

1605.2 Load combinations using strength design or load and resistance factor design.

1605.2.1 Basic load combinations. Where strength design or *load and resistance factor design* is used, structures and portions thereof shall resist the most critical effects from the following combinations of factored loads:

$$1.4(D + F) \quad (\text{Equation 16-1})$$

$$1.2(D + F + T) + 1.6(L + H) + 0.5(L_r \text{ or } R) \quad (\text{Equation 16-2})$$

$$1.2D + 1.6(L_r \text{ or } R) + (f_1 L \text{ or } 0.8W) \quad (\text{Equation 16-3})$$

$$1.2D + 1.6W + f_1 L + 0.5(L_r \text{ or } R) \quad (\text{Equation 16-4})$$

$$1.2D + 1.0E + f_1 L \quad (\text{Equation 16-5})$$

$$0.9D + 1.6W + 1.6H \quad (\text{Equation 16-6})$$

$$0.9D + 1.0E + 1.6H \quad (\text{Equation 16-7})$$

where:

$$\begin{aligned} f_1 &= 1 \text{ for floors in places of public assembly, for live loads in excess of 100} \\ &\quad \text{pounds per square foot (4.79 kN/m}^2\text{), and for parking garage live load, and} \\ &= 0.5 \text{ for other live loads.} \end{aligned}$$

Exception: Where other factored load combinations are specifically required by the provisions of this code, such combinations shall take precedence.

1605.2.2 Flood loads. Where flood loads, F_a , are to be considered in the design, the load combinations of Section 2.3.3 of ASCE 7 shall be used.

1605.3 Load combinations using allowable stress design.

1605.3.1 Basic load combinations. Where *allowable stress design* (working stress design), as permitted by this code, is used, structures and portions thereof shall resist the most critical effects resulting from the following combinations of loads:

$$D + F \quad (\text{Equation 16-8})$$

$$D + H + F + L + T \quad (\text{Equation 16-9})$$

$$D + H + F + (L_r \text{ or } R) \quad (\text{Equation 16-10})$$

$$D + H + F + 0.75(L + T) + 0.75(L_r \text{ or } R) \quad (\text{Equation 16-11})$$

$$D + H + F + (W \text{ or } 0.7E) \quad (\text{Equation 16-12})$$

$$D + H + F + 0.75(W \text{ or } 0.7E) + 0.75L + 0.75(L_r \text{ or } R) \quad (\text{Equation 16-13})$$

$$0.6D + W + H \quad (\text{Equation 16-14})$$