LEWIS HOME INSPECTION

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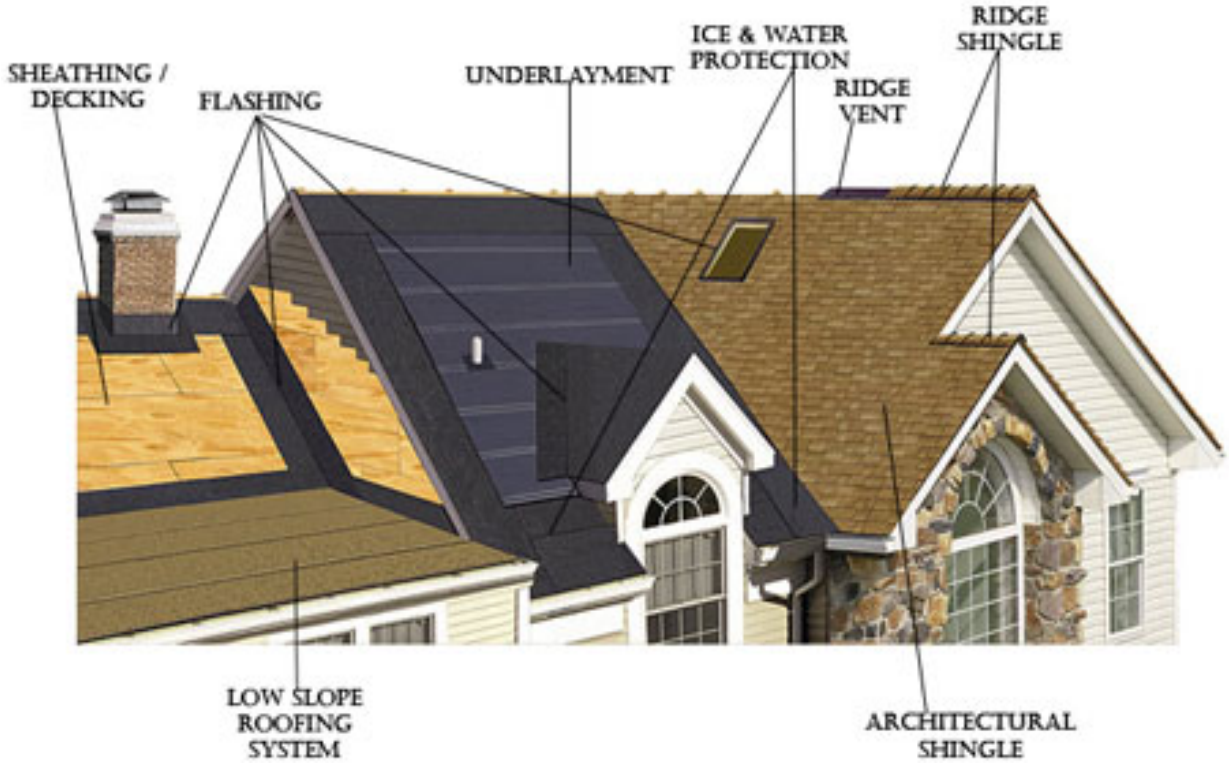
# ROOFING
## Reference Guide

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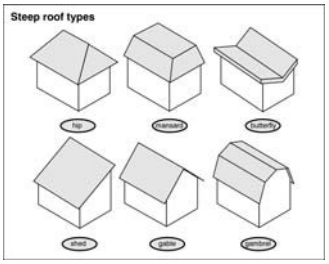
## THE BASIC FACTS

All roofs have five basic components: (1) sheathing: the boards or sheet material which are fastened to the roof rafters to cover the house, (2) roof covering: shingles, tiles or sheets which protect the sheathing from the weather, (3) roof structure: the rafters and trusses constructed to support the sheathing, (4) drainage: the features of the roof's design such as shape, slope, layouts, etc?which affect its ability to shed water, and (5) flashing: sheet metal or other material laid into the various joints and valleys of the roof to prevent water seepage.




While all roofs perform the same function, they do so in a number of different styles. A single house may embody one or more of these styles.

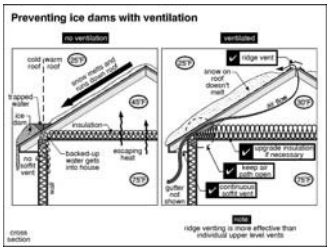
## Roofs have not one, but many enemies in nature:

**SUN** The warmth and ultraviolet rays of the sun cause roofing materials to dry out overheat and deteriorate. The sides of a roof with southern or southwesterly exposure, therefore, often wear out faster than those facing the north or east, especially if they are dark in color, since they absorb more of the sun's rays.

**RAIN** When rainwater finds its way through the interior of the roof structure, it sets up a moisture condition that is conducive to mildew and rot. It can destroy drywall, render insulation useless and jeopardize the electrical system.

**WIND** A strong wind actually can lift the shingles off a building, as well as drive rain water under the edges of roof shingles. It also can knock tree branches down onto the roof's surface, thereby scraping or even puncturing it.

**SNOW/ICE** Melting snow often refreezes at a roof's overhang, forming an ice dam and blocking proper drainage into the gutter. Instead, the water backs up under the shingles and seeps into the interior. In the early melt stages, gutters and downspouts can be the first to fill with ice and be damaged beyond repair or torn off the house.




**MOSS** Wood and build-up roofs are particularly susceptible to the decaying effects of moss. Its root systems serve as conduits for moisture to penetrate the roof surface. On build-up low-slope or flat roofs, moss impedes the runoff or water. It also rusts nails, causing shingles to loosen and blow off.

Another important aspect of roofing structure is the extent of a roof's steepness or incline. Referred to either by its slope, pitch or angle, this factor determines the type or roofing material that may or may not be used properly.

A roof with little or no slope is called a low slope or flat roof. Often, they are made from bituminous materials (such as asphalt) and gravel or, more technically, built-up roofs, and present the homeowner with a specific set of circumstances. Water tends to lay in ponds and debris accumulates on flat roofs because of their lack of runoff. Clogged drains running through the building may leak and result in internal damage.

Since water expands 700 times in volume from the liquid state to the vapor state, any moisture penetration into the felt layers of build-up roof can cause bubbles, ripples and delaminating (separation of the plywood decking) on the system. This often results from the flat roof's accumulation and longer retention of rainwater, ice and snow.

Flat roofs also chronically suffer from poor ventilation. As a result of condensation, or in the event of leaks through the bituminous coating of the built-up roof, poor ventilation can lead to decay or delamination of the plywood sheathing.

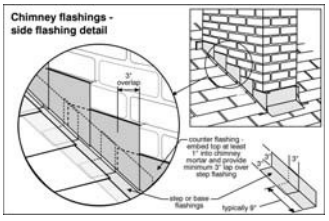
As a result of these many problems, architects now call for some slope and for the drainage system to be located along the outside perimeter rather than through the building.

## THE TRUTH ABOUT LEAKS

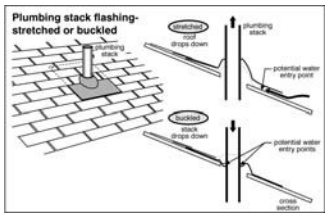
The truth is that while many roof leaks are easy to repair, their sources often are difficult to find. Water dripping from a ceiling may not be from a leak directly above, but from a leak many feet away that runs down the rafter or across the ceiling before coming in. It also could be caused by the condensation of moisture rising from a bathroom or kitchen, collecting on the roof sheathing and then dipping through to the floor below. It might just as easily be from a plumbing leak situated in a wall or ceiling, and incorrectly attributed to a roof leak.

The best way to start tracking a roof leak is to become familiar with the many possible causes. Then, by carefully examining the roof and using the process of elimination, you should be able to locate its source.

## THE MOST FREQUENT CAUSES OF ROOF LEAKS ARE:




1. Improper flashing, sealing or worn-through flashing around projections through the roof such as plumbing stacks (vent pipes), chimneys, skylights, antennas, dormers, etc.




2. Missing, broken or pierced shingles. Most likely caused by stones, hail, broken branches or walking on the roof.

3. Tears in roof valleys, created by expanding and contracting metal or by someone walking in the valley. Also, debris can **build up in the valley and block runoff.**

4. Exposed nails, nails in the wrong places or nails not set flush with the underlying shingles.

5. Wind driven rain: through an attic window or louver, into the chimney brick or mortar or under shingles, through the siding and behind the step flashing where a lower roof joins the vertical side of the main house.

6. Ice dams, which prevent proper run-off and force water to back up under the shingles.

7. Improperly installed roofing or a roofing type which is incorrect for the slope involved.

8. Cracking and blistering of roof tar on rolled asphalt or on built-up roofing.

9. Ponds or water, created when flat or low sloped roofs begin to sag. Clogged roof drains.

10. Crashed or disintegrating chimney caps.

## POINTS TO REMEMBER

### On maintenance:

By heeding the following points on maintenance, you will do much to lengthen the life of your roof:

1. Cut off or trim tree branches that overhang the roof and gutters. This will prevent debris and moss from clogging the valleys and gutters and from keeping everything wet or damp. It will eliminate the problem of branches **scraping and damaging the roof surface when the wind blows.**

2. Run downspouts (leaders) to the ground onto splash blocks slanting away from the foundation, or directly to another gutter below, never onto a lower roof surface.

3. Never try to change the color of roofing by painting the shingles. The paint and the granules will come off.

4. Never wear leather-soled shows when walking on the roof. Use sneakers or rubber composition soles that grip.

5. Check the roof sheathing from the attic before walking on the roof to avoid stepping through deteriorating sheathing.

6. Stay off slate, asbestos, wood or metal roofs. Stay off roofs with moisture, ice, snow, frost or fungus. Stay off steeply sloped roofs. Say off roofs altogether on windy days.

7.Keep from stepping in roof valleys or you will damage them.

**8.Avoid walking on roofs with brittle or curled** shingles or shingles that are hot from the sun or you will damage them.

9. Never leave the ladder standing overnight or for extended periods of absence.

## On hiring a roofer:

If, like most homeowners, you want to engage a contractor to do the roofing work on your house, it pays to get more than one estimate and to check the following with each company:

1.**Is the company licensed? Bonded? (Does not apply in all states.)**

2. Are their workers insured? Request a copy of the insurance certificate.

3.Have they been in business a long time?

4.Are they members of the National Roofing Contractors Association?

5.Will they supply local references for you to assist with your evaluation of their work?

6. Do they demand all payment in advance or in stages as the material is delivered and the work gets done?

7. Is the guarantee for BOTH the manufacturer's material AND the roofer's labor?