

CODE

COMMENTARY

8.7.1.4 Bundled bars shall be detailed in accordance with **25.6**.

8.7.2 Flexural reinforcement spacing

8.7.2.1 Minimum spacing s shall be in accordance with **25.2**.

8.7.2.2 For nonprestressed solid slabs, maximum spacing s of deformed longitudinal reinforcement shall be the lesser of **2h** and 450 mm at critical sections, and the lesser of **3h** and 450 mm at other sections.

8.7.2.3 For prestressed slabs with uniformly distributed loads, maximum spacing s of tendons or groups of tendons in at least one direction shall be the lesser of **8h** and 1.5 m.

8.7.2.4 Concentrated loads and openings shall be considered in determining tendon spacing.

8.7.3 Corner restraint in slabs

8.7.3.1 At exterior corners of slabs supported by edge walls or where one or more edge beams have a value of α_f greater than 1.0, reinforcement at top and bottom of slab shall be designed to resist M_u per unit width due to corner effects equal to the maximum positive M_u per unit width in the slab panel.

8.7.3.1.1 Factored moment due to corner effects, M_u , shall be assumed to be about an axis perpendicular to the diagonal from the corner in the top of the slab and about an axis parallel to the diagonal from the corner in the bottom of the slab.

8.7.3.1.2 Reinforcement shall be provided for a distance in each direction from the corner equal to one-fifth the longer span.

8.7.3.1.3 Reinforcement shall be placed parallel to the diagonal in the top of the slab and perpendicular to the diagonal in the bottom of the slab. Alternatively, reinforcement shall be placed in two layers parallel to the sides of the slab in both the top and bottom of the slab.

R8.7.2 Flexural reinforcement spacing

R8.7.2.2 The requirement that the center-to-center spacing of the reinforcement be not more than two times the slab thickness applies only to the reinforcement in solid slabs, and not to reinforcement in joists or waffle slabs. This limitation is to ensure slab action, control cracking, and provide for the possibility of loads concentrated on small areas of the slab. Refer also to **R24.3**.

R8.7.2.3 This section provides specific guidance concerning tendon distribution that will permit the use of banded tendon distributions in one direction. This method of tendon distribution has been shown to provide satisfactory performance by structural research (**Burns and Hemakom 1977**).

R8.7.3 Corner restraint in slabs

R8.7.3.1 Unrestrained corners of two-way slabs tend to lift when loaded. If this lifting tendency is restrained by edge walls or beams, bending moments result in the slab. This section requires reinforcement to resist these moments and control cracking. Reinforcement provided for flexure in the primary directions may be used to satisfy this requirement. Refer to Fig. R8.7.3.1.