



Night Roofing

Our society has come to depend on 24 hour industries. Medical, transportation, public utilities, and even production facilities are operating around the clock. Increasingly, business owners are demanding that roofing work be done outside of normal business hours when it is least disruptive to their operations.

Contractors now find themselves being forced to carry out roofing work at night. CRCA and its members do not condone the practice of night roofing. It is our opinion that wherever possible night roofing should be avoided. Night roofing entails serious risk in the areas of worker safety, overall roof performance and cost.

Lighting

Many of the hazards of night roofing are, of course, associated with limited vision, which increases the risk of falls and injury. If work is to be carried out in the dark, night-time hours, provision of adequate artificial lighting is paramount. Roofing work, by its very nature, entails many hazardous procedures, such as working from heights and handling hot asphalt, sharp tools and heavy equipment. For the work to be safe, there must be sufficient light for workers to see well enough to move about safely in the work area.

The brightness of light is not the only consideration. Equally important is the direction of the lighting. Improperly placed lamps may cast long shadows that hide hazards from view or create glare and even temporary blindness.

Determining the correct amount of lighting required, as well as its positioning, will require extensive trial runs and experimentation before the proper conditions can be found. Even then, daylight conditions will not be replicated.

In addition to these considerations, temporary lighting must follow basic electrical safety principles. The presence of water and moisture, common to exterior construction, can create serious electrical hazard and subject workers to fatal electrical shock. All lighting equipment must resist the intrusion of water and moisture. The equipment must also be robust enough to withstand rough handling. As roofing often involves the use of flammable materials and volatile fuels, the lighting equipment must be explosion proof and prevent sparking or ignition of these materials.

The lighting must be portable and lightweight, capable of being easily moved to where the work is being carried out. Care must be taken to ensure that the cables supplying power do not pose a hazard from tripping or electric shock. Back-up lighting and generators should be on hand in case any of the equipment breaks down.

Barricades must be set-up around work areas to prevent workers from wandering off into the shadows. Guardrails are necessary wherever there is a risk of falling through openings and may be required at roof

perimeters. Guardrails with their own lighting should be erected to form runways between entrances, exits and work areas.

Entrances, exits, ladders, stairs and hoist locations require particular attention. Reflective tape on all guardrails, roof edges and perimeters, and even on worker's clothing will help the worker to discern potential hazards and unsafe areas.

People

There are two factors that determine alertness on the job: circadian rhythms (body clock) and daily sleep requirements. Workers who put in long hours, especially those that go through the night, are prone to less attentiveness and to be involved in accidents. Biologically, humans are diurnal or day oriented. We function best during the day and perform worst during the night and very early morning hours when we would normally be experiencing our deepest sleep.

If our circadian rhythm is out of sync, common among shift workers, there will be problems in alertness and functioning. Even if the circadian rhythm is in sync, a person will feel tired and performance will suffer if the daily sleep requirements are not met. The short and long- term physiological effects of night work on the individual must be taken into account whenever night work is contemplated and the work schedule is planned.

Performance

One cannot expect the same level of worker performance when work is carried out at night as one can when it is performed during the daylight hours. This will be reflected in the quality of the finished work. In addition to the performance and productivity of the people doing the work, there are other factors that may compromise the quality of the installed roof. Limited vision, even with the best of artificial lighting, makes the detection of some deficiencies and defects virtually impossible. Labour costs will increase significantly as productivity decreases, perhaps to unacceptable levels. The presence of dew or frost, common in the early morning hours, poses the risk of building moisture into the roof. Rapidly changing weather is practically impossible to detect at night, increasing the risk of failing to close in a roof before rain or snow falls, exposing the building and its contents to damage.

Contractors that are required to carry out roofing at night must be careful to include all of the costs associated with such work in their bids. Many municipalities have strict noise, traffic, and emissions regulations that may limit such work or prohibit it entirely. In other instances, costly fees and permits may have to be obtained to carry out the work. Contractors should also be aware of all the hidden costs, such as decreased productivity, poorer performance and increased risk and liability. They should seek to limit their liability through explicit terms and conditions in their contracts. It must be realized that should problems arise while work is underway, manufacturers of the roofing materials may not be available to address concerns about material application or detailing outside of normal working hours. The same holds true for the providers of other services, products and support that may be necessary to carry out the work. In all instances, contractors should carry sufficient amounts for contingencies in their estimates to cover unforeseen circumstances that invariably accompany night work. In addition, it may be prudent to obtain additional insurance coverage to address the risks associated with night roofing.

Building a trouble free and performing roof system is difficult even with ideal daylight conditions. Building owners must realize that the same level of performance cannot be achieved when the work is carried out at night. The quality of work will be lower and the cost will be much greater. Invariably there will be more deficiencies, omissions and errors. This will be reflected in the performance of the installed roof and a probable reduction in its life expectancy. When one weighs the costs of night roofing in terms of production, performance, and above all worker safety, it becomes apparent that it should be avoided whenever possible.

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