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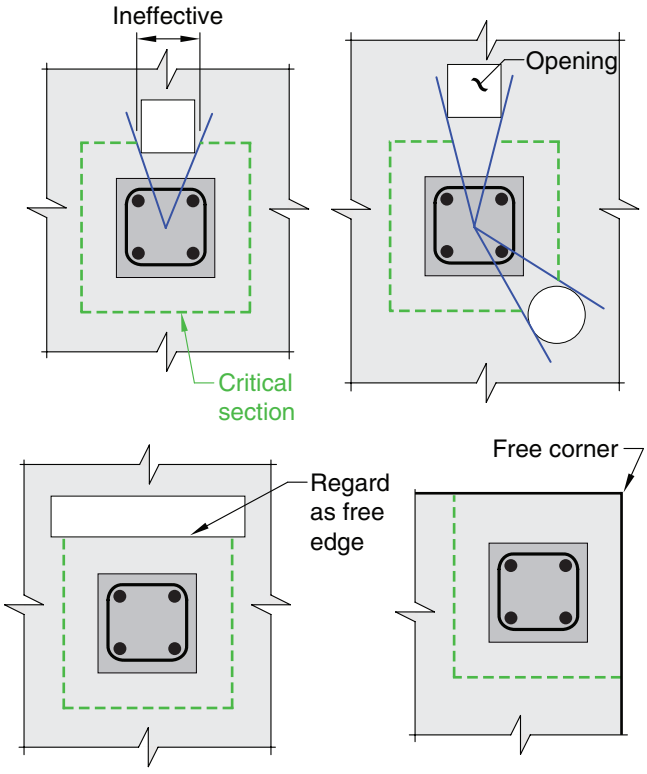
CODE

COMMENTARY



Note: Openings shown are located within 4***h*** of the column periphery.

Fig. R22.6.4.3*—Effect of openings and free edges (effective perimeter shown with dashed lines).*

22.6.5 *Two-way shear strength provided by concrete in members without shear reinforcement*

22.6.5.1 For nonprestressed two-way members, v_c shall be calculated in accordance with 22.6.5.2. For prestressed two-way members, v_c shall be calculated in accordance with (a) or (b):

(a) 22.6.5.2

(b) 22.6.5.5, if the conditions of 22.6.5.4 are satisfied

22.6.5.2 v_c shall be calculated in accordance with Table 22.6.5.2.

R22.6.5 *Two-way shear strength provided by concrete in members without shear reinforcement*

R22.6.5.2 Experimental evidence indicates that the measured concrete shear strength of two-way members without shear reinforcement does not increase in direct proportion with member depth. This phenomenon is referred to as the "size effect." The modification factor λ_s accounts for the dependence of two-way shear strength of slabs on effective depth.

For nonprestressed two-way slabs without a minimum amount of shear reinforcement and with $d > 250$ mm, the size effect specified in 22.5.5.1.3 reduces the shear strength of two-way slabs below $0.33\sqrt{f'_c}\,b_o d$ (Hawkins and Ospina 2017; Dönmez and Bažant 2017).

For square columns, the stress corresponding to the nominal two-way shear strength provided by concrete in

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