Structural Design Required Minimum Load Assumptions and Data

Structural Design Load Minimum Requirements IBC 2018

a- Floor live loads. (Section 1603.1.1)

b- Any special additional superimposed dead load if applicable.

c- Roof live loads. (Section 1603.1.2). Minimum roof live load is **30 psf. (County amendment)**

d- Snow Loads: (Section 1603.1.3)

  - Ground snow load (Pg) Minimum ground snow load shall be **30 psf (County amendment)**
  - Minimum flat roof snow load (Pf), if applicable. If none specified, Pf will be calculated per ASCE 7/IBC. Calculated as per ASCE 7-16- based on the risk category.
  - Minimum sloped roof snow load (Ps), if applicable. If none specified, Ps will be calculated per ASCE 7/IBC. Calculated as per ASCE 7-16.
  - List all assumed coefficients utilized for the calculation of the flat /slope roof snow load
    - Snow exposure factor, Ce; Snow importance factor, Is.; Thermal factor, Ct.; Drift surcharge loads(s), Pd, where the sum of Pd and Pf exceeds 20psf.; Width of snow drift(s), w.

e- Wind Loads: (Section 1603.1.4)

Based on the risk category verification by SER V and Vasd values required by County are as follows;

- Risk Category I: V=105 mph; Vasd=82 mph
- Risk Category II: V=115 mph; Vasd=89 mph
- Risk Category III : V=120 mph; Vasd=93 mph
- Risk Category IV: V=125 mph; Vasd=97 mph

Additional to the assumed wind speed following information shall be shown on structural notes;

  - Internal pressure coefficient
  - Exposure category
  - Minimum and maximum design wind pressure for component and cladding.
  - Importance factor based on the selected risk category as per **ASCE 7-16, table 1.5-2.**
  - For roof types (Monoslope, pitched or troughed) verified information on the notes and provide required wind load reference table for the manufacturer.

f- Earthquake Design Data: (Section 1603.1.5)

Parameters and coefficients required to be shown on drawings:

  - Risk category
  - Seismic importance factor (Ie).
Mapped spectral response accelerations $S_s$ and $S_1$. Spectral response accelerations for short period and one second shall be $S_s=13.5\%$ and $S_1=4.3\%$. (County amendment)

- Site class.
- Design spectral response acceleration parameters, $S_{ds}$ and $S_{d1}$.
- Seismic design category.
- Basic seismic force-resisting system(s).
- Design base shear(s).
- Seismic response coefficient(s), $C_s$.
- Response modification factor(s), $R$.
- Analysis procedure used.