ICC-ES Evaluation Report

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DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES Section: 06 05 23.13—Nails	REPORT HOLDER: FANACO FASTENERS	EVALUATION SUBJECT: FANACO FASTENERS PNEUMATICALLY-DRIVEN NAILS	

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, 2015, 2012 and 2009 *International Building Code*® (IBC)
- 2021, 2018, 2015, 2012 and 2009 *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, shear walls and braced walls

2.0 USES

The Fanaco Fasteners nails are used for engineered and prescriptive structural wood-to-wood and metal-to-wood connections.

3.0 DESCRIPTION

The evaluated nails are formed from carbon steel or stainless steel wire and have a diamond-shaped point and a round or clipped head. See Table 1 for dimensions and additional information, including bending yield strength. Dimensional tolerances conform to ASTM F1667. The nails are collated for use in power tools. Carbon steel nails have a vinyl coating, an electrogalvanized (EG) coating or a hot-dip galvanized (HDG) coating, as shown in Table 1.

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 Engineered Structural Connections:

4.1.1.1 Lateral Design: The Fanaco Fasteners nails comply with the requirements of IBC Section 2303.6 and may be used in connections designed in accordance with the ANSI/AWC *National Design Specification*® *for Wood Construction* (NDS), using the design bending yield strengths and diameters shown in Table 1. For SI, convert design values from lbf to N by multiplying by 4.45.

4.1.1.2 Withdrawal Design: The reference withdrawal design values for Fanaco Fasteners carbon steel nails may be determined in accordance with the NDS. For SI, convert design values from lbf/inch to N/mm by multiplying by 0.175.

For Fanaco Fasteners stainless steel nails, the reference withdrawal design value must be determined in accordance with the 2018 NDS for all editions of the IBC.

4.1.1.3 Pull-through Design: The reference head pull-through design values for round head nails must be determined in accordance with Section 12.2.5 of the 2018 NDS, for all editions of the IBC. For SI, convert design values form lbf to N by multiplying by 4.45. Head pull-through design values for clipped head nails are not addressed in the code and are outside the scope of this report.

4.1.2 Engineered Diaphragms and Shear Walls: The Fanaco Fasteners nails listed in Table 2 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).

4.1.3 Prescriptive Framing Connections: The Fanaco Fasteners carbon steel nails comply with the requirements of IBC Section 2303.6 and may be used in framing connections where the nail type and size is prescribed in 2021 IBC Table 2304.10.2 (2018 and 2015 IBC Table 2304.10.1, 2012 and 2009 IBC Table 2304.9.1) or IRC Table R602.3(1), as applicable.

4.1.4 Prescriptive Attachment of Sheathing: The Fanaco Fasteners nails listed in Table 2 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 2021 IBC Table 2304.10.2 (2018 and 2015 IBC Table 2304.10.1, 2012 and 2009 IBC Table 2304.9.1) or IRC Tables R602.3(1) and R602.3(3), as applicable.

4.1.5 Prescriptive Use with Metal Connectors: The Fanaco Fasteners nails may be used where nails of the same material and dimensions 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 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. Individual nails may be manually driven.

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 (2012 NDS Section 11.1.6 for the 2012 IBC, 2005 NDS Section 11.1.5 for the 2009 IBC).

5.0 CONDITIONS OF USE:

The Fanaco Fasteners pneumatically driven 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 with a vinyl-coated finish in chemically treated wood, such as pressure-, preservative-, or fire-retardant-treated wood, or in exterior or exposed conditions, is not permitted. Use of the electrogalvanized nails in chemically treated wood or in exterior or exposed conditions is outside the scope of this report.

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 February 2021).

7.0 IDENTIFICATION

7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-1216) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.

7.2 In addition, the nails are identified by labels on the cartons bearing the nail size and length and the material/coating description.

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

FANACO FASTENERS
10600 231st WAY NE
REDMOND, WASHINGTON 98053
(425) 806-7337
www.fanacofasteners.com

TABLE 1—FANACO FASTENERS NAILS

NOMINAL DIAMETER (inch)	NOMINAL HEAD DIAMETER (inch)	SHANK TYPE[1]	COATING[2]	BENDING YIELD STRENGTH, F_{yb} (psi)
Full Round Head Nails				
0.113	0.280	S, R, Sc	EG, HDG	100,000
0.120	0.280	S, R	V, EG, HDG	100,000
		Sc	V, HDG	
0.131	0.280	S	V, EG, HDG	100,000
		R	V, EG, HDG	
		Sc	V, HDG	
0.148	0.291	S	V, EG, HDG	90,000
		R, Sc	V, HDG	
0.162	0.314	S, R, Sc	V, HDG	90,000
Clipped Head Nails				
0.113	0.280	S	EG, HDG	100,000
0.120	0.280	S	V, EG, HDG	100,000
		R	V, EG, HDG	
		Sc	V, HDG	
0.131	0.280	S	V, EG, HDG	100,000
		R, Sc	V, HDG	
0.148	0.291	S	V, EG, HDG	90,000
		R, Sc	V, HDG	

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

[1]Shank types: S = Smooth; R = Ring; Sc = Screw
[2]Coating types: V = Vinyl Coated; EG = Electrogalvanized, HDG = Hot-dip galvanized

TABLE 2—FANACO FASTENERS NAILS FOR USE IN ENGINEERED DIAPHRAGMS AND SHEAR WALLS AND PRESCRIPTIVE SHEATHING ATTACHMENT

NAIL TYPE AND SIZE PRESCRIBED IN THE CODE	FANACO FASTENERS NAIL DESCRIPTION
6d common (2" x 0.113")	2" to 2$^1/_2$" x 0.113" Carbon Steel, Full Round Head
8d common (2$^1/_2$" x 0.131")	2$^1/_2$" to 3" x 0.131" Carbon Steel, Full Round Head
10d common (3" x 0.148")	3" to 3$^1/_2$" x 0.148" Carbon Steel, Full Round Head

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