CODE

COMMENTARY

For practical reasons, anchor reinforcement is only used for cast-in anchor applications.

(a) Care needs to be taken in the selection and positioning of anchor reinforcement for tension. Ideally tension anchor reinforcement should consist of stirrups, ties, or hairpins placed as close as practicable to the anchor. It is beneficial for the anchor reinforcement to enclose the surface reinforcement where applicable. Anchor reinforcement spaced less than $\mathbf{0.5}h_{ef}$ from the anchor centerline may be considered as effective. The research (Eligehausen et al. 2006b) on which these provisions are based was limited to anchor reinforcement with maximum diameter equivalent to a No. 16 bar.

(b) To ensure development of anchor reinforcement for shear, the enclosing anchor reinforcement shown in Fig. R17.5.2.1(b)(i) should be in contact with the anchor and placed as close as practicable to the concrete surface. The research (Eligehausen et al. 2006b) on which the provisions for enclosing reinforcement are based was limited to anchor reinforcement with maximum diameter equivalent to a No. 16 bar. The larger bend radii associated with larger bar diameters may significantly reduce the effectiveness of the anchor reinforcement for shear; therefore, anchor reinforcement larger than a No. 19 bar is not recommended. Because development for full f_y is required, the use of excess reinforcement to reduce development length is not permitted for anchor reinforcement.

The anchor reinforcement for shear may also consist of stirrups, ties, hoops, or hairpins enclosing the edge reinforcement embedded in the breakout volume and placed as close to the anchors as practicable (refer to Fig. R17.5.2.1b(ii)). Generally, reinforcement spaced less than the smaller of $\mathbf{0.5}c_{a1}$ and $\mathbf{0.3}c_{a2}$ from the anchor centerline should be included as anchor reinforcement. In this case, the anchor reinforcement must be developed on both sides of the breakout surface. For equilibrium, edge reinforcement is required. The research on which these provisions are based was limited to anchor reinforcement with maximum diameter equivalent to a No. 19 bar.