ICC-ES Evaluation Report

ESR-4272

Reissued April 2025

This report also contains:

- **City of LA Supplement**

Subject to renewal April 2026

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DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES **Section: 06 05 23—Wood, Plastic, and Composite Fastenings** **DIVISION: 09 00 00—FINISHES** **Section: 09 22 16.23—Fasteners**	**REPORT HOLDER:** **DOC'S INDUSTRIES, INC.**	**EVALUATION SUBJECT:** **I-LAG™ BRAND EYE LAG SCREWS**	

1.0 EVALUATION SCOPE

Compliance with the following codes:

■ 2021, 2018 and 2015 *International Building Code®* (IBC)

Property evaluated:

■ Structural

2.0 USES

I-Lag Brand 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.

3.0 DESCRIPTION

3.1 General:

I-Lag Brand screws are partially-threaded, self-drilling 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 in diameter with 14 threads per inch. See Figure 1. Descriptions of I-Lag Brand screws that have been evaluated are listed in Table 1.

3.2 Screw Material:

The I-Lag Brand screws are manufactured from carbon steel wire complying ASTM A510, Grade C1022. The screws are electro-galvanized in accordance with the report holder's specifications or are supplied without galvanization.

3.3 Wood Materials:

The I-Lag Brand screws have been evaluated for installation into sawn lumber framing members, structural glued laminated timber framing members or cross-laminated timber panels having a minimum assigned specific gravity of 0.42. The screws have been verified to be self-drilling in wood with specific gravity of up to 0.57. The wood framing member must have a minimum nominal width of $1^1/_2$ inches (38 mm).

4.0 DESIGN AND INSTALLATION

4.1 Design:

The I-Lag screws have been evaluated for transferring axial tension loads from ceiling wire to wood framing members. The allowable fastener tension strengths and the reference withdrawal design values are shown in Table 2. The capacity of the ceiling wire is outside the scope of this report and must be considered in the connection design.

The reference withdrawal design values must be multiplied by all applicable adjustment factors in the AWC National Design Specification for Wood Construction (NDS), applicable to dowel-type fasteners loaded in tension.

4.2 Installation:

The I-Lag Brand 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 screw driving pole tool recommended by the manufacturer.

Screws must be spaced a minimum of $^3/_4$ 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 in order to achieve the reference withdrawal design values.

The I-Lag screws are intended to be self-drilling. When used in wood with a specific gravity greater than 0.57, pilot holes shall be used in accordance with Section 12.1.5.2 of the NDS.

5.0 CONDITIONS OF USE:

The I-Lag Brand 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 allowable 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 Acceptance Criteria for Alternate Dowel-type Threaded Fasteners (AC233), dated February 2022.

7.0 IDENTIFICATION

7.1 The I-Lag Brand screws are embossed with knurling on the shank of the screw as shown in Figure 1. Packages of I-Lag screws are identified with the fastener type, part number, report holder name (Doc's Industries, Inc.) and evaluation report number (ESR-4272).

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

DOC'S INDUSTRIES, INC.
4121 GUARDIAN STREET
SIMI VALLEY, CALIFORNIA 93063
(805) 583-9911
www.docsindustries.com

TABLE 1—I-LAG™ BRAND SCREWS

FASTENER TYPE[1]	NOMINAL FASTENER SIZE (dia-tpi)	NOMINAL DIAMETER (in.)	THREAD LENGTH (in.)	UNTHREADED FASTENER LENGTH (in.)	EYE DIAMETER (in.)	COATING/ FINISH
W300M	1/4-14	0.250	1.5	1.5	0.185	Oiled/ Nongalvanized
W300MZP, W300CZP	1/4-14	0.250	1.5	1.5	0.185	Galvanized
W400MZP, W400CZP	1/4-14	0.250	1.5	2.5	0.185	Galvanized
W500MZP, W500CZP	1/4-14	0.250	1.5	3.5	0.185	Galvanized

For **SI:** 1 inch = 25.4 mm.

[1]The letters M and C in the product designation denote packaging quantities.

TABLE 2—DESIGN VALUES FOR I-LAG™ SCREWS

FASTENER TYPE	NOMINAL FASTENER SIZE	ALLOWABLE FASTENER STRENGTH (lbf)		REFERENCE WITHDRAWAL DESIGN VALUE (lbf)
		Tension[1]	Shear	SG ≥ 0.42
W300M	1/4-14	660	560	132
W300MZP, W300CZP				
W400MZP, W400CZP				
W500MZP, W500CZP				

For **SI:** 1 lbf = 4.4 N.

[1]Governed by strength through the eye.

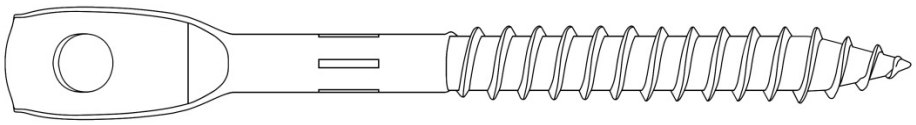

FIGURE 1—I-LAG™ BRAND SCREW

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
Section: 06 05 23—Wood, Plastic, and Composite Fastenings

DIVISION: 09 00 00—FINISHES
Section: 09 22 16.23—Fasteners

REPORT HOLDER:

DOC'S INDUSTRIES, INC.

EVALUATION SUBJECT:

I-LAG™ BRAND EYE LAG SCREWS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that I-Lag Brand eye lag screws, described in ICC-ES evaluation report ESR-4272, 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:

- 2020 *City of Los Angeles Building Code (LABC)*
- 2020 *City of Los Angeles Residential Code (LARC)*

2.0 CONCLUSIONS

The I-Lag Brand eye lag screws, described in Sections 2.0 through 7.0 of the evaluation report ESR-4272, comply with the LABC Chapter 23, and the LARC, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The I-Lag Brand eye lag screws described in this evaluation report must comply with all of the following conditions:

- All applicable sections in the evaluation report ESR-4272.
- The design, installation, conditions of use and identification of the screws are in accordance with the 2018 *International Building Code®* (IBC) provisions noted in the evaluation report ESR-4272.
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.
- 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, reissued April 2025.