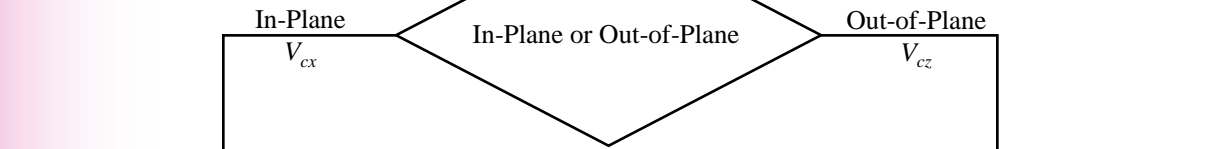


Flow Chart for Determining Wall Shear Strength Provided by Concrete, V_c

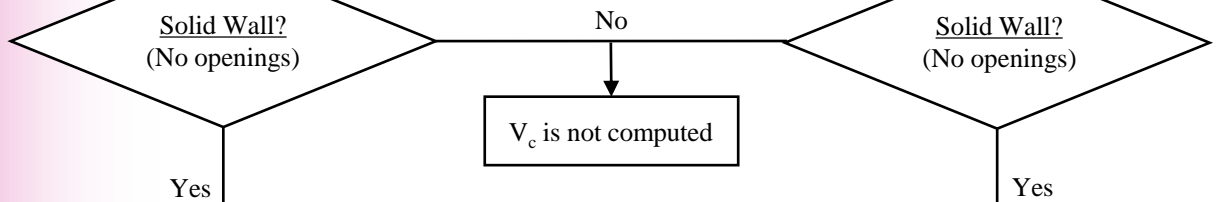


Wall Shear Strength Provided by Concrete, V_{cx} or V_{cz}

Type of Loading

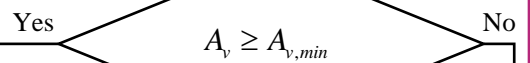


Opening Consideration



$$V_{cx} = (\alpha_c \lambda \sqrt{f'_c}) A_{cv} \quad \text{Eq. 11.5.4.3}^*$$

* 1st component (concrete contribution) of Equation 11.5.4.3



$$V_c = \text{Either of } \begin{cases} V_{cz} = \left(2\lambda \sqrt{f'_c} + \frac{N_u}{6A_g} \right) b_w d \geq 0 & \text{Table 22.5.5.1(a)**} \\ V_{cz} = \left(8\lambda (\rho_w)^{1/3} \sqrt{f'_c} + \frac{N_u}{6A_g} \right) b_w d \geq 0 & \text{Table 22.5.5.1(b)**} \end{cases}$$

Where Axial Load, N_u is positive for compression and negative for tension

** $\sqrt{f'_c} \leq 100$ psi ACI 318-19 (22.5.3.1)

$$V_{cz} = \left(8\lambda_s \lambda (\rho_w)^{1/3} \sqrt{f'_c} + \frac{N_u}{6A_g} \right) b_w d \geq 0 \quad \text{Table 22.5.5.1(c)**}$$

Where Axial Load, N_u is positive for compression and negative for tension

** $\sqrt{f'_c} \leq 100$ psi ACI 318-19 (22.5.3.1)

Wall Shear Strength provided by Concrete