

SMRCA Roving Roofer

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February
2014



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26
Issue 1

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Cold Weather Safety

The weather has been extremely cold this year. Working in cold weather could be dangerous. Not only do the temperatures play a role, but combined with wind it can make it dangerously cold. Exposed human flesh freezes within one minute at -20°F (-29°C) when wind speed is 5 mph (8 km/h). When the wind speed increases to 20 mph (32 km/h) human flesh will freeze at 10°F (-12°C). These instances are applicable if your clothes and skin are dry. When you are wet, cold injury can result at much higher temperatures.

The Wind Chill index is the temperature your body feels when the air temperature is combined with the wind speed. It is based on the rate of heat loss from exposed skin caused by the effects of wind and cold. As the speed of the wind increases, it can carry heat away from your body much more quickly, causing skin temperature to drop. When there are high winds, serious weather-related health problems are more likely, even when temperatures are only cool.

The chart to the right shows the difference between actual air temperature, the perceived temperature, and the amount of time until frostbite occurs.

Cold weather health emergencies can result from prolonged exposure to the cold. The most common cold related problems are hypothermia and frostbite.

Hypothermia

When exposed to cold temperatures, your body begins to lose heat faster than it can be produced. Prolonged exposure to cold will eventually use up your body's stored energy. The result is hypothermia, or abnormally low body temperature. Body temperature that is too low affects the brain, making the victim unable to think clearly or move well. This makes hypothermia particularly dangerous because a person may not know it is happening and won't be able to do anything about it.

Hypothermia is most likely at very cold temperatures, but can occur even at cool temperatures (above 40°F) if a person becomes chilled from rain, sweat, or submersion in cold water.

Warning signs of hypothermia:

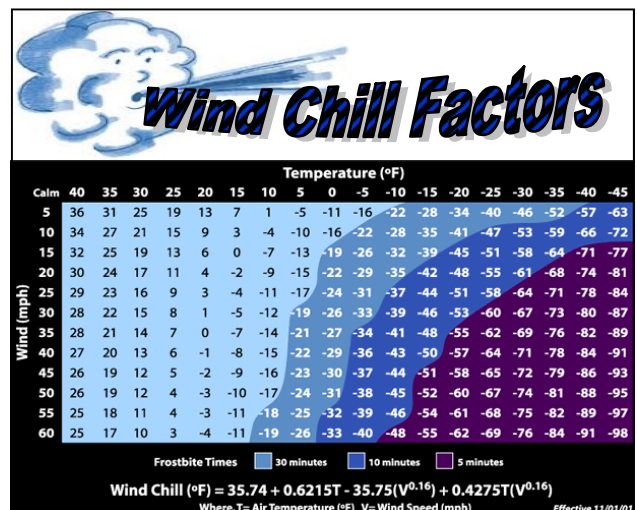
- Shivering
- Exhaustion
- Confusion
- Fumbling hands
- Memory loss
- Slurred speech
- Drowsiness

If you notice any of these signs, take the person's

temperature. If it is below 95°, the situation is an emergency—seek medical attention immediately.

If medical care is not available, begin warming the person, as follows:

- Get the victim into a warm room or shelter.
- Remove any wet clothing.
- Warm the center of the body—chest, neck, head and groin—using an electric blanket, if available. Or use skin to skin contact under loose, dry layers of blankets, clothing, towels, or sheets.
- Warm beverages can help increase the body temperature, but do not give alcoholic beverages. Do not try to give an unconscious person.



- After body temperature has increased, keep the person dry and wrapped in a warm blanket, including the head and neck.
- Get medical attention as soon as possible.

A person with severe hypothermia may be unconscious and may not seem to have a pulse or to be breathing. In this case, handle the victim gently, and get emergency assistance immediately. Even if the victim appears dead, CPR should be provided. CPR should continue while the victim is being warmed, responds or medical aid becomes available. In some cases, hypothermia victims who appear to be dead can be successfully resuscitated.

Continued on Page 2



SOUTHEASTERN MICHIGAN ROOFING CONTRACTORS ASSOCIATION

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Continued From Page 1—Cold Weather Safety

Frostbite

Frostbite is an injury to the body that is caused by freezing. Frostbite causes a loss of feeling and color in affected areas. It most often affects the nose, ears, cheeks, chin, fingers or toes. Frostbite can permanently damage the body, and severe cases can lead to amputation. The risk of frostbite is increased in people with reduced blood circulation and among people who are not dressed properly for extremely cold temperatures.

At the first signs of redness or pain in any skin area, get out of the cold or protect any exposed skin—frostbite may be beginning. Any of the following signs may indicate frostbite:

- A white or grayish-yellow skin area
- Skin that feels unusually firm or waxy
- Numbness



A victim is often unaware of frostbite until someone else points it out because the frozen tissues are numb.

If you detect symptoms of frostbite, seek medical care. Because frostbite and hypothermia both result from exposure, first determine whether the victim also shows signs of hypothermia, as described previously.

If there is frostbite but no signs of hypothermia and medical care is not available, proceed as follows:

- Get into a warm room as soon as possible.
- Unless absolutely necessary, do not walk on frostbitten feet or toes—this increases the damage.
- Immerse the affected area in warm—not hot—water (the temperature should be comfortable to touch for the unaffected parts of the body).
- Or, warm the affected area using body heat. For example, the heat of an armpit can be used to warm frostbitten fingers.
- Do not rub the frostbitten area with snow or massage it at all. This can cause more damage.
- Don't use a heating pad, heat lamp, heat of a stove, fireplace, or radiator for warming. Affected areas are numb and can be easily burned.

These procedures are not substitutes for proper medical care. Hypothermia is a medical emergency and frostbite should be evaluated by a health care provider. It is good to take first aid and emergency resuscitation (CPR) course to prepare for cold weather health problems. Knowing what to do is an important part of protecting your health and the health of others.

Be Safe and Keep Warm!

Top 10 Cold Weather Precautions

1. Wear layers of clothing and layer to protect the head, hands and feet.
2. Drink plenty of fluids. Cold weather suppresses thirst and dehydration can occur without proper fluid intake.
3. Increase calorie intake. Working in heavy protective clothing expends more heat, so 10-15% more calories are required.
4. Take periodic breaks to warm up, with additional breaks as wind velocity increases or temperature drops.
5. Avoid alcohol, nicotine, caffeine and medications that inhibit the body's responses to cold or impair judgment.
6. Avoid the cold if you are becoming exhausted or immobilized.
7. Shield work areas from windy conditions. Seek a heated shelter if you have prolonged exposure to a wind chill of 20° or less.
8. Work during the warmest hours of the day.
9. Learn the symptoms of cold related stresses.
10. Work in pairs so partners can monitor one another and obtain help quickly in an emergency.

IMPORTANT

**IF YOU ARE A UNION
CONTRACTOR
ATTENDING THE
INTERNATIONAL
ROOFING EXPO IN
LAS VEGAS
FEBRUARY 26-28, 2014**

**REGISTER TO ATTEND
THE UNION CONTRACTOR
PROGRAM**

**“Expanding Market
Opportunities for
Union Contractors”**

**ON
THURSDAY, FEBRUARY 27
7:00 AM—9:15 AM**

Union Contractors Program at IRE

The NRCA Union Contractors Council (UCC) is pleased to sponsor “Expanding Market Opportunities for Union Contractors” at the International Roofing Expo. Join us at 7:00 am on Thursday, February 27 to hear a panel discussion about what’s being done nationally to help secure more work for union roofing contractors!

Visit:
www.theroofingexpo.com
to register.

The \$20 fee includes breakfast.

Don't miss these events!

MICHIGAN CONSTRUCTION & DESIGN TRADESHOW

DESIGN — CONSTRUCT — LEARN

MotorCity Casino—Detroit, MI
February 5, 2014
9:00 am—4:30 pm

The United Union of Roofers, Waterproofers and Allied Workers Local 149, SMRCA and the Joint Apprenticeship School will be exhibiting at the show. **Stop by and see us at booth number 111.**

Register online: www.cam-online.com

2014 SMRCA Golf Outing



2014 MiRCA Convention

Crystal Mountain Resort
Thompsonville, MI
July 24—27, 2014

Come join the fun! Relax and network with old and new friends.



Joint Apprenticeship School Upcoming Classes

Classes available to all Detroit 149 members for upgrade training. Classes are:

Apprentice Two & Single Ply One
Monday evenings starting on January 27

Apprentice One & Single Ply Two
Tuesday evenings starting on January 28

BUR One & Steep One
Wednesday evenings starting on January 29

BUR Two & Steep Two
Thursday evenings starting on January 30

All classes begin at 6:30 pm.

Journeymen upgrade classes are available to all Detroit 149 Members. Dues must be current in order to enter the training center.

If you are interested in any of these classes or other classes contact the JAC School at 248-543-3847 to make arrangements.

Industry Schedule of Events

February 5, 2014
Michigan Construction & Design Show
Detroit, MI
www.cam-online.com



February 26-28, 2014
International Roofing Expo (IRE)
Las Vegas, NV
www.theroofingexpo.com



March 20-25, 2014
RCI 29th International Convention and Trade Show
Anaheim, CA
www.rci-online.org



March 25-27, 2014
NERCA 88th Convention and Trade Show
Atlantic City, NJ
www.nerca.org



June 8-11, 2014
Western Roofing Expo
Las Vegas, NV
www.wsrca.com



2015 MiRCA Convention

~ PHOTOS NEEDED ~

Join us for the **50th** Annual
MiRCA Convention at
Grand Traverse Resort—Acme, MI
July 23-26, 2015

**DO YOU HAVE PHOTOS FROM
PAST CONVENTIONS?**

Please send past convention photos to: heather.hadley@smrca.org



NRCA's 10@10 January 2014

2014 Legislative Outlook

With 2014 being an election year, the prospect of meaningful legislation being enacted is slim, especially given the partisan gridlock that has plagued divided government during the past three years. President Obama and Senate Democrats have announced their intention to focus on reducing income inequality by pushing agenda items such as an increase in the minimum wage and extending unemployment benefits for the long-term unemployed. House Republicans, in contrast, are expected to pursue legislative initiatives related to the Affordable Care Act and reform of the federal regulatory process. There is also question of whether the House will take up immigration reform by considering a series of targeted reform bills, and if so, whether such an approach can be reconciled with the comprehensive bill passed by the Senate last year. Also looming over Capitol Hill are the need to again raise the statutory debt ceiling; to attempt to get back to the normal process of passing individual appropriations bills that fund government agencies; and approve legislation to upgrade the nation's transportation infrastructure.

OSHA Safety Reports Regulation

NRCA filed comments outlining strong concerns with a new regulation proposed by the Occupational Safety and Health Administration (OSHA) that is intended to improve tracking of workplace injuries and illnesses. If implemented, the new regulation would require businesses to electronically file all injury and illness reports with OSHA, adding a new reporting requirement for many employers. NRCA is troubled that the proposal does not contain safeguards to ensure workers' personal information in records posted online is secure as required under federal and state privacy laws, and also notes that OSHA provides no evidence of its ability to use the information to be reported in an effective manner to prevent injuries or illnesses. The benefits of the proposal in NRCA's view are purely speculative and not supported by empirical data sufficient to justify the cost of implementation. NRCA also is concerned regarding potential adverse effects on employers of unrestricted access to online data by those whose motivations have no

connection to worker safety. Ultimately, NRCA fears that adding new employer reporting burdens that promise unspecified and elusive benefits diverts valuable resources from proven risk management protocols that conclusively protect workers. NRCA thus urged that OSHA withdraw the proposed regulation.

Affordable Care Act

The new year brings new fights over the Affordable Care Act (ACA) and its implementation. House Republicans are keeping the pressure on the Obama administration with a series of votes aimed at various public concerns or problems with the law. One bill, the Health Exchange Security and Transparency Act (H.R. 3811), is designed to address privacy concerns by requiring the Department of Health and Human Services to notify individuals within two days if their personal information is compromised through the Healthcare.gov website. This bill was approved on a strong bipartisan vote of 291-122, with 67 Democrats joining all House Republicans in supporting. Another bill, the Exchange Information Disclosure Act (H.R. 3362), requires weekly performance reports on enrollments that would be available to the public. During the initial enrollment phase, it was difficult to obtain detailed information regarding how many people had signed up, what problems individuals were facing and what was being done to address them. How the ACA works for individuals as they begin using their new coverage will be critical to how the law is accepted by the public and is likely to drive new legislative proposals throughout the year.

Joint Apprenticeship Training Center News

The Joint Apprenticeship Training Center (Brian Gregg) has a new email address:

bgregg@detroitroofers.org

Please make any necessary changes to your email.

Also, the JATC is now on Facebook!



The Roofers #149/SMRCA
JATC Training Center is now on
facebook.

Search for:
Detroit Roofers JATC Local 149

OSHA's Proposed Crystalline Silica Rule

OSHA's Proposed Crystalline Silica Rule: Overview

Workers who inhale very small crystalline silica particles are at increased risk of developing serious silica-related diseases. These tiny particles (known as "respirable" particles) can penetrate deep into workers' lungs and cause silicosis, an incurable and sometimes fatal lung disease. Crystalline silica exposure also puts workers at risk for developing lung cancer, other potentially debilitating respiratory diseases such as chronic obstructive pulmonary disease (COPD), and kidney disease.

To improve worker protection, OSHA is proposing two new crystalline silica standards: one for general industry and maritime, and the other for construction. The proposals are based on extensive review of scientific evidence, current industry consensus standards, and OSHA's outreach, including stakeholder meetings, conferences, and meetings with employer and employee organizations.

OSHA encourages the public to participate in this rulemaking. Information on submitting comments on the proposed rule and participating in public hearings can be found at www.osha.gov/silica. Your input will help OSHA develop a final rule that adequately protects workers, is feasible for employers, and is based on the best available evidence.

Hazard Communication Rules

The new Hazard Communication Rules are now in effect as of January 1, 2014. Be sure you have trained your employees about the new label elements and the new safety data sheets (formerly material safety data sheets).



Contractors Clothing Discount

Contractors, Associate Members and 149 employees will receive a 10% discount at Contractors Clothing when you mention "MiRCA"

www.contractorsclothing.com
29350 John R. Road, Madison Hts., MI 48071
248-544-7380

**10%
OFF**



NRCA Bookstore Discount

The NRCA Bookstore offers a 20 percent discount to members of our association.

If you are interested and would like to receive 20% off at the NRCA Bookstore contact the SMRCA Office for the promotional code.

586-759-2140
heather.hadley@smrca.org

**20%
OFF**

Apps For Work & Fun

Professional Roofing

Thanks to the efforts of NRCA's creative director, Paul Gerwen, they launched the *Professional Roofing* app on schedule and without a hitch on the first of the year. The app is free—and gives you access to a digital version of the magazine on your tablet. It is available through the Apple App store and Google Play.



Tax Law Changes

There are several tax law changes to be aware of in the new year:

- The estate and gift tax exemption increases to \$5,340,000 from \$5,250,000, and the annual gift tax exclusion remains at \$14,000 per recipient.
- The Social Security wage base rises to \$117,000—an increase of \$3,300.
- The maximum contribution to a 401 (k) plan remains at \$17,500. Individuals born before 1964 can contribute as much as \$23,000. The limits apply to 403 (b) and 457 plans, as well.
- The standard mileage allowance for business driving is now 56 cents per mile, a half-cent less than 2013.
- The standard deduction rises to \$6,200 for single taxpayers and married taxpayers filing separately. The standard deduction is \$12,400 for married couples filing jointly (it was \$12,200).

SMRCA and MiRCA Membership Dues

REMINDER

SMRCA and MiRCA Membership Dues are due. If you have not already submitted your membership dues, please do so.

Also, please make any necessary changes to your company information in order for the MiRCA directory to be updated.

The MiRCA directory is located online at:

www.mirca.org



Birthday Wishes

Dan Casey

T.F. Beck Company
January 7

Joe Crane

Crane Roofing, Inc.
January 22

Chuck Rosa

Lifetime Member
February 16

Jackie Walters

LaDuke Roofing & Sheet Metal
March 1

Bill Borgiel

Lutz Roofing Company, Inc.
April 25

Jim Markiewicz

GAF Materials Corporation
April 29

Jeff Mullins

North Coast Commercial Roofing Systems, Inc.
April 29



**Southeastern Michigan Roofing Contractors Association
and
Michigan Roofing Contractors Association
are now on facebook.**



Coming Soon! Would you like to advertise in the *Roving Roofer*? Starting with the January Issue (2014), advertising will be available to members. Cost is \$100 for the year (4 issues are produced throughout the year: January, April, July and October).

Contact Heather Hadley if you are interested.

586-759-2140
Heather.hadley@smrca.org

HAZARD ALERT

Falls and Other Hazards to Workers Removing Snow from Rooftops and Other Elevated Surfaces

Every year, workers are killed or seriously injured while performing snow or ice removal from rooftops and other building structures, such as decks. OSHA has investigated serious injuries or fatalities in the past 10 years—all of which could have been prevented.

Snow removal is performed for a number of reasons, such as to prevent overloading and collapse, or for construction or repair of decking or roofs. Often workers climb directly onto the roofs or structures and use equipment such as shovels, snow rakes, snow blowers, ladders, etc. Other times these operations may be performed from the ground level using snow rakes. Aerial lifts are sometimes used to access roofs and apply de-icing materials.

Snow removal operations are often performed under extreme weather conditions (e.g., cold, high winds, icy surfaces). Workers who perform these activities (for example, building maintenance workers) may have little experience or training on the hazards of such operations or work.

Workers performing snow removal operations are exposed to many serious hazards. Based on the findings of OSHA investigations falls cause the most worker fatalities and injuries during rooftop snow removal. Workers may fall off roof edges, through skylights, and from ladders and aerial lifts. Workers may also be injured or killed by a roof collapse.

Workers removing snow face other significant hazards in addition to falls from roofs, including:

- Amputations, eye injuries, and other injuries associated with the use of snow blowers and other mechanized equipment.
- Collapses or tip-overs when using aerial lifts.
- Entrapment and suffocations under falling snow drifts or snow piles.
- Shock/electrocution hazards from contacting power lines or damaged extension cords.
- Frostbite or hypothermia from cold and windy conditions.
- Musculoskeletal injuries from overexertion.

Under the OSH Act's general duty clause, employers have a duty to protect workers from recognized serious hazards in the workplace, including hazards associated with snow removal from roofs. This hazard alert describes the steps you can take to prevent injuries and deaths from these hazards.

Preventing Falls during Snow Removal

Working on a roof with snow, ice, or wind carries a risk of a fall onto the roof, or a fall off the roof to the ground below or through a snow-covered skylight, all of which are often fatal. Therefore, employers should protect their workers from these hazardous work conditions by:

- Using snow removal methods that do not involve workers going on roofs, when and where possible.
- Evaluating loads exerted on roof or structure (e.g., total weight of snow, workers and equipment used), compared to the load limit of the roofs.

- Requiring that workers use fall protection equipment.
- Ensuring that workers use ladders and aerial lifts safely.



Snow rakes resemble a garden hoe with a long handle. Workers should be instructed to remove small amounts at a time to avoid strain or from being hit or buried by falling snow.

Remove Snow Without Going on the Roof

Whenever possible, use methods to clear ice and snow without workers going on the roof. For example:

- Use ladders to apply de-icing materials.
- Use snow rakes or drag lines from the ground.

These methods can pose various hazards to workers. Read the sections below on "Use Ladders Safely," "Use Aerial Lifts Safely," and "Avoid Electrical Hazards."

Evaluate Load Bearing on the Roof or Structure

Before workers access a roof or other elevated structure, the employer should confirm that the workers' weight and any equipment used can be supported by the roof or structure without causing a collapse. Workers should always use caution by remaining alert to unexpected sounds or movement around surfaces that have been weighed down by snow (or water from melting snow), because these surfaces could collapse.

What is Snow Load and How Much Snow Can a Roof Support?

Snow load is the weight of the snow (generally reported in pounds per square foot). The weight of the snow will vary depending on its water content. Snow load on the ground can provide a rough indication of roof snow load, but roof snow loads also depend upon factors such as melting and re-freezing of snow and ice, drifting, roof slope, type of roof, and design features.

The amount of weight that a roof can safely support is based on local building code requirements and should be available within the design specifications for your building. If the structure or roof has structural deterioration, the roof might support less weight than would otherwise be expected.

Resources

- [National snow load information](#), compiled by the U.S. Forest Service. Includes *ground* snow load information and [links to state-specific data](#).
- [National Weather Service](#), snow analysis data (searchable by region, state, city, and zip code).
- U.S. Department of Agriculture, National Resources Conservation Service, [SNOWpack TELelemetry \(SNOTEL\)](#) snow data for states in the western U.S. Shows example *ground* [snow load calculations](#).
- For more in-depth information on *roof* snow load calculations and requirements, see American Society of Engineers (ASCE) 7, Minimum Design Loads for Buildings and Other Structures.

Shoveling or raking a roof without the proper procedures can also increase the risk of roof collapse by creating an unbalanced load on the roof. To prevent unbalanced loading during snow removal, workers should:

- Remove snow uniformly across the roof.
- Avoid making snow piles on the roof.

Use Required Fall Protection

Falls cause most of the deaths and severe injuries that occur during snow removal operations. OSHA standards require employers to evaluate hazards and protect workers from falls when working at heights of 4 feet or more above a lower level or 6 feet or more for construction work.

If workers access roofs and other elevated surfaces to clear snow:

- Train workers on fall hazards and the proper use of fall protection equipment, as required by 1910.132(f)(1) and 1926.503(a)(1).
- Provide and ensure that workers use fall protection equipment if they are removing snow in areas that are not adequately guarded (e.g., with a guardrail system or cover) as required by STD 01-01-013 and 1926.501(b) (see box: "Information on Fall Protection" and "Note" below.)
- Instruct workers who wear personal fall protection equipment to put on their harnesses and buckle them snugly before mounting the roof.
- Have a plan for rescuing a fallen worker caught by a fall protection system, as required by 1926.502(d)(20).
- Remove or clearly mark rooftop or landscaping features that could become trip hazards.

Information on Fall Protection

Personal fall arrest systems and *guardrails* are among the most commonly used forms of fall protection for work on roofs.

- Typical personal fall arrest systems involve an anchor point, a full-body harness, and a connector, such as a retractable lifeline or a shock-absorbing lanyard. Anchor points must be able to support at least 5,000 pounds for each worker attached to it (1926.502(d)(15)) or maintain a safety factor of at least two (twice the impact load) under the supervision of a qualified person (1926.502(d)(15)(i) and (ii)). OSHA believes that anchorages available on the market will meet the strength requirements if they are installed as per the manufacturer's instruction.

- Guardrails must be 42 inches high with a midrail (1910.23(e), 1926.502(b))

Other resources:

[Personal Fall Arrest Systems](#), OSHA Construction eTool

[Fall Protection in Residential Construction](#), OSHA Safety and Health Topic Page

Use Ladders Safely

Workers may use ladders to access rooftops for snow removal. Workers should not use a snow rake or shovel while on a ladder because this greatly increases the risk of losing one's balance and falling.

To prevent falls from ladders used for accessing roofs:

- Make sure that workers know the route and methods they should use to get up and down from a roof in a way that minimizes the risk of falling. The safest location for the ladder might not be the most obvious one, or an alternate method (e.g., an access door or lift) might be available to get on the roof. Safe roof access is as important as having effective fall protection while on the roof.
- Ensure that workers follow safe practices when working on ladders, such as:
 - Ensure that the ladder has level and secure footing, as required by (1910.25(d)(2)(xix), 1910.26(c)(3)(iii), and 1926.1053(b)(6).
 - Check the ladder rungs for ice. A slippery step can cause a fatal fall.
 - Extend the ladder 3 feet above the upper level (i.e., the roof). If not possible, use ladder rail extensions and secure the ladder to prevent it from slipping or tipping, as required by 1926.1053(b)(1) and 1910.25(d)(xv).
 - If using an A-frame ladder, do not stand on the top two steps – that location is not stable.
 - Always maintain three points of contact with the ladder (two feet and one hand, alternating with two hands and a foot), as required by 1926.1053(b)(21).
 - Keep the centerline of the body inside the ladder rails. Do not lean or reach so that the body extends outside the rails—this position is unstable and could lead to a fall.
 - Do not carry heavy or bulky objects or loads up a ladder, as required by 1926.1053(b)(22). This could cause loss of balance and falling. To transport this type of equipment, workers should climb up the ladder first, and then pull the equipment up to the working level with a rope or other appropriate hoisting method.

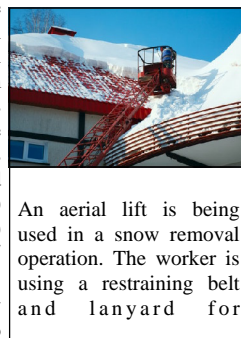
Use Aerial Lifts Safely

Aerial lifts may be used during snow removal operations to transport de-icing equipment or to push or scrape snow from a roof.

Take the following steps to ensure safe use of this equipment (also see "Avoid Electrical Hazards" below):

- Make sure that workers who operate aerial lifts are properly trained in the safe use of the equipment, as required by 1910.67(c)(2)(ii) and 1926.454.
- Maintain and operate elevating work platforms according to the manufacturer's instructions.
- Never override hydraulic, mechanical, or electrical safety devices.

- Never move the equipment with workers in an elevated platform unless this is permitted by the manufacturer, as required by 1926.453(b)(2)(viii) and 1910.67(c)(2)(viii).
- Do not allow workers to position themselves between the rails of the basket and overhead hazards, such as joists and beams. Movement of the lift could crush the worker (s).



An aerial lift is being used in a snow removal operation. The worker is using a restraining belt and lanyard for

- Provide and ensure that workers use a body harness or restraining belt with a lanyard attached to the boom or basket to prevent the worker(s) from being ejected or pulled from the basket, as required by 1910.67(c)(2)(v) and 1926.453(b)(2)(v).
- Do not allow workers to climb or stand on the lift's railing.
- Set the brakes and use wheel chocks when on an incline, as required by 1910.67(c)(2)(vii) and 1926.453(b)(2)(vii).
- Use outriggers, if provided.
- Do not exceed the load limits of the equipment, as required by 1910.67(c)(2)(vi) and 1926.453(b)(2)(vi). Allow for the combined weight of the worker, tools and materials.

Preventing Injuries When Using Mechanized Equipment on Roofs

The unsafe use of mechanized equipment, such as snow blowers, while removing snow from roofs may cause injuries such as amputations and eye injuries. Accidents can also happen when workers are moving equipment used for snow removal to the rooftop.

- Train workers and ensure that they read, understand, and follow all manufacturers' instructions for the safe use of all mechanical equipment, as required by 1926.21(b)(2).
- Provide and ensure that workers wear eye protection—items thrown by powered equipment can ricochet and cause serious eye damage, as required by 1910.133(a)(2) and 1926.102(a)(1).
- Ensure that workers use safe work practices. For example:
 - Raise materials to the roof using equipment lifts, winches, pull ropes, or related equipment.
 - Do not use powered equipment near the edge of any roof. Some snowblower manufacturers recommend maintaining a distance of 15 feet from the roof edge.
 - Operate snow removal equipment at reduced speeds due to slippery roof conditions.
 - Keep hands out of the collection or discharge openings on powered snow removal equipment—equipment such as snowblowers can cause amputations! If

equipment becomes clogged, shut it off, wait until all moving parts have stopped, then use a clearing tool to unclog, as required by [1926.302\(c\)](#).

Avoid Electrical Hazards

Workers may face electrical hazards such as electrocution and electric shock from power lines or snow removal equipment.

- Use extreme caution when working near power lines. Always treat power lines, wires and other conductors as energized, even if they are down or appear to be insulated.
- Maintain a distance of at least 10 feet from any power line, as required by 1910.333(c)(3).
- Make sure that all electrically powered equipment is grounded (third prong on a three-prong plug is not missing) and includes a ground-fault circuit interrupter (GFCI) in the circuit, as required by 1910.304(b)(3), 1910.334(a)(3), and 1926.404(b)(1)(ii).
- When using snow rakes, use extendable, nonconductive poles and designate workers as monitors to maintain 10 feet from snow rakes to overhead power lines.
- When using aerial lifts, maintain a minimum clearance of at least 10 feet away from the nearest energized overhead lines, as required by 1910.333(c)(3).
- If servicing equipment becomes necessary, isolate the energy following lockout/tagout procedures (for example, one method is to disconnect the spark plug wire and ground it against the machine), as required by [1910.147](#) and [1926.417](#).

Avoiding Other Hazards

Exposure to cold can cause injury and illness in workers removing snow. Cold exposure can cause frostbite (freezing in the deep layers of skin and tissue) and hypothermia (drop of body temperature to less than 95°F). For information on how to prevent these situations, see OSHA's Safety and Health Guide on [Cold Stress](#).

Protect People on the Ground During Snow Removal

Workers standing on the ground removing snow from the roof and bystanders can become trapped under snow falling from roofs and could suffocate.

- Mark a safe work zone in the area where snow is to be removed (e.g., keep people back 10 feet from the point where snow is expected to be blown or fall).
- Wear eye and head protection, especially when removing ice.
- When using snow rakes, remove small amounts of snow at a time.

Physical exertion during snow removal can also cause injuries and illnesses. Snow removal can be strenuous, particularly because cold weather can be taxing on the body, and can create the potential for exhaustion, dehydration, back injuries, or heart attacks, and can increase the risk of falls. Make sure that workers take steps to minimize overexertion and help prevent injuries, such as the following:

- Scoop or push small amounts of snow at a time. Use a smaller shovel or take smaller scoops of snow if snow is wet and heavy.
- Use proper form if lifting is necessary; keep the back straight and lift with the legs.
- Do not overload the snowblower; let it operate at a modest speed.
- Take frequent breaks and drink fluids (avoid caffeine or alcohol).

Help for Employers

OSHA's On-site Consultation Program offers free and confidential advice to small businesses with fewer than 250 workers at a site (and no more than 500 employees nationwide). This program provides free on-site compliance assistance to help employers identify and correct job hazards as well as improve injury and illness prevention programs. On-site consultation services are separate from enforcement and do not result in penalties or citations. To locate the OSHA consultation office nearest you, visit www.osha.gov or call 1-800-321-OSHA (6742).

OSHA has compliance assistance specialists throughout the nation located in most OSHA offices. Compliance assistance specialists can provide information to employers and workers about OSHA standards, short educational programs on specific hazards or OSHA rights and responsibilities, and information on additional compliance assistance resources. Contact your local OSHA office for more information by calling 1-800-321-OSHA (6742) or visit OSHA's website at www.osha.gov.

Worker Rights

Workers have the right to:

- Working conditions that do not pose a risk of serious harm.
- Receive information and training (in a language and vocabulary they can understand) about workplace hazards, methods to prevent them, and the OSHA standards that apply to their workplace.

NOTE: Snow removal is typically a maintenance activity regulated under OSHA's general industry standards, [29 CFR 1910](#) (see general industry fall protection compliance guidance, [Directive STD 01-01-013](#), for work from elevated surfaces).

However, on construction sites where snow must be removed in order to begin or continue construction work, OSHA's standards at [29 CFR 1926](#) apply, including residential construction sites (see fall protection compliance guidance, [Directive STD 03-11-002](#)).

Plan Ahead for Safe Snow Removal from Roofs

Before snow starts to accumulate, think about what will be needed to safely remove snow from roofs or other elevated surfaces:

- Can snow be removed without workers going onto the roof?
- Are there any hazards on the roof that might become hidden by the snow and need to be marked so that workers can see them (skylights, roof drains, vents, etc.)?
- How should the snow be removed, based on the building's layout, to prevent unbalanced loading?
- What are the maximum load limits of the roof and how do they compare with the estimated total weight of snow, snow-removal equipment, and workers on the roof?
- What tools, equipment, protective devices, clothing and footwear will workers need?
- What type of fall protection will be used to protect workers on roofs and other elevated surfaces?
- What training will workers need to work safely?
- How will mechanized snow removal equipment be safely elevated to the roof?
- How will you protect people on the ground from snow and ice falling off the roof during removal operations?
- Review records of work-related injuries and illnesses.
- Get copies of test results that find and measure hazards.
- [File a complaint](#) asking OSHA to inspect their workplace if they believe there is a serious hazard or that their employer is not following OSHA's rules. When requested, OSHA will keep all identities confidential.
- Exercise their rights under the law without retaliation or discrimination.

Contact OSHA

For questions or to get information or advice, to report an emergency, report a fatality or catastrophe, order publications, or to file a confidential complaint, contact your nearest OSHA office, visit www.osha.gov, or call OSHA at 1-800-321-OSHA (6742), TTY 1-877-889-5627.

