



DSA Structural Amendments under review are highlighted in GRAY

Template 21-34

2001 CBC - Chapter 21A
MASONRY

Section - 2108A - STRENGTH DESIGN OF MASONRY

Subsection(s) - 2108A.1.5.2 -2108A.2.5.6

1 **2108A.1.5 Anchor bolts.**

2 ● ● ● ●

3
4 **2108A.1.5.2 Nominal anchor bolt strength.** The nominal
5 strength of anchor bolts times the strength-reduction factor shall
6 equal or exceed the required strength.

7 ● ● ● ●

8
9 Where the anchor bolt edge distance, l_{be} , in the direction of load
10 is less than 12 bolt diameters, the value of B_m in Formula (8A-9)
11 shall be reduced by linear interpolation to zero at an l_{be} distance
12 *equal to the greater of four diameters or 1-1/2 inches (38 mm).*

13
14 Anchor bolts subjected to combined shear and tension shall be
15 designed in accordance with Formula (8A-11).

$$\frac{b_{Tm}}{\phi B_{Tm}} + \frac{b_{Sm}}{\phi B_{Sm}} \leq 1.0 \quad (8A-11)$$

16
17
18
19
20 ● ● ● ●

21
22 **2108A.2 Reinforced Masonry.**

23 ● ● ● ●

24
25 **2108A.2.3 Design of beams, piers and columns.**

26 ● ● ● ●

27

28 **2108A.2.3.3 Balanced reinforcement ratio for compression**

29 **limit state.** Calculation of the balanced reinforcement ratio, ρ_b ,
30 shall be based on the following assumptions:

31

32 1. The distribution of strain across the section shall be assumed
33 to vary linearly from the maximum usable strain, e_{mu} , at the
34 extreme compression fiber of the element, to a yield strain of f_y/E_s
35 at the extreme tension fiber of the element.

36

37 2. Compression forces shall be in equilibrium with the sum of
38 tension forces in the reinforcement and the maximum axial load
39 associated with a loading combination $1.0D + 1.0L + (1.0E$ or
40 $1.3W)$.

41 ● ● ● ●

42

43 **2108A.2.3.9 Dimensional limits.** Dimensions shall be in accor-
44 dance with the following:

45 ● ● ● ●

46

47 **3. Columns.**

48

49 3.1 The nominal width of a column shall not be less than
50 12 inches (305 mm).

51

52 3.2 The distance between lateral supports of a column shall
53 not exceed **20** times the nominal width of the column.

54

55 3.3 The nominal length of a column shall not be less than
56 12 inches (305 mm) and not greater than three times the
57 nominal width of the column.

58 ● ● ● ●

59

60 **2108A.2.4 Wall design for out-of-plane loads.**

61 ● ● ● ●

62

63 **2108A.2.4.4 Walls with axial load of $0.04f'_m$ or less.** The pro-
64 cedures set forth in this section, which consider the slenderness of
65 walls by representing effects of axial forces and deflection in cal-
66 culation of moments, *may* be used when the vertical load stress at
67 the location of maximum moment does not exceed $0.04f'_m$ as
68 computed by Formula (8A-19). The value of f'_m shall not exceed
69 **2,500 psi (17.24 MPa).**

$$\frac{P_w + P_f}{A_g} \leq 0.04f'_m \quad (8A-19)$$

73 Walls shall have a minimum nominal thickness of **8 inches**
74 **(203 mm).** *The height-to-thickness ratio set forth in Section*
75 *2106A.2.3.3 and Table 21A-R shall not apply.*

76 ● ● ● ●

77

78 **2108A.2.5 Wall design for in-plane loads.**

79 ● ● ● ●

80

81 **2108A.2.5.6 Boundary members.** Boundary members shall be
82 as follows:

83

84 1. Boundary members shall be provided at the boundaries of
85 shear walls when the compressive strains in the wall exceed
86 0.0015. The strain shall be determined using factored forces and R
87 equal to 1.0.

88 ● ● ● ●