



Significant Changes In 2013 California Codes For Historical Building Code

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The 2013 California Building Standards went into effect on January 1, 2014.

Structural Regulation

The evaluation of structural members and structural systems for seismic loads shall consider the inelastic performance of structural members and their ability to maintain load-carrying capacity during the seismic loadings prescribed by the regular code.

Lateral Load Regulations

Seismic Forces

Strength-level seismic forces used to evaluate the structure for resistance to seismic loads shall be based on the R-values tabulated in the regular code for similar lateral-force resisting systems including consideration the structural detailing of the members where such R-values exist.

Exceptions:

1. Forces– The forces cannot exceed 0.75 times the seismic forces prescribed by the regular code requirements.
2. Ground Motion– For occupancy Category I, II, or III structures, near-fault increases in ground motion need not be considered when the fundamental period of the building is 0.5 seconds in the direction under consideration.
3. Shear– For occupancy category I or II structures, the seismic base shear need not exceed 0.30W.
4. Shear– For occupancy category III or IV structures, the seismic base shear need not exceed 0.40W.

Lateral Force Resisting System

When a building is to be strengthened with the addition of a new lateral force resisting system, the R-value of the new system can at least be 75% of the building's base shear regardless of its relative rigidity.

Masonry Strength Limitation

Unreinforced masonry shall comply with the California Existing Building Code Appendix Chapter AI, 2010 Edition, and as modified by the CHBC. Alternative standards may be used on a case by case basis.

It shall be permitted to exceed the strength limitation of 100 psi in Section A 108.2 of the CEBC when test data and building configuration supports higher values subject to the approval of the authority having jurisdictions.

Existing Building Performance

Failing Members

All members that would be reasonably expected to fail and lead to collapse or life threatening injury when subjected to seismic demands shall be judged unacceptable and appropriate

structural strengthening shall be developed.

General Engineering Approaches

Strength Values

1. For archaic materials shall be assigned based upon similar conventional codified materials.
2. The archaic materials and methods of construction shall be thoroughly investigated for their details of construction in accordance with Section 8-703.
3. Assigned strength values in archaic materials shall not be greater than those provided for in the following sections without adequate testing, and shall be subject to the concurrence of the enforcing agency.

Archaic Materials and Methods of Construction

Existing Solid Masonry

Existing solid masonry walls of any type, except adobe, may be allowed, without testing, a maximum ultimate strength of nine pounds per square inch in shear where there is a qualifying statement by the architect or engineer that an inspection has been made. The shear stress above applies to unreinforced masonry, except adobe, where the maximum ratio of unsupported height or length to thickness does not exceed 13, and where minimum quality mortar is used or exists. Wall height or length is measured to supporting or resisting elements that are at least twice as stiff as the tributary wall. Stiffness is based on the gross section. Shear stress may be increased by the addition of 10 percent of the axial direct stress due to the weight of the wall directly above. Higher-quality mortar may provide a greater shear value.