CONTENTS

SECTION

1 GENERAL

1.1 This design standard specifies the minimum loading to be used in the design of buildings, equipment, structures and their foundations

1.2 All designs are to be carried out using Units (kg, m, cm, mm).

2 REFERENCES

Design Loads shall be in accordance with the latest revisions at the time of contract award and amendments of the following Standards and Codes of Practice. Where conflicts exist between Standards and Codes of Practice, the more stringent shall govern.

2.1 National/International Codes

AISC	American Institute of Steel Construction (AISC 1989 / ASD & LRFD)
	Fy = 2400 ksc (yield strength steel)
IBC 2006/2009	International building code
ASCE 7-2005	American Society of Civil Engineers Minimum Design Loads for Buildings and Other Structures

3 DEAD LOADS

3.1 Buildings

The following dead loads shall be included in the design of Buildings:

3.1 Self-weight of structural elements.

- Framing, walls, floors, roofs, suspended ceilings, finishes,

3.2 Equipment Loads Zone 1 ; 8,000 / (0.665 X 7.557) = 1,591 Ground Floor - 1,591 kg/m2

3.3 Equipment Loads Zone 2 ; 347.5 / (1.06 X 0.60) = 547 Ground Floor - 547 kg/m2

3.4 Equipment Loads Zone 3 ; 400 / (1.06 X 0.60) = 629 Ground Floor - 629 kg/m2

3.5 Equipment Loads Zone 4 ; 500 / (0.85 X 0.85) = 692 Ground Floor - 692 kg/m2

3.6 Equipment Loads Zone 5 ; 800 / (0.85 X 0.85) = 1,107 Ground Floor - 1,107 kg/m2

3.7 Equipment Loads Zone 6 ; 800 / (0.85 X 0.85) = 1,107 Ground Floor - 1,107 kg/m2

3.8 Roofs and Access Areas

Sheeted roofs with access for maintenance only - 30 kg/m2

4 LIVE LOAD

4.1 Genral Loads Zone Ground Floor - 300 kg/m2

4.2 Roofs and Access Areas

Sheeted roofs with access for maintenance only - 50 kg/m2

5 WIND LOAD

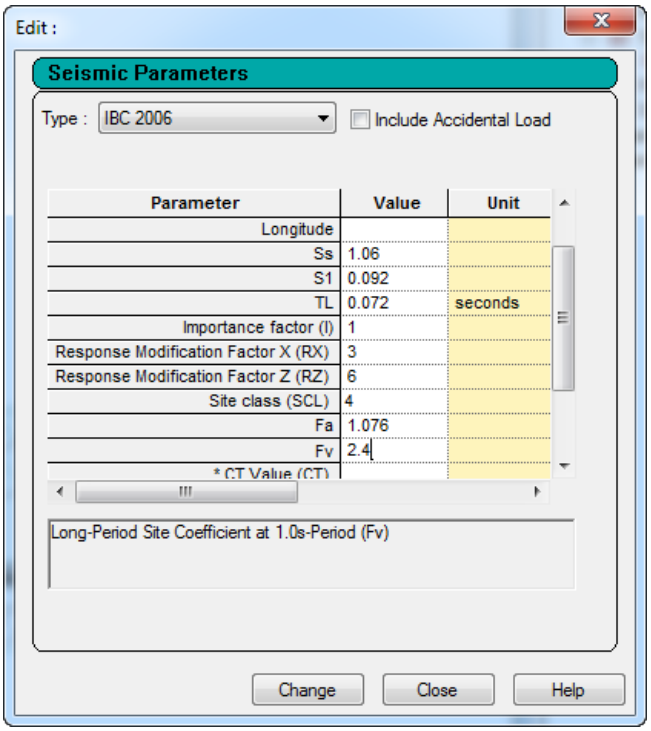
5.1 Wind Loads For Simple case; wind speed 40 m/s (144 km/h) - 100 kg/m2

6 SEISMIC LOAD

6.1 Zone V (Moderate seismic) in Mercalli Intensity Scale Ss = 1.06 , S1 = 0.092

Instrumental Intensity	Acceleration (g)	Velocity (cm/s)	Perceived Shaking	Potential Damage
I	< 0,0017	< 0,1	Not Felt	None
II – III	0,0017 – 0,014	0,1 – 1,1	Weak	None
IV	0,014 – 0,039	1,1 – 3,4	Light	None
V	0,039 – 0,092	3,4 – 8,1	Moderate	Very Light
VI	0,092 – 0,18	8,1 – 16	Strong	Light
VII	0,18 – 0,34	16 – 31	Very Strong	Moderate
VIII	0,34 – 0,65	31 – 60	Severe	Moderate to Heavy
IX	0,65 – 1,24	60 – 116	Violent	Heavy
X+	>1,24	>116	Extreme	Very Heavy

Staad pro input



Case	Description
1 (simple)	DL = Self-weight of structural elements DL = Equipment Loads Zone 1 - 1,592 kg/m2 DL = Equipment Loads Zone 2 - 547 kg/m2 DL = Equipment Loads Zone 3 - 629 kg/m2 DL = Equipment Loads Zone 4 - 629 kg/m2 DL = Equipment Loads Zone 5 - 1,107 kg/m2 DL = Equipment Loads Zone 6 - 1,107 kg/m2 LL = Ground Floor - 300 kg/m2 DL = Roof Floor - 30 kg/m2 LL = Roof Floor - 50 kg/m2
2 (Lifting)	DL = Self-weight of structural elements DL = Equipment Loads Zone 1 - 1,592 kg/m2 DL = Equipment Loads Zone 2 - 547 kg/m2 DL = Equipment Loads Zone 3 - 629 kg/m2 DL = Equipment Loads Zone 4 - 629 kg/m2 DL = Equipment Loads Zone 5 - 1,107 kg/m2 DL = Equipment Loads Zone 6 - 1,107 kg/m2
3 (seismic)	Zone V (Moderate seismic) in Mercalli Intensity Scale DL = Self-weight of structural elements DL = Equipment Loads Zone 1 - 1,592 kg/m2 DL = Equipment Loads Zone 2 - 547 kg/m2 DL = Equipment Loads Zone 3 - 629 kg/m2 DL = Equipment Loads Zone 4 - 629 kg/m2 DL = Equipment Loads Zone 5 - 1,107 kg/m2 DL = Equipment Loads Zone 6 - 1,107 kg/m2