

CHAPTER 16 STRUCTURAL DESIGN

SECTION 1605.3.2 IBC Interpretation No. 30-05 2000 Edition Issued: 08-19-05

1605.3.2 Alternative basic load combinations. In lieu of the basic load combinations specified in Section 1605.3.1, structures and portions thereof shall be permitted to be designed for the most critical effects resulting from the following combinations. When using these alternate basic load combinations that include wind or seismic loads, allowable stresses are permitted to be increased or load combinations reduced, where permitted by the material section of this code or referenced standard. Where wind loads are calculated in accordance with Section 1609.6 or ASCE 7, the coefficient ω in the following formulas shall be taken as 1.3. For other wind loads ω shall be taken as 1.0.

$D + L + (L_r \text{ or } S \text{ or } R)$ **(Formula 16-13)**

$D + L + (\omega W)$ **(Formula 16-14)**

$D + L + \omega W + S/2$ **(Formula 16-15)**

$D + L + S + \omega W/2$ **(Formula 16-16)**

$D + L + S + E/1.4$ **(Formula 16-17)**

$0.9D + E/1.4$ **(Formula 16-18)**

Exceptions:

1. Crane hook loads need not be combined with roof live load or with more than three-fourths of the snow load or one-half of the wind load.
2. Flat roof snow loads of 30 pounds per square foot (1.44 kN/m²) or less need not be combined with seismic loads. Where flat roof snow loads exceed 30 pounds per square foot (1.44 kN/m²), 20 percent shall be combined with seismic loads.



Q: Does Exception 2 to Section 1605.3.2 apply to Formula 16-18 even though this load combination does not include the snow term?

A: No. This is an exception to the requirement to combine the effects of snow loads and earthquake loads as would otherwise be required by Formula 16-17.
