

ICC-ES Evaluation Report

ESR-5423

Issued April 2024

Revised September 2024

Subject to renewal April 2025

This report also contains:

- LABC Supplement


- CBC Supplement

- FBC Supplement



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<p>DIVISION: 06 00 00— WOOD, PLASTIC AND COMPOSITES</p> <p>Section: 06 05 23— Wood, Plastic, and Composite Fastenings</p> <p>DIVISION: 09 00 00— FINISHES</p> <p>Section: 09 22 16.23— Fasteners</p>	<p>REPORT HOLDER: INTERNATIONAL FASTENERS, INC.</p>	<p>EVALUATION SUBJECT: DAGGERZ™ EYE-LAG SCREWS (SHARP POINT)</p>	
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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

Daggerz™ Eye-lag screws are used to provide a means of attaching steel wire to the bottom surface of horizontal wood elements for installation of suspended ceiling systems complying with IBC Section 808.1. The screws may be used in buildings regulated under the IRC where an engineered design is submitted in accordance with IRC Section R301.1.3.

3.0 DESCRIPTION

3.1 General:

Daggerz™ Eye-lag screws are partially-threaded, sharp point screws. The smooth shank transitions to a flattened portion with an eye for attaching the ceiling wire. The threaded portion is nominally 1/4-inch (6.4 mm) in diameter with 10 threads per inch. See [Figure 1](#). Descriptions of Daggerz™ Eye-lag screws that have been evaluated are listed in [Table 1](#).

3.2 Screw Material:

Daggerz™ Eye-lag screws are manufactured from carbon steel wire complying with the manufacturer's specifications. The screws are zinc-plated in accordance with the report holder's specifications.

3.3 Wood Materials:

Daggerz™ Eye-lag screws have been evaluated for installation into sawn lumber framing members having a minimum assigned specific gravity (SG_{NDS}) of 0.42 or structural composite lumber having a minimum equivalent specific gravity (SG_{eq}) of 0.50. The wood framing member must have a minimum nominal width of 1½ inches (38 mm).

4.0 DESIGN AND INSTALLATION

4.1 Design:

Daggerz™ Eye-lag screws have been evaluated for transferring axial tension loads from ceiling wire to wood framing members. The allowable tension strength (ASD), based on a safety factor of 3, for screws with threads fully embedded in the wood is 326 lbf (1450 N). The design tension strength (LRFD), based on a Φ of 0.50, is 489 lbf (2175 N). No increases are allowed. The capacity of the ceiling wire is outside the scope of this report and must be considered in the connection design.

4.2 Installation:

Daggerz™ Eye-lag screws must be installed in accordance with this report and the manufacturer's published installation instructions. A copy of the manufacturer's published installation instructions must be available on the jobsite at all times during installation.

The screws and ceiling wires must be installed vertically to ensure that the tension load is applied along the axis of the screw. The screws must be installed perpendicular to the grain of the supporting wood framing member, using a special driver provided by the manufacturer.

Screws must be spaced a minimum of ¾ inch (19.1 mm) from the edge of the wood framing member, a minimum of 3 inches (76 mm) from the end of the wood framing member, and at a minimum of 3 inches (76 mm) on center along the wood framing member. The threaded portion of the screw must be fully embedded in the wood framing member.

Daggerz™ Eye-lag screws are intended to be installed without a pilot hole. When used in wood with an assigned specific gravity greater than 0.50, pilot holes must be used in accordance with Section 12.1.5.2 of the NDS.

5.0 CONDITIONS OF USE:

Daggerz™ Eye-lag screws described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The fasteners are manufactured and identified in accordance with this report.
- 5.2 Fastener installation complies with this report and the manufacturer's published installation instructions. In the event of conflict between this report and the published instructions, the more restrictive requirements govern.
- 5.3 Use of the screws to attach bracing wire to wood supports is outside the scope of this report.
- 5.4 The allowable loads noted in Section 4.1 apply to the fasteners and their connection to the wood framing member only. Adequacy of the wood member to support the suspended loads must be justified to the satisfaction of the code official.
- 5.5 Calculations demonstrating that the applied loads are less than the available loads described in this report must be submitted to the code official for approval. The calculations must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.
- 5.6 Use of the fasteners is limited to dry service conditions where the moisture content of the wood does not exceed 19 percent.
- 5.7 The screws 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 Dowel-type Threaded Fasteners Used in Wood \(AC233\)](#), dated June 2023 (editorially revised June 2024).

7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-5423) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.

7.2 In addition, packages of the Daggerz™ Eye-lag screws are identified with the fastener type and part number. The Daggerz™ Eye-lag screws are embossed with “DZ” at the flattened portion of the shank of the screw as shown in [Figure 1](#).

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

INTERNATIONAL FASTENERS, INC.
1341 MASSARO BOULEVARD
TAMPA, FLORIDA 33619
(888) 241-0203
www.daggerz.com

TABLE 1—DAGGERZ™ EYE-LAG SCREWS

ITEM NUMBER	NOMINAL FASTENER SIZE (dia-tpi)	THREAD LENGTH (inches)	UNTHREADED FASTENER LENGTH (inches)	NOMINAL EYE DIAMETER (inch)	COATING/ FINISH
ELSZ1430	1/4-10	1.5	1.5	0.185	Zinc plated
ELSZ1440	1/4-10	1.5	2.5	0.185	Zinc plated
ELSZ1450	1/4-10	1.5	3.5	0.185	Zinc plated

For SI: 1 inch = 25.4 mm.



FIGURE 1—DAGGERZ™ EYE-LAG SCREW (SHARP POINT)

DIVISION: 06 00 00—WOOD, PLASTIC AND COMPOSITES

Section: 06 05 23—Wood, Plastic, and Composite Fastenings

DIVISION: 09 00 00—FINISHES

Section: 09 22 16.23—Fasteners

REPORT HOLDER:

INTERNATIONAL FASTENERS, INC.

EVALUATION SUBJECT:

DAGGERZ™ EYE-LAG SCREWS (SHARP POINT)

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Daggerz™ Eye-lag screws, described in ICC-ES evaluation report [ESR-5423](#), have 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 Daggerz™ Eye-lag screws, described in Sections 2.0 through 7.0 of the evaluation report [ESR-5423](#), comply with the LABC Chapters 8 and 23, and the LARC, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The Daggerz™ Eye-lag screws described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-5423](#).
- The design, installation, conditions of use and identification of the Daggerz™ Eye-Lag screws are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report [ESR-5423](#).
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.
- Under the LARC, an engineering design in accordance with LARC Section R301.1.3 must be submitted.

This supplement expires concurrently with the evaluation report, issued April 2024 and reissued September 2024.

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Section: 06 05 23—Wood, Plastic, and Composite Fastenings

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Section: 09 22 16.23—Fasteners

REPORT HOLDER:

INTERNATIONAL FASTENERS, INC.

EVALUATION SUBJECT:

DAGGERZ™ EYE-LAG SCREWS (SHARP POINT)

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Daggerz™ Eye-lag screws, described in ICC-ES evaluation report ESR-5423, have also been evaluated for compliance with the code(s) noted below.

Applicable code editions:

- 2022 California Building Code (CBC)

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.

- 2022 California Residential Code (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The Daggerz™ Eye-lag screws, described in Sections 2.0 through 7.0 of the evaluation report ESR-5423, comply with CBC Chapters 8 and 23, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 8, 16, 17 and 22, as applicable.

2.1.1 OSHPD:

The Daggerz™ Eye-lag screws, described in Sections 2.0 through 7.0 of the evaluation report ESR-5423, comply with CBC Chapter 8, amended Chapter 23 and 23A, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapter 8 [OSHPD 1, 1R, 2, 3, 4 and 5], Chapter 16 and amendments [OSHPD 1R, 2, 3 and 5], Chapter 16A [OSHPD 1 and 4], amended Chapter 17 [OSHPD 1R, 2, 3 and 5], Chapter 17A [OSHPD 1 and 4], and amended Chapter 23 [OSHPD 1, 1R, 2, 3, 4, and 5], as applicable.

2.1.2 DSA:

The Daggerz™ Eye-lag screws, described in Sections 2.0 through 7.0 of the evaluation report ESR-5423, comply with CBC Chapter 8, amended Chapter 23 and 23A, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapter 8 [DSA-SS and DSA-SS/CC], amended Chapter 16 [DSA-SS/CC], Chapter 16A [DSA-SS], and Chapter 17A [DSA-SS and DSA-SS/CC], and amended Chapter 23 [DSA-SS and DSA-SS/CC], as applicable.

2.2 CRC:

The Daggerz™ Eye-lag screws, described in Sections 2.0 through 7.0 of the evaluation report ESR-5423, comply with the CRC Chapter 3, provided the design and installation are in accordance with the 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report.

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DIVISION: 06 00 00—WOOD, PLASTIC AND COMPOSITES
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INTERNATIONAL FASTENERS, INC.

EVALUATION SUBJECT:

DAGGERZ™ EYE-LAG SCREWS (SHARP POINT)

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that Daggerz™ Eye-lag screws, described in ICC-ES evaluation report ESR-5423, 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 Daggerz™ Eye-lag screws, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-5423, complies with the *Florida Building Code—Building* and 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-5423 for the 2021 *International Building Code*® meet the requirements of the *Florida Building Code—Building* and the *Florida Building Code—Residential*, as applicable.

Use of the Daggerz™ Eye-lag screws 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).

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