Roof Systems

ROOFS

Since your roof is overhead, not easily accessible and tends to be “out of sight, out of mind,” it is particularly necessary to develop and follow a strategy and program for its inspection and related maintenance.

The roof is the most exposed part of your house, so roofing materials have been carefully selected that are not only attractive but durable. Extreme exposure to sun, rain, wind and accumulated wind-blown dust and debris constantly impacts your home’s roof and can significantly shorten its life and result in costly damages to your home if you do not monitor and maintain it properly.

Inspections

Nothing is more critical to the long-term performance of your roof than following a program of regular inspections and proper maintenance. The longevity of your roof is also dependant on the type of roofing material installed, as well as the local climate. There are several different types of roofs used in residential construction. These include tile and shingle materials, and may be installed on flat, low, or high pitched roofs as appropriate. While general roof maintenance applies to most types, some require additional maintenance inspections and tasks. Follow the recommendations in this chapter.

Roofing manufacturers strongly advise homeowners to **stay off the roof**, especially tile and shingle roofs. When access to the roof is necessary, proper use of ladders and roof safety measures must be applied. If your home’s design incorporates a particularly steep roof pitch, it may limit your access by any normal method. Consequently, it is advisable that you develop an alternative method to inspect your roof, using binoculars or careful ladder access to check the roof from the edges.

You may wisely choose to use professional services for at least a portion of your roof inspection needs, as well as for repair and maintenance tasks. Repairs to the roofing assembly should always be done by a licensed, qualified roofer. Nothing is more critical to the long-term performance of your roof than following a program of regular inspections and proper maintenance.

One critical area to inspect regularly is flashing. Flashing includes the assemblies, usually sheet metal, that terminate the roof against walls, chimneys and parapets, and provides collars and transitions around pipes, vents, or other roof penetrations. It typically has laps and junctures that need to remain closed to weather, and may include sealant as part of the assembly.

Example of roof penetration flashing

Caution: Damaged flashing contributes to three-fourths of all roofing problems. Pay special attention to this important component especially at patios, chimneys, above and below windows, and at corners.

Recommended Maintenance Tasks	Frequency
Check the interior ceiling and attic for roof leaks and repair leaks immediately.	Twice per year and after storms
Examine the general appearance for debris, drainage, and general condition.	Twice per year and after storms
Inspect the attic for proper ventilation. Install additional vents or mechanical venting if high levels of heat occur. Ensure that vents are not blocked.	Twice per year

Recommended Maintenance Tasks	Frequency
Check sheathing and rafters or beams for condensation, mold, or other signs of inadequate ventilation.	Twice per year
Ensure gable end, ridge, and eaves vents (if present), are clear and unobstructed. Ensure that mechanical vents and thermostat controls are operable.	Twice per year
Professionally examine for any damage, slipping, or lifting of the roofing and related flashing. Inspect flashing at edges and around pipe collars to ensure laps and seals are in place and unbroken. Repair as needed.	Annually and after storms
Check sealant joints to ensure they are not cracking, split, or incompletely adhered. Repair or replace as needed. (Refer to the "Sealants" section in this chapter for additional information on this topic.)	Annually
Trim nearby trees to prevent branches from impacting the roof during windy conditions. Keep branches from spreading over roof areas, as frost can cause branches to break off and damage roofing.	Annually
Lightly pressure wash concrete and clay tiles.	As needed, as exposure indicates

Effects of Deferred Maintenance

Failure to provide the maintenance required may result in greater repair expenses and potential damage if water penetrates the membrane.

GUTTERS AND DOWNSPOUTS

The gutters and downspouts are designed to collect water from the roof and direct it to a safe drainage pathway at the ground or to a subsurface drain. It may be helpful to observe your gutters during a heavy rain to ensure they are effectively handling the roof runoff. Do not place ladders against the gutters, as this may dent the gutters.

Gutter and Downspout

Important Information

- **Underground Drainage.** Downspouts may continue below grade and drain at a lower level, away from the house. Seasonally inspect for the proper functioning of buried drains by flushing the drains and observing for the proper exiting of water at the exposed end of the drain.
- **Check for Runoff.** While the roof and gutter system is designed to substantially collect all runoff directly into the gutters and downspouts, concentrated or confined areas of roof runoff (such as at the ends of gutters and roof valleys) may overrun the gutter. Adding an additional diverter made from aluminum may aid in collecting this water and avoiding staining to the walls and fascia.
- **Trees.** Debris such as leaves, twigs, other vegetation, and bird's nests can accumulate in gutters and clog downspouts, especially where trees grow near the home. Installing leaf guards over the gutters can help reduce this problem in areas with heavy vegetation.
- **Downspouts.** Downspouts should drain water *away* from the house. If necessary, add three to five foot extensions to the downspouts to ensure proper drainage. Water should *never* pond near the base of your walls.

- **Splash Pans.** Splash pans may be installed at the drainage end of the downspouts. The splash pans may be heavy and settle over time; the heavy weight at the back of the pan can result in the splash pan tilting towards the foundation. It may need periodic lifting by adding soil or gravel beneath it.

Downspout

Caution: Added diverters should in no way block the drainage at the roof edge, which would create an additional problem rather than a solution.

Recommended Maintenance Tasks	Frequency
Examine and clear gutters of all debris. Where adjacent trees or windy conditions have caused the build up of leaves, flush gutters and downspouts with a hose jet as necessary.	Seasonally and as needed
Clear dirt and roofing surface granules that may build up in the bottom of the gutter, as they can slow or impede the downspout drainage	Seasonally and as needed
Inspect the fascia boards and adjacent walls for stains indicating leaks or incomplete roof-to-gutter laps. Repair as needed.	Seasonally
Flush underground drainage pipes to remove debris buildup and ensure proper drainage from the downspouts.	Seasonally

Recommended Maintenance Tasks	Frequency
Check any seams or joints in the gutter and downspout system to determine if resealing is necessary.	Annually
Re-paint painted gutters and downspouts.	As needed, typically every 3–5 years

Effects of Deferred Maintenance

Failure to provide the maintenance required may result in broken and leaking gutters, from which water damage and staining can result.