

Building Code Requirements and Specification for Masonry Structures

Containing

Building Code Requirements for Masonry Structures
(TMS 402-08/ACI 530-08/ASCE 5-08)

Specification for Masonry Structures
(TMS 602-08/ACI 530.1-08/ASCE 6-08)

and Companion Commentaries



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3.3 F. Site tolerances — Erect masonry within the following tolerances from the specified dimensions.

1. Dimension of elements

- a. In cross section or elevation
 $-\frac{1}{4}$ in. (6.4 mm), $+\frac{1}{2}$ in. (12.7 mm)
- b. Mortar joint thickness
- bed..... $\pm\frac{1}{8}$ in. (3.2 mm)
- head..... $-\frac{1}{4}$ in. (6.4 mm), $+\frac{3}{8}$ in. (9.5 mm)
- collar $-\frac{1}{4}$ in. (6.4 mm), $+\frac{3}{8}$ in. (9.5 mm)
- glass unit masonry..... see Article 3.3 B.5.c
- c. Grout space or cavity width, except for masonry walls passing framed construction
 $-\frac{1}{4}$ in. (6.4 mm), $+\frac{3}{8}$ in. (9.5 mm)

2. Elements

a. Variation from level:

bed joints

- $\pm\frac{1}{4}$ in. (6.4 mm) in 10 ft (3.05 m)
- $\pm\frac{1}{2}$ in. (12.7 mm) maximum

top surface of bearing walls

- $\pm\frac{1}{4}$ in. (6.4 mm) in 10 ft (3.05 m)
- $\pm\frac{1}{2}$ in. (12.7 mm) maximum

b. Variation from plumb

- $\pm\frac{1}{4}$ in. (6.4 mm) in 10 ft (3.05 m)
- $\pm\frac{3}{8}$ in. (9.5 mm) in 20 ft (6.10 m)
- $\pm\frac{1}{2}$ in. (13 mm) maximum

c. True to a line

- $\pm\frac{1}{4}$ in. (6.4 mm) in 10 ft (3.05 m)
- $\pm\frac{3}{8}$ in. (9.5 mm) in 20 ft (6.10 m)
- $\pm\frac{1}{2}$ in. (12.7 mm) maximum

d. Alignment of columns and walls

(bottom versus top)

- $\pm\frac{1}{2}$ in. (12.7 mm) for bearing walls and columns
- $\pm\frac{3}{4}$ in. (19.1 mm) for nonbearing walls

3. Location of elements

a. Indicated in plan

- $\pm\frac{1}{2}$ in. (12.7 mm) in 20 ft (6.10 m)
- $\pm\frac{3}{4}$ in. (19.1 mm) maximum

b. Indicated in elevation

- $\pm\frac{1}{4}$ in. (6.4 mm) in story height
- $\pm\frac{3}{4}$ in. (19.1 mm) maximum

4. If the above conditions cannot be met due to previous construction, notify the Architect/ Engineer.

3.4 — Reinforcement, tie, and anchor installation

3.4 A. Basic requirements — Place reinforcement, wall ties, and anchors in accordance with the sizes, types, and locations indicated on the Project Drawings and as specified. Do not place dissimilar metals in contact with each other.

3.4 B. Reinforcement

- Support and fasten reinforcement together to prevent displacement beyond the tolerances allowed by construction loads or by placement of grout or mortar.
- Completely embed reinforcing bars in grout in accordance with Article 3.5.
- Maintain clear distance between reinforcing bars and any face of masonry unit or formed surface, but not less than $\frac{1}{4}$ in. (6.4 mm) for fine grout or $\frac{1}{2}$ in. (12.7 mm) for coarse grout.
- Splice only where indicated on the Project Drawings, unless otherwise acceptable. When splicing by welding, provide welds in conformance with the provisions of AWS D 1.4.
- Unless accepted by the Architect/Engineer, do not bend reinforcement after it is embedded in grout or mortar.
- Noncontact lap splices* — Position bars spliced by noncontact lap splice no farther apart transversely than one-fifth the specified length of lap nor more than 8 in. (203 mm)

7. Joint reinforcement

- Place joint reinforcement so that longitudinal wires are embedded in mortar with a minimum cover of $\frac{1}{2}$ in. (12.7 mm) when not exposed to weather or earth and $\frac{5}{8}$ in. (15.9 mm) when exposed to weather or earth.
- Provide minimum 6-in. (152.4-mm) lap splices for joint reinforcement.
- Ensure that all ends of longitudinal wires of joint reinforcement are embedded in mortar at laps.

8. Placement tolerances

- Tolerances for the placement of reinforcing bars in walls and flexural elements shall be $\pm\frac{1}{2}$ in. (12.7 mm) when the distance from the centerline of reinforcing bars to the opposite face of masonry, d , is equal to 8 in. (203 mm) or less, ± 1 in. (25.4 mm) for d equal to 24 in. (610 mm) or less but greater than 8 in. (203 mm), and $\pm 1\frac{1}{4}$ in. (31.8 mm) for d greater than 24 in. (610 mm).