

## TechTip R6 – SPF Roof Systems over Skylights

While designed to provide daylighting to the interior, skylights can develop into a maintenance nightmare for the building owner because of recurring water leaks and moisture issues<sup>1</sup>. Additionally, older skylights are typically single-pane glass with a metal frame, which are often sources of air leakage and provide little or no insulation. Finally, renovation of the interior space may simply require that skylights be removed or covered from the interior.

When SPF roof systems are used in a re-roofing application, the building owner or architect may ask that the new roof system be used to conceal these unwanted skylights – essentially to make them disappear. While this is often possible, it is not a good idea, due to several factors that impact both worker and occupant safety.

As most roofing installers know, skylights present not only a trip hazard, but can also provide a dangerous fall-through hazard. Good safety practice requires that all skylights be clearly marked and properly guarded to prevent tripping and fall-through.

Concealing old skylights with an SPF roofing system can create an extreme safety hazard. Most skylights are not capable of supporting significant loads and covering them with a few inches of SPF or a thin cover board will not significantly increase their load capacity. Long after the roof is installed, workers and occupants could place heavy loads or walk over these concealed areas, resulting in a catastrophic failure or loss of life.

To avoid these issues, the best practice is to remove old skylights and replace them with a cover system that is structurally equivalent to the surrounding roof. Some roofing contractors may be capable of this repair, but if in doubt, consult with a structural engineer before proceeding with this work or have another qualified contractor do these repairs.

Ideally, low skylights below 3 ft in height should have all curbs removed and the replacement structure should be flush with the roof to eliminate trip hazards. Old skylights installed on high curb systems over 3 ft high (that do not create a trip hazard) should be replaced with a structurally equivalent cover, but the curb may be left in place. All these modifications should be completed and evaluated prior to installation of SPF roof systems.



**Figure R6-1: Existing skylights on older buildings may be covered with SPF roofing for insulation and air sealing without removal**



**Figure R6-2: Reinforce existing skylights before application of SPF roofing. *(The skylights are reinforced with dimensional lumber - not shown)***



**Figure R6-3: Completely remove existing skylights and reinforce openings before application of SPF roofing.**

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## DOCUMENT HISTORY

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<sup>i</sup> <http://www.greenbuildingadvisor.com/blogs/dept/guest-blogs/why-i-hate-hate-hate-skylights>