
NON-BEARING NON-SHEAR MASONRY WALLS: 2022 CBC

Disciplines: Structural**History:** Revised 05/10/23 Under 2022 CBC
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Division of the State Architect (DSA) documents referenced within this publication may be found on the [DSA Forms](#) or [DSA Publications](#) webpage.

PURPOSE

This Interpretation of Regulations (IR) clarifies code requirements relating to non-bearing non-shear masonry walls on construction projects under DSA jurisdiction.

SCOPE

The requirements of this IR apply to non-bearing non-shear masonry walls submitted to DSA for review and approval, with prismatic cross sections full height, not supporting any other accessory element and meet one or more of the following:

- Non-bearing non-shear (NB-NS) masonry walls within the building envelope that comply with the definition of “nonbearing wall” per ASCE 7 Section 11.2 and also meet the criteria of “nonparticipating elements” as defined in TMS 402 Section 7.3.1. Where such walls are braced at the top to the primary structure, the bracing connections shall be configured to transfer wall out-of-plane forces only and accommodate the seismic relative displacements for in-plane movement per ASCE 7 Section 13.3.2.
- Site retaining masonry walls.
- Free-standing (FS) site masonry walls, such as fences, ball walls, or yard walls.
- Masonry walls covered under the scope of this IR shall be designed, detailed, and have testing and special inspection as summarized in the following sections.

1. DESIGN AND DETAILING REQUIREMENTS

Design and detailing shall be in accordance with the California Building Code (CBC) Chapter 21A and the following:

1.1 Walls shall be designed for out-of-plane seismic forces per *IR 16-11: Seismic Out-of-Plane Forces for Non-bearing Non-Shear Concrete and Masonry Walls*.

1.2 The following modifications to code requirements are permitted for retaining walls less than 4 feet above the top of foundation with level backfill and no surcharge, as well as free-standing walls and non-bearing non-shear walls of any height:

- The total area of horizontal reinforcement shall not be less than 0.001 times the sectional area of the wall per CBC Section 2106A.1.3 but shall be spaced not more than 4'-0" on center, except for walls other than running bond as required by TMS 402 Section 7.4.5 for Seismic Design Categories E and F when applicable.
- Reinforced hollow-unit masonry laid in running bond may be grouted only in cells containing vertical and horizontal reinforcement per the exception in CBC Section 2104A.1.3.11.2.

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2. TESTING AND SPECIAL INSPECTION REQUIREMENTS

Testing and special inspection shall be in accordance with CBC Section 1705A.4 and Chapter 21A. Construction documents shall clearly state requirements for testing and special inspection items accordingly as required on form *DSA-103: List of Required Structural Tests & Special Inspections*. As summarized in Appendix A below, testing and special inspection may be waived by the registered design professional in responsible charge of the project or delegated design professional with the approval of DSA; however, continuous inspection shall be performed by a DSA-certified project inspector for all stages of construction regardless of testing and special inspection requirements.

References:

California Code of Regulations (CCR) Title 24

Part 2: California Building Code, Sections 1705A.4, 2104A.1.3.11.2, 2105A.3, 2105A.4, 2106A.1.3.

This IR is intended for use by DSA staff and by design professionals to promote statewide consistency for review and approval of plans and specifications as well as construction oversight of projects within the jurisdiction of DSA, which includes State of California public schools (K–12), community colleges and state-owned or state-leased essential services buildings. This IR indicates an acceptable method for achieving compliance with applicable codes and regulations, although other methods proposed by design professionals may be considered by DSA.

This IR is subject to revision at any time. Please check DSA's website for currently effective IRs. Only IRs listed on the webpage at www.dgs.ca.gov/dsa/publications at the time of project application submittal to DSA are considered applicable.

NON-BEARING NON-SHEAR MASONRY WALLS: 2022 CBC**APPENDIX A—Testing and Special Inspection Requirements¹**

Wall Height ²	Wall Type	Special Inspection	Testing ³					
			Masonry Prism Test Method	Unit Strength Method				Core ⁵
				Masonry Unit		Mortar ⁴	Grout	
				With material certificate	Without material certificate			
< 4'-0"	Retaining ⁶	No	Yes	No	Yes	No	No	No ⁷
< 6'-0"	NB-NS, FS	No	Yes	No	Yes	No	No	No ⁷
≤ 12'-0"	Retaining, NB-NS, FS	Yes	Yes	Yes	Yes	Yes	Yes	No ^{7,8}
> 12'-0"	Retaining, NB-NS, FS	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes:

- Testing and/or special inspection, as applicable, is not required if noted above and selected to be exempt by the design professional on form *DSA-103*, Appendix. Batch plant inspection is not required for retaining walls per CBC Section 1705A.3.3.2, item 2. Construction documents shall clearly state requirements accordingly.
- Wall height is measured from top of foundation, except the second row with height < 6'-0" for NB-NS and FS walls the wall height is measured from lowest adjacent finish floor and grade, respectively.
- Compressive strength of masonry shall be determined by either the unit strength method or prism test method in accordance with CBC Section 2105A.2.
- Mortar testing may be limited or exempted per the requirements of CBC Section 2105A.3, Exception 5.a or 5.d.
- Masonry core sampling and testing shall meet the requirements of CBC Section 2105A.4. Such coring is not required, including those walls beyond the scope of this IR, when nondestructive test methods per CBC Section 2105A.4, Exception 2 are approved.
- If retaining wall < 4'-0" has sloped backfill or supports a surcharge, then see requirements for retaining walls ≤ 12'-0".
- Masonry core sampling and testing is not required provided such walls meet the criteria listed in CBC Section 2105A.4, Exception 1.
- Masonry core sampling and testing shall not be exempted where the wall is separated from an adjacent building or structure, means of egress, assembly area, or emergency vehicle access, as applicable, by a distance less than the wall height above adjacent grade.