ICC-ES Evaluation Report

ESR-5258

Reissued May 2025

Subject to renewal May 2026

This report also contains:

- **City of LA Supplement**
- **CA Supplement w/DSA and OSHPD**
- **City of Chicago Supplement**
- **FL with HVHZ Supplement**

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES Section: 06 05 23.13—Nails	REPORT HOLDER: HOR LIANG INDUSTRIAL CORP	EVALUATION SUBJECT: NAILS	

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2024, 2021 and 2018 *International Building Code®* (IBC)
- 2024, 2021 and 2018 *International Residential Code®* (IRC)

Properties evaluated:

- Bending yield strength
- Compliance with material requirements and tolerances of ASTM F1667
- Compliance with prescriptive requirements of the IBC and IRC
- Use in diaphragms and shear walls

2.0 USES

The nails described in this report are used for engineered and prescriptive structural connections between wood members and steel-to-wood members.

3.0 DESCRIPTION

The nails have full a round head and diamond point. The nails are formed from carbon steel wire and are available with a bright finish (nongalvanized). See Table 1 for nail sizes, head styles, shank types, finishes, bending yield strength and packaging information. Dimensional tolerances conform to ASTM F1667.

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 Engineered Structural Connections:

4.1.1.1 Lateral Design: The nails described in Table 1 comply with the requirements of IBC Section 2303.6 and may be used in lateral connections designed in accordance with IBC referenced ANSI/AWC National Design Specification® for Wood Construction (NDS®), using the bending yield strengths and nail diameters shown in Table 1, as applicable. Convert lateral design values determined in accordance with the NDS from lbf to N by multiplying by 4.45.

4.1.1.2 Withdrawal Design: The reference withdrawal design values for nails in Table 1 must be determined in accordance with Section 12.2.3.1(a) of the NDS. Convert withdrawal design values determined in accordance with the NDS from lbf/inch to N/mm by multiplying by 0.175.

4.1.1.3 Pull-through Design: For nails listed in Table 1 and within the range of fastener head diameters and side member thicknesses specified in Table 12.2F of the NDS, the reference head pull-through design values must be determined in accordance with Section 12.2.5 of the NDS.

4.1.2 Engineered Diaphragms and Shear Walls: The nails listed in Table 1 comply with the requirements of IBC Section 2303.6 and head area requirements defined in the ICC-ES Acceptance Criteria for Nails (AC116) and are equivalent to the code-prescribed nails listed in Table 2 for use in engineered diaphragms and shear walls designed in accordance with the AWC Special Design Provisions for Wind and Seismic (SDPWS) which is referenced in the IBC.

4.1.3 Prescriptive Framing Connections: The nails listed in Table 1 comply with the requirements of IBC Section 2303.6 and may be used in framing connections where the nail type and size are prescribed in IBC Table 2304.10.2 (2018 IBC Table 2304.10.1) or IRC Table R602.3(1), as applicable.

4.1.4 Prescriptive Attachment of Sheathing: The nails listed in Table 1 comply with the requirements of IBC Section 2303.6 and head area requirements defined in AC116, and are equivalent to the code-prescribed nails listed in Table 2 for attachment of sheathing to wood framing in accordance with IBC Table 2304.10.2 (2018 IBC Table 2304.10.1) or IRC Tables R602.3(1) and R602.3(3), as applicable.

4.1.5 Prescriptive Use with Metal Connectors: The nails described in Table 1 may be used where nails of the same material and dimension and the same or lesser bending yield strength are prescribed in an ICC-ES evaluation report on the metal connector.

4.2 Installation:

The nails described in this report must be installed in accordance with this report, the report holder's published installation instructions, the approved plans, if applicable, and the applicable prescriptions in the code.

The nails described in this report are packaged for use in power tools recommended by the report holder.

Edge distances, end distances, and spacing must be sufficient to prevent splitting of the wood. Installation must be in accordance with the applicable requirements of NDS Section 12.1.6.

5.0 CONDITIONS OF USE:

The nails 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 nails must be installed in accordance with this report; the report holder's published installation instructions; the approved plans, if applicable; and the applicable provisions of the code. In the case of a conflict amongst these documents, the most restrictive requirements govern.

5.2 Use of the nails described in this report in chemically treated wood, such as pressure-, preservative-, or fire-retardant-treated wood, or in exterior or exposed conditions, is not permitted.

5.3 The nails 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 Nails (AC116), dated March 2018 (editorially revised April 2024).

7.0 IDENTIFICATION

7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-5258) along with the name, registered trademark, or registered logo of the report holder or listee must be included in the product label.

7.2 In addition, packages of nails are identified by a product label bearing the brand name and the nail description (shank type, diameter and length.

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

HOR LIANG INDUSTRIAL CORP.
NO. 72, LANE 402, SEC. 5 LUCAO ROAD
LUGANG TOWNSHIP
CHANGHUA COUNTY
TAIWAN 505
886 47711283
www.coilnail.com.tw

TABLE 1—SPECIFICATIONS OF NAILS

NOMINAL SHANK DIAMETER (inch)	RANGE OF LENGTHS (inches)	NOMINAL HEAD DIAMETER (inch)	HEAD STYLE[1]	SHANK TYPE[1]	FINISH/ COATINGS[2]	SPECIFIED BENDING YIELD STRENGTH, F_{yb} (psi)	PACKAGING
0.113	$1^1/_2 – 3^1/_2$	0.277	Full round	S, R	X	100,000	Plastic strip, wire coil
0.120	$1^1/_2$ - $3^1/_2$	0.277	Full round	S, R	X	100,000	Plastic strip, wire coil
0.131	$1^1/_2$ - $3^1/_2$	0.277	Full round	S, R	X	100,000	Plastic strip, wire coil
0.135	$1^1/_2$ - $3^1/_2$	0.277	Full round	S, R	X	100,000	Plastic strip, wire coil
0.148	$1^1/_2$ - $3^1/_2$	0.293	Full round	S, R	X	90,000	Plastic strip, wire coil
0.162	$1^1/_2$ - $3^1/_2$	0.325	Full round	S, R	X	90,000	Plastic strip, wire coil

For **SI:** 1 inch = 25.4 mm, 1 psi = 6.89 kPa,

[1]See Figure 1 for a description of the head style. Shank types: S = Smooth and R = Ring.
[2]Finish/coating: X = Bright (no zinc) carbon steel nails.

TABLE 2—HOR LIANG NAILS FOR USE IN ENGINEERED DIAPHRAGMS AND SHEAR WALLS AND PRESCRIPTIVE SHEATHING ATTACHMENT

NAIL TYPE AND SIZE PRESCRIBED IN THE CODE	HOR LIANG NAIL DESCRIPTION
6d common (2" x 0.113")	2" to $2^3/_8$" x 0.113"; full round head; smooth and ring
8d common ($2^1/_2$" x 0.131")	$2^1/_2$" to 3" x 0.131"; full round head; smooth and ring

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

Full Round

FIGURE 1—NAIL HEAD STYLE

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
Section: 06 05 23.13—Nails

REPORT HOLDER:

HOR LIANG INDUSTRIAL CORP

EVALUATION SUBJECT:

NAILS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the nails, described in ICC-ES evaluation report ESR-5258, 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 nails, described in Sections 2.0 through 7.0 of the evaluation report ESR-5258, 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 nails described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report ESR-5258.
- The design, installation, conditions of use and identification of the nails are in accordance with the 2021 *International Building Code®* (IBC) and 2021 *International Residential Code®* (IRC) provisions noted in the evaluation report ESR-5258.
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16, 17 and 23, and LARC Chapters 5, 6 and 8, as applicable.
- Nails made from bright steel wire must not be used in exterior or exposed conditions.

This supplement expires concurrently with the evaluation report ESR-5258, reissued May 2025.

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
Section: 06 05 23.13—Nails

REPORT HOLDER:

HOR LIANG INDUSTRIAL CORP

EVALUATION SUBJECT:

NAILS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the nails, described in ICC-ES evaluation report ESR-5258, have also been evaluated for compliance with the codes 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 nails, described in Sections 2.0 through 7.0 of evaluation report ESR-5258, comply with CBC Chapter 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 16, 17 and 23, as applicable.

2.1.1 OSHPD:

2.1.1.1 The nails, described in Sections 2.0 through 7.0 of the evaluation report ESR-5258, comply with CBC Chapter 16 and amendments [OSHPD 1R, 2, 3 and 5], Chapters 16A [OSHPD 1 and 4], Chapter 17 and amendments [OSHPD 1R, 2, 3 and 5], Chapter 17A [OSHPD 1 and 4], and Chapter 23 and amendments [OSHPD 1, 1R, 2, 3, 4 and 5], provided the design and installation are in accordance with the 2021 IBC provisions noted in the evaluation report and the additional requirements in Section 2.1.1.2 of this supplement.

2.1.1.2 Conditions of Use: Fasteners used for the attachment of exterior wall coverings shall be of hot-dipped zinc-coated galvanized steel in accordance with Section 2304.10.2.1 [OSHPD 1, 1R, 2B, 4 and 5].

2.1.2 DSA:

2.1.2.1 The nails, described in Sections 2.0 through 7.0 of the evaluation report ESR-5258, comply with CBC Chapter 16 and amendments [DSA-SS/CC], Chapters 16A [DSA-SS], Chapter 17A [DSA-SS and DSA-SS/CC], and Chapter 23 and amendments [DSA-SS and DSA-SS/CC], provided the design and installation are in accordance with the 2021 IBC provisions noted in the evaluation report and the additional requirements in Section 2.1.2.2 of this supplement.

2.1.2.2 Conditions of Use: Fasteners used for the attachment of exterior wall coverings shall be of hot-dipped zinc-coated galvanized steel in accordance with Section 2304.10.2.1 [DSA-SS].

2.2 CRC:

The nails, described in Sections 2.0 through 7.0 of evaluation report ESR-5258, comply with CRC Chapters 5, 6, and 8, 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, PLASTICS AND COMPOSITES
Section: 06 05 23.13—Nails

REPORT HOLDER:

HOR LIANG INDUSTRIAL CORP

EVALUATION SUBJECT:

NAILS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the nails, described in ICC-ES evaluation report ESR-5258, have 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 nails, described in Sections 2.0 through 7.0 of the evaluation report ESR-5258, comply with Title 14B, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

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

- All applicable sections in the evaluation report ESR-5258.
- The design, installation, conditions of use and identification of the nails are in accordance with the 2018 *International Building Code®* (IBC) provisions noted in the evaluation report ESR-5258.
- The design, installation and inspection are in accordance with additional requirements of Chapters 16, 17 and 23 of Title 14B, as applicable.

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ICC-ES Evaluation Report

ESR-5258 FL Supplement w/ HVHZ

Reissued May 2025

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Section: 06 05 23.13—Nails

REPORT HOLDER:

HOR LIANG INDUSTRIAL CORP

EVALUATION SUBJECT:

NAILS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the nails, described in ICC-ES evaluation report ESR-5258, have 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 nails**,** described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-5258, comply 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* and the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-5258 for the 2021 *International Building Code®* (IBC) meet the requirements of the *Florida Building Code—Building* and *Florida Building Code—Residential*, as applicable.

Use of the nails has 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*.

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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