



Certificate of Design Application

From Designer: 04.10.14

Date: 04.10.14

Job Name: Evolution Rock + Fitness, Portland

Address of Construction: 65 Warren Ave. Portland, ME

2009 International Building Code

Construction project was designed to the building code criteria listed below:

Building Code & Year IBC 2009 Use Group Classification (s) Assembly Type A3

Type of Construction Type IIB - with approved automatic sprinkler sy

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2009 IBC yes

Is the Structure mixed use? no If yes, separated or non separated or non separated (section 302.3) _____

Supervisory alarm System? no Geotechnical/Soils report required? (See Section 1802.2) included in application

Structural Design Calculations

By ESSIE Submitted for all structural members (106.1 - 106.11)

MUL. BLDGS

Design Loads on Construction Documents (1603)

Uniformly distributed floor live loads (7603.11, 1807)

Floor Area Use	Loads Shown
<u>Assembly</u>	<u>100 PSF</u>

N/A Live load reduction

N/A Roof live loads (1603.1.2, 1607.11)

49 PSF Roof snow loads (1603.7.3, 1608)

60 PSF Ground snow load, P_g (1608.2)

49 If $P_g > 10$ psf, flat-roof snow load P_f

1.0 If $P_g > 10$ psf, snow exposure factor, C_e

1.0 If $P_g > 10$ psf, snow load importance factor, I_s

Roof thermal factor, C_t (1608.4)

49 Sloped roof snowload, P_s (1608.4)

Wind loads (1603.1.4, 1609)

ASCE METH I Design option utilized (1609.1.1, 1609.6)

100 MPH Basic wind speed (1809.3)

II, 1.0 Building category and wind importance Factor, I_w table 1604.5, 1609.5)

C Wind exposure category (1609.4)

+/- 0.18 Internal pressure coefficient (ASCE 7)

22.2 PSF Component and cladding pressures (1609.1.1, 1609.6.2.2)

15.2 PSF Main force wind pressures (7603.1.1, 1609.6.2.1)

C Seismic design category (1616.3)

STEEL MOMENT Basic seismic force resisting system (1617.6.2)

3, 3 Response modification coefficient, R and deflection amplification factor C_d (1617.6.2)

EQUIV. LATERAL Analysis procedure (1616.6, 1617.5)

30 K Design base shear (1617.4, 1617.5.1)

Earth design data (1603.1.5, 1614-1623)

ASCE 12.8 Design option utilized (1614.1)

C Seismic use group ("Category")

0.33, 0.19 Spectral response coefficients, S_D & S_{D1} (1615.1)

D Site class (1615.1.5)

Flood loads (1803.1.6, 1612)

Flood Hazard area (1612.3)

Elevation of structure

Other loads

Concentrated loads (1607.4)

Partition loads (1607.5)

Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)