

Technical Evaluation Report™

TER 1201-01

FastenMaster® HeadLOK® Screws to Provide Stud
to Top & Bottom Plate Uplift Attachment

OMG® Inc. DBA FastenMaster®

Product:

**FastenMaster®
HeadLOK® Heavy Duty
Wood Screw**

Issue Date:

March 15, 2012

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February 20, 2023

Subject to Renewal:

April 1, 2024



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COMPANY
INFORMATION:

ADDITIONAL
LISTEES:

OMG® Inc. DBA FastenMaster®
153 Bowles Rd
Agawam, MA 01001-2908

P: 800-518-3569

mguthrie@omginc.com

fastenmaster.com

DIVISION: 06 00 00 - WOOD, PLASTICS AND COMPOSITES

SECTION: 06 05 23 - Wood, Plastic, and Composite Fastenings

1 Product Evaluated^{1,2}

- 1.1 FastenMaster® HeadLOK® Heavy Duty Wood Screw

2 Applicable Codes and Standards³

2.1 Codes

- 2.1.1 IBC—15, 18, 21: *International Building Code®*
- 2.1.2 IRC—15, 18, 21: *International Residential Code®*

2.2 Standards and Referenced Documents

- 2.2.1 ANSI/AWC NDS: *National Design Specification (NDS) for Wood Construction*
- 2.2.2 ASTM A153: *Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware*
- 2.2.3 ASTM A510: *Standard Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel, and Alloy Steel*
- 2.2.4 AWC TR 12: *General Dowel Equations for Calculating Lateral Connection Values*

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

² This TER is a code defined [research report](#) provided by an [approved source](#) (see [IBC Section 1703.4.2](#)) and an [approved agency](#) (see [IBC Section 1703.1](#)). Given that this TER is for new materials, as defined in [IBC Section 1702](#), for which there are no approved rules or 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](#)". A professional engineer is approved as an approved source when that professional engineer is properly licensed to transact engineering commerce.

³ Unless otherwise noted, all references in this TER are from the 2021 version of the codes and the standards referenced therein. This material, design, or method of construction also complies with the 2000-2018 versions of the referenced codes and the standards referenced therein.

3 Performance Evaluation

- 3.1 Testing and related engineering evaluations are defined as intellectual property and/or trade secrets.⁴
- 3.2 HeadLOK® fasteners were evaluated as an alternative means of attaching wood studs to the top and bottom plates to provide uplift resistance, thereby establishing a wall top plate to bottom plate continuous load path for code compliance.^{5,6}
 - 3.2.1 The withdrawal and head pull through strength of the HeadLOK® fasteners were evaluated as an alternative to toenail connections, uplift clips/straps, or the combined shear/uplift capacity of oriented strand board (uplift) loaded applications.
- 3.3 Engineering evaluations are conducted with DrJ's ANAB accredited ICS code scope, which are also its areas of professional engineering competence.
- 3.4 Any regulation specific issues not addressed in this section are outside the scope of this TER.

4 Product Description and Materials

- 4.1 The product evaluated in this TER is shown in Figure 1.



Figure 1. HeadLOK® Fastener

- 4.2 HeadLOK® fasteners (Figure 1) are manufactured of 1022 carbon steel or 10B21 wire conforming to ASTM A510.
- 4.3 HeadLOK® fasteners are manufactured using a standard cold-formed process followed by a heat-treating process.
- 4.4 HeadLOK® fasteners are manufactured under in-plant quality control procedures. These procedures are audited through an inspection process performed by an approved agency.
- 4.5 Fasteners are approved for use in interior and exterior conditions and in chemically treated or untreated lumber.
 - 4.5.1 The proprietary coating has been tested and found to exceed the protection provided by code-approved hot-dipped galvanized coatings meeting ASTM A153 (IBC Section 2304.10.6⁷ and IRC Section R317.3), allowing for its use in alkaline copper quaternary (ACQ) pressure treated wood.
 - 4.5.2 Fasteners are approved for use in fire-retardant-treated lumber, provided the conditions set forth by the fire-retardant-treated lumber manufacturer are met, including appropriate strength reductions.

⁴ 18 U.S. Code § 1831 - Economic espionage - Whoever, intending or knowing that the offense will benefit any foreign government, foreign instrumentality, or foreign agent, knowingly steals, or without authorization appropriates, takes, carries away, or conceals, or by fraud, artifice, or deception obtains a trade secret shall be fined not more than \$5,000,000 or imprisoned not more than 15 years, or both. Any organization that commits any offense described shall be fined not more than the greater of \$10,000,000 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.
<https://www.law.cornell.edu/uscode/text/18/part-I/chapter-90>.

⁵ The IRC Section R301.1 states, Application....The construction of buildings and structures in accordance with the provisions of this code shall result in a system that provides a complete load path that meets all requirements for the transfer of all loads from their point of origin through the load-resisting elements to the foundation. Section.R301.2.1 further states, Wind design criteria.... A continuous load path shall be provided to transmit the applicable uplift forces in Section R802.11.1 from the roof assembly to the foundation. See IBC Section 1604.4.

⁶ For joist/rafter and truss to top plate connection, see TER 1105-02.

⁷ 2018 IBC Section 2304.10.5

4.6 The fasteners evaluated in this report are designated in Table 1.

Table 1. Fastener Designations¹

Product Name	Fastener Designation	Overall Length (in)	Thread Length (in)
HeadLOK® 4½"	FMHLGM412	4½	2
HeadLOK® 6"	FMHLGM006	6	2

SI: 1 in = 25.4 mm
 1. Fastener designations are found on the product packaging. Individual fasteners may be marked according to this table.

5 Applications

5.1 HeadLOK® fasteners are used to attach minimum 3½" wide wood studs to wood top and bottom plates of shear wall assemblies that meet the requirements of [IBC Section 2308](#) or [IRC Section R602](#). These fasteners provide resistance to uplift loads due to wind negative pressure applied from the framing above lifting up on the top plate of the wall.

5.1.1 See Table 2 for the HeadLOK® allowable design values.

5.1.2 See Section 6 for installation requirements.

5.2 Design Concepts and Allowable Design Loads

5.2.1 Allowable design loads for uplift are provided in Table 2. This table lists allowable design loads based on penetration into the stud, number of fasteners used and framing member spacing applicable to fasteners installed in accordance with the procedures described in Section 6.

Table 2. Allowable Design Load in Uplift^{1,2,3,4}

Fastener Designation	Minimum Thread Length into End of Stud ⁵ (in)	Number of Fasteners	Allowable Design Uplift for Designated Stud Spacing (plf)				
			12" o.c.	16" o.c.	24" o.c.	32" o.c.	48" o.c.
HeadLOK® 4½" with double plate	1.5	1	640	480	320	240	160
		2	1280	960	640	480	320
HeadLOK® 4½" with single plate	2	1	855	640	425	320	215
HeadLOK® 6" with single or double plate		2	1710	1280	850	640	430

2. SI: 1 in = 25.4 mm, 1 psf = 0.048 kPa

1. Wood studs and top plate members shall be a minimum of 2" nominal thickness and have a minimum specific gravity of not less than 0.42.

2. Structural composite lumber (SCL) may be used, provided the specific gravity is equal to or greater than 0.42. Refer to product information from the SCL manufacturer.

3. Tabulated loads based on testing. Uplift load values have been adjusted from the test data conservatively.

4. Table design capacities assume a load duration of 1.6. Allowable uplift for other load durations shall be adjusted accordingly (e.g., for a load duration of 1.33, and a fastener spacing of 16", the allowable uplift would be 480 plf from the table divided by 1.6, and the result multiplied by 1.33 = 400 plf).

5. The minimum penetration shown is required to achieve the stated uplift capacities.

5.3 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.

6 Installation

- 6.1 Installation shall comply with the approved construction documents, the manufacturer installation instructions, this TER and the applicable building code.
- 6.2 In the event of a conflict between the manufacturer installation instructions and this TER, the more restrictive shall govern.
- 6.3 *Installation Procedure*
 - 6.3.1 Select the proper number and length of HeadLOK® screws based on the uplift loads and allowable HeadLOK® resistant loads from Table 2.
 - 6.3.2 Use a ½" low RPM/high torque drill to drive the fastener to about 75 ft.-lbs.
 - 6.3.3 Draw HeadLOK® up tight to the face of the plate, as shown in Figure 2 and Figure 3.

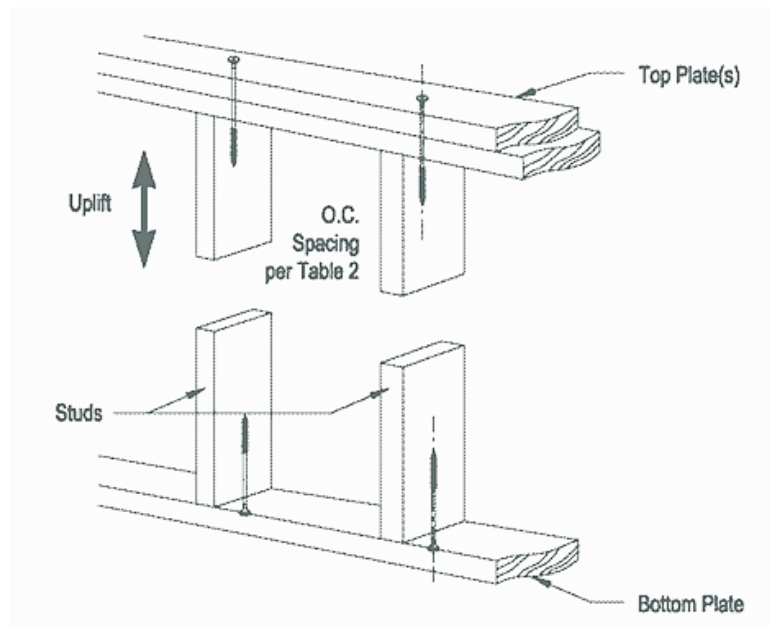


Figure 2. Installation of One (1) HeadLOK® Into Double Top Plate & Single Bottom Plate
(Note: Similar installation would be used for a single top plate and/or a double bottom plate.)

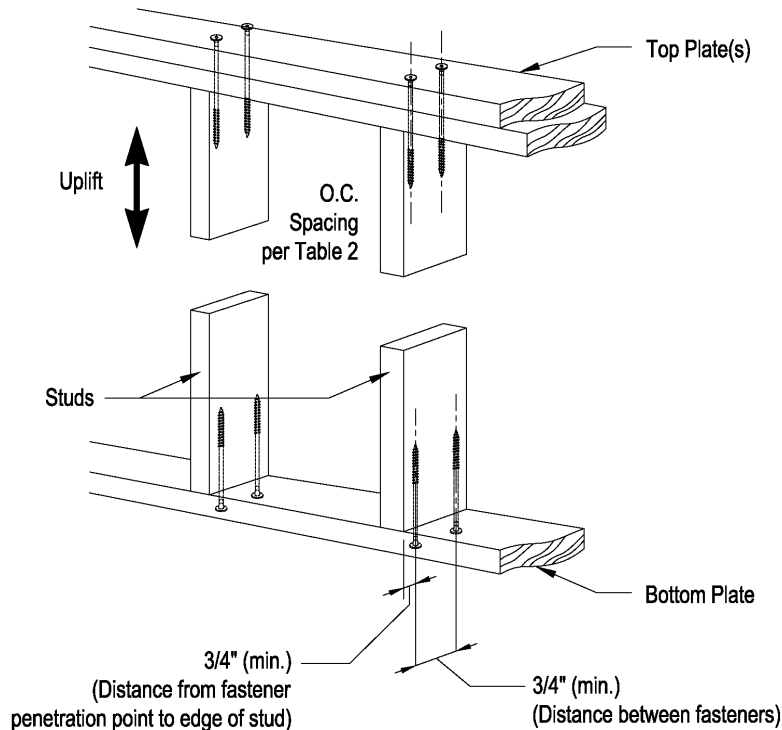


Figure 3. Installation Of Two (2) HeadLOK® Into Double Top Plate & Single Bottom Plate
(Note: Similar installation would be used for a single top plate and/or a double bottom plate.)

- 6.3.3.1 Do not over tighten (free spin) the screw.
- 6.3.3.2 If the fastener spins freely upon tightening, install one (1) additional HeadLOK® fastener a minimum of $\frac{3}{4}$ " from the ineffective fastener.

6.4 Installation Issues and Solutions

- 6.4.1 If a fastener protrudes outside of the stud prior to engagement into the stud such that threads are visible, install one (1) additional HeadLOK® fastener a minimum of $\frac{3}{4}$ " from the misaligned fastener (see Figure 2).
 - 6.4.1.1 If no fastener threads are visible but the unthreaded shank is visible, the fastener can remain in place and the values in Table 2 may still be used.
- 6.4.2 If a fastener splits the stud, install one (1) additional HeadLOK® fastener a minimum of $\frac{3}{4}$ " from the original fastener, or remove the original fastener and reinstall it a minimum of $\frac{3}{4}$ " from the original location.
- 6.4.3 For the repair scenarios described above, a maximum of three (3) fasteners per stud is allowed.

7 Substantiating Data

- 7.1 Testing has been performed under the supervision of a professional engineer and/or under the requirements of ISO/IEC 17025 as follows:
 - 7.1.1 Fastener testing for use as a truss hold-down.
 - 7.1.2 Fastener testing for top plate to stud withdrawal.
- 7.2 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 [RDP]), and/or professional engineering regulations. Accuracy of external test data and resulting analysis is relied upon.

- 7.3 Where pertinent, DrJ's analysis is based upon provisions that have been codified into law through state or local adoption of codes and standards. The developers of these codes and standards are responsible for the reliability of published content. DrJ's engineering practice may use a code-adopted provision as the control sample. A control sample versus a test sample establishes a product as being equivalent to the code-adopted provision in terms of quality, strength, effectiveness, fire resistance, durability, and safety.
- 7.4 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, Listings, certified reports, duly authenticated reports from approved agencies, and research reports prepared by approved agencies and/or approved sources provided by the suppliers of any raw materials. These are presumed to be minimum properties and relied upon to be accurate. The reliability of DrJ's engineering practice, as contained in this TER, may be dependent upon published design properties by others.
- 7.5 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.⁸

8 Findings

- 8.1 As delineated in Section 3, FastenMaster® HeadLOK® Heavy Duty Wood Screw has performance characteristics that were tested and/or meet pertinent standards and is suitable for use pursuant to its specified purpose.
- 8.2 When used and installed in accordance with this TER and the manufacturer installation instructions, FastenMaster® HeadLOK® Heavy Duty Wood Screw shall be approved for the following applications:
- 8.2.1 To provide resistance to uplift loads due to wind negative pressure applied from the framing above lifting up on the top plate of the wall, per Table 2.
- 8.2.2 To provide resistance to uplift loads due to wind negative pressure applied from the framing above at the stud to bottom plate interface, per Table 2.
- 8.3 For joist/rafter and truss to top plate connection, see TER 1105-02.
- 8.4 Any application specific issues not addressed herein can be engineered by an RDP. Assistance with engineering is available from OMG® Inc. DBA FastenMaster®.
- 8.5 IBC Section 104.11 (IRC Section R104.11 and IFC Section 104.10⁹ 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.
- 8.6 Approved:¹⁰ Building codes require that the building official shall accept duly authenticated reports¹¹ or research reports¹² 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.
- 8.6.1 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).

⁸ See Code of Federal Regulations (CFR) Title 24 Subtitle B Chapter XX Part 3280 for definition.

⁹ 2018 IFC Section 104.9

¹⁰ 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.

¹¹ <https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1707.1>

¹² <https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1703.4.2>

- 8.6.2 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.
- 8.6.3 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.
- 8.7 DrJ is an engineering company, employs RDPs and is an ISO/IEC 17065 ANAB-Accredited Product Certification Body – Accreditation #1131.
- 8.8 Through ANAB accreditation and the IAF Multilateral Agreements, this TER can be used to obtain product approval in any jurisdiction or country that has IAF MLA Members & Signatories to meet the Purpose of the MLA – “*certified once, accepted everywhere.*”

9 Conditions of Use

- 9.1 Material properties shall not fall outside the boundaries defined in Section 3.
- 9.2 As defined in Section 3, 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.
- 9.3 The HeadLOK® fasteners covered in this TER shall be installed in accordance with this report and the manufacturer installation instructions.
- 9.4 For conditions not covered in this TER, connections shall be designed in accordance with generally accepted engineering practice.
- 9.5 When required by regulation and enforced by the building official, also known as the authority having jurisdiction (AHJ) in which the project is to be constructed:
 - 9.5.1 Any calculations, incorporated into the construction documents that are required to show compliance with this TER, shall conform to accepted engineering practice, and shall be approved when requirements of the relevant regulations are met.
 - 9.5.2 This TER and the installation instructions shall be submitted at the time of permit application.
 - 9.5.3 This product has an internal quality control program and a third-party quality assurance program.
 - 9.5.4 At a minimum, this product shall be installed per Section 6 of this TER.
 - 9.5.5 The review of this TER, by the AHJ, shall be in compliance with IBC Section 104 and IBC Section 105.4.
 - 9.5.6 This 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.
 - 9.5.7 The application of this product in the context of this TER 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.
- 9.6 Design loads shall be determined in accordance with the building code adopted by the jurisdiction in which the project is to be constructed and/or by the building designer (i.e., owner or RDP).
- 9.7 The actual design, suitability, and use of this TER, for any particular building, is the responsibility of the owner or the owner's authorized agent.



10 Identification

- 10.1 The product listed in Section 1.1 is identified by a label on the board or packaging material bearing the manufacturer name, product name, TER number, and other information to confirm code compliance.
- 10.2 Additional technical information can be found at fastenmaster.com.

11 Review Schedule

- 11.1 This TER is subject to periodic review and revision. For the most recent version, visit drjcertification.org.
- 11.2 For information on the current status of this TER, contact [DrJ Certification](https://drjcertification.org).

12 Approved for Use Pursuant to US and International Legislation Defined in Appendix A

- 12.1 FastenMaster® HeadLOK® Heavy Duty Wood Screw is included in this TER published by an approved agency that is concerned with evaluation of products or services, maintains periodic inspection of the production of listed materials or periodic evaluation of services, and whose TER Listing states either that the material, product, or service meets identified standards or has been tested and found suitable for a specified purpose. This TER meets the legislative intent and definition of being acceptable to the AHJ.



1 Appendix A: Legislation that Authorizes AHJ Approval

- 1.1 **Fair Competition:** State legislatures have adopted Federal regulations for the examination and approval of building code referenced and alternative products, materials, designs, services, assemblies and/or methods of construction that:
 - 1.1.1 Advance Innovation,
 - 1.1.2 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, and
 - 1.1.3 Benefit consumers through lower prices, better quality, and greater choice.
- 1.2 **Adopted Legislation:** The following local, state, and federal regulations affirmatively authorize FastenMaster® HeadLOK® Heavy Duty Wood Screw to be approved by AHJs, delegates of building departments, and/or delegates of an agency of the federal government:
 - 1.2.1 Interstate commerce is governed by the Federal Department of Justice to encourage the use of innovative products, materials, designs, services, assemblies and/or methods of construction. The goal is to “protect economic freedom and opportunity by promoting free and fair competition in the marketplace.”
 - 1.2.2 Title 18 US Code Section 242 affirms and regulates the right of individuals and businesses to freely and fairly have new products, materials, designs, services, assemblies and/or methods of construction approved for use in commerce. Disapproval of alternatives shall be based upon non-conformance with respect to specific provisions of adopted legislation, and shall be provided in writing stating the reasons why the alternative was not approved, with reference to the specific legislation violated.
 - 1.2.3 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).
 - 1.2.3.1 Compliance with public records and trade secret legislation requires approval through the use of listings, certified reports, Technical Evaluation Reports, duly authenticated reports and/or research reports prepared by approved agencies and/or approved sources.
 - 1.2.4 For new materials¹³ 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.
 - 1.2.5 The design strengths and permissible stresses of any structural material shall conform to the specifications and methods of design using accepted engineering practice.¹⁴

¹³ <https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1706.2>

¹⁴ IBC 2021, Section 1706.1 Conformance to Standards

- 1.3 **Approved¹⁵ 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 testing agency shall publish the scope and limitation(s) of the listed material or fabricated assembly.¹⁶ The Superintendent of Building roster of approved testing agencies is provided by the Los Angeles Department of Building and Safety (LADBS). The Center for Building Innovation (CBI) Certificate of Approval License is TA24945. Tests and certifications found in a CBI Listing are LAMC approved. In addition, 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 1707.1.¹⁷
- 1.4 **Approved 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, service, design, assembly and/or method of construction not specifically provided for in the MCC. This technical data shall consist of research reports from approved sources (i.e., MCC defined Approved Agencies).
- 1.5 **Approved by New York City:** The NYC Building Code 2022 (NYCBC) states in pertinent part that an approved agency shall be deemed¹⁸ 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 agreement¹⁹ (i.e., ANAB, International Accreditation Forum (IAF), etc.).

¹⁵ See section 8.3 for the distilled building code definition of Approved.

¹⁶ Los Angeles Municipal Code, SEC. 98.0503. TESTING AGENCIES

¹⁷ <https://up.codes/viewer/california/ca-building-code-2022/chapter/17/special-inspections-and-tests#1707.1>

¹⁸ New York City, The Rules of the City of New York, § 101-07 Approved Agencies

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

- 1.6 **Approved 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., EVLMiami 13692), a Product Certification Agency (i.e., CER10642), and as a Florida Registered Engineer (i.e., ANE13741).
- 1.7 **Approved by Miami-Dade County (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 County shall accept the statewide and local Florida Product Approval as provided for in Florida legislation 553.842 and 553.8425.
- 1.8 **Approved by New Jersey:** Pursuant to Building Code 2018 of New Jersey in IBC Section 1707.1 General,²⁰ it states: “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)”.²¹ Furthermore N.J.A.C 5:23-3.7 states: 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 technical evaluation reports, from any accredited entity listed by ANAB, meets the requirements of item 2 given that the listed entities are no longer in existence and/or do not provide “reports of engineering findings”.

²⁰ https://up.codes/viewer/new_jersey/ibc-2018/chapter/17/special-inspections-and-tests#1707.1

²¹ <https://www.nj.gov/dca/divisions/codes/codreg/ucc.html>

- 1.9 **Approved by the Code of Federal Regulations Manufactured Home Construction and Safety Standards:** Pursuant to Title 24, Subtitle B, Chapter XX, Part 3282.14²² and Part 3280,²³ the Department encourages innovation and the use of new technology in manufactured homes. The design and construction of a manufactured home shall conform with the provisions of Part 3282 and Part 3280 where key approval provisions in mandatory language follow: 1) “All construction methods shall be in conformance with accepted engineering practices”; 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.”; and 3) “The design stresses of all materials shall conform to accepted engineering practice.”
- 1.10 **Approved by US, Local, and State Jurisdictions in General:** In all other local and state jurisdictions, the regulations require approval per Section 8 above.
- 1.11 **Approved by International Jurisdictions:** The USMCA and GATT agreements provide for approval of innovative materials, products, designs, services, assemblies 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:
- 1.11.1 Permit participation of conformity assessment bodies located in the territories of other Members (defined as GATT Countries) under conditions no less favourable than those accorded to bodies located within their territory or the territory of any other country,
 - 1.11.2 State that 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.
 - 1.11.3 State that 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.
 - 1.11.4 **Approved:** 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, assemblies 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.

²² <https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3282/subpart-A/section-3282.14>

²³ <https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280>