CODE EVALUATION REPORT

CERUS-1023

REVISED: March 2025
EXPIRATION: March 2027

PRODUCT(s):	**JV100 Joist Hanger**
REPORT HOLDER:	Glass Vice Products, Ltd.
CONTACT DETAILS:	24C William Pickering Drive, Rosedale, Auckland 0632 New Zealand
CSI DIVISIONS:	06 00 00 – Wood, Plastics and Composites
CSI SECTION:	06 05 23 – Wood, Plastic, and Composite Fastenings
APPLICABLE CODES:	2024, 2021, 2018 International Building Code (IBC) 2024, 2021, 2018 International Residential Code (IRC)
EVALUATED:	Structural Properties. Corrosion Resistance.

IAS ACCREDITED Product Certification Agency PCA-118

1.0 APPROVED FOR FOLLOWING:

APPROVED TYPES OF CONSTRUCTION:	Type VA/B
APPROVED INSTALLATIONS:	Exterior and interior joist connections.

2.0 DESCRIPTION:

2.1 General:

Glass Vice JV100 Joist Hangers are stainless steel brackets used to connect wood members in timber deck construction governed by the 2024/2021/2018 IBC and 2024/2021/2018 IRC. The JV100 Joist Hangers are used for connecting 2-inch x 6-inch (nominal) (38 mm x 140 mm) dimensional wood joists to supporting cross members for transferring vertical and torsional forces from the joists to supporting cross members. The JV100 Joist Hanger includes seven punched holes on each face of the bracket for fastening into the joist and cross member. See Figure 2 in Section 8.2 for additional details.

2.2 Product Description:

2.2.1 JV100 Joist Hanger:

The JV100 Joist Hanger is composed of ASTM A240/A240M compliant Grade 304 stainless steel of minimum thickness of 0.098-inches (2.5 mm) with a minimum yield strength of 30 ksi (205 MPa).

2.2.2 Fasteners:

Fasteners approved for use with the JV100 Joist Hanger are #14 – Simpson Strong-Drive® SDS Heavy Duty Connector fasteners of minimum 1.5-inch (38 mm) length.

2.2.3 Wood Members:

JV100 Joist Hangers are required to be used with minimum 2-inch x 6-inch (nominal) (38 mm x 140 mm) with minimum specific gravity (SG) of 0.5 and having a maximum moisture content of 19%.

3.0 DESIGN:

Design loads to be resisted and transmitted through the deck joists and JV100 Joist Hangers to the cross members and underlying structure shall be determined in accordance with the applicable building codes. For jurisdictions governed by the IRC, use of JV100 Joist Hangers require Engineering Design in accordance with Section R301.1.3 of the 2024 / 2021 / 2018 IRC.

Loads to be resisted by JV100 Joist Hangers shall not exceed allowable loads outlined in Table 1 and Table 2 found in Section 8 of this report.

Joist and cross member capacity is to be determined in accordance with the applicable code and National Design Specification for Wood Construction (NDS). Design of deck wood structural elements are outside the scope of this report and shall be in accordance with the applicable code(s).

4.0 INSTALLATIONS:

4.1 General:

The JV100 Joist Hanger is intended for installation on one side of nominal 2-inch x 6 inch (38 mm x 140 mm) dimensional wood joists, attaching the joist to a double or triple cross member in exterior deck applications. Installation of JV100 Joist Hangers must comply with the manufacturer's published installation instructions, this report and the applicable code(s). For use of the JV100 Joist Hanger to connect wooden joist members to double and triple wooden headers, manufacturer guidelines should be followed. Figure 3 of this report shows the manufacturer's fastener length and position installation details for connecting to double and triple header members. Where differences are found between documents, this report and the applicable building code govern.

4.1.1 Special Inspection:

Use of JV100 Joist Hanger does not require special inspection.

5.0 LIMITATIONS:

- JV100 Joist Hangers require installation with dimensional lumber of minimum 2-inch x 6-inch (38 mm x 140 mm) of minimum specific gravity (SG) of 0.5 with a maximum moisture content of 19%.
- Design of the deck, including wood structural elements shall comply with the applicable building codes.
- JV100 Joist Hangers require seven (7) #14 – Simpson Strong-Drive® SDS Heavy Duty Connector into both the joist and cross-member.
- JV100 Joist Hangers are to be installed per manufacturers instructions and used in assemblies in accordance with the specifications of this report and the applicable code.
- JV100 Joist Hangers are manufactured in Ratchaburi, Thailand with inspections performed by QAI Laboratories.

6.0 SUPPORTING INFORMATION:

The following data has been submitted for evaluation of JV100 Joist Hangers:

- Compliant data in accordance with the following:
  - Vertical Load Capacity in accordance with ASTM D7147.
  - Torsional Moment Capacity in accordance with ASTM D7147.

7.0 MARKING:

JV100 finished products are labeled with the product name (JV100), manufacturer's name (Glass Vice Products, Ltd.), location of manufacture, and the QAI CER-1023. An example JV-100 label is outlined in Figure 1 below.

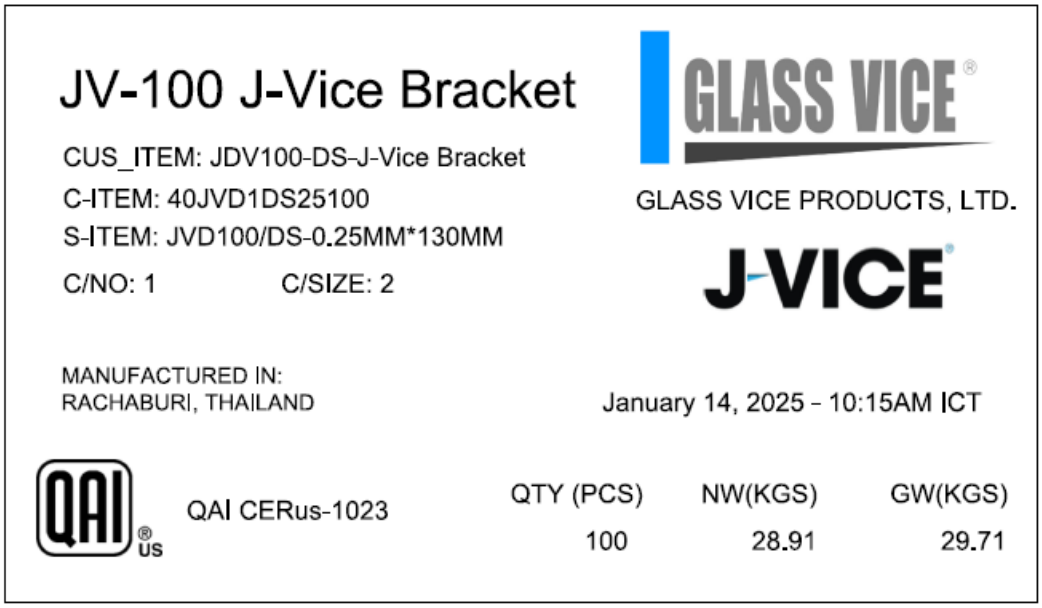

Figure 1 – Representative Example of JV100 Joist Hanger Product Label

8.0 RESULTS/RATINGS:

8.1 JV100 Joist Hanger Allowable Load Capacities:

Table 1 –Vertical Load Capacities[1,2,3,4,5,6]

Product ID	Number of Fasteners		Minimum Fastener Length	Allowable Loads			
				Load Duration Factor			
	Header	Joist		1.0	1.15	1.25	1.60
JV100	7	7	Refer to Figure 3 below	800 lbf (3560 N)	800 lbf (3560 N)	800 lbf (3560 N)	800 lbf (3560 N)

1. Minimum fastener required is Simpson #14 – Simpson Strong-Drive® SDS Heavy Duty Connector of minimum 1.5-inch (38 mm) length per Section 2.2.2 of this report.
2. Wood elements require minimum SG 0.50 per Section 2.2.3 of this report.
3. Allowable vertical loads apply for positive and negative directions.
4. Allowable loads determined based on ultimate values with an applied factor of safety of 3 in accordance with ASTM D7147.
5. Allowable Loads for Load duration factors were determined based on tested values in accordance with the NDS.
6. Deck design and capacity of wood structural elements is outside the scope of this report and is to be in accordance with the applicable code and the NDS.

Table 2 –Torsional Moment Capacities[1,2,3,4]

Product ID	Number of Fasteners		Minimum Fastener Length	Torsional Moment Capacity
	Header	Joist		
JV100	7	7	Refer to Figure 3 below	1535 in-lb (170 Nm)

1. Minimum fastener required is Simpson #14 – Simpson Strong-Drive® SDS Heavy Duty Connector of minimum 1.5-inch (38 mm) length per Section 2.2.2 of this report.
2. Wood elements require minimum SG 0.50 per Section 2.2.3 of this report.
3. Torsional moment capacity based on maximum rotational limit of 1.2° determined in accordance with ASTM D7147.
4. Deck design and capacity of wood structural elements is outside the scope of this report and is to be in accordance with the applicable code and the NDS.

8.2 JV100 Joist Hanger Product Details:

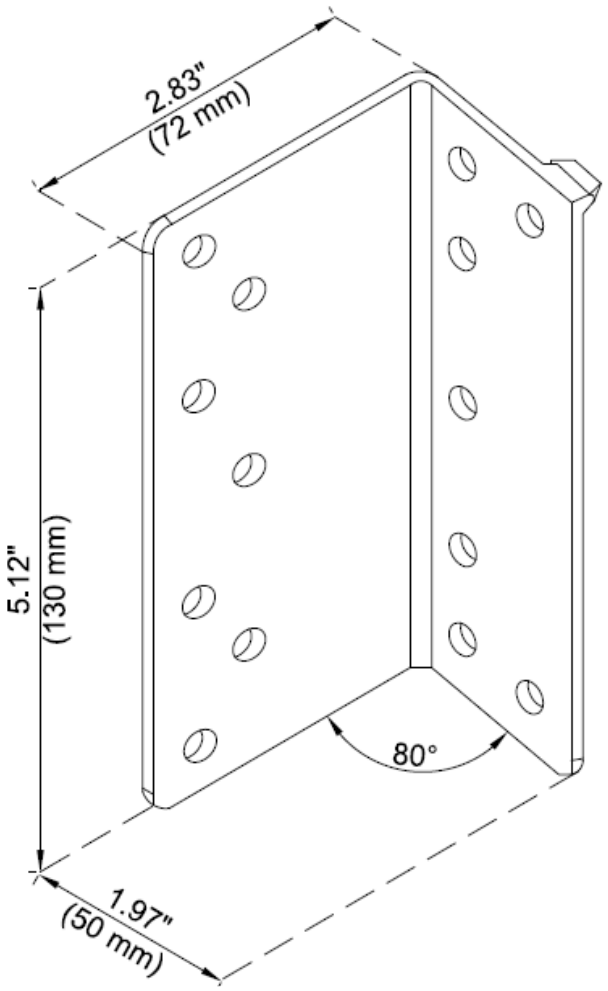

Figure 2 – JV100 Joist Hanger Product Dimensions

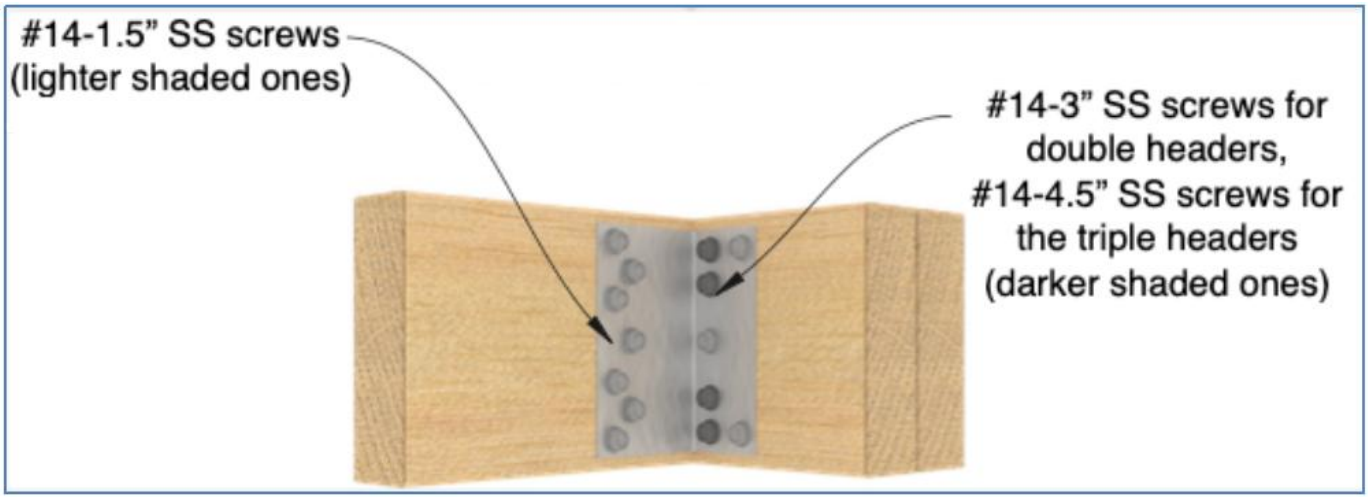

Figure 3 – JV100 Joist Hanger Fastening Schedule – Header to Joist

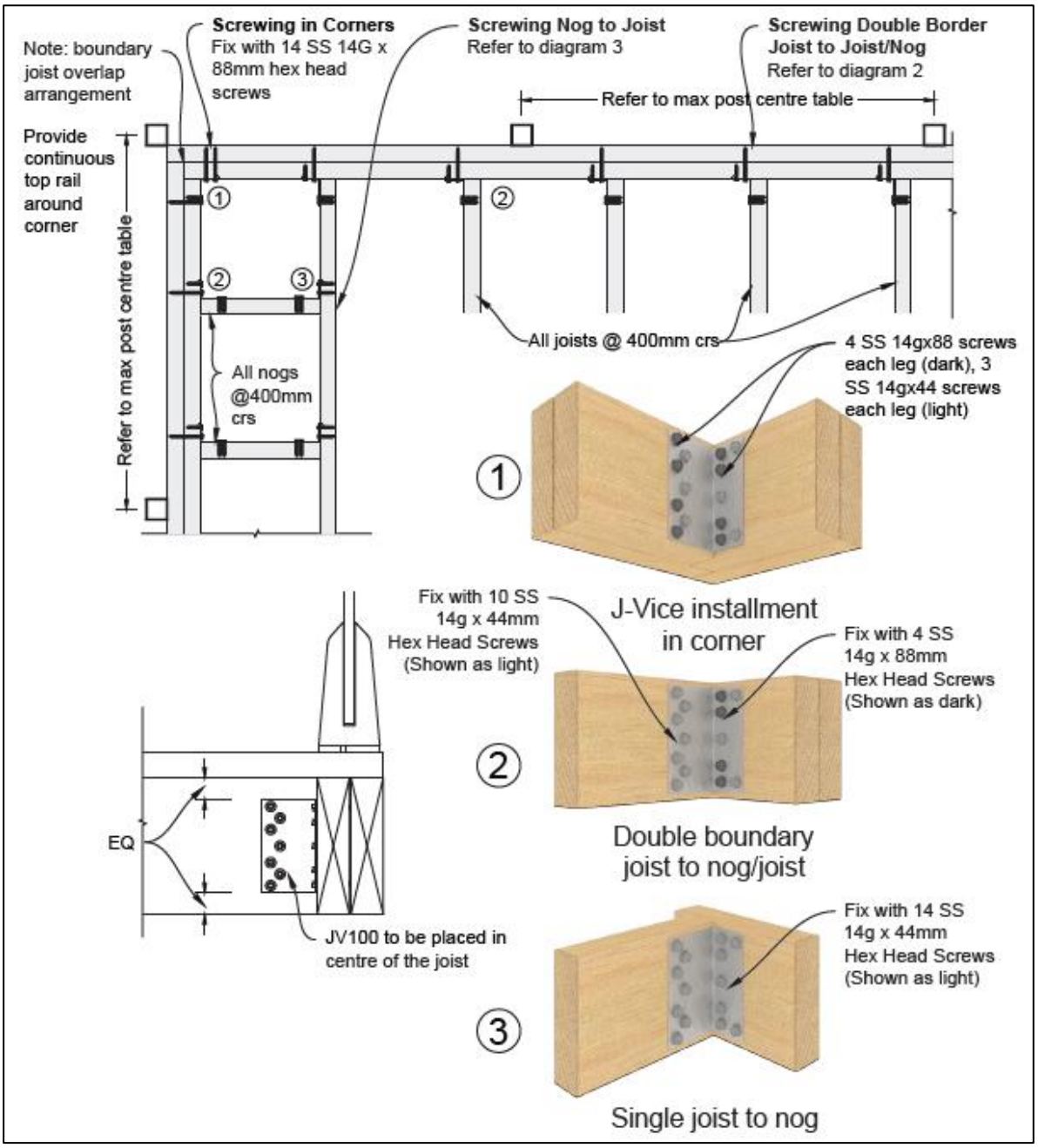

Figure 4 – JV100 Joist Hanger Typical Double Cross Member Deck Construction

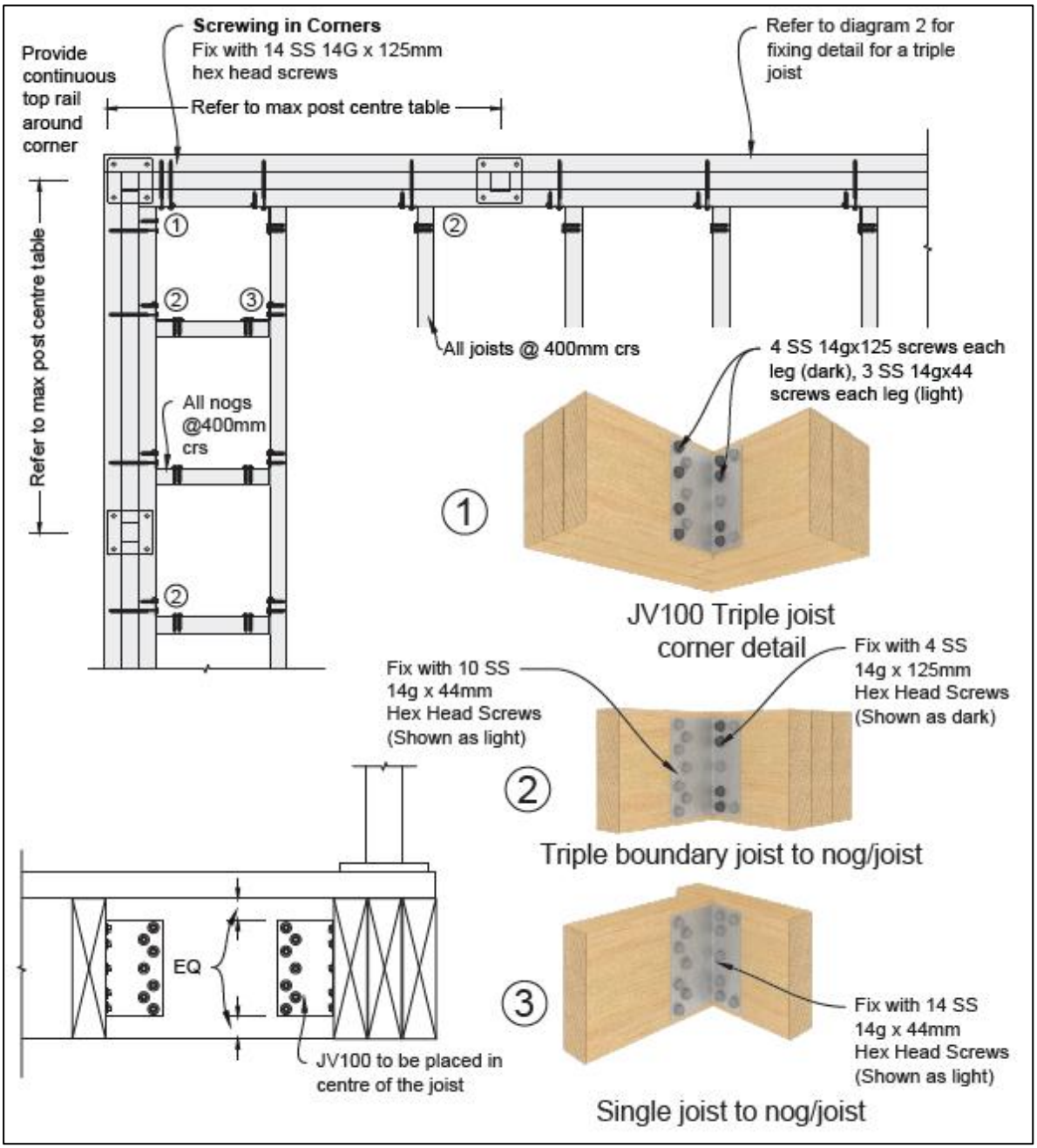

Figure 5 – JV100 Joist Hanger Typical Triple Cross Member Deck Construction

9.0 ELIGIBILITY OF REPORT

QAI's Code Evaluation Report complies with the 2024 IBC Section 104.2 and / 2021 / 2018 IBC Section 104.11 *Alternative materials, design and methods of construction and equipment,* 2024 IBC subsection 104.2.3.6.1 *Evaluation reports* and 2021 / 2018 / 2015 subsection104.11.1 *Research Reports*. Supporting data has been evaluated by QAI for compliance of the noted materials and assemblies to the applicable code by QAI, and *approved* source as detailed below.

The attached report has been reviewed by a QAI Registered Professional Engineer approved by the specific state Board of Professional Engineers noted on the specific P.E. seal(s).

Per section 1703 of the IBC, QAI is an independent third-party testing, inspection and certification agency accredited by the International Accreditation Service, Inc. (IAS) for this specific scope (see IAS PCA-118). QAI can confirm that based on its IAS accreditation it meets IBC Section 1703.1 on Independence, Section 1703.1.2 on Equipment and Section 1703.1 on Personnel.

This Evaluation report has been designed to meet the performance requirements of IBC Section 1703.4 and contains the required information to show the product, material or assembly meets the applicable code requirements.

The product is labeled per section IBC 1703 and subject to follow-up inspection per IBC 1703.6 using QAI IAS accredited ISO/IEC 17020 inspection program (see IAS AA-723).

For more information regarding QAI Laboratories, please visit www.qai.org.

The above is an example of the QAI registered Listing mark. The Listing mark may only be used by the Report Holder per the QAI service agreement on products defined in this report. The 'us' indicator in the 4 o'clock position indicates the product complies with the properties evaluated with limitations outlined in this report for use in the US market. A 'c' indicator in the 8 o'clock position indicates the product has been evaluated for use in the Canadian market.

9.0 REFERENCED STANDARDS

ASTM D7147-11 (Reapproved 2018) - *Standard Specification for Testing and Establishing Allowable Loads of Joist Hangers* (ASTM D7147).
2024 National Design Specification for Wood Construction (NDS).
ASTM A240/A240M-22a - *Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications (ASTM A240/A240M)*