



Maintaining Your Roof

Membranes all work the same way in that they seal all openings and penetrations through the roof to prevent water leaks from occurring.

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, to identify minor problems before they become major costly problems and to maximize the amount of time before you need to replace your roof. This bulletin provides practical information on how to maintain 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. Both roof types are used in some buildings.

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.

Steep-slope roofs have overlapping roofing materials to create a surface that, together with gravity, 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.



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Maintaining your building envelope

This publication is one in a series of bulletins designed to provide practical information on the maintenance of the building envelope of multi-unit residential buildings, including townhouses, low and high-rise residential buildings.

What is a building envelope/enclosure?

The building envelope or building enclosure includes all parts of the building (assemblies, components and materials) that are intended to separate the interior space of the building from the exterior climatic conditions. It includes, for example, the foundation, exterior walls, windows, exterior doors, balconies, decks and the roof.

Who should read this bulletin?

Anyone who lives in or looks after a multi-unit residential building should read this bulletin, including residents/unit owners, strata councils, housing co-operatives, maintenance managers, property managers or building owners. Proper maintenance of the building envelope can help prevent damage and avoid costly repairs in the future.



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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.

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 replacement of the roof will be necessary. However, with proper maintenance and care, the service life of the roof can be maximized.

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, but 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 from occurring. If a leak occurs through 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 would typically be coordinated by your maintenance manager.

Residents may visually identify some maintenance concerns such as a possible roof problem 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, and
- 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 any maintenance guides for your building and information provided by the roofing product manufacturer are referenced and closely followed. A checklist of common roof maintenance items is shown on page 3.

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, and
- in the fall to prepare for the upcoming winter snow and rain.

Your roof should also be inspected, including flashings and other accessories, after any storm with high winds (checking 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.

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 and are 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 “For More Information” section of this bulletin for contact information of these organizations.

A qualified professional will be equipped with the necessary tools and knowledge to identify the composition of specific roof types and will be capable of identifying 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 will be able to replace damaged materials, perform the cleaning and upkeep of drains and gutters, and can re-secure metal flashings and re-apply any sealant that has failed.

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 maintenance tasks are undertaken, a record should be kept and updated to provide an accurate record of the maintenance performed. 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.

All inspections and maintenance should be performed by a qualified professional.

Checklist of Common Roof Inspection and Maintenance Items

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, as well as 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 from occurring 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 pipe (intentionally located higher on the roof parapet than the roof drains)	An indication that the main roof drains are blocked. When this happens, water reaches the level of the overflow and begins to spill onto the ground below, typically located adjacent to entrances or other areas where it is difficult to ignore.
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 the 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.

Replacing Your Roof

Eventually, maintenance will no longer be useful or cost-effective in preventing leaks from occurring. 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 resulting 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 and its current condition and from that determine its anticipated life. To plan for the eventual replacement of the roof, your building should establish a renewals plan, which would include 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 “For more information” section of this bulletin on how to obtain more information on this requirement.

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

- Roofs should be inspected twice per year, in the spring and the fall, as well as 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.



For More Information

1. *About Your House* fact sheets on Repairing or Replacing Roof Finishes (CE 28g), published by Canada Mortgage and Housing Corporation (CMHC). Available online at www.cmhc.ca.
2. *Inspection and Maintenance of Flat Roofs* (Canadian Building Digest 179), *New Roofing Systems* (Canadian Building Digest 49), *Ice on Roofs* (Canadian Building Digest 89), *Roofing Membrane Design* (Canadian Building Digest 95), and *Drainage From Roofs* (Canadian Building Digest 151), published by the National Research Council of Canada's Institute for Research in Construction. Available online at www.irc.nrc-cnrc.gc.ca.
3. *Consumers Roofing Guide* published by the Roofing Contractors Association of British Columbia. Available online at www.rcabc.org.
4. *Best Practice Guide to Wood-Frame Envelopes in the Coastal Climate of British Columbia*, published by CMHC and available online at www.cmhc.ca.
5. Roof Consultants Institute website www.rci-online.org.
6. *What to Know about Contingency Reserve Funds and Special Levies* (Instruction Guide 12) published by Superintendent of Real Estate, Financial Institutions Commission. Available online at www.fic.gov.bc.ca.
7. Your building's maintenance manual.



The gravel cover of this built-up low-slope roof has moved, exposing the membrane that is cracked as a result of exposure to sun and weather, and exposing the underlying roofing felts. The roof can be expected to deteriorate quickly, and may already have failed at this location.

With proper maintenance and care, the service life of the roof can be maximized.

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Disclaimer

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