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CODE

12.7.2.2 Maximum spacing s of deformed reinforcement shall be the lesser of five times the diaphragm thickness and 450 mm.

12.7.3 *Diaphragm and collector reinforcement*

12.7.3.1 Except for slabs-on-ground, diaphragms that are part of floor or roof construction shall satisfy reinforcement detailing of one-way slabs in accordance with 7.7 or two-way slabs in accordance with 8.7, as applicable.

12.7.3.2 Calculated tensile or compressive force in reinforcement at each section of the diaphragm or collector shall be developed on each side of that section.

12.7.3.3 Reinforcement provided to resist tension shall extend beyond the point at which it is no longer required to resist tension at least ℓ_d, except at diaphragm edges and at expansion joints.

COMMENTARY

R12.7.3 *Diaphragm and collector reinforcement*

R12.7.3.2 Critical sections for development of reinforcement generally are at points of maximum stress, at points where adjacent terminated reinforcement is no longer required to resist design forces, and at other points of discontinuity in the diaphragm.

R12.7.3.3 For a beam, the Code requires flexural reinforcement to extend the greater of d and $12d_b$ past points where it is no longer required for flexure. These extensions are important for a beam to protect against development or shear failure that could result from inaccuracies in calculated locations of tensile stress. Similar failures in diaphragms have not been reported. To simplify design and avoid excessively long bar extensions that could result if the beam provisions were applied to diaphragms, this provision only requires that tension reinforcement extend ℓ_d beyond points where it is no longer required to resist tension.

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