

**2011 MASONRY STANDARDS JOINT COMMITTEE  
PROPOSED ERRATUM TO MASONRY STANDARD  
MAIN COMMITTEE BALLOT # 05**

Ballot No.: 05-E-009  
Reballot of Main Committee Item No.: N/A  
Response to TAC Comment No.: N/A  
Response to Public Comment No.: N/A

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**Standard:** *Building Code Requirements for Masonry Structures TMS 402-08/ACI 530-08/ASCE 5-08 Draft August 21, 2008*

**Section Number:** *1.17.4.3.1 Design of nonparticipating elements*

**RATIONALE:** *(Rationale is explanatory and not part of the proposed revision.)*

This erratum is intended to correct an error that the 2008 Seismic Subcommittee and 2008 MSJC made in introducing the new seismic “road map” in changing from the 2005 MSJC Code to the 2008 MSJC code. The specific issue involves empirical design of non-participating elements in SDC C and above. This was permitted in the 2005 MSJC Code, and inadvertently prohibited in the 2008 MSJC Code. The inadvertent prohibition created a conflict between Chapter 5 and Chapter 1 of the 2008 MSJC Code.

*The following is excerpted from the 2005 MSJC Code.*

*Comment: According to Section 1.14.3, structures in SDC A are permitted to be designed by Chapter 5 (empirical). For elements not part of the lateral force-resisting system, no additional restrictions with respect to design method are imposed in SDC B or C.*

**1.14.3 Seismic Design Category A**

**1.14.3.1 Structures in Seismic Design Category**

A shall comply with the requirements of Chapter 2, 3, 4, or 5. AAC masonry structures in Seismic Design Category A shall comply with the requirements of Appendix A.

*Comment: Section 1.14.5.2.2 of the 2005 MSJC Code requires that partition walls be isolated in SDC C:*

### 1.14.5 *Seismic Design Category C*

1.14.5.2.2 Masonry partition walls, masonry screen walls and other masonry elements that are not designed to resist vertical or lateral loads, other than those induced by their own mass, shall be isolated from the structure so that vertical and lateral forces are not imparted to these elements. Isolation joints and connectors between these elements and the structure shall be designed to accommodate the design story drift.

*Comment:* Section 1.14.6 of the 2005 MSJC Code prohibits the use of Chapter 5 (empirical) for all elements except those covered by 1.14.5.2.2. Nonparticipating elements can still be designed by empirical design in SDC D and higher.

### 1.14.6 *Seismic Design Category D*

1.14.6.2 *Design requirements* — Masonry elements, other than those covered by Section 1.14.5.2.2, shall be designed in accordance with the requirements of Sections 2.1 and 2.3, Chapter 3, Chapter 4 or Appendix A.

*Comment:* Now consider Chapter 5 of the 2005 MSJC Code. Empirical design cannot be used for design of masonry in SDC D and above. It is permitted for nonparticipating elements in SDC C.

5.1.2.2 *Seismic* — Empirical requirements shall not apply to the design or construction of masonry for buildings, parts of buildings or other structures in Seismic Design Categories D, E, or F as defined in ASCE 7-02, and shall not apply to the design of the seismic-force-resisting system for structures in Seismic Design Categories B or C.

*Bottom Line:* The 2005 MSJC Code permits design of non-participating elements by empirical design in SDC A, B, and C.

*Comment:* Now examine the corresponding requirements from the 2008 MSJC Code. Note the omission of Chapter 5. Empirical design cannot be used for design of nonparticipating elements in SDC C.

**1.17.4.3 Seismic Design Category C requirements** — Masonry elements in structures assigned to Seismic Design Category C shall comply with the requirements of Seismic Design Category B and with the additional requirements of Section 1.17.4.3.

**1.17.4.3.1 Design of nonparticipating elements** — Nonparticipating masonry elements shall comply with the requirements of Section 1.17.3.1 and Chapter 2, 3, or 4 or Appendix A. Nonparticipating masonry elements, except those constructed of AAC masonry, shall be reinforced in either the horizontal or vertical direction in accordance with the following:

*Comment:* The 2008 MSJC imposes no additional requirements with respect to design method for nonparticipating elements in SDC D.

**1.17.4.4 Seismic Design Category D requirements** — Masonry elements in structures assigned to Seismic Design Category D shall comply with the requirements of Seismic Design Category C and with the additional requirements of Section 1.17.4.4.

*Exception:* Design of participating elements of AAC masonry shall comply with the requirements of 1.17.4.3.

**1.17.4.4.1 Minimum reinforcement requirements for nonparticipating elements** — Nonparticipating masonry walls and piers, except those constructed of AAC masonry, shall be reinforced in either the horizontal or vertical direction in accordance with the following:

- (a) *Horizontal reinforcement* — Horizontal reinforcement shall comply with Section 1.17.4.3.1(a).
- (b) *Vertical reinforcement* — Vertical reinforcement shall consist of at least one No. 4 (M #13) bar spaced not more than 48 in. (1219 mm). Vertical reinforcement shall be located within 16 in. (406 mm) of the ends of masonry walls.

*Comment:* Finally, consider Chapter 5 (Empirical) of the 2008 MSJC Code. Empirical design cannot be used for design of masonry in SDC D and above. It is permitted for nonparticipating elements in SDC C. This is in conflict with Chapter 1.

**5.1.2.2 Seismic** — Empirical requirements shall not apply to the design or construction of masonry for buildings, parts of buildings or other structures in Seismic Design Categories D, E, or F as defined in ASCE 7, and shall not apply to the design of the seismic-force-resisting system for structures in Seismic Design Categories B or C.

*Bottom Line:* Chapter 1 of the 2008 MSJC Code permits design of non-participating elements by empirical design in SDC A and B, but not C. Chapter 5 of the 2008 MSJC Code permits design of non-participating elements by empirical design in SDC A, B, and C. This was not intended, and should be corrected by a change to Chapter 1.

*Comment:* This proposed ballot item corrects the inadvertent technical change from the 2005 to the 2008 MSJC Code. It does not address a conflict between the seismic provisions and the empirical provisions of the 2005 code that was continued in the 2008 code. Section 1.17.4.4 permits the empirical design of non-participating elements in SDC D, while Section 5.1.2.2 of the 2008 MSJC does not. The intent is to prohibit. The conflict will be addressed by another ballot item.

**PROPOSED CHANGE:** (Only the suggested change(s) being balloted are proposed for consideration. Supplementary text included for clarity, but not proposed for modification, is not part of this ballot item.)

**Code:**

**1.17.4.3.1 Design of nonparticipating elements** — Nonparticipating masonry elements shall comply with the requirements of Section 1.17.3.1 and Chapter 2, Chapter 3, Chapter 4, Chapter 5, or Appendix A. Nonparticipating masonry elements, except those constructed of AAC masonry, shall be reinforced in either the horizontal or vertical direction in accordance with the following:

**Code Commentary:**

NONE.

**Specification:**

NONE.

**Specification Commentary:**

NONE.

Seismic Subcommittee Ballot:

This item was discussed over a 30-minute period in the Seismic Subcommittee meeting of October 20, 2008. The meeting attendance included the following members of the 2008 MSJC Seismic Subcommittee: Tom Gangel (2008 Chair); Jason Thompson (2008 Secretary); Dan Abrams; S. K. Ghosh; and Richard Klingner. Those members agreed that the intent of the 2008 MSJC Seismic Subcommittee had never been to make a technical change, and that the change was inadvertent. The item has been circulated twice to the 2011 MSJC Seismic Subcommittee since the SLC meeting. It has received unanimous support from the Seismic Subcommittee.