

## Snow Loads Checklist: During Cold Weather Season

### When the Snow Flies

Regularly monitor snow depth on the roof, paying close attention to areas where snow tends to drift and accumulate. Areas such as roof valleys (low sections adjacent to higher sections) and roof-mounted structures, such as tanks and penthouses are particularly susceptible.

Remove snow accumulations from the roof before the snow reaches 50% of the safe maximum depth, (see Table 1) and use safe roof practices. Do not send employees on to the roof once the snow load approaches the load capacity. Remove snow during a storm only if the forecast indicates that the total snowfall will result in dangerous accumulations.

Remove snow in layers uniformly across the roof to prevent unbalanced loads that might cause a collapse. Avoid making snow piles on the roof during the removal process.

Clear the snow and ice from storm drains and catch basins. Periodically inspect the roof drainage system to make sure that it is not clogged with ice or debris.

Use care with snow removal equipment (shovels, ice spades, snow blowers, etc.) to prevent roof cover damage. It is not necessary to clear completely down to the roof surface as long as melting snow and water can freely flow to the drains.

### Measuring the Snow Load

Table 1 is a guide that combines live load design (lbs/ft<sup>2</sup>) and the density (lbs/ft<sup>3</sup>) of accumulating snow, ice or water to determine when to take corrective action. For example, a roof designed to handle a snow load of 20 lb/ft<sup>2</sup> could possibly withstand 11.5 inches of heavy wet snow. Therefore, you should remove it from the roof (if it is safe to do so) when it reaches approximately six inches.

**Table 1:**

Equivalent  
Snow Load  
Table

**Density Information**  
**Density (lb/ft<sup>3</sup>)**  
**Percentage of Water Weight**

Light/Dry Snow	Heavy/Wet Snow	Ice	Water
3.12	20/81	57.25	62.43
5%	33%	92%	100%

### Equivalent Inches of Precipitation

Design Load	Light/Dry Snow		Heavy/Wet Snow		Ice		Water
	Depth	Consider Clearing Roof at	Depth	Consider Clearing Roof at	Depth	Consider Clearing Roof at	Depth
5 lb/ft <sup>2</sup>	19.2	10	2.9	1.5	1.0	0.5	1.0
10 lb/ft <sup>2</sup>	38.4	19	5.8	3	2.1	1	1.9
15 lb/ft <sup>2</sup>	57.7	28	8.6	4	3.1	1.5	2.9
20 lb/ft <sup>2</sup>	76.9	38	11.5	6	4.2	2	3.8
25 lb/ft <sup>2</sup>	96.1	48	14.4	7	5.2	2.5	4.8

### References

American Society of Civil Engineers, *Standard for Minimum Design Loads for Buildings and Other Structures*, ASCE 7.

VanDevender, Karl; and Petty, Doug. *Ice and Snow Accumulations on Roofs*. University of Arkansas, Division of Agriculture, Cooperative Extension of Service, March 2006.