REROOFING?

Why It's the Perfect Time to Add Mandatory Fall Protection

By Brent LaPorte

Per federal Occupational Safety and Health Administration (OSHA) regulations, workers have a right to a safe workplace. The law requires employers to provide their employees with working conditions that will assist in protecting them from known dangers.

OSHA also requires employers to select and provide required personal protective equipment at no cost to workers.

As is widely known, falls are among the most common causes of serious work-related injuries and deaths in the United States today. Employers are required to provide some form of fall protection for "General Industry" activities. Section 1910.23(c)(1) clearly states that every open-sided floor or platform (any elevated surface) 4 feet or more above an adjacent floor or ground level shall be guarded.

This 4-ft height is the threshold at which an employer must provide some form of fall protection. This fall protection can be a simple guardrail or a more active type of system that includes the use of personal fall protection equipment.

So, what does this mean to a building envelope consultant? Typically this type of requirement is not included in the local, state, or federal building code, which leaves one in a figuratively precarious predicament. Should the consultant specify fall protection equipment or not? Often, this is a cost that the owner of a building or facility had not anticipated, and no one wants to add costs to a project.

Historically, this type of permanent fall protection equipment has only been specified on high-rise buildings where suspended maintenance operations are expected to be conducted; and even then, some owners believe that it is the responsibility of the window cleaning contractor to supply his or her own means of fall protection. It is this thought process that has led to numerous preventable injuries and fatalities. The same thought pattern can be seen with some facility managers who falsely believe that it is up to the contractor performing work on the premises to provide his or her own fall protection.

Figure 1 – Placing the roof anchor.

If one fully understands the structural component of a fall arrest or restraint system, one also understands that it is extremely rare that an exposed structure of substantial strength is available for the contractor to tie off to. In most cases, permanent anchors must be attached to the building through either a structural wall or into the roof structure. It would be extremely rare for a building owner to authorize an

Figure 2 – Flashing the roof anchor.

Figure 3 – Roof anchor patch completed.

HVAC contractor to open his expensive roof, drill through the roof (exposing upper office space to debris contamination), attach an anchor, and close up the roofing on his own. It is simply not what such contractors do on a daily basis.

To have a properly installed system, several professionals should be involved from the outset, including the end users, a Registered Roof Consultant, a qualified fall protection manufacturer and installer, and an approved roofing contractor. Only when all of these parties are involved can one be certain that the correct equipment for the task at hand has been specified and a reputable manufacturer and roofing contractor have worked together to ensure the work is installed on time and on budget.

Proper understanding of the tasks the end user will perform ensures that the most practical fall protection solution available will be installed. If the end users (often the facility's own people) have input, they can help design the system with the manufacturer to ensure that the system is user-friendly and does not become an impediment to their tasks. If a system is too difficult to use, there is a good likelihood that it will *not* be used.

Working with a roofing contractor who understands the importance of fall protection and how the product is to interact with the roofing system that is specified is also critical to the success of a fall protection installation. The roofing contractor can be the installer's best friend and vice versa, as they will be on the roof at the same time, each coordinating critical tasks relevant to their own scope of work.

As the roof consultant, you have the opportunity to specify experienced firms with a wide range of quality products that will meet all of your clients' needs.

The question becomes, how do you do that if you have little experience in the design and specification of fall protection or suspended maintenance equipment?

The first step is to research companies who have been in the practice of furnishing and installing fall protection equipment for many years and reach out to one of those firms. Most companies in the industry will offer a free design service to consultants with the hope of being specified. A quick review of their website, list of projects, and references should confirm whether or not this is a firm with which you would want to work.

A good fall protection company will educate through lunch-and-learns (some offering AIA credits toward continuing education). If the firm offers this type of educational seminar, it can help you and your staff to learn the basics of fall protection design, equipment selection, and the relevant codes and standards that apply.

Having selected a fall protection company to work with and received a design and specification, the next question is, "Should I show the product on the drawing or not? If I do, am I responsible for the design?" My answers are always yes and—to a point—yes.

The risk of not showing equipment far exceeds the risk of showing equipment, in my professional opinion. If you show equipment but note that the final locations are up

Figure 4 – Finished product.

to the equipment manufacturer, and that manufacturer has had the opportunity to speak with the end users, you can always place a note on the drawing indicating that the final locations are the responsibility of the manufacturer. While I would not presume to offer legal advice, I will say that if the product is shown and details are accurate, the project runs so much more smoothly for each of the parties involved.

The confusion comes when there are no locations shown, no product specified, and only a note that fall protection is to be provided. There are many different methods of protecting a worker on a roof or elevated surface; and without that inside knowledge from the end user or facility manager, the wrong system may very well be installed, rendering it useless and, even worse—not used.

So, when contracted to complete a set of drawings and specifications for a reroof, take the opportunity to meet with the facility team, identify potential fall hazards on the roof, determine the frequency and the level of difficulty of the work that will be performed, and the means and methods that are available to eliminate the risks while working at heights.

The fall protection equipment can be installed at the same time as the new roof, ensuring the product will be installed with careful coordination, roof warranties won't be compromised by adding product at a later date, and those working on the roof in the future will be able to do so safely and with confidence.

Brent LaPorte

Brent LaPorte is the business development manager for Pro-Bel USA and has been working in the fall protection industry for 24 years. He has consulted with hundreds of architects and roof consultants throughout North America, assisting in design and specification writing. Some notable projects on which he has worked are the Pentagon, Arizona Cardinals Stadium, Citi Field, and Acualina Resort and Hotel. He may be contacted at brentl@pro-bel.ca.

Polyurethanes Passive House Completed

Construction for the ISOPA Polyurethanes Passive House was completed on November 4, 2013. ISOPA is the European trade association for manufacturers of aromatic diisocyanates and polyols, the main raw materials used to make polyurethanes.

According to ISOPA Secretary General Jörg Palmersheim, "Polyurethane insulation has become the material of choice for very low-energy buildings across Europe. The ISOPA Polyurethanes Passive House and others like it will play an integral role in meeting Europe's 2030 and 2050 climate and energy goals."

Construction of the ISOPA Polyurethanes Passive House began in Evere, Brussels, Belgium, on September 1, 2011, and was built in recognition of the global challenges of climate change and energy use. With Europe's building stock consuming 40% of its primary energy, energy-efficient buildings have an important part to play in a sustainable future.

The passive house standard is the world's leading standard in energy efficiency construction and consumes about 85% less energy than conventional modern homes. With its completion, the ISOPA Polyurethane Passive House joins over 12,000 passive houses across Europe; the first passive house was completed in 1991 in Germany.

While demonstrating the benefits of polyurethane insulation by acting as a living example of the environmental and economic benefits of polyurethanes, the ISOPA Polyurethanes Passive House contributes to this growing trend towards sustainability. The project was initiated by ISOPA and undertaken with the help of Bostoen, a Belgian construction company that specializes in passive housing and contributes to the promotion and proliferation of energy-efficient houses and apartments in Belgium.