt component has a cylindrical, externally threaded shaft and a circular top cap plate. The cap bolt threads into the Ever-Jack base, allowing for adjustability of the cap bolt height through rotation of the cap bolt. The boot disc component is a circular disc with interior flanges arranged in a square shape. The boot disc fits atop the cap bolt component.

See Figure 2 for details of the Ever-Jack assembly configuration. See Figures 3, 4 and 5 for dimensions of the Ever-Jack base, cap bolt and boot disc components, respectively.

4.0 DESIGN AND INSTALLATION

4.1 Design:

The Ever-Jacks are designed as surface rigid footings that transmit, uniformly to the supporting soil or concrete foundation material, the applied downward vertical load imposed by a nominal 4x4 [3.5 by 3.5 inches (89 by 89 mm)] wood post. The base of the post is supported by the top cap of the Ever-Jack cap bolt and is centered on the top cap with the Ever-Jack boot disc. The load is transferred from the post, through the Ever-

Jack cap bolt, into the Ever-Jack base, and distributed on the ground surface. Allowable loads are controlled by the type of supporting soil or capacity of foundational materials, as applicable. The Ever-Jack design load must not exceed the allowable downward vertical loads shown in Table 1.

The Ever-Jack has been evaluated for use at temperatures at or above -20ºF (-29ºC).

4.2 Installation:

Installation of the Ever-Jack must be in accordance with this report, the applicable code and the report holder's published installation instructions.

The Ever-Jacks must be installed at grade level, on soil or concrete, in underfloor spaces, such as crawl spaces. Before placement of the Ever-Jack, the ground surface must be made uniform as described in the report holder's installation instructions to ensure direct, uniform, level bearing of the Ever-Jack on the supporting soil or foundation material, as applicable.

The Ever-Jack boot disc must be placed in the top cap of the cap bolt. The cap bolt is then raised as described in the report holder's installation instructions to receive the base of the wood post. The wood post must have a solid base which bears uniformly on the top cap of the Ever-Jack cap bolt. The post base must be centered on the top cap using the boot disc. The final height the cap bolt must be such that the thread engagement between the cap bolt and Ever-Jack base is not less than 1 inch (25.4 mm). See Figure 1 for a typical installation example detail of the Ever-Jack.

5.0 CONDITIONS OF USE:

The Ever-Jack product 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 be in accordance with this report and the report holder's published installation instructions. In the case of a conflict between the published installation instructions and this report, the more restrictive requirements govern.

5.2 Under the IBC, a report of geotechnical investigation must be submitted to the code official in accordance with IBC Section 1803, unless this requirement is waived by the code official as allowed by the Exception to IBC Section 1803.2. Under the IRC, the applicable soil bearing pressure shall be determined in accordance with IRC Section R401.4.

5.3 The Ever-Jacks are used to support wood posts for Type V construction under the IBC or any construction under the IRC.

5.4 For installations in under-floor spaces such as crawl spaces in compliance with the IBC and IRC, the bottom of interior footings are permitted to be installed at finished grade unless otherwise required by IBC Section 1809.5 or IRC Section R403.1.4.1 for frost protection or by IBC Section 1805.1.2 or IRC Section R408.6 for surface or ground-water. Installation of the Ever-Jack below finished grade is outside of the scope of this report.

5.5 The Ever-Jack may be installed directly on top of concrete foundational materials in crawl spaces provided the following:

5.5.1 The concrete foundational materials must be designed for the applicable loads, including the load transferred from the Ever-Jack, subject to approval by the building official.

5.5.2 Where the crawl space is subject to below freezing temperatures, concrete foundational materials must be protected from frost in accordance with IBC Section 1809.5 or IRC Section R403.1.4.1, subject to approval by the building official.

5.5.3 Design and installation of concrete foundational materials are outside the scope of this report and are subject to approval by the building official.

5.6 The Ever-Jack must not be installed where subject to UV exposure.

5.7 The Ever-Jack must not be installed where subject to temperatures below -20ºF (-29ºC).

5.8 The design of the structure (including the wood post) supported by the Ever-Jacks is outside the scope of this report.

5.9 Design calculations in accordance with Chapter 18 of the IBC, Chapter 4 of the IRC must be submitted to the code official. The design must take into consideration the spacing of the Ever-Jacks.

5.10 The Ever-Jacks are manufactured under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

6.1 Reports of testing addressing vertical load capacity in accordance with Sections 4.5 and 4.6 of the ICC-ES Acceptance Criteria for Molded Plastic Footing Pads (AC49), dated August 2013 (editorially revised October 2022).

6.2 Reports of testing addressing low temperature durability (low temperature effects, freeze/thaw resistance).

7.0 IDENTIFICATION

7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-4900) along with the name, registered trademark, or registered logo of the report holder (EverStrong Structures Corp) must be included in the product label.

7.2 In addition, the Ever-Jacks are identified with a label including the product name and date of manufacture.

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

EVERSTRONG STRUCTURES CORP
13681 NEWPORT AVE #8-386
TUSTIN, CALIFORNIA 92780
(562) 283-5909
www.ever-jack.com

TABLE 1−EVER-JACK ALLOWABLE LOADS RELATED TO LOAD-BEARING PRESSURES OF SOILS OR FOUNDATION MATERIALS

	LOAD-BEARING PRESSURES OF SOILS OR FOUNDATION MATERIALS[1,3]				
	1,500 psf	**2,000 psf**	**3,000 psf**	**4,000 psf**	**12,000 psf**
Ever-Jack Allowable Load[2]	3,000 lbs	3,000 lbs	3,000 lbs	3,000 lbs	4,060 lbs[3]

For **SI:** 1 inch = 25.4 mm; 1 lbf = 4.4 N; 1 lbf/ft^2 = 47.9 Pa.

1. Load-bearing pressures of soils shall be determined using the presumptive load-bearing values in IBC Table 1806.2 or IRC R401.4.1, as applicable, or the load-bearing values shall be determined with a site-specific soil investigation, as required by the code official.
2. Allowable loads are based on a minimum 1-inch thread engagement between the Ever-Jack base and cap bolt.
3. When the Ever-Jack is installed directly on top of a concrete foundation material, such as a spread footing or slab, the allowable capacity of the Ever-Jack may be taken as 4,060 lbs. However, the concrete elements must be designed by a registered design professional for the applicable loads, and the load bearing pressure of the soil supporting the concrete elements must not be exceeded. Design and installation of concrete foundation materials are outside the scope of this report.

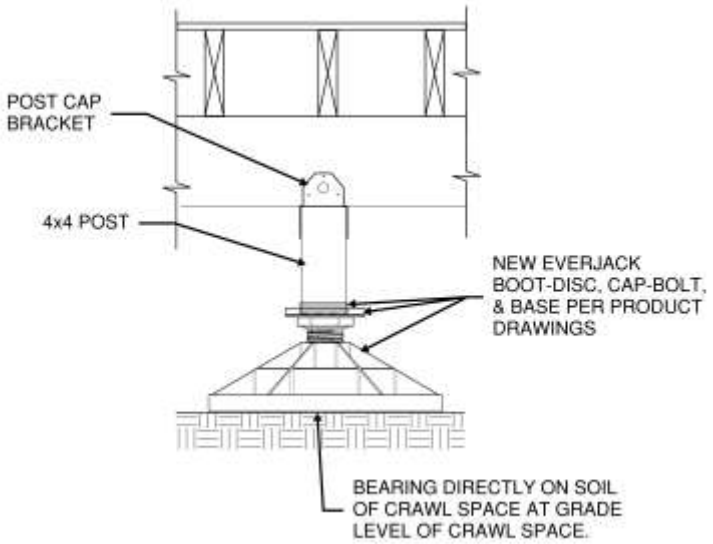

FIGURE 1—EVER-JACK TYPICAL INSTALLATION EXAMPLE

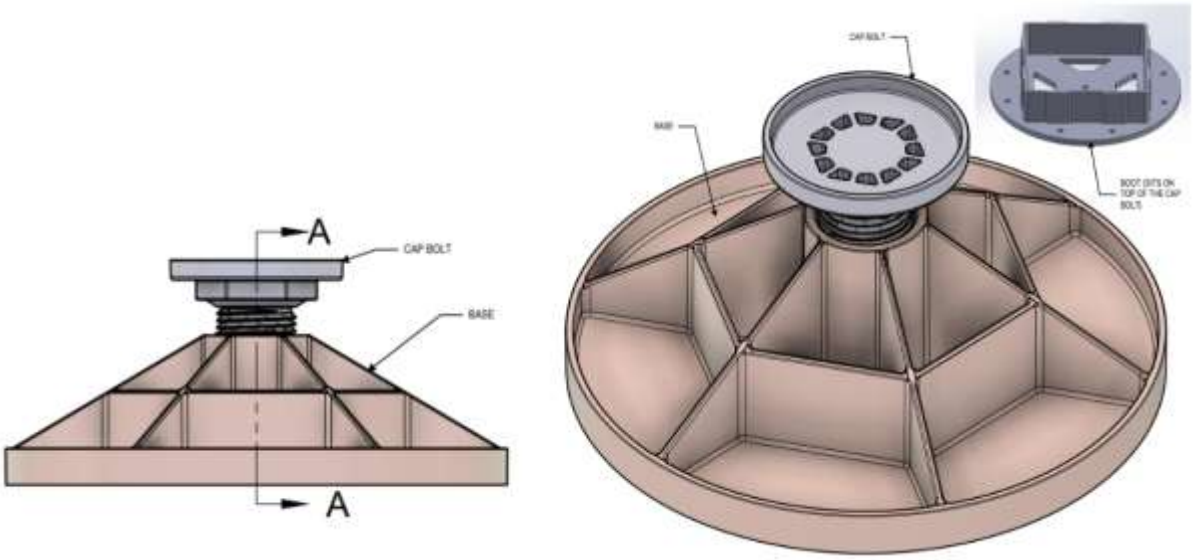

FIGURE 2—EVER-JACK ASSEMBLY

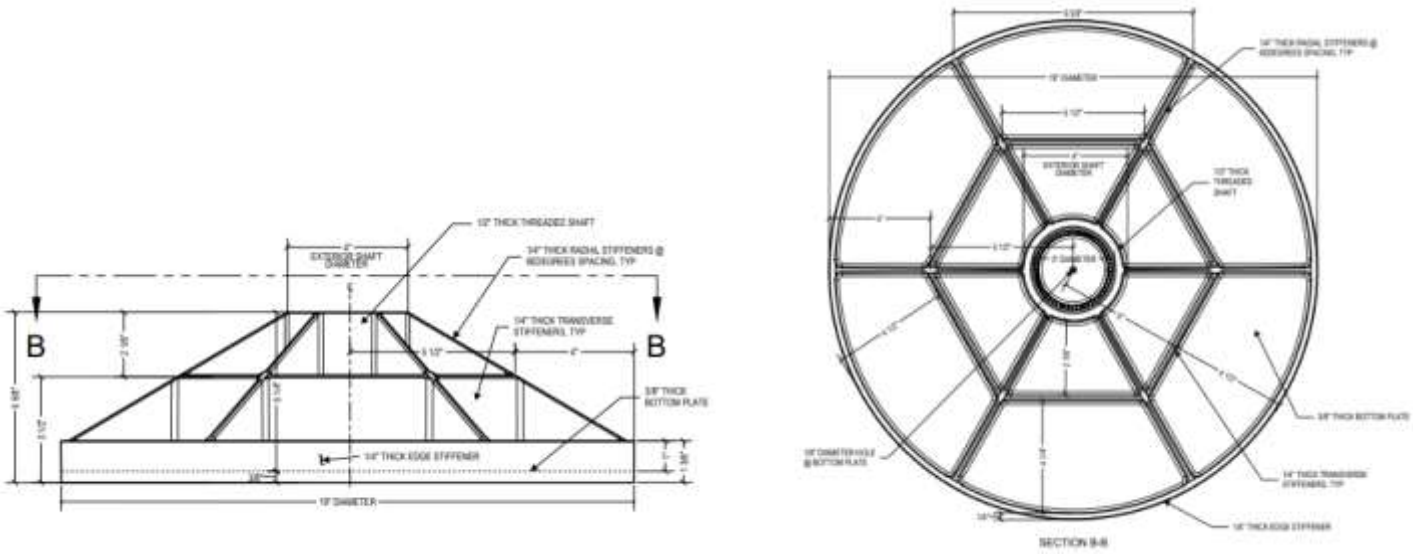

FIGURE 3—EVER-JACK BASE COMPONENT

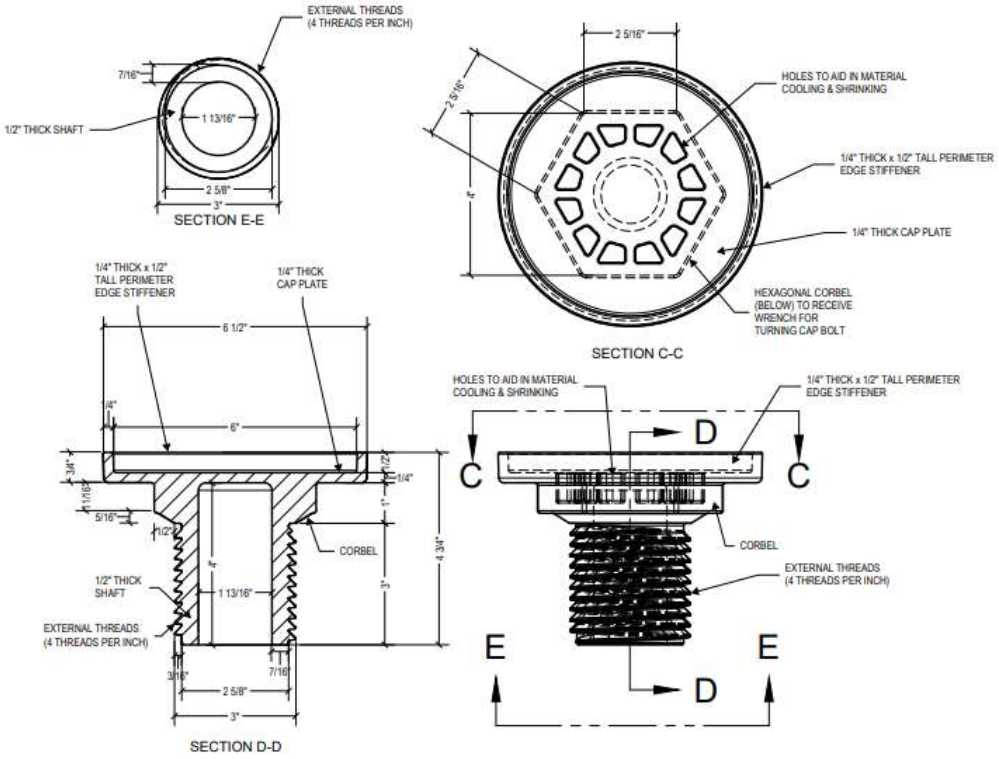

FIGURE 4—EVER-JACK CAP BOLT COMPONENT

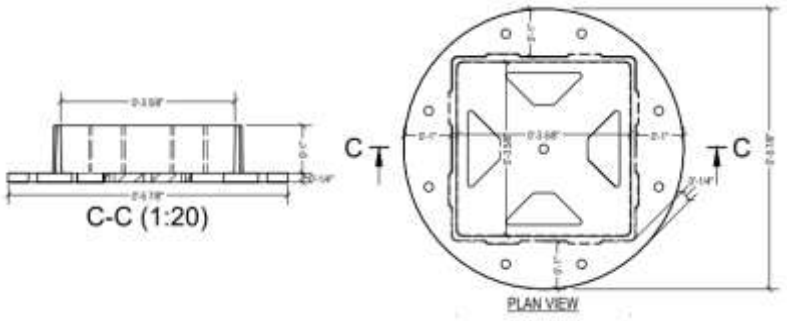

FIGURE 5—EVER-JACK BOOT DISC COMPONENT