Superseded 7/1/2016

15A-3-107 Amendments to Chapter 16 of IBC.

(1) In IBC, Table 1604.5, Risk Category III, in the sentence that begins "Group I-2," a new footnote c is added as follows: "c. Type II Assisted Living Facilities that are I-2 occupancy classifications in accordance with Section 308 shall be Risk Category II in this table."

(2) In IBC, Section 1605.2, in the portion of the definition for the value of f_2, the words "and 0.2 for other roof configurations" are deleted and replaced with the following: "$f_2 = 0.20 + .025(A-5)$ for other configurations where roof snow load exceeds 30 psf;
$f_2 = 0$ for roof snow loads of 30 psf (1.44kN/m^2) or less.
Where A = Elevation above sea level at the location of the structure (ft./1,000)."

(3) In IBC, Sections 1605.3.1 and 1605.3.2, exception 2 in each section is deleted and replaced with the following: "2. Flat roof snow loads of 30 pounds per square foot (1.44 kNm^2) or less need not be combined with seismic loads. Where flat roof snow loads exceed 30 pounds per square foot (1.44 kNm^2), the snow loads may be reduced in accordance with the following in load combinations including both snow and seismic loads. W_s as calculated below, shall be combined with seismic loads.
$W_s = (0.20 + 0.025(A-5))P_f$ is greater than or equal to $0.20\ P_f$.
Where:
W_s = Weight of snow to be included in seismic calculations
A = Elevation above sea level at the location of the structure (ft./1,000)
P_f = Design roof snow load, psf.
For the purpose of this section, snow load shall be assumed uniform on the roof footprint without including the effects of drift or sliding. The Importance Factor, I, used in calculating P_f may be considered 1.0 for use in the formula for W_s".

(4) IBC, Section 1608.1, is deleted and replaced with the following: "1608.1 General. Except as modified in Sections 1608.1.1, 1608.1.2, and 1608.1.3, design snow loads shall be determined in accordance with Chapter 7 of ASCE 7, but the design roof load shall not be less than that determined by Section 1607."

(5) A new IBC, Section 1608.1.1, is added as follows: "1608.1.1 Section 7.4.5 of Chapter 7 of ASCE 7 referenced in Section 1608.1 of the IBC is deleted and replaced with the following: Section 7.4.5 Ice Dams and Icicles Along Eaves. Where ground snow loads exceed 75 psf, eaves shall be capable of sustaining a uniformly distributed load of $2p_f$ on all overhanging portions. No other loads except dead loads shall be present on the roof when this uniformly distributed load is applied. All building exits under down-slope eaves shall be protected from sliding snow and ice."

(6) In IBC, Section 1608.1.2, a new section is added as follows: "1608.1.2 Utah Snow Loads. The snow loads specified in Table 1608.1.2(b) shall be used for the jurisdictions identified in that table. Otherwise, the ground snow load, P_g, to be used in the determination of design snow loads for buildings and other structures shall be determined by using the following formula: $P_g = (P_o^2 + S^2(A-A_o)^2)^{0.5}$ for A greater than A_o, and $P_g = P_o$ for A less than or equal to A_o.
WHERE:
P_g = Ground snow load at a given elevation (psf);
P_o = Base ground snow load (psf) from Table No. 1608.1.2(a);
S = Change in ground snow load with elevation (psf/100 ft.) From Table No. 1608.1.2(a);
A = Elevation above sea level at the site (ft./1,000);
A_o = Base ground snow elevation from Table 1608.1.2(a) (ft./1,000).

The building official may round the roof snow load to the nearest 5 psf. The ground snow load, P_g, may be adjusted by the building official when a licensed engineer or architect submits data substantiating the adjustments.

Where the minimum roof live load in accordance with Section 1607.11 is greater than the design roof snow load, such roof live load shall be used for design, however, it shall not be reduced to a load lower than the design roof snow load. Drifting need not be considered for roof snow loads less than 20 psf."

(7) IBC, Table 1608.1.2(a) and Table 1608.1.2(b), are added as follows:

"TABLE NO. 1608.1.2(a)

STATE OF UTAH - REGIONAL SNOW LOAD FACTORS

	COUNTY	P_o	S	A_o
	Beaver	43	63	6.2
	Box Elder	43	63	5.2
	Cache	50	63	4.5
	Carbon	43	63	5.2
	Daggett	43	63	6.5
	Davis	43	63	4.5
	Duchesne	43	63	6.5
	Emery	43	63	6.0
	Garfield	43	63	6.0
	Grand	36	63	6.5
	Iron	43	63	5.8
	Juab	43	63	5.2
	Kane	36	63	5.7
	Millard	43	63	5.3
	Morgan	57	63	4.5
	Piute	43	63	6.2
	Rich	57	63	4.1
	Salt Lake	43	63	4.5
	San Juan	43	63	6.5
	Sanpete	43	63	5.2
	Sevier	43	63	6.0
	Summit	86	63	5.0
	Tooele	43	63	4.5

	Uintah	43	63	7.0
	Utah	43	63	4.5
	Wasatch	86	63	5.0
	Washington	29	63	6.0
	Wayne	36	63	6.5
	Weber	43	63	4.5

TABLE NO. 1608.1.2(B)

REQUIRED SNOW LOADS FOR SELECTED UTAH CITIES AND TOWNS[1,2]

The following jurisdictions require design snow load values that differ from the Equation in the Utah Snow Load Study.

County	City	Elevation	Ground Snow Load (psf)	Roof Snow Load (psf) [6]
Carbon	Price[3] All other county locations[5]	5550 --	43 --	30 --
Davis	Fruit Heights[3]	4500 - 4850	57	40
Emery	Green River[3]	4070	36	25
Garfield	Panguitch[3]	6600	43	30
Rich	Woodruff[3] Laketown[4] Garden City[5] Randolph[4]	6315 6000 -- 6300	57 57 -- 57	40 40 -- 40
San Juan	Monticello[3]	6820	50	35
Summit	Coalville[3] Kamas[4]	5600 6500	86 114	60 80
Tooele	Tooele[3]	5100	43	30
Utah	Orem[3] Pleasant Grove[4] Provo[5]	4650 5000 --	43 43 --	30 30 --
Wasatch	Heber[5]	--	--	--
Washington	Leeds[3] Santa Clara[3] St. George[3]	3460 2850 2750 --	29 21 21 --	20 15 15 --

	All other county locations[5]			
Wayne	Loa[3]	7080	43	30

[1]The IBC requires a minimum live load - See 1607.11.2.

[2]This table is informational only in that actual site elevations may vary. Table is only valid if site elevation is within 100 feet of the listed elevation. Otherwise, contact the local Building Official.

[3]Values adopted from Table VII of the Utah Snow Load Study.

[4]Values based on site-specific study. Contact local Building Official for additional information.

[5]Contact local Building Official.

[6]Based on C_e =1.0, C_t =1.0 and I_s =1.0"

(8) A new IBC, Section 1608.1.3, is added as follows: "1608.1.3 Thermal Factor. The value for the thermal factor, C_t, used in calculation of P_f shall be determined from Table 7.3 in ASCE 7. Exception: Except for unheated structures, the value of C_t need not exceed 1.0 when ground snow load, P_g is calculated using Section 1608.1.2 as amended."

(9) IBC, Section 1608.2, is deleted and replaced with the following: "1608.2 Ground Snow Loads. The ground snow loads to be used in determining the design snow loads for roofs in states other than Utah are given in Figure 1608.2 for the contiguous United States and Table 1608.2 for Alaska. Site-specific case studies shall be made in areas designated CS in figure 1608.2. Ground snow loads for sites at elevations above the limits indicated in Figure 1608.2 and for all sites within the CS areas shall be approved. Ground snow load determination for such sites shall be based on an extreme value statistical analysis of data available in the vicinity of the site using a value with a 2-percent annual probability of being exceeded (50-year mean recurrence interval). Snow loads are zero for Hawaii, except in mountainous regions as approved by the building official."

(10) A new IBC, Section 1613.1.1, is added as follows: "1613.1.1 ASCE 12.7.2 and 12.14.8.1 of Chapter 12 of ASCE 7 referenced in Section 1613.1, Definition of W, Item 4 is deleted and replaced with the following:

4. Where the flat roof snow load, P_f, exceeds 30 psf, the snow load included in seismic design shall be calculated, in accordance with the following formula: $W_s = (0.20 + 0.025(A-5))P_f$ is greater than or equal to 0.20 P_f.

WHERE:

W_s = Weight of snow to be included in seismic calculations

A = Elevation above sea level at the location of the structure (ft./1,000)

P_f = Design roof snow load, psf.

For the purposes of this section, snow load shall be assumed uniform on the roof footprint without including the effects of drift or sliding. The Importance Factor, I, used in calculating P_f may be considered 1.0 for use in the formula for W_s."

(11) A new IBC, Section 1613.5, is added as follows: " 1613.5 ASCE 7, Section 13.5.6.2.2 paragraph (e) is modified to read as follows: (e) Penetrations shall have a sleeve or adapter through the ceiling tile to allow for free movement of at least 1 inch (25 mm) in all horizontal directions.

Exceptions:

1. Where rigid braces are used to limit lateral deflections.
2. At fire sprinkler heads in frangible surfaces per NFPA 13."