CODE COMMENTARY

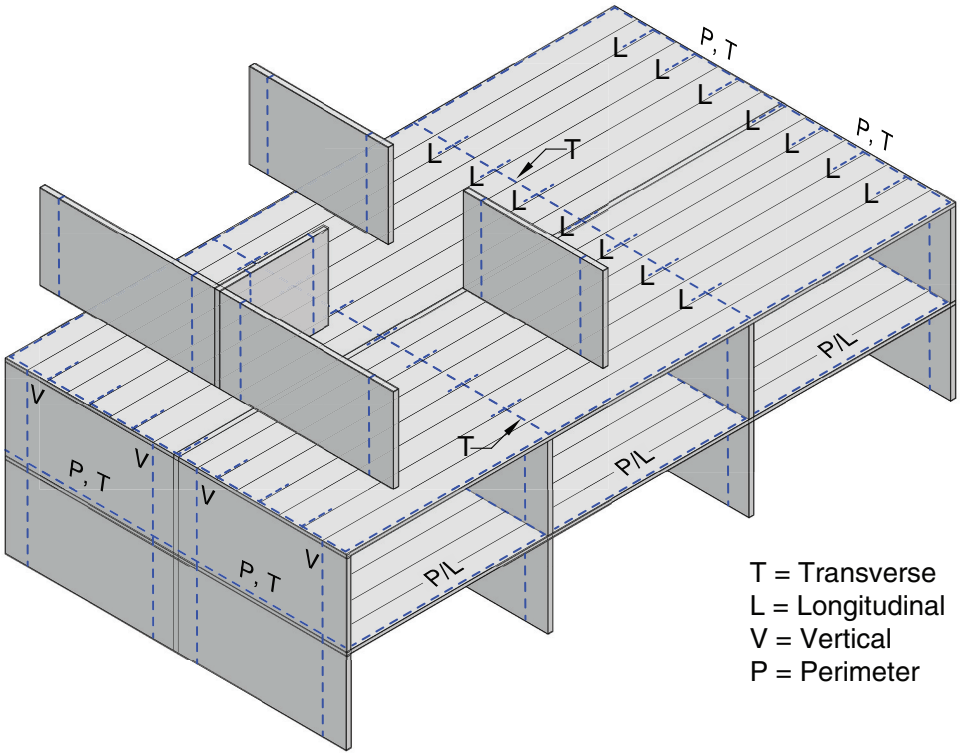

***Fig. R16.2.5**—Typical arrangement of integrity ties in large panel structures.*

16.2.5.1 Integrity ties in floor and roof systems shall satisfy (a) through (f):

(a) Longitudinal and transverse integrity ties shall be provided in floor and roof systems to provide a nominal tensile strength of at least 22 kN per meter of width or length.

(b) Longitudinal and transverse integrity ties shall be provided over interior wall supports and between the floor or roof system and exterior walls.

(c) Longitudinal and transverse integrity ties shall be positioned in or within 600 mm of the plane of the floor or roof system.

(d) Longitudinal integrity ties shall be oriented parallel to floor or roof slab spans and shall be spaced not greater than 3 m on center. Provisions shall be made to transfer forces around openings.

(e) Transverse integrity ties shall be oriented perpendicular to floor or roof slab spans and shall be spaced not greater than the bearing wall spacing.

(f) Integrity ties at the perimeter of each floor and roof, within 1.2 m of the edge, shall provide a nominal tensile strength of at least 71 kN.

R16.2.5.1(a) Longitudinal integrity ties may project from slabs and be lap spliced, welded, mechanically connected, or embedded in grout joints with sufficient length and cover to develop the required force. Bond length for non-tensioned prestressing reinforcement, if used, should be sufficient to develop the yield strength (Salmons and McCrate 1977; PCA 1980).

R16.2.5.1(c) It is not uncommon to have integrity ties positioned in the walls reasonably close to the plane of the floor or roof system.

R16.2.5.1(e) Transverse integrity ties may be uniformly spaced and either encased in the panels or in a topping, or they may be concentrated at the transverse bearing walls.

R16.2.5.1(f) The perimeter integrity tie requirements need not be additive with the longitudinal and transverse integrity tie requirements.