

# MAINTENANCE MATTERS



## Maintaining Your Roof

Many people don't think about their roof until a leak appears. However, like other parts of your home or building, the roof requires ongoing maintenance to prevent leaks. Identify minor problems before they become major costly problems and maintenance will maximize the amount of time before you need to replace your roof.

### Types of Roofs

Together with walls and windows, roofs are a primary component of a building that keeps out the rain and protects the inside of the building and contents. There are two main types of roof systems: low-slope and steep-slope roofs.

Most multi-unit residential buildings use some form of low-slope roofing, while townhouse buildings and single detached houses generally use steep-slope roofing. Some buildings combine both types of roofs.

Low-slope roofs have a waterproof membrane and a series of drains throughout the roof area to remove water from the roof surface. Since they are low-slope, these roofs must be water-tight in order to function properly. The roofing membrane is either applied as a liquid that cures or dries to form a waterproof surface, or fabricated from pre-manufactured sheets joined together to create a surface impermeable to water. These membranes all work the same way in that they seal all openings and penetrations through the roof to prevent water leaks from occurring.



### Maintenance Matters

This series of bulletins and companion videos is designed to provide practical information on maintaining residential buildings. Produced by BC Housing, in collaboration with Polygon and the Condominium Home Owners' Association (CHOA), this bulletin was prepared by a consortium of building envelope experts.

Steep-slope roofs have overlapping roofing materials to create a surface that sheds water effectively into a drainage system such as eavestroughs or gutters. Steep-slope roofing materials include asphalt or fiberglass shingles, cedar shakes, slate tiles, concrete or clay tile, or sheet metal panels.

### Why Must the Roof be Maintained?

Regular inspection and maintenance of your roof is needed to reduce the likelihood of premature leaks and aging. Roofs are exposed to sunlight, rain, snow, hail, wind and temperature changes that gradually break down the roofing materials. Eventually, the roof will need to be replaced. However, with proper maintenance and care, you can maximize the service life of your roof.

Given proper maintenance, roofing systems generally have what is referred to as an anticipated “leak-free life.” The roof should not leak over this time span, if properly designed, constructed and maintained. After this time, the roof system may continue to provide many years of service. However, leaks should be expected, increasing in frequency and severity, until such time as the roof requires replacement.

Unscheduled maintenance and repairs may be needed to fix damage to a roof that may have occurred during a severe windstorm or other extreme weather event.

Carrying out proper maintenance and identifying potential problems prior to experiencing an actual roof failure will

reduce the likelihood of costly premature damage. If a leak occurs in your roof and goes undetected for a period of time, you may experience damage to the building structure and interior finishes.

### What Maintenance Must be Performed?

All roofs require regular inspection and maintenance. This should be done by a professional roofing inspector or contractor as it involves specialized knowledge, equipment, training and safety requirements. This work is typically coordinated by your maintenance manager.

Residents may visually identify some maintenance concerns such as possible roof problems causing damage to the ceilings or walls inside the home. Notify your maintenance manager if you believe there is a problem with the roof. However, all inspections and maintenance should be performed by a qualified professional who:

- is familiar with the roofing system used on your building
- knows how to identify potential problems
- knows how to take the necessary safety precautions while carrying out an inspection or maintenance

Specific items for inspection and maintenance will depend on the type of roof(s) on your building. Ensure that you reference and closely follow any maintenance guides for your building and information provided by the roofing product manufacturer. A checklist of common roof maintenance items is shown on page 3.



*An accumulation of moss will tend to hold moisture on the roof, preventing proper drainage and accelerating the deterioration of roofing components.*



*A large blister on this two-ply, low-slope roof has caused the membrane to move at the seam. The membrane has split under this stress and the blister is now full of water.*

## How Often do Roofs Need to be Inspected and Maintained?

Roofs should be inspected twice a year:

- in the spring to address any winter damage that may have occurred
- in the fall to prepare for the upcoming winter snow and rain

Your roof, including flashings and other accessories, should also be inspected after any storm with high winds (check for loose, broken or missing shingles, for example), extreme rain or hail, or if construction has taken place on the roof area. The inspection should also include the underside of roof structure or decks, and the outside of the building, as these areas may indicate potential problems with your roof.

Inspection/Maintenance Items	Description
Splitting, ridging or blistering of the roof membrane on low-slope roof	Typically caused by stress, which can occur throughout the roof area. May be an indication of aging. Certain types of problems may be more evident in either cold weather or hot weather.
Missing gravel (ballast) on low-slope roofs	Ballast protects the membrane from damage caused by ultraviolet light and the weather. The lack of ballast reduces the expected service life of the roof.
Missing granules on asphalt shingles and some roll roofing	Some causes are excessive foot traffic, wind scouring or scouring caused by tree branches located too close to the roof. Lack of granular cover reduces the expected service life of the roof, and affects its appearance.
Curled, broken, cracked or missing shingles, shakes or tiles	Repair the damaged areas immediately. Curling may indicate that the shingles have reached the end of their life expectancy, requiring replacement.
Excessive moss or algae growth	Excessive moss growth can lead to premature failure of shakes and shingles on steep-slope roofs, and of certain types of membranes on low-slope roofs.
Foreign objects on the roof	Should be removed as they could cause a puncture in the roofing material or membrane.
Missing or damaged flashings, eavestroughs, downpipes, caulking/sealants and drain baskets	These items should be repaired or replaced immediately to avoid larger problems such as damage to other building components including walls.
Standing water (ponding) on the roof	Typically the result of blocked or poorly located drains. This water will accelerate the degradation of roofing membranes if allowed to remain in place.
Overflowing eavestroughs or backed-up downspouts	Debris in eavestroughs and downspouts can prevent proper water drainage and may result in water backing up and overflowing against adjacent building walls.
Overflowing scuppers or overflow pipes (intentionally located higher on the roof parapet than the roof drains)	An indication that the main roof drains are blocked. When this happens, water overflows and begins to spill onto the ground below, often near entrances or other areas that cause disruptions for occupants.
Staining or damage on the ceiling or walls inside the home	Act immediately upon evidence of staining on an interior drywall ceiling. This typically appears as a yellow or brown stain and could be an indication that moisture is leaking from the roof above. Caution should be exercised as the ceiling may be retaining a reservoir of water.
Black staining on wood within the attic mortar joints.	This possibly an indication of obstructed attic ventilation or air leaking from interior space into the attic. This requires detailed investigation because significant damage can occur to the roof structure over time.



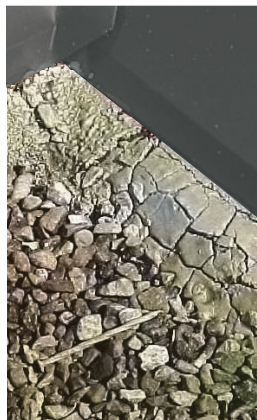
### Who Should be Called for Service?

A professional roofing consultant or contractor should be hired to review the condition of the roof and perform the inspection, and carry out any required maintenance. A good place to start is the Roofing Contractors Association of British Columbia (RCABC), a provincial organization of roofing contractors, consultants, manufacturers and suppliers. Another organization is the Roof Consultants Institute (RCI), an international agency. Its members are Registered Roof Observers or Registered Roofing Consultants located throughout North America. Although registration with either RCABC or RCI is not mandatory, it does provide some indication of competence when selecting a roofing contractor. See the “More Information” section of this bulletin to contact these organizations.

A qualified professional is equipped with the necessary tools and knowledge to identify the composition of specific roof types and can identify potential locations where leakage may occur in the future. Skylights and other roof penetrations may require specialized attention and specific knowledge of how these fixtures interact with the roof assembly.

Roofing contractors are generally equipped with the tools and skills to perform the required maintenance to the roof. The contractor can replace damaged materials, clean drains and gutters, re-secure metal flashing, and re-apply any sealant that has failed.

*The gravel cover of this built-up, low-slope roof has moved, exposing the membrane that is cracked due to sun exposure, weather and underlying roofing felts. The roof will likely deteriorate quickly, and may already have failed at this location.*



### Developing a Roofing Maintenance Plan

A roof inspection and maintenance plan should be developed specifically for your building if it does not already have one. If your building has home warranty insurance there might be a maintenance manual that describes a schedule of tasks that should be followed.

The maintenance plan should include checklists identifying the required reviews and the frequency of reviews. As tasks are undertaken, a record should be kept and regularly updated to ensure all maintenance is documented. This will provide background information that can be useful for future reviews and maintenance. Retain a qualified roofing professional to develop a maintenance and monitoring plan of all roofing areas of your home or building.

### Replacing Your Roof

Eventually, maintenance will no longer be useful or cost-effective in preventing leaks. At that time, full replacement of the roof will be required. Roofs should be replaced before the risk of complete failure gets too high, to avoid potentially costly interior repairs from water leakage.

Life expectancies of roofs can range from 10 years to over 30 years, depending on the roof design, exposure, construction and materials used. A qualified roofing contractor will be able to identify the type of roofing system that you have, its current condition and



then determine its anticipated life. To plan for the eventual replacement of the roof, your building should establish a renewals plan, which includes the frequency for replacement and the approximate cost. In British Columbia, the Strata Property Act requires strata corporations to have a contingency reserve fund (CRF) to pay for common expenses that occur less often than once per year such as roof replacement. See the “More Information” section of this bulletin to learn more.

With ongoing inspections and proper maintenance, a roof can provide many years of protection from the elements for the building, its contents and those who call it home.



### Action Plan Tips

- Inspect roofs twice per year, in the spring and the fall, and after a significant weather event with high winds, heavy rains or hail. All roofs require regular inspection and maintenance.
- Hire a professional roofing inspector or contractor to carry out inspection, maintenance and repairs.
- Hire qualified personnel to develop a maintenance and renewals plan for your roof.

### More Information

- › Consumers Roofing Guide, available at [www.rcabc.org](http://www.rcabc.org)
- › Building Enclosure Design Guide – Wood-Frame Multi-Unit Residential Buildings, available at [www.bchousing.org](http://www.bchousing.org)
- › International Institute of Building Enclosure Consultants, available at [www.iibec.org](http://www.iibec.org)
- › The Contingency Reserve Fund (CRF) in Strata Corporations, available at [www2.gov.bc.ca](http://www2.gov.bc.ca)
- › Refer to your building’s maintenance manual
- › Subscribe to receive Maintenance Matters bulletins at [www.bchousing.org](http://www.bchousing.org)

#### Notice to Readers

This bulletin is intended to provide readers with general information only. Issues and problems related to buildings and construction are complicated and may have a variety of causes. Readers are urged not to rely simply on this bulletin and to consult with appropriate and reputable professionals and construction specialists before taking any specific action. The authors, contributors, funders, and publishers assume no liability for the accuracy of the statements made or for any damage, loss, injury or expense that may be incurred or suffered as a result of the use of or reliance on the contents of this bulletin. The views expressed do not necessarily represent those of individual contributors or BC Housing. The regulations under the Homeowner Protection Act contain specific

provisions requiring owners to mitigate and restrict damage to their homes and permitting warranty providers to exclude coverage for damage caused or made worse by negligent or improper maintenance. These apply to both new and building envelope renovated homes covered by home warranty insurance. Failure to carry out proper maintenance or carrying out improper maintenance either yourself or through qualified or unqualified personnel may negatively affect your warranty coverage. It is important for the property owner to read and review their warranty documents to understand how to file any claims and correspondence in the proper written form directly with the warranty company. Refer to your home warranty insurance documentation or contact your warranty insurance provider for more information.