CODE

9.9.4.2 Minimum spacing for longitudinal reinforcement shall be in accordance with 25.2.

9.9.4.3 Spacing of distributed reinforcement required in 9.9.3.1 shall not exceed the lesser of ***d*/5** and 300 mm.

9.9.4.4 Development of tension reinforcement shall account for distribution of stress in reinforcement that is not directly proportional to the bending moment.

9.9.4.5 At simple supports, positive moment tension reinforcement shall be anchored to develop f_y at the face of the support. If a deep beam is designed using Chapter 23, the positive moment tension reinforcement shall be anchored in accordance with 23.8.2 and 23.8.3.

9.9.4.6 At interior supports, (a) and (b) shall be satisfied:
(a) Negative moment tension reinforcement shall be continuous with that of the adjacent spans.
(b) Positive moment tension reinforcement shall be continuous or spliced with that of the adjacent spans.

COMMENTARY

R9.9.4.4 In deep beams, the stress in the longitudinal reinforcement is more uniform along the length than that of a beam or region that is not deep. High reinforcement stresses normally limited to the center region of a typical beam can extend to the supports in deep beams. Thus, the ends of longitudinal reinforcement may require positive anchorage in the form of standard hooks, bar heads, or other mechanical anchorage at supports.

R9.9.4.5 The use of the strut-and-tie method for the design of deep beams illustrates that tensile forces in the bottom tie reinforcement need to be anchored at the face of the support. From this consideration, tie reinforcement should be continuous or developed at the face of the support (Rogowsky and MacGregor 1986).