

Building Code Requirements and Specification for Masonry Structures

Containing

Building Code Requirements for Masonry Structures
(TMS 402-11/ACI 530-11/ASCE 5-11)

Specification for Masonry Structures
(TMS 602-11/ACI 530.1-11/ASCE 6-11)

and Companion Commentaries

Developed by the Masonry Standards Joint Committee (MSJC) of



Advancing the knowledge of masonry



SPECIFICATION

COMMENTARY

3.4 B. Reinforcement (Continued)10. *Joint reinforcement*

- a. Place joint reinforcement so that longitudinal wires are embedded in mortar with a minimum cover of $1/2$ in. (12.7 mm) when not exposed to weather or earth and $5/8$ in. (15.9 mm) when exposed to weather or earth.
- b. Provide minimum 6-in. (152-mm) lap splices for joint reinforcement.
- c. Ensure that all ends of longitudinal wires of joint reinforcement are embedded in mortar at laps.

11. *Placement tolerances*

- a. Place reinforcing bars in walls and flexural elements within a tolerance of $\pm 1/2$ 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).

b. Place vertical bars within:

- 1) 2 in. (50.8 mm) of the required location along the length of the wall when the wall segment length exceeds 24 in. (610 mm).
- 2) 1 in. (25.4 mm) of the required location along the length of the wall when the wall segment length does not exceed 24 in. (610 mm)

- c. If it is necessary to move bars more than one bar diameter or a distance exceeding the tolerance stated above to avoid interference with other reinforcing steel, conduits, or embedded items, notify the Architect/Engineer for acceptance of the resulting arrangement of bars.

3.4 B.11.a. Ways to measure d distance in various common masonry elements are shown in Figures SC-9 through SC-11^{3,4}. The maximum permissible tolerance for placement of reinforcement in a wall, beam, and column is based on the d dimension of that element.

In masonry walls, the d dimension is measured perpendicular to the length of the wall and is defined in the Specification as the distance from the center of the reinforcing bar to the compression face of masonry. The distance, d , to the compression face is normally the larger distance when reinforcing bars are offset from the center of the wall, as shown in Figure SC-9.

The d dimension in masonry columns will establish the maximum allowable tolerance for placement of the vertical reinforcement. As shown in Figure SC-10, two dimensions for each vertical bar must be considered to establish the allowable tolerance for placement of the vertical reinforcement in each primary direction.

The d dimension in a masonry beam will establish the maximum allowable tolerance for placement of the horizontal reinforcement within the depth of the beam. As shown in Figure SC-11, the distance to the top of beam is used to establish the allowable tolerance for placement of the reinforcement.

b The tolerance for placement of vertical reinforcing bars along the length of the wall is shown in Figure SC-9. As shown, the allowable tolerance is ± 2 in., except for wall segments not exceeding 24 in. where the allowable tolerance is decreased to ± 1 inch. This tolerance applies to each reinforcing bar relative to the specified location in the wall. An accumulation of tolerances could result in bar placement that interferes with cross webs in hollow masonry units.