

CBI Listing



CL 2210-09

Issue Date: January 20, 2023

Revision Date: February 17, 2023

Subject to Renewal: January 1, 2024

Trade Secret Owner

Plantd, Inc.

plantdmaterials.com

Telephone: 919-695-7882

Email: huade@plantdmaterials.com

DIVISION: 06 00 00 - WOOD, PLASTICS AND COMPOSITES

SECTION: 06 12 00 - Structural Panels

SECTION: 06 16 00 - Sheathing

SECTION: 06 16 36 - Wood Panel Product Sheathing

1 Listed Innovative Product:^{1,2,3}

1.1 Plantd Structural Panel

1.1.1 The innovative product evaluated in this Listing is shown in Figure 1.



Figure 1. Plantd Structural Panel

1.2 Plantd Structural Panel Description:

1.2.1 The Plantd Structural Panel is comprised of strands of proprietary monocotyledonous plants of the family Poaceae (also called Gramineae), which are processed and formed into structural panels.

1.2.2 Plantd Structural Panel is designed to be a replacement for wood structural panels in roof applications.

¹ For more information, visit cbitest.com or call us at 608-310-6739.

² Listed. Equipment, materials, products or services included in a list published by an organization acceptable to the building official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose Listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

³ This Listing is also a code defined research report provided by an approved agency (see IBC Section 1703.1). Given that this Listing is for new materials, as defined in IBC Section 1702, for which testing has been performed through the use of pertinent sections of one or more consensus standards, IBC Section 1707.1 states that "In the absence of approved rules or other approved standards, the building official shall accept duly authenticated reports (i.e., research reports) from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in IBC Section 104.11." CBI is an approved agency through its ANAB accreditation.

2 Scope of Listing^{4,5}

- 2.1 Plantd Structural Panel has been tested and/or evaluated in accordance with the following Standards and Referenced Documents for use as specified herein:
- 2.1.1 *ASTM D1037: Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials, Section 14: Nail Withdrawal*
 - 2.1.2 *ASTM D1037: Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials, Section 15: Nail-Head Pull-Through*
 - 2.1.3 *ASTM D1037: Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials, Section 10: Tension Parallel to Surface*
 - 2.1.4 *ASTM D3043: Standard Test Methods of Structural Panels in Flexure, Method A: Center-Point Flexure Test*
 - 2.1.5 *ASTM D5764: Standard Test Method for Evaluating Dowel-Bearing Strength of Wood and Wood-Based Products*
 - 2.1.6 *ASTM E330: Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference*
 - 2.1.7 *ASTM E564: Standard Practice for Static Load Test for Shear Resistance of Framed Walls for Buildings*
 - 2.1.8 *ASTM E2126: Standard Test Methods for Cyclic (Reversed) Load Test for Shear Resistance of Vertical Elements of the Lateral Force Resisting Systems for Buildings*

3 Performance Evaluation

- 3.1 Testing and related engineering evaluations are defined as intellectual property and/or trade secrets.
- 3.2 Testing and/or inspections conducted for this Listing were performed by CBI, an [ISO/IEC 17025 accredited testing laboratory](#) and [ISO/IEC 17020 accredited inspection body](#), which are internationally recognized accreditations through [International Accreditation Forum \(IAF\)](#).

⁴ This Listing is also a code defined [research report](#) provided by an [approved agency](#) (see [IBC 1703.1](#)) and/or an [approved source](#) (see [IBC 1703.4.2](#)). A professional engineer is approved as an [approved source](#) when that professional engineer is properly licensed to transact engineering commerce. Where sealed by a professional engineer, it is also a research report certified by an [approved source](#) (i.e., a [registered design professional](#)).

⁵ Unless otherwise noted, all references in this Listing are from the 2021 version of the codes and the standards referenced therein. This material, product, design, service and/or method of construction also complies with the 2000-2021 versions of the referenced codes and the standards referenced therein.

3.3 Allowable design values for Plantd Structural Panel are shown in Table 1.

Table 1. Plantd Structural Panel Design Properties¹

Structural Panel Type	Bending Strength (lb.-in/ft)	Bending Stiffness (lb.-in ² /ft)	Dowel Bearing (psi)	Head Pull Through (lbs.) ³	Withdrawal (lbs./in) ^{2,3}	Axial Tension Strength (lb./ft)
Plantd Structural Panel 24/0 – Primary Axis	300	60,000	4,650	67	32	2,300
Plantd Structural Panel 24/0 – Secondary Axis	97	11,000	4,650	67	32	780

SI: 1 in = 25.4 mm, 1 lb. = 4.45 N, 1 psi = 0.00689 MPa

1. Values for Bending Stress, Modulus of Elasticity, and Tensile Stress assume a minimum width of 1'.
2. Withdrawal values are given in lbs./in of thickness of the panel.
3. Withdrawal and Head Pull-Through values are based on 8d (0.131" x 2.5") common nail with head diameter of 0.281".

3.4 Allowable transverse loads for the Plantd Structural Panel is listed in Table 2.

Table 2. Transverse Load Performance of Plantd Structural Panel Resisting Out-of-Plane Wind Loads¹

Structural Sheathing Product	Allowable Design Value (psf)	Maximum Structural Member Spacing (in)	Fastener Schedule
Plantd Structural Panel	80	24 o.c.	8d (0.113" x 2.375") box nail, 6" o.c. in perimeter and 12" o.c. in field

SI: 1 in = 25.4 mm, 1 lb/ft = 0.0146 kN/m, 1 psf = 0.0479 kN/m²

1. Allowable design value is based on Positive Pressure only. Negative pressure governed by nail withdrawal.

3.5 Allowable Lateral Load capacity for Plantd Structural Panel Sheathing is listed in Table 3.

Table 3. Plantd Structural Panel Sheathing Allowable Unit Shear Capacity for Wood Framed Diaphragms - Wind

Structural Member Type	Structural Sheathing Product	Thickness (in)	Fastener Spacing (edge/field) (in)	Maximum Structural Member Spacing (in)	Gypsum Wallboard (GWB)	Fastener Schedule	Allowable Unit Shear Capacity (plf) (Case 1) ¹	Allowable Unit Shear Capacity (plf) (Cases 2,3,4,5,6) ¹
Wood	Plantd Structural Panel	7/16"	6/12	24	N/A	8d (0.113" x 2.375") box nail	325	240

SI: 1 in = 25.4 mm, 1 lb/ft = 0.0146 kN/m

1. See AWC SDPWS, Table 4.2C for details on loading cases. Plantd Structural Panel diaphragms may be designed using the provisions of SDPWS for OSB.

- 3.6 Any building code and/or accepted engineering evaluations conducted for this Listing were performed by DrJ Engineering, LLC (DrJ), an [ISO/IEC 17065 accredited certification body](#) and a professional engineering company operated by [registered design professionals/approved sources](#). DrJ is qualified⁶ to practice product and code compliance services within its scope of accreditation and engineering expertise, respectively.

4 Installation

- 4.1 Installation shall comply with the manufacturer installation instructions, this Listing, the approved construction documents, and the applicable building code.
- 4.2 In the event of a conflict between the manufacturer installation instructions, this Listing, the approved construction documents and the applicable building code, the most restrictive shall govern.
- 4.3 Plantd Structural Panel should be installed with fasteners maintaining a 3/8" minimum edge distance from panel edges.

5 Findings

- 5.1 As delineated in Section 3, the Plantd Structural Panel has performance characteristics that were tested and/or meet pertinent standards and is suitable for use pursuant to its specified purpose.
- 5.2 When used and installed in accordance with this Listing and the manufacturer installation instructions, Plantd Structural Panel shall be approved for the following roof applications:
- 5.2.1 As equal to or better in performance than 7/16" 24/0 OSB structural panels and is a direct substitute for 7/16" 24/0 OSB in roof sheathing applications.
- 5.2.2 Resistance to transverse loads due to wind and gravity pressure.
- 5.2.3 Resistance to diaphragm loads in roof applications.
- 5.3 Unless exempt by state statute, when the Plantd Structural Panel is to be used as a structural and/or building envelope component in the design of a specific building, the design shall be performed by a [registered design professional](#) (RDP).
- 5.3.1 Any application specific issues not addressed herein can be engineered by an RDP. Assistance with engineering is available from Plantd, Inc.
- 5.4 [IBC Section 104.11](#) ([IRC Section R104.11](#) and [IFC Section 104.10](#)⁷ are similar) in pertinent part states:

104.11 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. Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons the alternative was not approved.

⁶ Qualification is performed 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. CBI is an ANAB accredited [laboratory](#) and [inspection](#) body. [DrJ](#) is an ANAB accredited [product certification body](#).

⁷ [2018 IFC Section 104.9](#)

- 5.5 Approved:⁸ Building codes require that the building official shall accept duly authenticated reports⁹ or research reports¹⁰ from approved agencies and/or approved sources (i.e., licensed RDP) with respect to the quality and manner of use of new products, materials, designs, services, assemblies or methods of construction.
- 5.5.1 Acceptability of an approved agency, by a building official, is performed by verifying that the agency is accredited by a recognized accreditation body of the International Accreditation Forum (IAF).
- 5.5.2 Acceptability of a licensed RDP, by a building official, is performed by verifying that the RDP and/or their business entity is listed by the licensing board of the relevant jurisdiction.
- 5.5.3 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, as denial without written reason deprives a protected right to free and fair competition in the marketplace.
- 5.6 CBI is an ISO/IEC 17025 testing and an ISO/IEC 17020 inspection approved agency. CBI employs RDPs and is ANAB-Accredited.
- 5.7 Through ANAB accreditation and the IAF Multilateral Agreements, this Listing can be used to obtain innovative product approval in any jurisdiction or country that has IAF MLA Members & Signatories to meet the Purpose of the MLA – “*certified once, accepted everywhere.*”

6 Conditions of Use

- 6.1 Performance characteristics are specified in Section 3.
- 6.2 As defined in Section 3, where material 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.
- 6.3 As Listed herein, Plantd Structural Panel shall be used:
- 6.3.1 Only as a replacement for 7/16" 24/0 span rated OSB in roof applications or as a replacement for wood structural panels where the design properties required to resist the applied load in the application are equal to or less than that of 7/16" 24/0 span rated OSB.
- 6.3.2 With fastener spacing equal to or less than 6" o.c at panel edges and 12" o.c. in the field.
- 6.4 Plantd Structural Panel design properties shall not be increased based on closer structural member or fastener spacing, unless the design is performed by an RDP.
- 6.5 When required by adopted legislation and enforced by the building official (AHJ)¹¹ in which the project is to be constructed:
- 6.5.1 This Listing and the installation instructions shall be submitted at the time of permit application.
- 6.5.2 Any calculations incorporated into the construction documents shall conform to accepted engineering practice, and, when prepared by an approved source, shall be approved when requirements of adopted legislation are met.
- 6.5.3 This innovative product has an internal quality control program and a third-party quality assurance program.
- 6.5.4 At a minimum, this innovative product shall be installed per Section 4 of this Listing.
- 6.6 The review of this Listing, by the AHJ, shall be in compliance with IBC Section 104 and IBC Section 105.4.

⁸ 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 where the building code authorizes sentences to have an ordinarily accepted meaning such as the context implies.

⁹ <https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1707.1>

¹⁰ <https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1703.4.2>

¹¹ Also known as the Authority Having Jurisdiction

- 6.7 This innovative product has an internal quality control program and a third party quality assurance program in accordance with [IBC Section 104.4](#), [IBC Section 110.4](#), [IBC Section 1703](#), [IRC Section R104.4](#) and [IRC Section R109.2](#).
- 6.8 The application of this innovative product, in the context of this Listing, 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.
- 6.9 The actual design, suitability, and use of this Listing for any particular building is the responsibility of the owner or the owner's authorized agent.
- 6.10 Any required design loads shall be provided by the building designer (i.e., owner or RDP) and/or determined in accordance with the building code adopted by the jurisdiction in which the project is to be constructed.
- 6.11 Information contained herein may include the result of testing and/or data analysis by sources that are [approved agencies](#) (i.e. ANAB accredited agencies), [approved sources](#) (i.e., [registered design professionals](#)) and/or [professional engineering regulations](#). Accuracy of external test data and resulting analysis is relied upon.
- 6.12 Where pertinent, testing and/or engineering analysis is based upon state or local code and/or standard provisions that have been codified into law through legislation. The developers of the codes and standards are legally responsible for the accuracy of any legislatively adopted material properties and/or analytical methods. Any testing and/or engineering mechanics-based analysis may use legislatively and/or code adopted provisions as the control condition. The use of a control condition to compare to a test condition establishes [equivalency](#) to that prescribed in the adopted legislation with respect to quality, [strength](#), effectiveness, [fire resistance](#), durability, and safety.
- 6.13 The reliability of attributes, provided herein, may be dependent upon published design properties by others. These properties are defined by the grade mark, grade stamp, mill certificate, [Listings](#), [certified reports](#), [duly authenticated reports](#), and/or [research reports](#) prepared by [approved agencies](#) and/or [approved sources](#) furnished by suppliers of products, materials, designs, assemblies and/or methods of construction. These are presumed to be minimum properties and relied upon to be accurate.
- 6.14 Testing and engineering analysis. 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.¹²
- 6.15 Where additional condition of use and/or code compliance information is required, please search for Plantd Structural Panel on the [Center for Building Innovation](#) website.

7 Identification

- 7.1 Labeling^{13,14} shall include, but not be limited to, the manufacturer name, manufacturing location/identifier, and the CBI Listing number.
- 7.2 Labeling may include, but not be limited to, the CBI mark and any other numerical designations related to layout locations for a given project.

¹² See Code of Federal Regulations (CFR) Title 24 Subtitle B Chapter XX Part 3280 for definition.

¹³ **LABEL.** An identification applied on a product by the manufacturer that contains the name of the manufacturer, the function and performance characteristics of the product or material and the name and identification of an [approved agency](#), and that indicates that the representative sample of the product or material has been tested and evaluated by an [approved agency](#) (see [IBC Section 1703.5](#), "[Manufacturer designation](#)" and "Mark").

¹⁴ **LABELED.** Equipment, materials or products to which has been affixed a [label](#), seal, symbol or other identifying mark of a nationally recognized testing laboratory, [approved agency](#) or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-[labeled](#) items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

8 Review Schedule

- 8.1 This Listing is subject to periodic review and revision. For the most recent version, visit cbitest.com.
- 8.2 For information on the current status of this Listing, contact [CBI](#).

9 Approved for Use Pursuant to US and International Legislation Defined in Section 9.1

- 9.1 Plantd Structural Panel is included in this [List](#) published by an [approved agency](#) concerned with evaluation of products or services that maintains periodic inspection of production of listed materials or periodic evaluation of services and whose Listing states either that the material, product, or service meets identified standards or has been tested and found suitable for a specified purpose. This Listing meets the legislative intent and definition of being acceptable to the AHJ.

10 Innovation Legislation that Mandates Approval by any AHJ

- 10.1 **Fair Competition:** [Many state legislatures](#) have adopted regulations for the examination and approval of both building code referenced and alternative materials, products, designs, services, and/or methods of construction that:
 - 10.1.1 Advance innovation.
 - 10.1.2 Promote competition so all businesses have the opportunity to compete on price and quality in an open market on a level playing field unhampered by anticompetitive constraints.
 - 10.1.3 Benefit consumers through lower prices, better quality, and greater choice.
- 10.2 **Adopted Legislation:** The following local, state, and federal regulations affirmatively authorize Plantd Structural Panel to be found acceptable to AHJs, delegates of building departments, and/or [delegates of an agency of the federal government](#):
 - 10.2.1 Interstate commerce is governed by the [Federal Department of Justice](#) to encourage the use of innovative materials, products, designs, services, and/or methods of construction. The goal is to “protect economic freedom and opportunity by promoting free and fair competition in the marketplace.”
 - 10.2.2 [Title 18 US Code Section 242](#) affirms and regulates the right of individuals and businesses to freely and fairly have alternative to code-referenced materials, products, services, designs, and/or methods of construction approved for use in commerce. Disapproval of alternative to code applications shall be based upon specific provisions of adopted legislation and shall be provided in writing [stating the reasons why the alternative was not approved](#) with reference to legislation violated.
 - 10.2.3 The [federal government](#) and each state have a [public records act](#). In addition, each state also has legislation that mimics the federal [Defend Trade Secrets Act 2016](#) (DTSA).
 - 10.2.3.1 Compliance with public records and trade secret legislation requires approval through the use of [Listings, certified reports, duly authenticated reports from approved agencies, valid research reports prepared by approved agencies and/or approved sources, and/or Technical Evaluation Reports](#).
 - 10.2.4 For [new materials](#)¹⁵ that are not specifically provided for in any building code, the [design strengths and permissible stresses](#) shall be established by [tests](#), where [suitable load tests simulate the actual loads and conditions of application that occur](#).
 - 10.2.5 The [design strengths and permissible stresses](#) of any structural material....shall [conform](#) to the specifications and methods of design using accepted engineering practice....¹⁶

¹⁵ <https://up.codes/viewer/alabama/ibc-2021/chapter/17/special-inspections-and-tests#1706.2>

¹⁶ [IBC 2021, Section 1706.1 Conformance to Standards](#)

- 10.2.6 The commerce of approved sources (i.e., registered PEs) is regulated by professional engineering legislation. Professional engineering commerce shall always be approved by AHJs, except where there is evidence, provided in writing, that specific legislation has been violated by an individual registered PE.
- 10.2.7 The AHJ 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 IBC Section 104.11.¹⁷
- 10.2.8 **Approval by Los Angeles:** The Los Angeles Municipal Code (LAMC) states in pertinent part that the provisions of LAMC are not intended to prevent the use of any material, device, or method of construction not specifically prescribed by LAMC. The Department shall use Part III, Recognized Standards in addition to Part II, Uniform Building Code Standards of Division 35, Article 1, Chapter IX of the LAMC in evaluation of products for approval where such standard exists for the product or the material and may use other approved standards which apply. Whenever tests or certificates of any material or fabricated assembly are required by Chapter IX of the LAMC, such tests or certification shall be made by a testing agency approved by the Superintendent of Building to conduct such tests or provide such certifications. The Superintendent of Building 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 the California Building Code (CBC) Section 104.11. The testing agency shall publish the scope and limitation(s) of listed material or fabricated assembly.¹⁸ The Superintendent of Building roster of approved testing agencies is provided by the Los Angeles Department of Building and Safety (LADBS).
- 10.2.9 **Approval by Chicago:** The Municipal Code of Chicago (MCC) states in pertinent part that an Approved Agency is a Nationally Recognized Testing Laboratory (NRTL) acting within its recognized scope and/or a certification body accredited by the American National Standards Institute (ANSI) acting within its accredited scope. Construction materials and test procedures shall conform to the applicable standards listed in the MCC. Sufficient technical data shall be submitted to the building official to substantiate the proposed use of any product, material, or assembly. Supporting technical data to assist in the approval of products, materials, or assemblies not specifically provided for in MCC, shall consist of valid research reports from approved sources (i.e., MCC defined Approved Agencies).
- 10.2.10 **Approval by New York City:** The NYC Building Code 2022 (NYCBC) states in pertinent part that an approved agency shall be deemed¹⁹ an approved testing agency via ISO/IEC 17025 accreditation, an approved inspection agency via ISO/IEC 17020 accreditation, and an approved product evaluation agency via ISO/IEC 17065 accreditation. Accrediting agencies, other than federal agencies, must be members of an internationally recognized cooperation of laboratory and inspection accreditation bodies subject to a mutual recognition agreement²⁰ (i.e., ANAB, International Accreditation Forum (IAF), etc.).

¹⁷ IBC 2021, Section 1707 Alternative Test Procedure, 1707.1 General

¹⁸ Los Angeles Municipal Code, SEC. 98.0503. TESTING AGENCIES

¹⁹ New York City, The Rules of the City of New York, § 101-07 Approved Agencies

²⁰ New York City, The Rules of the City of New York, § 101-07 Approved Agencies

- 10.2.11 **Approval by Florida:** Statewide approval of products, methods, or systems of construction shall be approved, without further evaluation, by 1) A certification mark or listing of an approved certification agency, 2) A test report from an approved testing laboratory, 3) A product evaluation report based upon testing or comparative or rational analysis, or a combination thereof, from an approved product evaluation entity; 4) A product evaluation report based upon testing or comparative or rational analysis, or a combination thereof, developed and signed and sealed by a professional engineer or architect, licensed in Florida. For local product approval, products or systems of construction shall demonstrate compliance with the structural wind load requirements of the Florida Building Code (FBC) through one of the following methods; 1) A certification mark, listing, or label from a commission-approved certification agency indicating that the product complies with the code; 2) A test report from a commission-approved testing laboratory indicating that the product tested complies with the code; 3) A product-evaluation report based upon testing, comparative or rational analysis, or a combination thereof, from a commission-approved product evaluation entity which indicates that the product evaluated complies with the code; 4) A product-evaluation report or certification based upon testing or comparative or rational analysis, or a combination thereof, developed and signed and sealed by a Florida professional engineer or Florida registered architect, which indicates that the product complies with the code; 5) A statewide product approval issued by the Florida Building Commission. The Florida Department of Business and Professional Regulation (DBPR) website provides a listing of companies certified as a Product Evaluation Agency (i.e., EVL13692), a Product Certification Agency (i.e., CER10642), and as a Florida Registered Engineer (i.e., ANE13741).
- 10.2.12 **Approval by Miami Dade (i.e., Notice of Acceptance [NOA]):** A Florida statewide approval is an NOA. An NOA is a Florida local product approval. By Florida law, Miami Dade shall accept the statewide and local Florida Product Approval as provided for in Florida legislation 553.842 and 553.8425.
- 10.2.13 **Approval by New Jersey:** Pursuant to Building Code 2018 of New Jersey in Section 1707.1 General²¹ says: “In the absence of approved rules or other approved standards,...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 the administrative provisions of the Uniform Construction Code (N.J.A.C. 5:23)”.²² § 5:23-3.7 Municipal approvals of alternative materials, equipment, or methods of construction. (a) Approvals: Alternative materials, equipment, or methods of construction **shall be approved** by the appropriate subcode official provided the proposed design is satisfactory and that the materials, equipment, or methods of construction are suitable for the intended use and are at least the equivalent in quality, strength, effectiveness, fire resistance, durability and safety of those conforming with the requirements of the regulations. 1. A field evaluation label and report or letter issued by a nationally recognized testing laboratory verifying that the specific material, equipment, or method of construction meets the identified standards or has been tested and found to be suitable for the intended use, **shall be accepted** by the appropriate subcode official as meeting the requirements of (a) above. 2. Reports of engineering findings issued by nationally recognized evaluation service programs, such as, **but not limited to**, the Building Officials and Code Administrators (BOCA), the International Conference of Building Officials (ICBO), the Southern Building Code Congress International (SBCCI), the International Code Council (ICC), and the National Evaluation Service, Inc., **shall be accepted** by the appropriate subcode official as meeting the requirements of (a) above. The New Jersey Department of Community Affairs has confirmed that reports of engineering findings from any accredited entity listed by ANAB meets the requirements of item 2 given the listed entities no longer exist.

²¹ https://up.codes/viewer/new_jersey/ibc-2018/chapter/17/special-inspections-and-tests#1707.1

²² <https://www.nj.gov/dca/divisions/codes/codreg/ucc.html>

10.2.14 Code of Federal Regulations Manufactured Home Construction and Safety Standards Approval:

Pursuant to Title 24, Subtitle B, Chapter XX, [Part 3282](#)²³ and [Part 3280](#),²⁴ “the Department encourages innovation and the use of new technology in manufactured homes” and the design and construction of a manufactured home shall conform to the provisions of this standard where key approval provisions in mandatory language follow; “All construction methods shall be in conformance with accepted engineering practices”; “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.”; and “The design stresses of all materials shall conform to accepted engineering practice.”

10.2.15 Other US Local and State Approval Processes: In all other local and state jurisdictions, the adopted building code legislation states in pertinent part that:

10.2.15.1 For new materials that are not specifically provided for in this code, the design strengths and permissible stresses shall be established by tests.²⁵

10.2.15.2 For innovative alternative products, materials, designs, services and/or methods of construction, in the absence of approved rules or other approved standards...the building official shall accept duly authenticated reports (i.e., listing and/or research report) from approved agencies with respect to the quality and manner of use of new materials or assemblies.²⁶ A building official approved agency is deemed to be approved via certification from an accreditation body that is listed by the International Accreditation Forum²⁷ or equivalent.

10.2.15.3 The design strengths and permissible stresses of any structural material...shall conform to the specifications and methods of design of accepted engineering practice performed by an approved source.²⁸ An approved source is defined as a PE subject to professional engineering laws, where a research and/or a technical evaluation report, certified by a PE, shall be approved.

10.2.16 International Approval Process: The USMCA and GATT agreements provide for approval of innovative materials, products, designs, services, and/or methods of construction through the Technical Barriers to Trade agreements and the International Accreditation Forum (IAF) Multilateral Recognition Arrangement (MLA), where these agreements state in pertinent part:

10.2.16.1 Permit participation of conformity assessment bodies located in the territories of other Members under conditions no less favourable than those accorded to bodies located within their territory or the territory of any other country,

10.2.16.2 Conformity assessment procedures (i.e., ISO/IEC 17020, 17025, 17065, etc.) are prepared, adopted, and applied so as to grant access for suppliers of like products originating in the territories of other Members under conditions no less favourable than those accorded to suppliers of like products of national origin or originating in any other country, in a comparable situation,

10.2.16.3 Conformity assessment procedures are not prepared, adopted, or applied with a view to or with the effect of creating unnecessary obstacles to international trade. This means that conformity assessment procedures shall not be more strict or be applied more strictly than is necessary to give the importing Member adequate confidence that products conform to the applicable technical regulations or standards, and

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 [IBC 2021, Section 1706 Design Strengths of Materials, 1706.2 New Materials](#). Adopted law pursuant to IBC model code language 1706.2.

²⁶ [IBC 2021, Section 1707 Alternative Test Procedure, 1707.1 General](#). Adopted law pursuant to IBC model code language 1707.1.

²⁷ Please see the [ANAB directory](#) for building official approved agencies.

²⁸ [IBC 2021, Section 1706 Design Strengths of Materials, 1706.1 Conformance to Standards](#) Adopted law pursuant to IBC model code language 1706.1.



10.2.16.4 **International Approval:** The purpose of the IAF MLA is to ensure mutual recognition of accredited certification and validation/verification statements between signatories to the MLA, and subsequently acceptance of accredited certification and validation/verification statements in many markets based on one accreditation for the timely approval of innovative materials, products, designs, services, and/or methods of construction. Accreditations granted by IAF MLA signatories are recognised worldwide based on their equivalent accreditation programs, therefore reducing costs and adding value to businesses and consumers.