



INFORMATION BULLETIN / PUBLIC – BUILDING CODE

REFERENCE NO.: CBC 104.11 and 203

Effective: 01-01-2020

DOCUMENT NO.: **P/BC 2020-119**

Revised:

Previously Issued As: P/BC 2017-119

ALTERNATE BUILDING MATERIALS/PRODUCTS APPROVAL REQUIREMENTS

PURPOSE

This information bulletin clarifies the California Building Code (CBC), California Residential Code (CRC), and the Los Angeles Residential, Building, and Municipal Codes (LARC, LABC, and LAMC) requirements relating to the approval of alternate building products, materials and methods of construction.

All building materials, products and methods of construction shall be recognized for use and as prescribed by the Los Angeles Building Code (LABC).

The Department of Building and Safety (LADBS), hereby referred to as the Department, may grant a general approval for an alternate material, product or method of construction provided that the alternate is at least equivalent to the prescribed device, material or method of construction. Department approval of new or alternate materials and methods of construction may be granted by the Department in accordance with Section 98.0501 of the Los Angeles Municipal Code (LAMC) through the use of product listings, approvals and evaluation reports by approved agencies, or Los Angeles Research Reports (LARR).

DEFINITIONS

Approved - Acceptable to the Superintendent of Building. (LABC 202)

Approved Agency - An established and recognized agency regularly engaged in conducting tests or furnishing inspection services which has been approved. (LABC 202)

Approved Listing Agency Any agency approved by the enforcing agency, unless otherwise provided by law, which is in the business of listing and labeling and which makes available at least an annual published report of such listings in which specific information is included that the product has been tested to recognized standards and found to comply. (LABC 202)

Approved Testing Agency - An agency which is determined by the enforcing agency, except as otherwise provided by law, to have adequate personnel and expertise to carry out the testing of systems, materials types of construction, fixtures or appliances. (LABC 202)

Approved Fabricator - An established and qualified person, firm or corporation approved by the Superintendent of Building, Los Angeles Department of Building and Safety, pursuant to Chapter 17 of this code.(LABC 202)

Approved Source - An independent person, firm or corporation, approved by the Superintendent of Building,

who is competent and experienced in the application of engineering principles to materials, methods or systems analyses. (LABC 202)

Authority Having Jurisdiction – An organization, office, or individual responsible (i.e., Los Angeles Department of Building and Safety) for enforcing the requirements of a code or standard, or for approving materials/products.

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 Section 1703.5, “Manufacturer’s designation” and “Mark”). (LABC 202)

Labeled - Equipment, materials or products to which has been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection 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. (LABC 202)

Listed - Equipment, materials, products or services included in a list published by an organization acceptable to the Superintendent of Building (Los Angeles Department of Building and Safety) 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.(LABC 202)

MATERIAL/PRODUCT EVALUATION REPORTS AND RESEARCH REPORTS

The Los Angeles Department of Building and Safety (LADBS) “approves” building materials/products by:

- Accepting product approvals and listings by Department approved listing agencies, or
- Accepting Evaluation Reports (ER) by a Nationally Recognized Model Code Agency, or
- Issuing Los Angeles Research Reports (LARR), or
- Approving one-time use of creative/innovative job specific materials/products.

Note: For alternate products, material and components as part of a building lateral force resisting system (LFRS), an Evaluation Report, by a Nationally Recognized Model Code Agency, shall include a supplement to show compliance with the seismic and wind requirements of the Los Angeles Building and Residential Codes.

Products having an ICC-ES evaluation reports with supplemental approval of Los Angeles Building and Residential Codes requirements can be found at the following link:

<https://icc-es.org/evaluation-report-program/la-reports-directory/>

Products having an IAPMO-ES evaluation reports with supplemental approval of Los Angeles Building and Residential Codes requirements can be found at the following link:

<http://www.iapmoes.org/Pages/LACodeReports.aspx>

In consideration of approving materials/products, LADBS has categorized the materials/products into three categories as listed below:

Category 1: Non-Structural, Fire Life Safety,

Category 2: Structural Non-Lateral- Force-Resisting System (Non-LFRS) component, and

Category 3: Structural Lateral-Force-Resisting System (LFRS) component.

An LARR is evidence that a manufacturer of a material/product has provided the code-required information to LADBS to approve the material/product. Similarly, an ER, by a Nationally Recognized Model Code Agency, is evidence that a product has met the code requirements/standards. In addition, there are creative materials/products that are not explicitly allowed in the code may be approved as “Alternate Materials” in accordance with LABC Section 104.2.6. LADBS or a Nationally Recognized Model Code Agency approves the Alternate Materials by issuing an LARR or ER respectively. When creative materials/products are used for a specific project, the one-time approval process may be used.

LARRs or ERs for materials/products shall be based on IBC (2015 or 2018 IBC) model codes consistent with the LABC versions applicable for plan submittal dates. For example, building permit applications filed after January 1, 2020, are required to comply with the 2018 IBC as modified by the 2019 CBC and adopted into the 2020 LABC. Likewise, building permit applications filed before January 1, 2020, are required to comply with the 2015 IBC as modified by the 2016 CBC and adopted into the 2017 LABC.

The use of products/material specified on plans submitted after the expiration date of the LARR may be allowed after the application for renewal of the LARR has been accepted by the LADBS Engineering Research Section on a case-by-case basis.

MATERIAL/PRODUCT LISTING AND LABELING

Certain materials/products are required to be “listed” or “labeled” by the codes. These materials/products do not require an LARR nor an ER by a Nationally Recognized Model Code Agency, as long as the manufacturer of these products provides code compliance proof as follows:

- When the codes require the material/product to be “listed”, a City of Los Angeles approved listing agency is required to “list” the material/product.
- When the codes require the material/product to be “labeled”, a City of Los Angeles approved listing agency is required to “label” the material/product.

NATIONALLY RECOGNIZED MODEL CODE AGENCY (LAMC Section 98.0501)

In order to be recognized as a Nationally Recognized Model Code Agency, the agency shall comply with the following requirements:

1. The agency shall be a developer and publisher of a code used as a model or standard for building and safety departments throughout the United States.
2. The agency shall file, with LADBS Engineering Research Section, an acceptable Compliance Certificate (attached) certifying the following:
 - a. The agency's evaluation reports are available to the public via the internet.
 - b. Test data are established in laboratories approved by the model code organization using a system of safeguards against conflict of interest, covering the agency itself, its owners and individual employees. This safeguarding system needs to be equivalent to those used by LADBS in "Information Bulletin P/GI 2020-028 Guidelines for Recognition of Testing Agencies".
 - c. The evaluation criteria used to approve the products are published and available for review by the public.
3. The evaluation reports and evaluation criteria are established through a transparent process allowing for input by the public with appeals resolved by an independent expert panel.

Technical questions from the public about the evaluation reports are to be answered by the model code agency.

FREQUENTLY ASKED QUESTIONS

Below are frequently asked questions and answers related to the Los Angeles Research Report requirements and approval:

1. Do all building materials/products require an LARR and/or ER?

Any materials/products that have code specified capacities/design values do not require an LARR nor Nationally Recognized Model Code Agency reports (i.e. bolts, clevis, cotter pins, and sawn lumber). When materials/products are not specified in the code, the material/product may require an approval in the form of an LARR and/or ER based on the application of the material/product. See Table 1 "Examples of Materials/products that Require an LARR and Do Not Require an LARR," in this bulletin for examples of Categories 1, 2 and 3 materials/products.

2. What are the different LADBS approvals I can obtain for the building materials / products?

LADBS offers two different types of building materials/products approvals as follows:

- a. **General Approval** – This approval is for mass produced, alternative materials and assemblies not specifically provided for in the LABC and may be used for any project site with this type of approval. This approval is referred to as a “Los Angeles Research Report” (LARR).
- b. **One-Time Approval** – A one-time approval is granted to a material/product that will be used only for a single, project specific case and allowed to be used only once.

3. What is the process of obtaining an LARR?

The process to obtain an LARR for alternate products and materials is as follows:

- a. Submit the following information to the Los Angeles City Department of Building and Safety Building Research Section: product literature describing how the product is to be used, substantiating data (i.e. test reports by approved third party testing agency, engineering analysis), a completed application form for the new LARR, along with a check in U.S. dollars drawn on a U.S. bank.
- b. Once this information is received, the application package will be reviewed for completeness. If any deficiencies are determined, a letter will be sent to the applicant stating the deficiencies requiring correction.
- c. After determining the application package is complete, the application will be logged in and assigned a log number and placed in line for review. It takes approximately five weeks for the application to be assigned an LADBS engineer.
- d. The substantiating data submitted will be evaluated to determine if it is equivalent to the prescribed device, material, or method of construction specified by the Los Angeles City Building Code in terms of quality, effective time period of fire resistance, strength, effectiveness, durability, and safety.
- e. After reviewing the substantiating data, the LADBS engineer assigned to the application will write a letter stating their comments and the information needed to complete the evaluation, if necessary.
- f. Upon resolution of all comments, a draft copy of the Los Angeles City Research Report will be written. The draft copy of the Research Report will be e-mailed to the applicant for review and comment.

After all comments from the applicant have been resolved, the Research Report will be submitted to the Chief of the Building Research Section for the final review and approval. A signed copy of the Los Angeles Research Report will be mailed to the applicant and will also be posted on the LADBS web site.

4. How do I obtain an application form for LARR?

An application form for a Los Angeles Research Report is available from the Los Angeles Department of Building and Safety (LADBS) web site (<http://ladbs.org/LADBSWeb/building-research-lab.jsf>). Click on the link to download the form, “Application for New General Approval or Technical Modification.” Instructions to complete the application form may be found at, http://ladbs.org/LADBSWeb/LADBS_Forms/TestLab/LARR_instruction.pdf.

5. How long does it take to obtain an LARR?

It takes approximately five weeks for an application for an LARR to be assigned to the staff and an additional three to five weeks to complete the evaluation, and issue the final copy of the research report. If the substantiating data is incomplete, such as missing test reports, testing not conducted by an approved testing agency, incomplete or missing engineering calculations, etc., then the time to obtain an LARR may take longer. Expedite report review is available pursuant to LAMC Section 98.0422. The amount of the fee for this service is in addition to the normal review fee and is equal to one-half of the normal review fee. The fee expedite service will reduce the time to assign the application from approximately five weeks to two weeks and will reduce the review period from three to five weeks to three weeks.

6. What is the process of obtaining a one-time approval?

Alternate materials/products may be approved for project specific cases with the following process:

- a. Submit the following information to the LADBS Plan Check Supervisor for the specific project: product literature describing how the product is to be used, a completed application form for a new general approval, substantiating data (i.e. test reports by approved third party testing agency, engineering analysis), a completed Modification of Building Ordinances form, along with a check in U.S. dollars drawn on a U.S. bank for associated application fees.
- b. The substantiating data submitted will be evaluated to determine if it is the equivalent of the prescribed device, material, or method of construction specified by the Los Angeles Building Code in terms of quality, effective time period of fire resistance, strength, effectiveness, durability, and safety.
- c. Requests may be approved once it is determined that the alternative materials/products are code equivalent.

This one-time approval may not be reused for future projects.

7. How long does it take to obtain a one-time approval?

The review and approval for a one-time approval may take a few days to a few weeks, depending on the level of complexity of the requested approval and completeness of the data provided for the material/product approval.

8. Who can apply for approval?

Materials/products manufacturer or distributor (for general or one-time approval) and the end user (engineer or architect) of the material/product can apply for the approval.

9. How long is the approval good for, and where do I find it?

The general approval (LARR) is good for 12 months. The product approval letter indicates the duration and

expiration date of the approved product. A copy of the approval letter is posted under “Research Report Index,” on the web page at, <http://ladbs.org/LADBSWeb/building-research-lab.jsf>.

Also, a list of recently approved LARRs is posted under the “Recently Approved/Renewed Research Reports and Laboratory Approval” at, http://ladbs.org/LADBSWeb/LADBS_Forms/TestLab/Recently_Aproved_New_Reports.pdf

10. Can I expedite the review process?

Yes, you can. Pursuant to LAMC Section 98.0422, expedite review process is available for the amount of the fee equal to one-half of the normal review fee.

11. How can an approval be renewed?

Only products that have General Approvals (not one-time approvals) may be renewed. About 60 days before an approval expires, the original applicant needs to take the following actions:

- a. Submit a completed renewal application form with original signatures (see http://ladbs.org/LADBSWeb/LADBS_Forms/PlanCheck/PC-STR.App19-Renewal_4GenApprvl.pdf).
- b. Submit the application fee as marked on the application form. Make check payable to “Department of Building and Safety, City of Los Angeles.”
- c. Submit current material/product information along with an explanation of any changes to the material/product from the previous approval.

Attachments:

- Table 2 – Examples of Materials/products That Require an LARR and Do Not Require an LARR
- Compliance Certificate – Nationally Recognized Model Code Agency

Table 2 – Examples of Materials/Products That Require an LARR or an ER

ER Required ⁴	ER with LABC/LARC Supplement or LARR Required ¹²³
Joist Hangers Open Web Truss I-Joist Rebar Mechanical Splice LVL - Laminated Veneer Lumber PSL – Parallel Strand Lumber Truss Plates Skylights Gypsum sheathing Suspended ceilings meeting prescriptive requirements specified in IB 2011-040 Non-Shrink Grout. Plastic Composite Decking & Guardrails Glass Guardrails	Metal/Steel Deck Fiber reinforcement for concrete/masonry strengthening Expansion Bolt (concrete/masonry) Adhesive Anchor (concrete/masonry) Concrete Screw Anchor Walk-in-cooler (over 400 sf.) Pre manufactured shear Wall Prefab Shear panel – truss plate Shrinkage compensating device Moment Frame Connection Curtain Wall Connectors in plane Shot Pins for diaphragm connection Shear Wall Panels

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities.

<p>Insulating Concrete forms Preservative treatment of wood for decay and termite protection Glass fiber lath (not used in shear walls) Shot pins (no diaphragm connection) Mortar/grout admixture Clay/concrete roofing tiles Cold Formed Steel Joist Hangers Interior non-load bearing partitions (no in-plane shear) Cold formed Steel Studs Fiberglass Pool/Spa Fire Retardant Treated Wood Access Floors Roof Pedestals supporting non-combustible tile Low profile pedestals Fire Classification Roofing/Walking Deck</p>	<p>Sill plate connector (bent strap) Hold down Helical Foundation Pier for Remedial Repair Exterior Insulation and Finishing System (EIFS) Shear Resistor Rails Shear Connector Studs (Welded Studs) Veneer anchors Wood Screws Nails Sandwich panel curtain wall Headed Rebar for reduced lap splice Post Tensioning Anchor System</p>
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1. LADBS recognizes ICC or IAPMO evaluation reports with LABC-LARC Supplements for Category 3 products as being compliant with the seismic or wind requirements of the Los Angeles Building Code.
2. Products having an ICC-ES evaluation reports with supplemental approval of Los Angeles Building Code requirements can be found at the following link:
www.icc-es.org/ladbs directory
3. Products having an IAPMO-ES evaluation reports with supplemental approval of Los Angeles Building Code requirements can be found at the following link:
<http://www.iapmoes.org/Pages/LACodeReports.aspx>
4. These materials/products do not require an LARR when code compliance is proven with a valid Nationally Recognized Model Code Agency Evaluation Report.

NATIONALLY-RECOGNIZED MODEL CODE AGENCY COMPLIANCE CERTIFICATE

Please submit this completed form to the City of Los Angeles, Department of Building and Safety, Engineering Research Section, 201 N. Figueroa St., Rm. 880, Los Angeles, California 90012 (<http://ladbs.org/LADBSWeb/engineering-research-lab.jsf>)

Nationally-Recognized Code Agency's Name:
Nationally-Recognized Code Publication's Name:
List of all the Jurisdictions that Adopted Code:
Agency Contact Name: Phone: Address:
e-mail:
Agency's Web Home Page:
Evaluation Reports Web Address:
<p>As an officer of the agency, I certify that ALL:</p> <ol style="list-style-type: none"> 1. evaluation reports are available to the public via the internet, 2. tests data was established in laboratories approved by the model code organization using a system of safeguards against conflict of interest, covering the agency itself, its owners and individual employees, equivalent to those used by LADBS in "Information Bulletin P/BC 2017-058 Guidelines for Recognition of Testing Agencies," 3. evaluation criteria used to approve the products shall be published and available for review by the public on my agency's web page, 4. evaluation reports and evaluation criteria were established through a transparent process, allowing for input by the public with appeals resolved through an independent expert panel, and 5. technical questions from the public about the evaluation reports are answered by my agency.
Signature: _____ date: _____
Print Name: _____ Position: _____
LADBS ERS Accepted by: _____ date: _____ No.: _____