

CODE

- (a) Influence of climatic conditions
- (b) Selection and proportioning of materials
- (c) Mixing, placing, and curing of concrete
- (d) Degree of restraint to movement
- (e) Stresses due to loads to which an element is subjected
- (f) Construction techniques

14.4—Required strength**14.4.1 General**

14.4.1.1 Required strength shall be calculated in accordance with the factored load combinations defined in [Chapter 5](#).

14.4.1.2 Required strength shall be calculated in accordance with the analysis procedures in [Chapter 6](#).

14.4.1.3 No flexural continuity due to tension shall be assumed between adjacent structural plain concrete elements.

14.4.2 Walls

14.4.2.1 Walls shall be designed for an eccentricity corresponding to the maximum moment that can accompany the axial load but not less than $0.10h$, where h is the wall thickness.

14.4.3 Footings**14.4.3.1 General**

14.4.3.1.1 For footings supporting circular or regular polygon-shaped concrete columns or pedestals, it shall be permitted to assume a square section of equivalent area for determining critical sections.

14.4.3.2 Factored moment

14.4.3.2.1 The critical section for M_u shall be located in accordance with Table 14.4.3.2.1.

Table 14.4.3.2.1—Location of critical section for M_u

Supported member	Location of critical section
Column or pedestal	Face of column or pedestal
Column with steel base plate	Halfway between face of column and edge of steel base plate
Concrete wall	Face of wall
Masonry wall	Halfway between center and face of masonry wall

COMMENTARY

R14.4—Required strength**R14.4.1 General**

R14.4.1.1 Plain concrete members are proportioned for adequate strength using factored loads and forces. When the design strength is exceeded, the cross section should be increased or the specified strength of concrete increased, or both, or the member designed as a reinforced concrete member in accordance with the Code. An increase in concrete section may have a detrimental effect; stress due to load will decrease but stresses due to creep, shrinkage, and temperature effects may increase.