

Building Loads

Dead Load, D

Material	γ [pcf]
Concrete	150
Spruce-Pine-Fir	32
Structural Steel	490

Component	γ_A [psf]
External 2x6 Wall	10
Internal 2x4 Wall	6
Existing External 2x6 Wall	46.7
Internal Floor Slab	20
Roof Slab - Existing Area	20
Roof Slab - Mezzanine	25
Roof Slab - Service area	20

Live Load, L and Lr

Occupancy or Use	Uniform [psf]	Concentrated [lb]
Office Buildings - Offices	80	2,000
Office Buildings - Lobbies	100	2,000
Roof - Ordinary, flat, pitched, or curved unoccupied roofs	20	300

Snow, S

- Ground Snow Load: $p_g = 30$ psf
- $p_f = 30$ psf
- $p_s = 30$ psf

Wind, W

- Wind Speed: $V_{ult} = 115$ Vmph
- $q_z = 0.00256 V_{ult}^2 K_z K_{zt} K_d$
- $q_z = 0.00256 \cdot 115^2 \cdot 0.7 \cdot 1.0 \cdot 0.85 = 20$ psf
- $q_{ASD} = 0.6 q_z = 12$ psf

Earthquake, E

Parameter	Value
Geotechnical Report No.	N/A - assuming min. soil bearing
Site Class	D
Mapped Spectral Accelerations (S_S, S_1)	0.11, 0.06
Design Spectral Accelerations (S_{DS}, S_{D1})	0.099, 0.086
Seismic Design Category (SDC)	B
Design Base Shear	9.9/6.5 ~ 2% of Seismic Weight