Listing and Technical Evaluation Report™

A Duly Authenticated Report from an Approved Agency

Report No: 1010-01

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Subject to Renewal: July 1, 2026

DuPont™ Continuously Insulated Sheathing Series "Portal Frame with Hold-Down" Evaluation (DuPont™ 12.5" CI I-Joist PFH and DuPont™ 15" CI I-Joist PFH)

Trade Secret Report Holder:

DuPont™ Performance Building Solutions

Phone: 989-636-4366

Website: www.dupont.com/building

CSI Designations:

DIVISION: 06 00 00 - WOOD, PLASTICS AND COMPOSITES

Section: 06 12 00 - Structural Panels

Section: 06 12 19 - Shear Wall Panels

Section: 06 16 00 - Sheathing

DIVISION: 07 00 00 - THERMAL AND MOISTURE PROTECTION

Section: 07 21 00 - Thermal Insulation

Section: 07 25 00 - Water-Resistive Barriers/Weather Barriers

Section: 07 27 00 - Air Barriers

1 Innovative Products Evaluated[1]

1.1 DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH

2 Product Description and Materials

2.1 DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH are constructed as shown in **Figure 1**, **Figure 2**, and **Figure 3**.

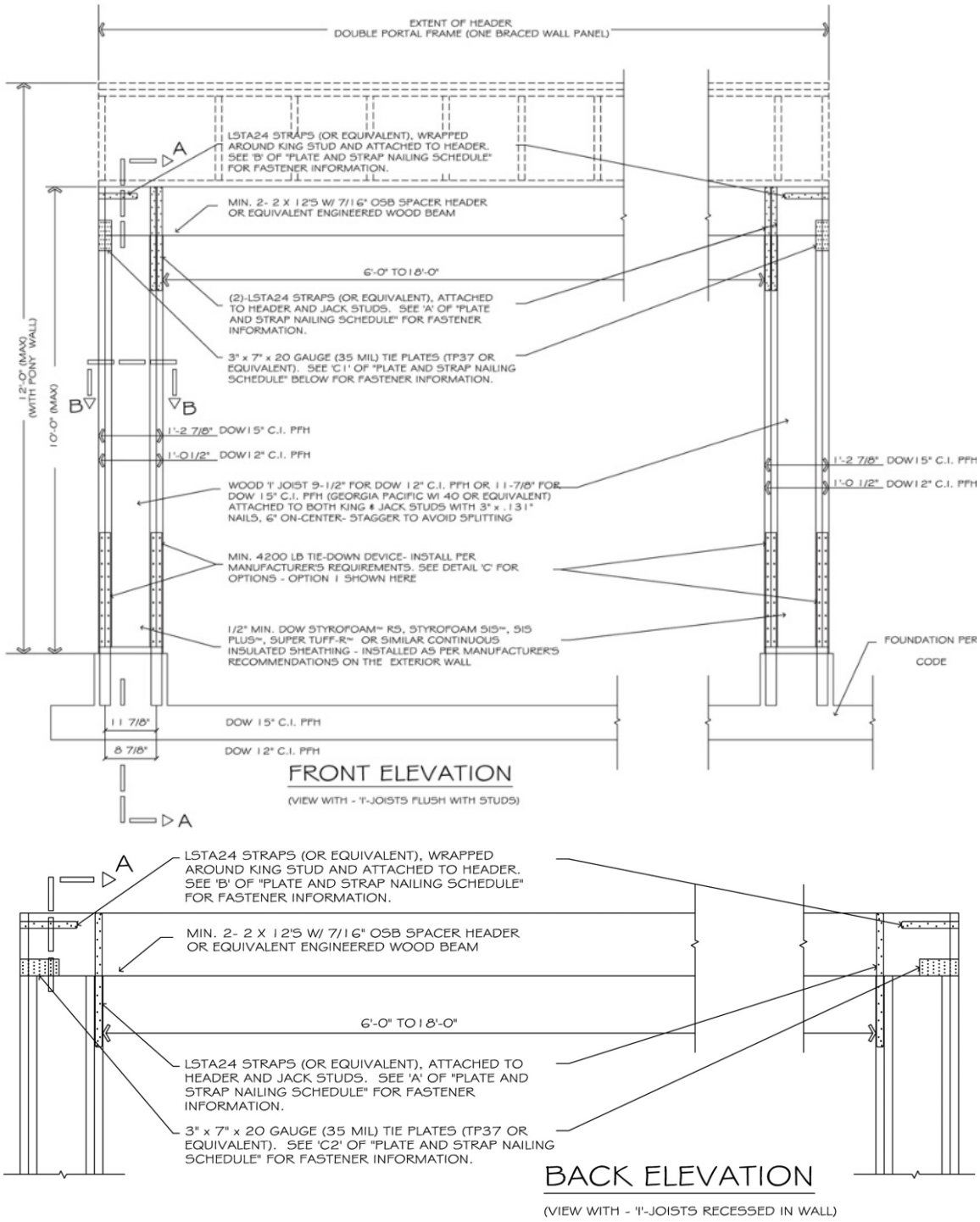

Figure 1. Construction Details of DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH

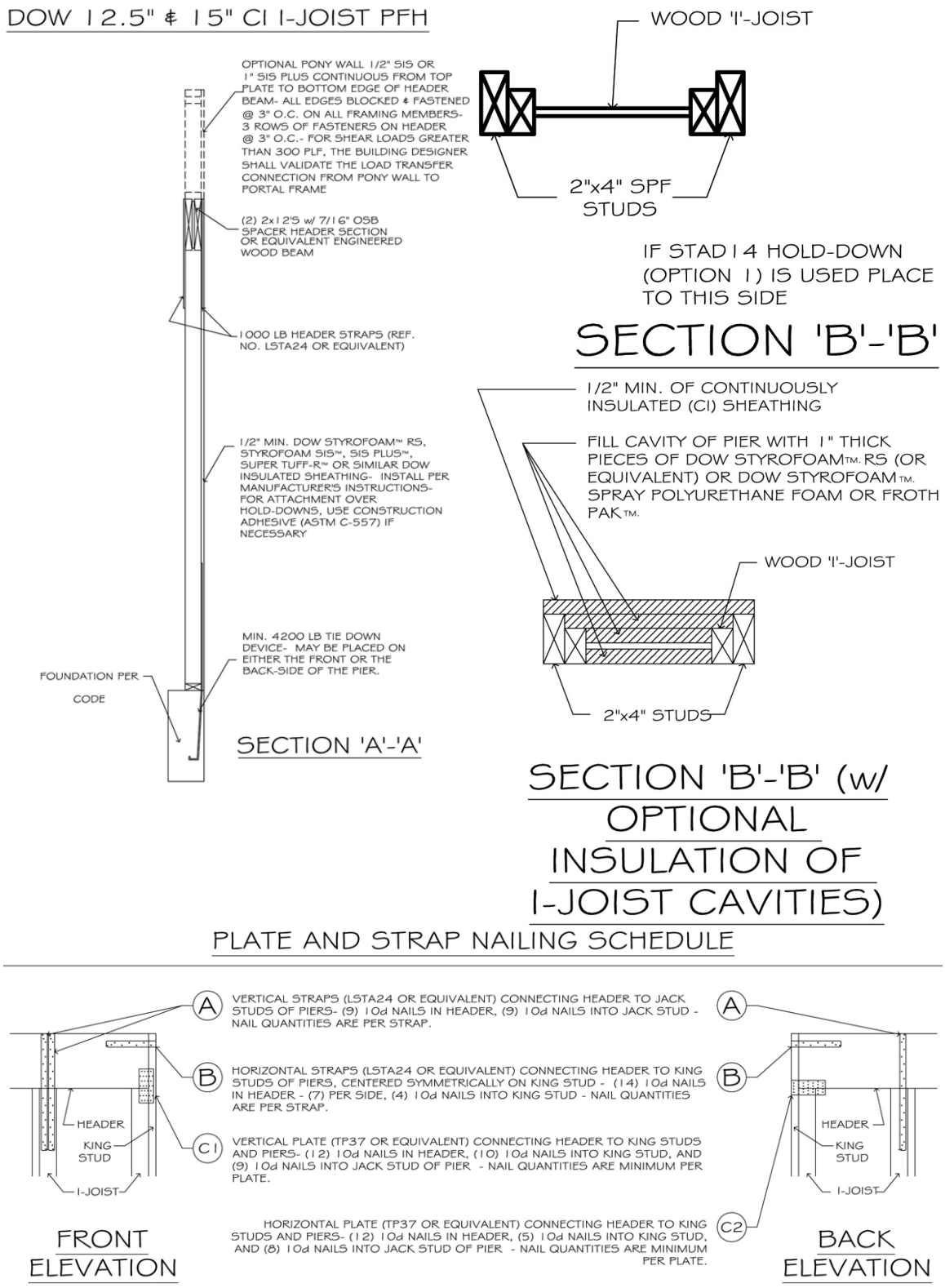

Figure 2. Construction Details of DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH

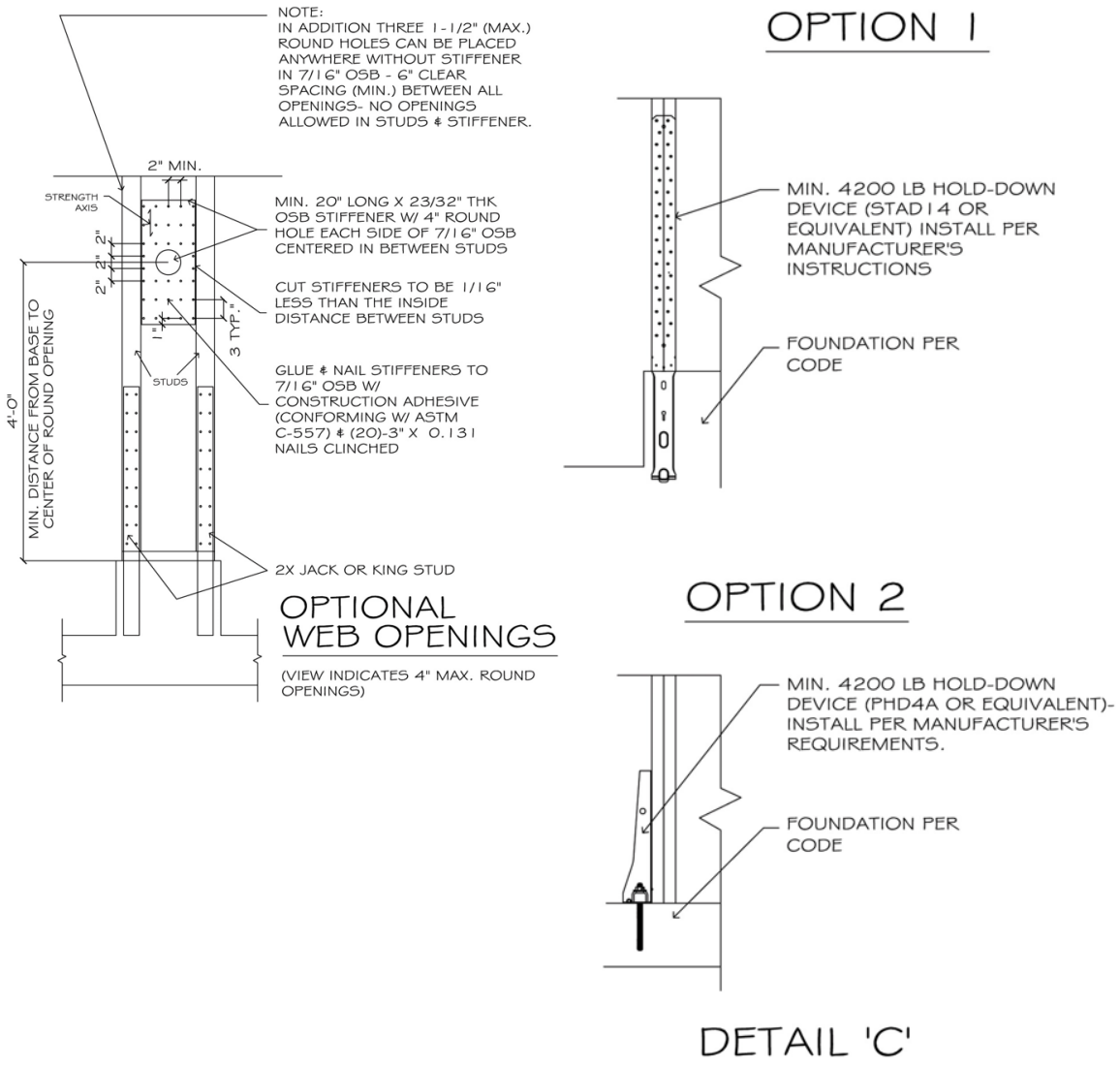

Figure 3. Construction Details of DuPont 12.5" CI I-Joist PFH and DuPont 15" CI I-Joist PFH

2.2 As needed, review material properties for design in **Section 6** and the regulatory evaluation in **Section 8**.

3 Definitions[2]

3.1 New Materials[3] are defined as building materials, equipment, appliances, systems, or methods of construction, not provided for by prescriptive and/or legislatively adopted regulations, known as alternative materials.[4] The design strength and permissible stresses shall be established by tests[5] and/or engineering analysis.[6]

3.2 Duly authenticated reports[7] and research reports[8] are test reports and related engineering evaluations that are written by an approved agency[9] and/or an approved source.[10]

3.2.1 These reports utilize intellectual property and/or trade secrets to create public domain material properties for commercial end-use.

3.2.1.1 This report protects confidential Intellectual Property and trade secretes under the regulation, 18.US.Code.90, also known as Defend Trade Secrets Act of 2016 (DTSA).[11]

3.3 An approved agency is *"approved"* when it is ANAB ISO/IEC 17065 accredited. DrJ Engineering, LLC (DrJ) is accredited and listed in the ANAB directory.

3.4 An approved source is *"approved"* when a professional engineer (i.e., Registered Design Professional, hereinafter RDP) is properly licensed to transact engineering commerce. The regulatory authority governing approved sources is the state legislature via its professional engineering regulations.[12]

3.5 Testing and/or inspections conducted for this duly authenticated report were performed by an ISO/IEC 17025 accredited testing laboratory, an ISO/IEC 17020 accredited inspection body, and/or a licensed RDP.

3.5.1 The Center for Building Innovation (CBI) is ANAB[13] ISO/IEC 17025 and ISO/IEC 17020 accredited.

3.6 The regulatory authority shall enforce[14] the specific provisions of each legislatively adopted regulation. If there is a non-conformance, the specific regulatory section and language of the non-conformance shall be provided in writing[15] stating the nonconformance and the path to its cure.

3.7 The regulatory authority shall accept duly authenticated reports from an approved agency and/or an approved source with respect to the quality and manner of use of new materials or assemblies as provided for in regulations regarding the use of alternative materials, designs, or methods of construction.[16]

3.8 ANAB is an International Accreditation Forum (IAF) Multilateral Recognition Arrangement (MLA) signatory. Therefore, recognition of certificates and validation statements issued by conformity assessment bodies accredited by all other signatories of the IAF MLA with the appropriate scope shall be approved.[17] Thus, all ANAB ISO/IEC 17065 duly authenticated reports are approval equivalent,[18] and can be used in any country that is an MLA signatory found at this link: https://iaf.nu/en/recognised-abs/

3.9 Approval equity is a fundamental commercial and legal principle.[19]

4 Applicable Local, State, and Federal Approvals; Standards; Regulations[20]

4.1 *Local, State, and Federal*

4.1.1 Approved in all local jurisdictions pursuant to ISO/IEC 17065 duly authenticated report use, which includes the following featured local jurisdictions and is not limited to: Austin, Baltimore, Broward County, Chicago, Clark County, Dade County, Dallas, Detroit, Denver, DuPage County, Fort Worth, Houston, Kansas City, King County, Knoxville, Las Vegas, Los Angeles City, Los Angeles County, Miami, Nashville, New York City, Omaha, Philadelphia, Phoenix, Portland, San Antonio, San Diego, San Jose, San Francisco, Seattle, Sioux Falls, South Holland, Texas Department of Insurance, and Wichita.[21]

4.1.2 Approved in all state jurisdictions pursuant to ISO/IEC 17065 duly authenticated report use, which includes the following featured states, and is not limited to: California, Florida, New Jersey, Oregon, New York, Texas, Washington, and Wisconsin.[22]

4.1.3 Approved by the Code of Federal Regulations Manufactured Home Construction: Pursuant to Title 24, Subtitle B, Chapter XX, Part 3282.14[23] and Part 3280[24] pursuant to the use of ISO/IEC 17065 duly authenticated reports.

4.1.4 Approved means complying with the requirements of local, state, or federal legislation.

4.2 *Standards*

4.2.1 *ANSI/AWC SDPWS: Special Design Provisions for Wind and Seismic*

4.2.2 *ASCE/SEI 7: Minimum Design Loads and Associated Criteria for Buildings and Other Structures*

4.2.3 *ASTM E564: Standard Practice for Static Load Test for Shear Resistance of Framed Walls for Building*

4.3 Structural performance for shear wall assemblies used as lateral force resisting systems in Seismic Design Categories A through F have been tested and evaluated in accordance with the following standards:

4.3.1 *ASCE/SEI 7: Minimum Design Loads and Associated Criteria for Buildings and Other Structures*

4.3.2 *ASTM D7989: Standard Practice for Demonstrating Equivalent In-Plane Lateral Seismic Performance to Wood-Frame Shear Walls Sheathed with Wood Structural Panels*

4.3.2.1 ASTM D7989 is accepted engineering practice used to establish Seismic Design Coefficients (SDC).

4.3.2.2 Tested data generated by ISO/IEC 17025 approved agencies and/or professional engineers, which use ASTM D7989 as their basis, are defined as intellectual property and/or trade secrets.

4.3.2.3 All professional engineering evaluations are defined as an independent design review (i.e., listings, certified reports, duly authenticated reports from approved agencies, and/or research reports, are prepared independently by approved agencies and/or approved sources, when signed and sealed by licensed professional engineer pursuant to registration law.

4.3.3 *ASTM E564: Standard Practice for Static Load Test for Shear Resistance of Framed Walls for Buildings*

4.3.4 *ASTM E2126: Standard Test Methods for Cyclic (Reversed) Load Test for Shear Resistance of Vertical Elements of the Lateral Force Resisting Systems for Buildings*

4.4 *Regulations*

4.4.1 *IBC – 18, 21, 24: International Building Code®*

4.4.2 *IRC – 18, 21, 24: International Residential Code®*

5 Listed[25]

5.1 Equipment, materials, products, or services included in a List published by a nationally recognized testing laboratory (i.e., CBI), an approved agency (i.e., CBI and DrJ), and/or and approved source (i.e., DrJ), or other organization(s) concerned with product evaluation (i.e., DrJ), that maintains periodic inspection (i.e., CBI) of production of listed equipment or materials, and whose listing states either that the equipment or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner.

6 Tabulated Properties Generated from Nationally Recognized Standards

6.1 DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH were built and tested to determine if equivalency could be achieved.

6.2 *3/8" Braced Wall Panel*

6.2.1 To define braced wall panel equivalency in accordance with the IBC Section 104.2.3[26] and IRC Section R104.2.2,[27] a 12' x 30' single-story building was tested, framed, and assembled precisely to the IRC prescriptive requirements. The building was constructed using the Wood Structural Panel (WSP) Braced Wall Panel (BWP) construction method where a BWP is defined by the IBC and IRC as follows:

> **IBC Section 202 Definitions.** BRACED WALL PANEL. A full-height section of wall constructed to resist in-plane shear loads through interaction of framing members, sheathing material and anchors. The panel's length meets the requirements of its particular bracing method, and contributes toward the total amount of bracing required along its braced wall line.
>
> **IRC Section R202 Definitions.** BRACED WALL PANEL. A full-height section of wall constructed to resist in-plane shear loads through interaction of framing members, sheathing material and anchors. The panel's length meets the requirements of its particular bracing method, and contributes toward the total amount of bracing required along its braced wall line in accordance with Section R602.10.1.

6.2.2 A shear wall is defined by the ANSI/AWC SDPWS: Special Design Provisions for Wind and Seismic standard with commentary as follows:

> **AWC SDPWS Section 4.3.7 Shear Wall Systems.** 4.3.7.1 Wood Structural Panel Shear Walls: Shear walls sheathed with wood structural panel sheathing shall be permitted to be used to resist seismic and wind forces. The size and spacing of fasteners at shear wall boundaries and panel edges shall be as provided in Table 4.3A. The shear wall shall be constructed as follows: 1. Panels shall not be less than 4' x 8', except at boundaries and changes in framing. All edges of all panels shall be supported by and fastened to framing members or blocking.

6.2.3 The IBC, IRC, and SDPWS all provide the ability to use a $^{3}/_{8}$" thick WSP, which is the minimum BWP specification in the conventional light-frame construction sections of the IBC and IRC, as presented in **Figure 4**.

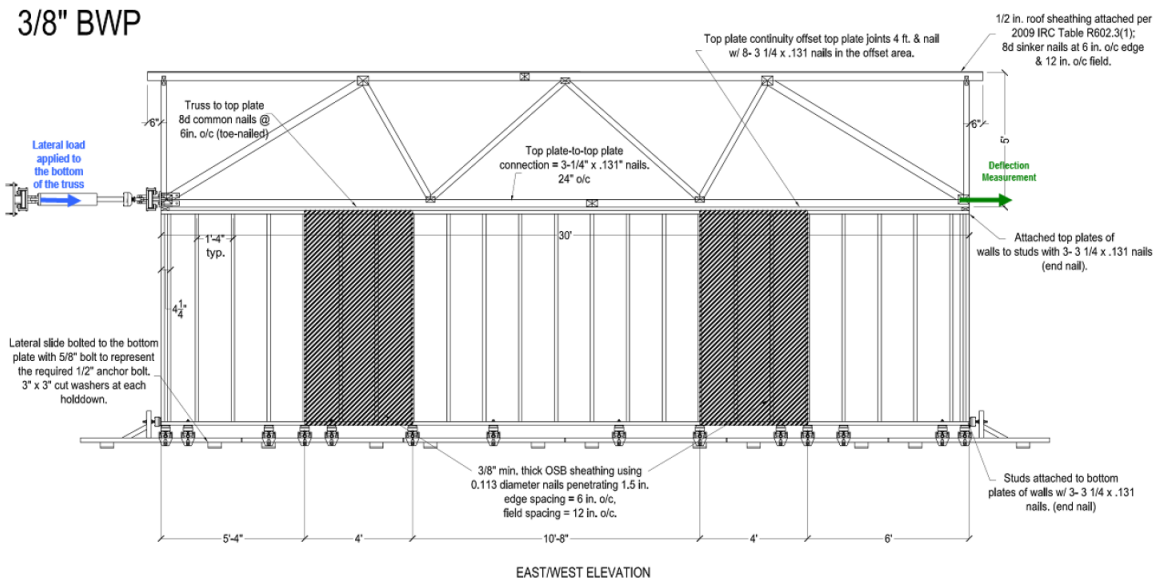

Figure 4. Test Assembly's 30' Braced Wall Line Illustrating Locations of Lateral Load Application and Deflection Measurements

6.2.3.1 To be typical and consistent in approach, braced wall lines were built in compliance with the maximum end distances defined in IRC Figure R602.10.1.1 and as allowed by IBC Section 2308.10 (see **Figure 5**).

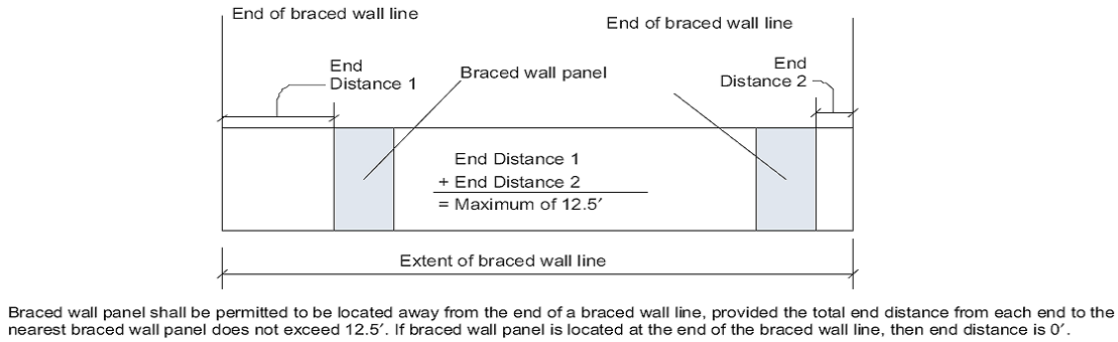

Figure 5. Braced Wall Panel End Distance Requirements per IRC Figure 602.10.1.1

6.3 *IBC/IRC 16" PFH*

6.3.1 This portal frame was constructed as shown in **Figure 9** and tested in accordance with ASTM E564 testing procedures. Testing determined its lateral resistance within an identical braced wall line so that a direct performance comparison could be made with respect to the tests performed on the DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH assemblies.

6.3.1.1 Two 30' braced wall lines were framed using standard code complying framing techniques with SPF top plate, sill plate, and studs from stud grade lumber. The braced wall lines were then tested simultaneously.

6.3.1.2 The assembly was constructed with $^{3}/_{8}$" thick OSB WSP sheathing as detailed in IRC Section R602.10.6.2 and IBC Section 2308.10.5.2[28] and fastened with 0.113 diameter nails[29] penetrating $1^{1}/_{2}$", 3" o.c. spacing at the edges, and to all framing members, per **Figure 6**.

6.3.1.3 Interior Gypsum Wallboard (GWB) was not applied.

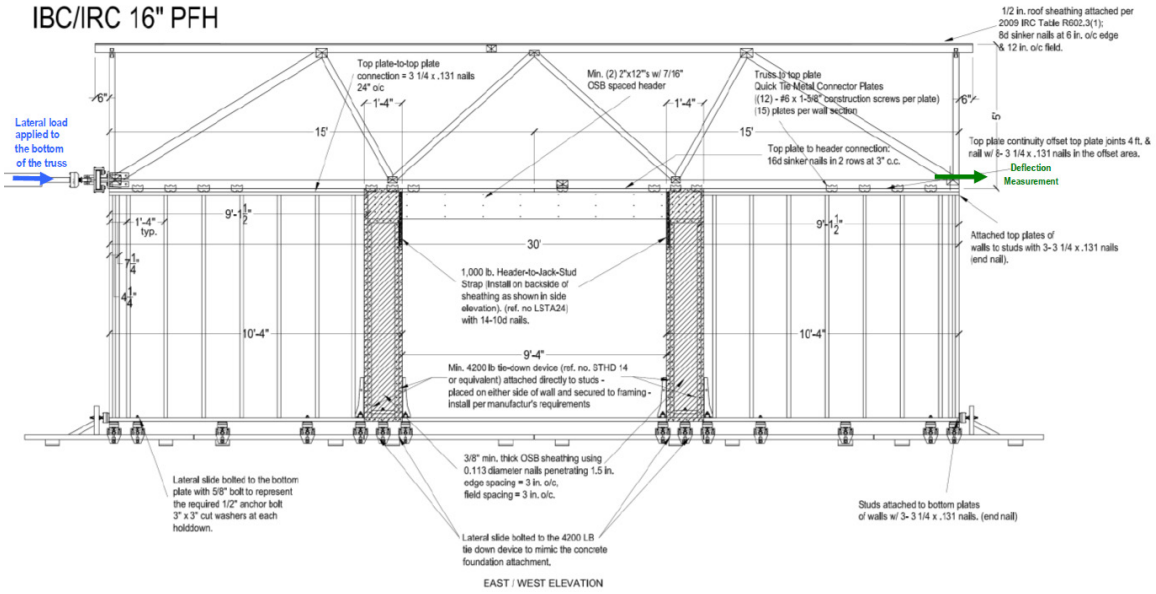

Figure 6. Test Assembly's 30' Braced Wall Line Illustrating Locations of Lateral Load Application & Deflection Measurements

6.3.2 *DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH:*

6.3.2.1 These portal frames were constructed as shown in **Figure 1**, **Figure 2**, and **Figure 3**, and were tested in accordance with ASTM E564 testing procedures. Testing determined their lateral resistance within an identical braced wall line so that a direct performance comparison could be made with respect to the tests performed on the 3/8" BWP and the IBC/IRC 16" PFH assemblies.

6.3.2.1.1 Two 30' braced wall lines were framed using standard code-complying framing techniques with SPF top plate, sill plate, and stud grade lumber. The braced wall lines were then tested simultaneously.

6.3.2.1.2 The assembly was constructed with either 9 1/2" Wood I-Joist (2 1/2" wide and 1 1/2" thick flange with 3/8" web[30] or equivalent [DuPont 12.5" CI I-Joist PFH]), or 11 7/8" Wood I-Joist (2 1/2" wide and 1 1/2" thick flange with 3/8" web or equivalent [DuPont 15" CI I-Joist PFH]) fastened between SPF studs as shown in **Figure 1** and **Figure 7**.

6.3.2.1.2.1 King stud and jack stud attachment is per **Figure 1**. If nailing from the 2 x 4 king or jack stud side into the I-Joist, nails shall be staggered to prevent splitting of the I-Joist flange. If nailing from the I-Joist side through the flange into the 2 x 4 king and jack studs, nails may be placed along the same side of I-Joist flange-web joint.

6.3.2.1.3 Interior GWB was not applied.

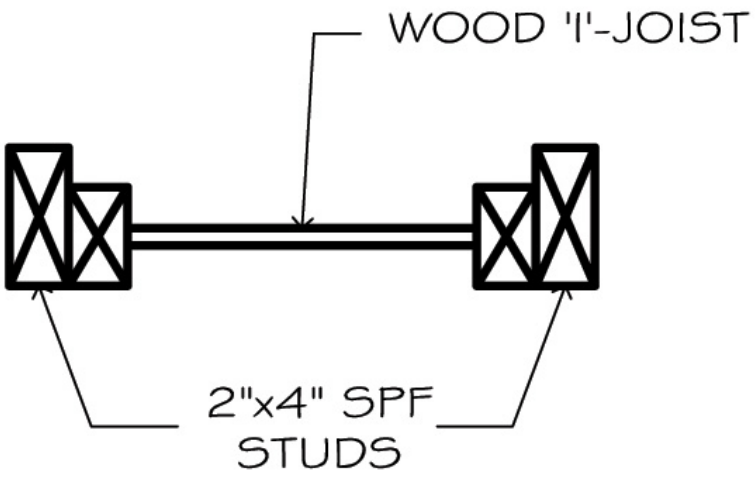

Figure 7. Cross-section View of the DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH

6.3.2.1.4 Providing for thermal insulation and the code required water-resistive barrier, 1/2" thick DuPont™ STYROFOAM™ RS was attached to the exterior of the PFH piers with staples (1" crown x 1 1/4" long 16-gauge staples, 3/4" embedment into stud) 12" o.c. spacing at the edges and 12" o.c. spacing in the field (see **Figure 8**).

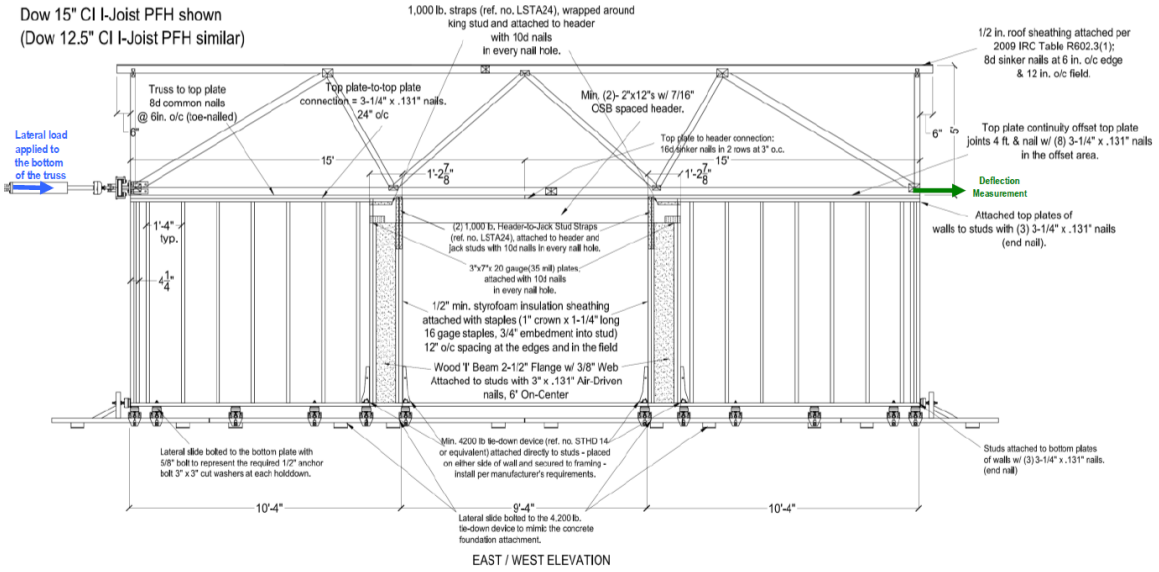

Figure 8. Test Assembly's 30' Braced Wall Line Illustrating Locations of Lateral Load Application & Deflection Measurements

6.3.3 The test data provides confirmation that the performance of DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH provide comparable equivalence to the $^3/_8$" BWP and the IBC/IRC 16" PFH.

6.4 Based on the test results using the equivalency principle as defined in IBC Section 104.2.3[31] and IRC Section R104.2.2,[32] DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH are assigned the recommended design values for designs controlled by wind or gravity loading conditions as provided in **Table 1**.

Table 1. Recommended Allowable Wind Design Values for DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH

Test Name	Maximum Wall Height[1] (ft)	ASD Allowable Design Value per Pier[2] (lb)
IBC/IRC 16" PFH (16" Wide Pier)	8	1,047
	10	785
DuPont 12.5" CI I-Joist PFH ($12^1/_2$" Wide Pier)	8	949
	10	712
DuPont 15" CI I-Joist PFH ($14^7/_8$" Wide Pier)	8	1,145
	10	858

SI: 1 in = 25.4 mm, 1 lb = 4.45 N

1. Interpolation between wall heights permitted.
2. In APA Technical Topics Form No. TT-100, the 10' high portals have 77 - 78% of the 8' high portal capacity. Since testing provides conservative equivalency to the APA TT-100 test data, 10' high wall design values are provided that use a seventy-five percent (75%) factor to reduce the 8' high wall design values generated by test data.

6.5 The design values for DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH assemblies are based on testing and the evaluation of the test data compared to the IBC/IRC 16" PFH test data. The evaluation considered the following two design conditions found in the IBC/IRC, and the ASD Allowable Design Value per Pier listed in **Table 1** is based on the lower of these two limits:

6.5.1 The allowable seismic design story drift for typical residential and conventional light-frame construction as found in ASCE 7.

6.5.1.1 Although the ASCE 7 criterion is specifically for seismic design and does not apply to wind design, it does provide a reasonable deformation point of reference. The ASD allowable unit shear capacity is determined per SDPWS Section 4.3.3. SDPWS also references the allowable story drift limits according to ASCE 7 Section 12.12.1 and Table 12.12-1.

6.5.2 The tested capacity divided by a factor of safety.

6.6 As detailed in **Figure 1**, the maximum allowable compressive strength due to gravity of DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH is 7,162 lbs. per pier. Additional compressive capacity may be engineered into each pier. Structurally attaching full height framing members within the pier cavity is one possible engineered option.

6.6.1 The test results provide assurance that both DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH provide equivalent shear resistance and comparable stiffness performance to code compliant benchmarks (the $^{3}/_{8}$" BWP and the IBC/IRC 16" PFH).

6.6.1.1 At this time, the testing performed on DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH limits use to replacing any bracing required by IBC Section 2308.10[33] and IRC Section R602.10.6 in Seismic Design Categories A, B, and detached dwellings in Category C.

6.7 Where the application falls outside of the performance evaluation, conditions of use, and/or installation requirements set forth herein, alternative techniques shall be permitted in accordance with accepted engineering practice and experience. This includes but is not limited to the following areas of engineering: mechanics or materials, structural, building science, and fire science.

7 Certified Performance[34]

7.1 All construction methods shall conform to accepted engineering practices to ensure durable, livable, and safe construction and shall demonstrate acceptable workmanship reflecting journeyman quality of work of the various trades.[35]

7.2 The strength and rigidity of the component parts and/or the integrated structure shall be determined by engineering analysis or by suitable load tests to simulate the actual loads and conditions of application that occur.[36]

8 Regulatory Evaluation and Accepted Engineering Practice

8.1 DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH comply with the following legislatively adopted regulations and/or accepted engineering practice for the following reasons:

8.1.1 Structural performance for shear wall assemblies used as lateral force resisting systems in Seismic Design Categories A through F, have been tested and evaluated in accordance with the following standards:

8.1.1.1 ASCE/SEI 7: Minimum Design Loads and Associated Criteria for Buildings and Other Structures

8.1.1.2 ASTM D7989: Standard Practice for Demonstrating Equivalent In-Plane Lateral Seismic Performance to Wood-Frame Shear Walls Sheathed with Wood Structural Panels

8.1.1.3 ASTM E72: Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

8.1.1.4 ASTM E564: Standard Practice for Static Load Test for Shear Resistance of Framed Walls for Buildings

8.1.1.5 ASTM E2126: Standard Test Methods for Cyclic (Reversed) Load Test for Shear Resistance of Vertical Elements of the Lateral Force Resisting Systems for Buildings

8.2 Lateral force resisting systems for use in both wind and seismic applications follow the performance-based provisions of IBC Section 2306.1, IBC Section 2306.3 and/or Section 4.3 SDPWS for light-frame wood wall assemblies.

8.3 DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH were tested and evaluated for equivalency to the following IBC requirement:

8.3.1 Per IBC Section 2308.10.5.2,[37] any bracing required by IBC Section 2308.10.5[38] (i.e., WSP sheathing with a thickness not less than 3/8" [9.5 mm] for 16" [406 mm] or 24" [610 mm] stud spacing in accordance with IBC Table 2308.10.3(2)[39] and IBC Table 2308.10.3(3)[40]), is permitted to be replaced by the following (see **Figure 9**) when used adjacent to a door or window opening with a full-length header.

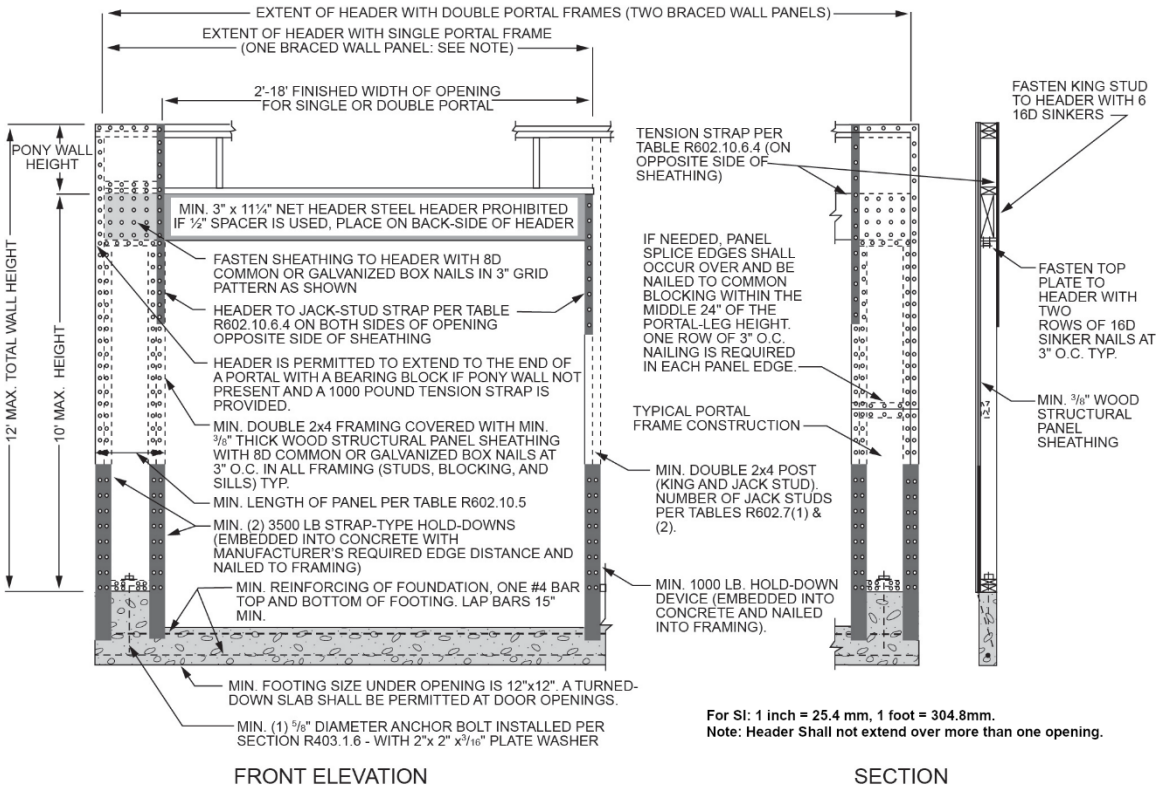

Figure 9. IBC/IRC Detail of Method PFH

8.4 In addition to IBC Section 2308.10.5.2,[41] the IRC defines the PFH detail in IRC Figure R602.10.6.2 as an equivalent replacement to the capacity of a 4 x 8 sheet of $^{3}/_{8}$" WSP sheathing through the use of the following language:

> **R602.10.6.2 Method PFH: Portal Frame With Hold-Downs**: Method PFH braced wall panels shall be constructed in accordance with Figure R602.10.6.2. (See **Figure 9** above.)

8.4.1 The testing and the supporting data meet the intent of the IBC and IRC through the use of accepted engineering procedures, experience, and technical judgment, where the DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH assemblies have been found to be an alternative material, design, or method of construction that is at least the equivalent of that prescribed in the code in quality, strength, effectiveness, durability, and safety, and can be approved as such.[42, 43]

8.5 Any building code, regulation and/or accepted engineering evaluations (i.e., research reports, duly authenticated reports, etc.) that are conducted for this Listing were performed by DrJ, which is an ISO/IEC 17065 accredited certification body and a professional engineering company operated by RDP or approved sources. DrJ is qualified[44] to practice product and regulatory compliance services within its scope of accreditation and engineering expertise,[45] respectively.

8.6 Engineering evaluations are conducted with DrJ's ANAB accredited ICS code scope of expertise, which is also its areas of professional engineering competence.

8.7 Any regulation specific issues not addressed in this section are outside the scope of this report.

9 Installation

9.1 Installation shall comply with the approved construction documents, the manufacturer installation instructions, this report, and the applicable building code.

9.2 In the event of a conflict between the manufacturer installation instructions and this report, contact the manufacturer for counsel on the proper installation method.

9.3 *Installation Procedure*

9.3.1 DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH shall be constructed as shown in **Figure 1**, **Figure 2**, and **Figure 3**.

10 Substantiating Data

10.1 Testing has been performed under the supervision of a professional engineer and/or under the requirements of ISO/IEC 17025 as follows:

10.1.1 Lateral resistance testing in accordance with ASTM E564

10.2 A Portal Frame with Hold Downs for Wall Bracing or Engineered Applications, APA Technical Topics, Form No. TT-100; APA – The Engineered Wood Association; Tacoma, WA

10.3 Information contained herein may include the result of testing and/or data analysis by sources that are approved agencies, approved sources, and/or an RDP. Accuracy of external test data and resulting analysis is relied upon.

10.4 Where applicable, testing and/or engineering analysis are based upon provisions that have been codified into law through state or local adoption of regulations and standards. The developers of these regulations and standards are responsible for the reliability of published content. DrJ's engineering practice may use a regulation-adopted provision as the control. A regulation-endorsed control versus a simulation of the conditions of application to occur establishes a new material as being equivalent to the regulatory provision in terms of quality, strength, effectiveness, fire resistance, durability, and safety.

10.5 The accuracy of the provisions provided herein may be reliant upon the published properties of raw materials, which are defined by the grade mark, grade stamp, mill certificate, or duly authenticated reports from approved agencies and/or approved sources provided by the supplier. These are presumed to be minimum properties and relied upon to be accurate. The reliability of DrJ's engineering practice, as contained in this duly authenticated report, may be dependent upon published design properties by others.

10.6 *Testing and Engineering Analysis:*

10.6.1 The strength, rigidity, and/or general performance of component parts and/or the integrated structure are determined by suitable tests that simulate the actual conditions of application that occur and/or by accepted engineering practice and experience.[46]

10.7 Where additional condition of use and/or regulatory compliance information is required, please search for DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH on the DrJ Certification website.

11 Findings

11.1 As outlined in **Section 6**, DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH have performance characteristics that were tested and/or meet applicable regulations. In addition, they are suitable for use pursuant to its specified purpose.

11.2 The testing and engineering analysis performed provides the basis for the use of either DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH, as an equivalent alternative to, and replacement for, a 4' WSP located within a braced wall line in accordance with IBC Section 2308.10.5[47] and IRC Section R602.10.6.2.

11.3 The testing and engineering analysis performed provides the basis for the use of the of either DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH as a substitution for a IBC/IRC 16" PFH as defined in IBC Section 2308.10.5.2 and IRC Section R602.10.6.2, and have the relative performance as defined in **Table 1**.

11.4 Unless exempt by state statute, when DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH are to be used as a structural and/or building envelope component in the design of a specific building, the design shall be performed by an RDP.

11.5 Any application specific issues not addressed herein can be engineered by an RDP. Assistance with engineering is available from DuPont Performance Building Solutions.

11.6 IBC Section 104.2.3 (IRC Section R104.2.2 and IFC Section 104.2.3[48] are similar) in pertinent part state:

> **104.2.3 Alternative Materials, Design and Methods of Construction and Equipment.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.

11.7 **Approved:**[49] Building regulations require that the building official shall accept duly authenticated reports.[50]

11.7.1 An approved agency is *"approved"* when it is ANAB ISO/IEC 17065 accredited.

11.7.2 An approved source is *"approved"* when an RDP is properly licensed to transact engineering commerce.

11.7.3 Federal law, Title 18 US Code Section 242, requires that, where the alternative product, material, service, design, assembly, and/or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved. Denial without written reason deprives a protected right to free and fair competition in the marketplace.

11.8 DrJ is a licensed engineering company, employs licensed RDPs and is an ANAB Accredited Product Certification Body – Accreditation #1131.

11.9 Through the IAF Multilateral Arrangement (MLA), this duly authenticated report can be used to obtain product approval in any jurisdiction or country because all ANAB ISO/IEC 17065 duly authenticated reports are equivalent.[51]

12 Conditions of Use

12.1 Material properties shall not fall outside the boundaries defined in **Section 6**.

12.2 As defined in **Section 6**, where material and/or engineering mechanics properties are created for load resisting design purposes, the resistance to the applied load shall not exceed the ability of the defined properties to resist those loads using the principles of accepted engineering practice.

12.3 DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH designs are limited to use in buildings constructed in accordance with the IBC and IRC where wind loading controls the design or where constructed in accordance with the IRC for Seismic Design Categories A, B, and detached dwellings in C.

12.4 DuPont 12.5" CI I-Joist PFH or DuPont 15" CI I-Joist PFH designs are also permitted in buildings constructed in accordance with the Conventional Light-Frame provisions of the IBC Section 2308.

12.5 When required by adopted legislation and enforced by the building official, also known as the Authority Having Jurisdiction (AHJ) in which the project is to be constructed:

12.5.1 Any calculations incorporated into the construction documents shall conform to accepted engineering practice and, when prepared by an approved source, shall be approved when signed and sealed.

12.5.2 This report and the installation instructions shall be submitted at the time of permit application.

12.5.3 These innovative products have an internal quality control program and a third-party quality assurance program.

12.5.4 At a minimum, these innovative products shall be installed per **Section 9** of this report.

12.5.5 The review of this report by the AHJ shall comply with IBC Section 104.2.3.2 and IBC Section 105.3.1.

12.5.6 These innovative products have an internal quality control program and a third party quality assurance program in accordance with IBC Section 104.7.2, IBC Section 110.4, IBC Section 1703, IRC Section R104.7.2, and IRC Section R109.2.

12.5.7 The application of these innovative products in the context of this report is dependent upon the accuracy of the construction documents, implementation of installation instructions, inspection as required by IBC Section 110.3, IRC Section R109.2, and any other regulatory requirements that may apply.

12.6 The approval of this report by the AHJ shall comply with IBC Section 1707.1, where legislation states in part, *"the building official shall make, or cause to be made, the necessary tests and investigations; or the building official shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in Section 104.2.3"*, all of IBC Section 104, and IBC Section 105.3.

12.7 Design loads shall be determined in accordance with the regulations adopted by the jurisdiction in which the project is to be constructed and/or by the building designer (i.e., owner or RDP).

12.8 The actual design, suitability, and use of this report for any particular building, is the responsibility of the owner or the authorized agent of the owner.

13 Identification

13.1 The innovative products listed in **Section 1.1** are identified by a label on the board or packaging material bearing the manufacturer name, product name, this report number, and other information to confirm code compliance.

13.2 Additional technical information can be found at www.dupont.com/building.

14 Review Schedule

14.1 This report is subject to periodic review and revision. For the latest version, visit www.drjcertification.org.

14.2 For information on the status of this report, please contact DrJ Certification.

Notes

1 For more information, visit drjcertification.org or call us at 608-310-6748.

2 Capitalized terms and responsibilities are defined pursuant to the applicable building code, applicable reference standards, the latest edition of TPI 1, the NDS, AISI S202, US professional engineering law, Canadian building code, Canada professional engineering law, Qualtim External Appendix A: Definitions/Commentary, Qualtim External Appendix B: Project/Deliverables, Qualtim External Appendix C: Intellectual Property and Trade Secrets, definitions created within Design Drawings and/or definitions within Reference Sheets. Beyond this, terms not defined shall have ordinarily accepted meanings as the context implies. Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

3 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1702

4 Alternative Materials, Design and Methods of Construction and Equipment: The provisions of any regulation code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by a regulation. Please review https://www.justice.gov/atr/mission and https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.2.3

5 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1706.2:~:text=the%20design%20strengths%20and%20permissible%20stresses%20shall%20be%20established%20by%20tests

6 The design strengths and permissible stresses of any structural material shall conform to the specifications and methods of design of accepted engineering practice. https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1706.1:~:text=Conformance%20to%20Standards-,The%20design%20strengths%20and%20permissible%20stresses,-of%20any%20structural

7 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1:~:text=the%20building%20official%20shall%20make%2C%20or%20cause%20to%20be%20made%2C%20the%20necessary%20tests%20and%20investigations%3B%20or%20the%20building%20official%20shall%20accept%20duly%20authenticated%20reports%20from%20approved%20agencies%20in%20respect%20to%20the%20quality%20and%20manner%20of%20use%20of%20new%20materials%20or%20assemblies%20as%20provided%20for%20in%20Section%20104.2.3.

8 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4.2

9 https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#approved_agency

10 https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#approved_source

11 https://www.law.cornell.edu/uscode/text/18/1832 (b) Any organization that commits any offense described in subsection (a) shall be fined not more than the greater of $5,000,000 or 3 times the value of the stolen trade secret to the organization, including expenses for research and design and other costs of reproducing the trade secret that the organization has thereby avoided. The federal government and each state have a public records act. To follow DTSA and comply state public records and trade secret legislation requires approval through ANAB ISO/IEC 17065 accredited certification bodies or approved sources. For more information, please review this website: Intellectual Property and Trade Secrets.

12 https://www.nspe.org/resources/issues-and-advocacy/professional-policies-and-position-statements/regulation-professional AND https://apassociation.org/list-of-engineering-boards-in-each-state-archive/

13 https://www.cbitest.com/accreditation/

14 https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.1:~:text=directed%20to%20enforce%20the%20provisions%20of%20this%20code

15 https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.2.3 AND https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#105.3.1

16 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1

17 https://iaf.nu/en/about-iaf-mla/#:~:text=Once%20an%20accreditation%20body%20is%20a%20signatory%20of%20the%20IAF%20MLA%2C%20it%20is%20required%20to%20recognise%20certificates%20and%20validation%20and%20verification%20statements%20issued%20by%20conformity%20assessment%20bodies%20accredited%20by%20all%20other%20signatories%20of%20the%20IAF%20MLA%2C%20with%20the%20appropriate%20scope

18 True for all ANAB accredited product evaluation agencies and all International Trade Agreements.

19 https://www.justice.gov/crt/deprivation-rights-under-color-law AND https://www.justice.gov/atr/mission

20 Unless otherwise noted, the links referenced herein use un-amended versions of the 2024 International Code Council (ICC) 2024 International Code Council (ICC) model codes as foundation references. Mississippi versions of the IBC 2024 and the IRC 2024 are un-amended. This material, product, design, service and/or method of construction also complies with the 2000-2012 versions of the referenced codes and the standards referenced therein. As pertinent to this technical and code compliance evaluation, CBI and/or DrJ staff have reviewed any state or local regulatory amendments to assure this report is in compliance.

21 See Adoptions by Publisher for the latest adoption of a non-amended or amended model code by the local jurisdiction. https://up.codes/codes/general

22 See Adoptions by Publisher for the latest adoption of a non-amended or amended model code by state. https://up.codes/codes/general

23 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3282/subpart-A/section-3282.14

24 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280

25 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#p-3280.2(Listed%20or%20certified); https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#listed AND https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#labeled

26 2021 IBC Section 104.11

27 2021 IRC Section R104.11

28 2021 BC Section 2308.6.5.2

29 Per IBC Table 2306.3 and SDPWS Table 4.3A.

30 Georgia Pacific WI 40 or equivalent.

31 2021 IBC Section 104.11

32 2021 IRC Section R104.11

33 2021 BC Section 2308.6

[34] https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4

[35] https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#:~:text=All%20construction%20methods%20shall%20be%20in%20conformance%20with%20accepted%20engineering%20practices%20to%20insure%20durable%2C%20livable%2C%20and%20safe%20housing%20and%20shall%20demonstrate%20acceptable%20workmanship%20reflecting%20journeyman%20quality%20of%20work%20of%20the%20various%20trades

[36] https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#:~:text=The%20strength%20and%20rigidity%20of%20the%20component%20parts%20and/or%20the%20integrated%20structure%20shall%20be%20determined%20by%20engineering%20analysis%20or%20by%20suitable%20load%20tests%20to%20simulate%20the%20actual%20loads%20and%20conditions%20of%20application%20that%20occur

[37] 2021 IBC Section 2308.6.5.2

[38] 2021 IBC Section 2308.6.5

[39] 2021 IBC Table 2308.6.3(2)

[40] 2021 IBC Table 2308.6.3(3)

[41] 2021 IBC Section 2308.6.5.2

[42] IBC Section 104.2.3 and IRC Section R104.2.2: Alternative Materials, Design and Methods of Construction and Equipment - The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code . . .

[43] Definition of approved in IBC Section 202: *"Acceptable to the building official."*

[44] Qualification is performed by a legislatively defined Accreditation Body. ANSI National Accreditation Board (ANAB) is the largest independent accreditation body in North America and provides services in more than 75 countries. DrJ is an ANAB accredited product certification body.

[45] https://anabpd.ansi.org/Accreditation/product-certification/AllDirectoryDetails?prgID=1&orgID=2125&statusID=4#:~:text=Bill%20Payment%20Date-,Accredited%20Scopes,-13%20ENVIRONMENT.%20HEALTH

[46] See Code of Federal Regulations (CFR) Title 24 Subtitle B Chapter XX Part 3280 for definition: https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280

[47] 2021 IBC Section 2308.6.5

[48] 2018: https://up.codes/viewer/wyoming/ifc-2018/chapter/1/scope-and-administration#104.9 AND 2021: https://up.codes/viewer/wyoming/ibc-2021/chapter/1/scope-and-administration#104.11

[49] Approved is an adjective that modifies the noun after it. For example, Approved Agency means that the Agency is accepted officially as being suitable in a particular situation. This example conforms to IBC/IRC/IFC Section 201.4 (https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#201.4) where the building code authorizes sentences to have an ordinarily accepted meaning such as the context implies.

[50] https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1

[51] Multilateral approval is true for all ANAB accredited product evaluation agencies and all International Trade Agreements.