

ASK THE INSPECTOR

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How do I determine the life span of my roof?



Assuming the roof system is properly installed, to determine the approximate life of a roof, several questions need to be answered. To start, examine the type of roof. Whether the roof is sloped or flat, it has two basic elements: the roof deck - wood planks, plywood, or oriented strand board (particle board) usually used in residential construction; and a weather resistant or water proof finish. A sloped roof can be finished with asphalt composite shingles, wood shingle/shake, clay tile, metal, or slate tile. A flat roof's waterproof membrane typically includes several layers

or plies of felt with a coat of tar between each ply. The surface of the roof is then covered with gravel to protect the membrane from the sun. Other flat roof finishes include a rubberized asphalt membrane (modified bitumen) or plastic and rubber membranes. Even a flat roof is slightly sloped to allow the roof to drain properly and dry.

The slope of the roof must also be taken into account. The weather resistant finish of a sloped roof can be compared to an umbrella - designed to shed water or snow and dry before

the material becomes saturated. The steeper the slope, the better the roof sheds water, therefore a typical asphalt composite shingle may last longer on a roof with a greater slope as it allows the shingle to dry quicker.

Other factors that affect the roof's life include its proximity to weather - including sun, wind, rain, and snow. Take exposure to the sun as an example. On a sloped roof finished with asphalt composite shingles the portion of a roof that faces south or southwest typically has more exposure to the sun. The sun's rays can cause the shingles to become brittle and age prematurely. This is why some areas may show more deterioration than others.

The conditions in an attic space can also affect a roof's life. If insulation and ventilation levels are inadequate, air leaks from interior living space can cause a build up of warm, moist air. Under certain weather conditions, moisture condenses in an attic space potentially causing mould and mildew accumulation on the roof deck and framing, which can lead to wood rot.

It takes a trained eye to properly evaluate a roof and to understand the many factors that affect the performance of a roof system. A properly trained home inspector can provide a homeowner with an objective opinion regarding the



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conditions of a roof.

The following summary provides a typical life expectancy of various roof finish materials:

- Asphalt composite shingle — 15-25 years
- Wood shakes/shingles — 15-35 years
- Slate tiles — 35-100 years
- Built up roof (tar and gravel) — 10-30 years
- Modified bitumen — 15-25 years
- Rolled roofing (selvage) — 5-10 years

My roof has several layers of asphalt shingles. Can an additional layer of shingles be added over top?

It is not uncommon to find several layers of asphalt composite shingles installed over one another, however, the number of layers should be limited to two. Removing used materials is beneficial for the following reasons:

- Stripping used shingles allows your roofing contractor the opportunity to inspect the roof deck and, if required, to repair damaged areas.

- Installing new asphalt shingles over older materials may reduce the life of the new shingles and, depending on the manufacturer, may reduce or eliminate the product warranty (i.e. by trapping water between old and new shingles).
- The weight of a roof system will be reduced - for every 100 square feet of roof, several hundred pounds of roofing material per layer is required.
- The cost of labor to remove materials and the cost to dispose of the waste will likely increase in the future.
- Improving items such as the eaves protection, flashings and ventilation system become easier.

I have problems with ice build-up around the edge of my roof and water stains are appearing on the interior ceilings. What causes this and how can I prevent it in the future?

In some cases it may be appropriate to Ice build-up - also known as “ice damming” - typically occurs after a large snowfall, when nighttime temperatures fall below freezing and when daytime temperatures rise above freezing. Snow melts over heated areas of the home

(areas within the attic that are situated over interior rooms) and remains frozen over the unheated air space such as the eaves (the overhanging section of the roof). As the snow melts on the upper section, the water drains towards the eaves and is collected by the ice that has formed over the unheated roof space. This creates the “ice dam”. As water builds up behind the dam, it begins to rise in level, creeping up and under the roof shingles. Where no eaves protection has been installed, water can penetrate the roof causing interior water damage.

To reduce the risk of ice damming, eaves protection can be installed (a layer of felt or rubber membrane installed over the unheated air space). Secondly, inspect and identify insulation and ventilation levels. If necessary, to better control temperature on the interior (attic) space, insulation and ventilation levels can be improved. This upgrade would create an interior attic temperature closer to the exterior temperature reducing heat loss and melting snow.

As a last resort, where the roof pitch is low or temperature regulation is too costly, heat cables can be used to melt the ice over the eaves and into the eaves trough.

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