

What is Roof Deflection Monitoring?

Measuring the sag (deflection) of field joists is the most accurate way to observe the effects of accumulating snow, ice, and water on a roof surface. Roof Deflection Monitoring systems by SRS provide property owners and managers important visibility and awareness of roof load conditions during & after severe weather events.

Why look at Deflection?

Snow load awareness during and after major storm events saves time & money and reduces risks for staff, contractors, and guests. Deflection monitoring is the preferred method for providing facility personnel the ability to identify the effects of clogged roof drains and accumulating snow and ice loads in a timely manner. SRS works with project engineers to determine the safe joist deflection limits for a roof and installs the sensor devices to alert personnel when and where action is required.

How do experts use deflection?

- Engineers and material scientists use deflection measurement as the “Reference Standard” when assessing roof load conditions.
- Structural evaluations include Deflection Measurements because it is the best method to accurately evaluate how a roof is responding to applied loads.
- Leading joist manufacturers measure deflection when testing joist designs.
- Steel Joist Institute (SJI) publishes the deflection values for open web joists

Automatic notifications

E-mail notifications from our DMD-IP series control panels allows for a safe and effective response plan to be implemented before conditions become dangerous. The SRS control panel sends deflection alerts and restoration notifications in real-time directly to a desk-top or hand held device. The panel also maintains a complete event history log on-board.

recent event log excerpt//

```
02/17/2019 2:00:00AM System Auto Test Normal
02/16/2019 2:00:00AM System Auto Test Normal
02/15/2019 2:00:00AM System Auto Test Normal
02/14/2019 9:23:01AM Supervisory Restore Pt 27 Built-in SLC AREA 6B LOAD WARNING
02/14/2019 9:22:37AM System Silenced
02/14/2019 9:03:11AM Supervisory Restore Pt 9 Built-in SLC AREA 3B LOAD WARNING
02/14/2019 3:59:01AM Supervisory Pt 9 Built-in SLC AREA 3B LOAD WARNING
```

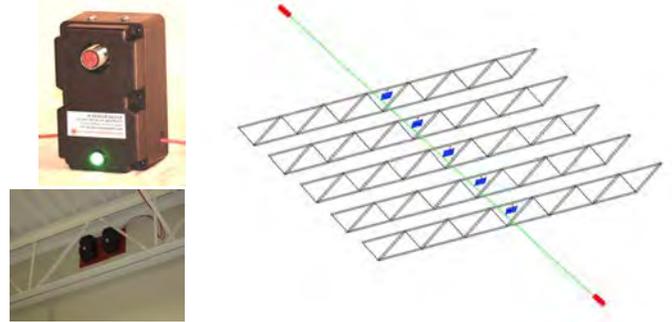


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The industry leader in roof monitoring technologies

How does SRS measure deflection?

Safe Roof Systems installs IR sensors inline with the mid-span of roof-joists bays, and mounts calibrated deflection targets at the mid-span of the field joists. The sensors are activated as roof loads reach predetermined deflection limits. The DMD sensor definition is 1/100", allowing us to calibrate for any deflection value or limit.

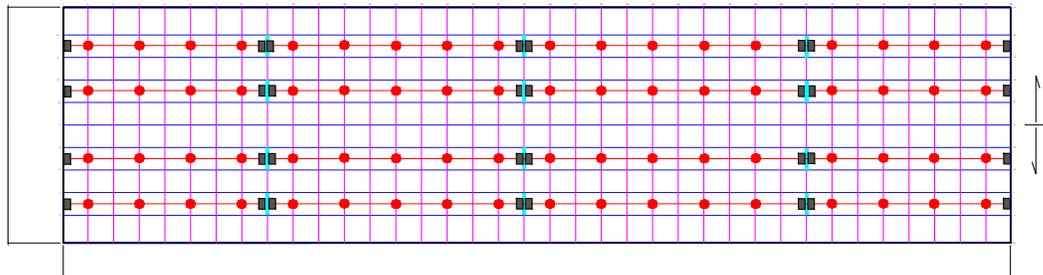


Roof Segmentation and roof orientation signage

Roof snow removal for a Large scale Distribution Center can quickly become a weeks long process. Effective action management is required to control unnecessary costs. Dividing large scale roofs into sections by segmenting long column line layouts, gives facility managers a way to prioritize and manage snow removal efforts. Snow removal contractors follow roof orientation signage that corresponds with alarm notification data. Knowing where and when to shovel reduces snow removal costs by 50% or more.

Example Large Scale DC
 DMD1000-ip roof alarm system
 Segmented Column Lines

Diagram legend	
	DMD-IP sensor assembly
	Deflection targets
	Segmentation Bar installation



Localized loading?

Localized snow loads develop around large roof penetrations, changes in elevation, and rising walls. The DMD-IP roof deflection system supports electronic level sensors that can be connected directly into the standard DMD-IP control system. Contact SRS for more details about the Sel-2000 series.



Candidates for deflection monitoring?

Buildings that support critical operations need to monitor roof loads, as well as any building that has a history of snow & ice accumulation. Old structures, modified buildings, and pre-fabricated. Buildings with roof top features that create snow drifting – rising walls (elevation changes), Large RTU's, and roof top solar installations are all candidates for Deflection Monitoring.



SRS serves clients across the country and in different markets

Our automatic monitoring systems are used in a wide variety of buildings and businesses. Safe Roof Systems DMD1000 deflection monitoring systems are installed under the NRG Solar Ring at MetLife stadium in New Jersey, and used in major retail stores and distribution centers, schools, pre fabricated structures, etc.



ESPN in Bristol, CT & IDEXX labs in South Portland, ME. and schools in New England have installed our systems. Proudly serving the Federal Government: deflection monitoring is a Security Systems specification for US government USCIS data warehouses.



Schedule a roof risk survey with Safe Roof Systems

Contact SRS to arrange an on-site inspection and DMD-IP roof alarm proposal.

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