

## CODE

**7.7.1.3** Splices of deformed reinforcement shall be in accordance with **25.5**.

**7.7.1.4** Bundled bars shall be in accordance with **25.6**.

#### **7.7.2 Reinforcement spacing**

**7.7.2.1** Minimum spacing  $s$  shall be in accordance with **25.2**.

**7.7.2.2** For nonprestressed and Class C prestressed slabs, spacing of bonded longitudinal reinforcement closest to the tension face shall not exceed  $s$  given in **24.3**.

**7.7.2.3** For nonprestressed and Class T and C prestressed slabs with unbonded tendons, maximum spacing  $s$  of deformed longitudinal reinforcement shall be the lesser of **3h** and 450 mm.

**7.7.2.4** Maximum spacing,  $s$ , of reinforcement required by **7.5.2.3** shall be the lesser of **5h** and 450 mm.

#### **7.7.3 Flexural reinforcement in nonprestressed slabs**

**7.7.3.1** Calculated tensile or compressive force in reinforcement at each section of the slab shall be developed on each side of that section.

**7.7.3.2** Critical locations for development of reinforcement are points of maximum stress and points along the span where bent or terminated tension reinforcement is no longer required to resist flexure.

**7.7.3.3** Reinforcement shall extend beyond the point at which it is no longer required to resist flexure for a distance at least the greater of  $d$  and **12d<sub>b</sub>**, except at supports of simply-supported spans and at free ends of cantilevers.

**7.7.3.4** Continuing flexural tension reinforcement shall have an embedment length at least  $\ell_d$  beyond the point where bent or terminated tension reinforcement is no longer required to resist flexure.

**7.7.3.5** Flexural tension reinforcement shall not be terminated in a tension zone unless (a), (b), or (c) is satisfied:

- (a)  $V_u \leq (2/3)\phi V_n$  at the cutoff point.
- (b) For No. 36 bars and smaller, continuing reinforcement provides double the area required for flexure at the cutoff point and  $V_u \leq (3/4)\phi V_n$ .
- (c) Stirrup area in excess of that required for shear is provided along each terminated bar or wire over a distance

## COMMENTARY

#### **R7.7.2 Reinforcement spacing**

**R7.7.2.3** Editions of ACI 318 prior to 2019 excluded the provisions of **7.7.2.3** for prestressed concrete. However, Class T and C slabs prestressed with unbonded tendons rely solely on deformed reinforcement for crack control. Consequently, the requirements of **7.7.2.3** have been extended to apply to Class T and C slabs prestressed with unbonded tendons.

**R7.7.2.4** The spacing limitations for slab reinforcement are based on flange thickness, which for tapered flanges can be taken as the average thickness.

#### **R7.7.3 Flexural reinforcement in nonprestressed slabs**

Requirements for development of reinforcement in one-way slabs are similar to those for beams. Refer to **R9.7.3** for additional information.