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TRIFORCE® WOOD TRUSSES

CSI Section:
06 17 53 Shop-Fabricated Wood Trusses

1.0 RECOGNITION

The TRIFORCE® wood trusses recognized in this report, have been evaluated for equivalent fire-protection of floors. Fire-protection of floors was evaluated for equivalence to 2-inch-by-10-inch nominal dimension lumber in accordance with Exception 4 to Section R302.13 of the 2021, 2018, and 2015 International Residential Code (Section R501.3 of the 2012 International Residential Code). The wood trusses comply with the intent of the provisions of the following codes and regulations:

- 2021, 2018, 2015, and 2012 International Residential Code® (IRC)
- 2023 and 2020 Florida Building Code, Residential (FBC, Residential)- Supplement attached

2.0 LIMITATIONS

Use of the wood trusses recognized in this report is subject to the following limitations:

2.1 Use of TRIFORCE® wood trusses shall comply with the provisions of the applicable codes, the manufacturer’s published installation instructions, and this report. Where conflicts occur in these provisions, the most restrictive shall govern.

2.2. Selection of the floor trusses for structural loading and the supporting structure shall be designed by an approved structural design professional. The design professional shall provide signed and sealed calculations and drawings when required by the building official for approval.

2.3 The open web trusses shall be properly braced in accordance with the installation instructions and the applicable codes.

2.4 The trusses recognized in this report are produced by Barrette Structural Distribution, Inc in Trois-Rivieres, Quebec, Canada.

3.0 PRODUCT USE

3.1 Design: TRIFORCE® wood trusses shall be designed using Allowable Stress Design (ASD) in accordance with manufacturer’s design information and ANSI/AWC National Specification for Wood Construction (NDS).

3.2 Fire-Protection of Floors: The assembly is recognized for installation without the prescribed minimum ½-inch-thick (12.7 mm) gypsum wallboard or 5/8-inch-thick (15.9 mm) wood structural panel membrane in accordance with Exception 4 to the 2021, 2018, and 2015 IRC Section R302.13 or Section R501.3 for the 2012 IRC when installed as described in this report.

A minimum 9½-inch-deep (238 mm) truss installed at a maximum spacing of 24 inches (610 mm) and sheathed with minimum 23/32-inch-thick WSP floor sheathing in accordance with the IRC, offer equivalent fire performance to floors framed using 2-inch-by-10-inch nominal dimension solid sawn lumber prescriptively sheathed in accordance with the IRC.

The TRIFORCE® truss uses a 5/8-inch-thick (15.9 mm) wood structural panel or ½-inch-thick (12.7 mm) gypsum board attached as per the manufacturer’s installation instructions to each side of the 3/8-inch-thick (9.5 mm) wood structural panel of the extension of one end of the truss.

3.3 Installation: Installation of the TRIFORCE® wood trusses shall be in accordance with the manufacturer’s installation guide, this evaluation report, and the applicable provisions of the IBC and IRC. The trusses are imprinted with the word “bottom” on the bottom flanges to assure installation is as designed. Where there is a conflict between these documents, the most restrictive provisions shall govern. The manufacturer’s installation instructions and this report shall be available at the job site during construction for use by installers and quality assurance purposes.

4.0 PRODUCT DESCRIPTION

4.1 General: TRIFORCE® wood trusses are prefabricated open web floor trusses constructed of solid-sawn wood and finger-jointed Spruce-Pine-Fir (SPF) lumber. Web members are connected to flanges by adhesively bonded finger joints.

4.1.1 Flanges: The top and bottom flanges are constructed of solid-sawn or finger-jointed Spruce-Pine-Fir (SPF) lumber having a minimum 2-inch-by-3-inch nominal dimension.

4.1.2 Web Members: The vertical and diagonal web members are constructed of minimum nominal 2-inch-by-2-inch SPF lumber. An extension is provided on one end of the truss that may be cut, according to the manufacturer’s installation instructions, to adjust the length of the truss.

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with IBC Section 104.11. This document shall only be reproduced in its entirety.

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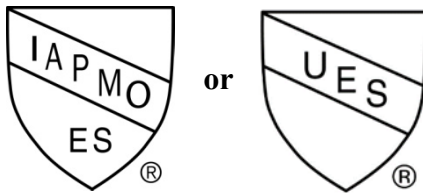




4.1.3 Adhesive: The adhesive used for manufacturing the trusses complies with ASTM D2559 and qualifies under the heat durability performance requirements of ASTM D7247.

5.0 IDENTIFICATION

The bottom flange of the product is imprinted with the manufacturer's name, product name, approved inspection agency, and evaluation report number (ER-539). Either IAPMO UES Mark of Conformity may also be used as shown below:



IAPMO UES ER-539

6.0 SUBSTANTIATING DATA

6.1 Report of Fire-resistance in accordance with ASTM E119 from a laboratory in compliance with ISO/IEC 17025.

6.2 Technical Assessment of Fire Performance.

6.3 Engineering analysis.

6.4 Manufacturer's quality documentation, descriptive literature, and installation instructions.

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on TRIFORCE[®] wood trusses to assess their conformance to the codes shown in Section 1.0 of this report and documents the product's certification. The wood trusses are produced at locations noted in Section 2.4 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org



FLORIDA SUPPLEMENT

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CSI Sections:

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1.0 RECOGNITION

The TRIFORCE® wood trusses recognized in this report have been evaluated for equivalent fire-protection of floors. Fire-protection of floors was evaluated to 2-inch-by-10-inch nominal dimension lumber in accordance with Exception 4 to Section R302.13 of the 2023 and 2020 Florida Building Code, Residential. TRIFORCE® wood trusses evaluated in IAPMO UES ER-539 is a satisfactory alternative to the following codes and regulations:

- 2023 and 2020 Florida Building Code, Residential (FBC, Residential)

2.0 LIMITATIONS

Use of TRIFORCE® wood trusses described in this report supplement is subject to the following limitations:

2.1 Use of TRIFORCE® wood trusses shall comply with the provisions of the applicable codes, the manufacturer's published installation instructions, and this report. Where conflicts occur in these provisions, the most restrictive shall govern.

2.2 Evaluation to the high-velocity hurricane zone provisions in Chapter 44 of the FBC, Residential is outside the scope of this report.

2.3 For products falling under Section 5(d) of Florida Rule 61G20-3.008, it has been verified that the report holder's quality assurance program is audited by a quality assurance entity, approved by the Florida Building Commission, is required to provide oversight and determine that the products are being manufactured as described in this evaluation report to establish continual product performance.

2.4 This supplement expires concurrently with ER-539.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org