



The Prepared Homeowner's Guide to Roofing Repairs

*Inside you'll find important information
concerned homeowners like you should know
about your roof, and how it protects your family,
belongings, and memories...*

*Don't spend a dime to repair or
replace your roof until you read this first...*

By: Dan & Kim Cox
On Top Home Improvements, Inc.



SO MUCH DEPENDS ON YOUR ROOF

What's your roof *really* protecting? Your family. Your possessions. The integrity of your house. All under one roof. All protected by the same investment.

You need to make a roofing decision that assures the beauty, durability and security of your home for generations all the while keeping you comfortable, your home protected, and your peace-of-mind intact for years to come.

Do You Need a New Roof?

Maybe you're not quite sure where to start? Or maybe you have reroofed your home before, but you need to brush up on some of the latest products and procedures?

Well, you've come to the right place. Your decision to reroof your home may have been the result of seeing a neighbor reroof his or her home. Or you've been experiencing some roofing problems which can no longer be ignored. Then again, maybe you've decided just to give your home a face lift and a new roof would really enhance the look.

Whatever the reason, we want to help you make an informed decision. You'll find that being prepared and knowing what to expect when your reroofing project begins will help ensure your ultimate satisfaction with your new roof. Just as the human body ages and changes appearance over the years, so too, will your roof.

Due to the severity of the roof environment, even a one-year-old roof may look different from a roof that was just installed. While you may have first noticed the cracks or blistering from the ladder as you were cleaning the gutters, please be mindful that these normal weathering characteristics may not be visible when you view the roof from your front lawn or driveway.

And if the problem is not severe and the shingles are still providing the protection intended, then it is not a cause for alarm. Your roof is an important investment, since it literally protects you from the elements. While there are no magical creams or ointments to prevent your roof from aging, investing a small amount of time to examine your roof can reduce your anxiety and concerns about the normal aging conditions that affect it.

How Normal Weathering Affects Your Roof

Consider the conditions your roof must endure. First, there is the intense heat of the sun, which scorches the surface of the roof and raises rooftop temperatures 50 to 75°F above ambient temperature. The sun's rays are relentless, especially during the early afternoon hours. In addition to heat, the sun is the source of ultraviolet radiation, which has been shown to degrade and accelerate the aging of the asphalt layers of the roofing shingle.

If not for the protective layer of colored granules, roofing shingles would fail very quickly. Other factors such as moisture, pollution and physical effects (roof traffic, hail, snow loads, tree limbs, etc.) all contribute to the aging and degradation of your shingles.

Seasonal and weather changes also play a role in the aging of asphalt roofing shingles. For example, consider the common situation in which the roof is bathed in the intense heat of the summer sun. On such a day the rooftop may reach temperatures in excess of 160°F. Now imagine a cold front sweeping through the area, bringing with it the violent thunderstorms that are a common occurrence during the sweltering days of summer.

Almost instantaneously, the rooftop temperature drops 60 -100°F as it's pounded with a summer shower. Thermal shocks such as this cause the roof deck beneath to expand and contract, placing a strain on the shingles. Year after year this process is repeated, resulting in cyclic fatigue of the shingles. In addition to all of the climatic and external variables that can impact the performance of your roof, consider the internal factors that negatively influence the performance of roofing shingles.

Research has confirmed that an improperly ventilated air space inhibits air movement, and under most circumstances this increases moisture content in comparison with properly vented attic air spaces. Heat shortens the shingles' life and moisture causes deck movement and/or deterioration, which ultimately affects the performance of shingles.

As you can see, the roofing environment is a hostile one with many factors influencing the longevity of your roofing shingles. The natural aging process begins as soon as the shingles are installed on your roof. Day after day, the shingles are exposed to the elements—sun, rain, heat and cold. Your roof never has a “good” day.

Even Roofs Have Enemies

A roof system's performance is affected by numerous factors. Knowing about the following will help you make informed roof system buying decisions:

- **Sun:** Heat and ultraviolet rays cause roofing materials to deteriorate over time. Deterioration can occur faster on the sides facing west or south.
- **Rain:** When water gets underneath shingles, shakes or other roofing materials, it can work its way to the roof deck and cause the roof structure to rot. Extra moisture encourages mildew and rot elsewhere in a house, including walls, ceilings, insulation and electrical systems.
- **Wind:** High winds can lift shingles' edges (or other roofing materials) and force water and debris underneath them. Extremely high winds can cause extensive damage.

- **Snow and ice:** Melting snow often refreezes at a roof's overhang where the surface is cooler, forming an ice dam. This blocks proper drainage into the gutter. Water backs up under the shingles (or other roofing materials) and seeps into the interior. During the early melt stages, gutters and downspouts can be the first to fill with ice and be damaged beyond repair or even torn off a house or building.
- **Condensation:** Condensation can result from the buildup of relatively warm, moisture-laden air. Moisture in a poorly ventilated attic promotes decay of wood sheathing and rafters, possibly destroying a roof structure. Sufficient attic ventilation can be achieved by installing larger or additional vents and will help alleviate problems because the attic air temperature will be closer to the outside air temperature.
- **Moss and algae:** Moss can grow on moist wood shingles and shakes. Once it grows, moss holds even more moisture to a roof system's surface, causing rot. In addition, moss roots also can work their way into a wood deck and structure. Algae also grows in damp, shaded areas on wood or asphalt shingle roof systems. Besides creating a black-green stain, algae can retain moisture, causing rot and deterioration. Trees and bushes should be trimmed away from homes and buildings to eliminate damp, shaded areas, and gutters should be kept clean to ensure good drainage.
- **Trees and leaves:** Tree branches touching a roof will scratch and gouge roofing materials when the branches are blown by the wind. Falling branches from overhanging trees can damage, or even puncture, shingles and other roofing materials. Leaves on a roof system's surface retain moisture and cause rot, and leaves in the gutters block drainage.
- **Missing or torn shingles:** The key to a roof system's effectiveness is complete protection. When shingles are missing or torn off, a roof structure and home or building interior are vulnerable to water damage and rot. The problem is likely to spread-nearby shingles also are ripped easily or blown away. Missing or torn shingles should be replaced as soon as possible.
- **Shingle deterioration:** When shingles are old and worn out, they curl, split and lose their waterproofing effectiveness. Weakened shingles easily are blown off, torn or lifted by wind gusts. The end result is structural rot and interior damage. A deteriorated roof system only gets worse with time-it should be replaced as soon as possible.
- **Flashing deterioration:** Many apparent roof leaks really are flashing leaks. Without good, tight flashings around chimneys, vents, skylights and wall/roof junctions, water can enter a home or building and cause damage to walls, ceilings, insulation and electrical systems. Flashings should be checked as part of a biannual roof inspection and gutter cleaning.

Choosing a Roof System

There are a number of things to consider when selecting a new roof system. Of course, cost and durability head the list, but aesthetics and architectural style are important, too. The right roof system for your home or building is one that balances these five considerations. The following roofing products commonly are used for steep-slope structures.

Asphalt shingles possess an overwhelming share of the U.S. steep-slope roofing market and can be reinforced with organic or fiberglass materials. Although asphalt shingles reinforced with organic felts have been around much longer, fiberglass-reinforced products now dominate the market.

- *Organic shingles* consist of a cellulose-fiber (i.e., wood) base that is saturated with asphalt and coated with colored mineral granules
- *Fiberglass shingles* consist of a fiberglass mat, top-and-bottom layers of asphalt, and mineral granules

Asphalt shingles' fire resistances, like most other roofing materials, are categorized by Class A, B or C. Class A signifies the most fire-resistant; Classes B and C denote less fire resistance. Generally, most fiberglass shingles have Class A fire ratings, and most organic shingles have Class C ratings.

A shingle's reinforcement has little effect on its appearance. Organic and fiberglass products are available in laminated (architectural) grades that offer a textured appearance. Zinc or copper-coated ceramic granules also can be applied to organic or fiberglass products to protect against algae attack, a common problem in warm, humid parts of the United States. Both types of shingles also are available in a variety of colors.

Regardless of their reinforcing type and appearance, asphalt shingles' physical characteristics vary significantly. When installing asphalt shingles, NRCA recommends use of shingles that comply with American Society for Testing and Materials (ASTM) standards-ASTM D 225 for organic shingles and ASTM D 3462 for fiberglass shingles.

These standards govern the composition and physical properties of asphalt shingles; not all asphalt shingles on the market comply with these standards. If a shingle product complies with one of these standards, it is typically noted in the manufacturer's product literature and on the package wrapper.

Wood shingles and shakes are made from cedar, redwood, southern pine and other woods; their natural look is popular in California, the Northwest and parts of the Midwest. Wood shingles are machine sawn; shakes are handmade and rougher looking.

A point to consider: Some local building codes limit the use of wood shingles and shakes because of concerns about fire resistance. Many wood shingles and shakes only have Class C fire ratings or no ratings at all. However, Class A fire ratings are available for certain wood shingle products that incorporate a factory-applied, fire-resistant treatment.

Tile—clay or concrete—is a durable roofing material. Mission and Spanish-style round-topped tiles are used widely in the Southwest and Florida, and flat styles also are available to create French and English looks. Tile is available in a variety of colors and finishes. Tile is heavy. If you are replacing another type of roof system with tile, you will need to verify that the structure can support the load.

Slate is quarried in the United States in Vermont, New York, Pennsylvania and Virginia. It is available in different colors and grades, depending on its origin. Considered virtually indestructible, it is, however, more expensive than other roofing materials. In addition, its application requires special skill and experience. Many old homes, especially in the Northeast, still are protected by this long-lasting roofing material.

Metal, primarily thought of as a low-slope roofing material, has been found to be a roofing alternative for home and building owners with steep-slope roofs. There are two types of metal roofing products: panels and shingles. Numerous metal panel shapes and configurations exist.

Metal shingles typically are intended to simulate traditional roof coverings, such as wood shakes, shingles and tile. Apart from metal roofing's longevity, metal shingles are relatively lightweight, have a greater resistance to adverse weather and can be aesthetically pleasing. Some have Class A fire ratings.

Synthetic roofing products simulate various traditional roof coverings, such as slate and wood shingles and shakes. However, they do not necessarily have the same properties.

Ventilation and Insulation Are Key

One of the most critical factors in roof system durability is proper ventilation. Without it, heat and moisture build up in an attic area and combine to cause rafters and sheathing to rot, shingles to buckle, and insulation to lose its effectiveness.

Therefore, it is important never to block off sources of roof ventilation, such as louvers, ridge vents or soffit vents, even in winter. Proper attic ventilation will help prevent structural damage caused by moisture, increase roofing material life, reduce energy consumption and enhance the comfort level of the rooms below the attic.

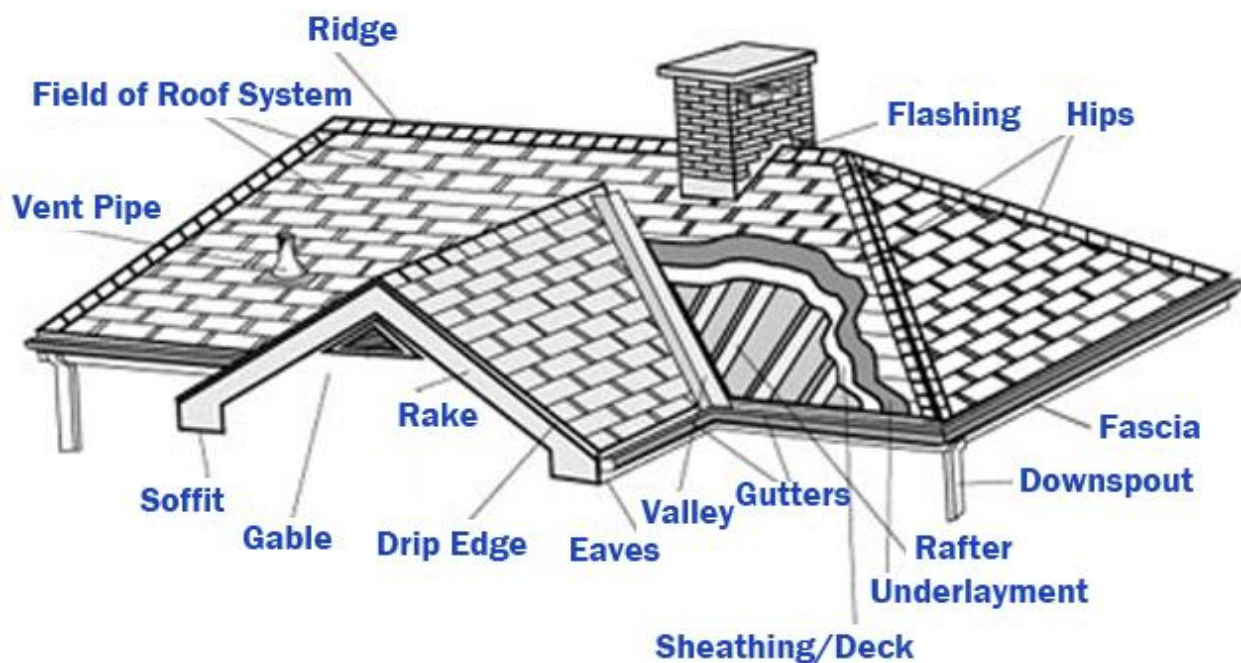
In addition to the free flow of air, insulation plays a key role in proper attic ventilation. An ideal attic has:

- A gap-free layer of insulation on the attic floor to protect the house below from heat gain or loss.
- A vapor retarder under the insulation and next to the ceiling to stop moisture from rising into the attic.
- Enough open, vented spaces to allow air to pass in and out freely.
- A minimum of 1 inch between the insulation and roof sheathing.

The requirements for proper attic ventilation may vary greatly, depending on the part of the United States in which a home or building is located, as well as the structure's conditions, such as exposure to the sun, shade and atmospheric humidity. Nevertheless, the general ventilation formula is based on the length and width of the attic.

Glossary of Roofing Terms

Before you can accurately understand a roof assessment or a roofing estimate, you should be familiar with roofing terminology. Below are some commonly used terms that identify parts of a roof and types of roofing:



Built Up Roof

A low-slope (or flat-seeming) roof covered with alternating layers of roofing felt and hot-mapped asphalt and topped off with a layer of gravel

Cornice

The portion of the roof projecting out from the side walls of the house

Counterflashing

The flashing which is imbedded at its top in a wall or other vertical structure and is lapped down over shingle flashing

Courses

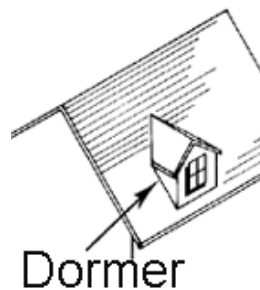
Horizontal rows of shingles or tiles.

Deck/Sheathing

The surface, usually plywood or oriented strand board (OSB), to which roofing materials are applied.

Dormer

A small structure projecting from a sloped roof, usually with a window.

**Drainage**

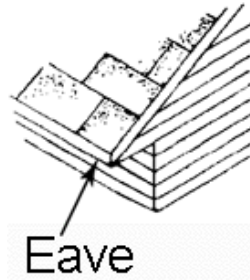
A roof system's design features, such as shape, slope and layout that affect its ability to shed water.

Drip edge

The L-shaped strip of metal extending out beyond the eaves or rakes to prevent rainwater from rolling around the shingles back onto the wooden portion of the house

Eaves

The lower edge of a roof (usually overhanging beyond the edge of the house).

**Fascia**

A flat trimboard, band or face located at a cornice's outer edge behind the gutter and eaves.

Felt

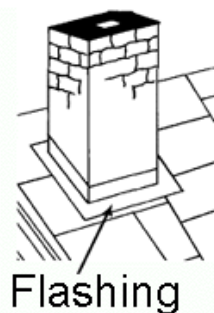
A sheet of asphalt-saturated material (often called tar paper) used as a secondary layer of protection for the roof deck.

Fire Rating

System for classifying the fire resistances of various materials. Roofing materials are rated Class A, B or C, with Class A materials having the highest resistance to fire originating outside the structure.

Flashing

Pieces of metal used to prevent the seepage of water around any intersection or projection in a roof system, such as vent pipes, chimneys, valleys and joints at vertical walls.

**Frieze Board**

A board at the top of the house's siding, forming a corner with the soffit.

Gable

The triangular upper part of a wall closing the end of a ridged roof.

Hip

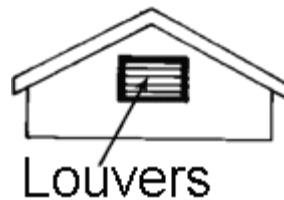
The external angle at the junction of two sides of a roof whose supporting walls adjoin.

Joist

In a flat roof, a horizontal structural member over which sheathing is nailed.

Louvers

Slatted devices installed in a gable or soffit (the underside of eaves) to ventilate the space below a roof deck and equalize air temperature and moisture.

**Oriented Strand Board (OSB)**

Roof deck panels (4 by 8 feet) made of narrow bits of wood, installed lengthwise and crosswise in layers, and held together with a resin glue. OSB often is used as a substitute for plywood sheets.

Penetrations

Vents, pipes, stacks, chimneys – anything that penetrates a roof deck.

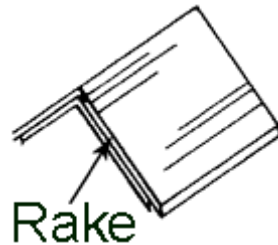
Rafter

A structural member (usually slanted) to which sheathing is nailed.



Rake

The slanting edge of a gabled roof extending beyond the end wall of the house.

**Ridge**

The horizontal line at the top edge of two sloping roof planes.

Roof covering

Shingles, tile, slate or metal and underlayment that protect the sheathing from weather.

Roof structure

Rafters and trusses constructed to support the sheathing.

Sheathing

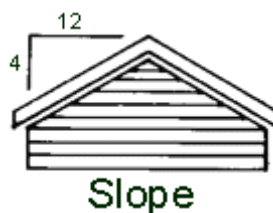
The rigid material (often 1-inch by 6-inch or one inch by twelve inch boards or sheets of plywood) which is nailed to the rafters, and to which shingles or other outside roofing materials are secured.

Shingle Flashing

Flashing that is laid in strips under each shingle and bent up the edge of a chimney or wall.

Slope

The number of inches of vertical rise in a roof per 12-inches of horizontal distance. Also referred to as pitch.



Soffit

The boards that enclose the underside of that portion of the roof which extends out beyond the sidewalls of the house.

Square

One hundred square feet of roof, or the amount of roofing material needed to cover 100 square feet when properly applied.

Truss

Engineered components that supplement rafters in many newer homes and buildings. Trusses are designed for specific applications and cannot be cut or altered.

Underlayment

The material (usually roofing felt) laid on top of sheathing before shingles are applied.
Valley The less-than 180-degree angle where two sloping roof sections come together.
Valley Flashing The flashing in valleys, extending in under to shingles on both sides.

Valley

The less-than 180 degree angle where two sloping roof sections come together.

**Valley Flashing**

The flashing in valleys, extending in under to shingles on both sides.

Vapor Retarder

A material designed to restrict the passage of water vapor through a roof system or wall.

About On Top Home Improvements, Inc.



Kim and Dan Cox

*For over 28 years, 6000+ homeowners in Montgomery, Prince George's, and Howard Counties have trusted us and our exclusive **Lifetime Roofing Labor Warranty** to protect, add value and curb appeal to their homes!*

Dan and Kim Cox, owners of *On Top Home Improvements*, know customers like you are looking for a **reputable, experienced** Maryland roofing contractor and home improvement company...

- Who's **completely honest** with you during the entire home improvement process... from estimate to final payment
- Who's rated A+ from the BBB
- Who'll do the **job right the first time**
- Who **you can trust**
- Who is fully licensed, insured, and certified in all the areas they work
- Who provides **free, comprehensive, detailed estimates** so you know exactly what you need, what you will get, and when you'll get it
- Who will do an **exceptional job** for a **reasonable price**
- Who won't require a deposit unless the job is over \$6000 – even then, we only ask for one-third, and balance due after you're completely satisfied with our work

***On Top Home Improvements* provides all these benefits to every single customer, leaving no doubt you can depend on us to take care of all your roofing needs!**

**To get a FREE, no-obligation roof repair or replacement estimate...
or to ask us your roofing question, call us at 301-368-3551**



Home Improvements, Inc.

On Top Home Improvements, Inc.

10818 Avonlea Ridge Place

Damascus, MD 20872

Tel: 301-368-3551

E-mail: ontophome@gmail.com

www.ontophome.com

Here's what some happy customers say about our service...

"Thank you for your good work on my roof and especially for the "little/big touches..." like cleaning my skylights, filling in cracks, alerting me to other house needs."

Lucia P., Columbia, MD

"The roof looks great. The color was just fine. The crew worked diligently. They cleaned up after the job was completed. Please feel free to use us as a reference."

The Singers, Laytonsville, MD

"Thank you for a job well done. Your workers were respectful and diligent. They cleaned up the worksite and were conscientious of our flower beds. You have restored our belief that there are good contractors out there. We'd be happy to refer other customers."

The Ashby's, Colesville, MD

"Thank you Dan. You did a great job. We're very happy with all the work."

Ed & Georgia Rodatus, Frederick, MD

"Thank you for the service you provided in the recent replacement of our roof. The service was impeccable and the entire process was smooth. Everything was handled, expediently and efficiently. Your sub-contractors who worked on the house were kind and professional."

Kimberly Sabatano, Frederick, MD

"Thank you very much for the excellent work done on our roof. Everyone was very professional and on time and we will be happy to recommend you to anyone, and are glad we chose you."

Mr. & Mrs. Wiles, Laytonsville, MD

"Thank you for the prompt completion of our roofing project. We are very pleased with the results. The roof looks much better!"

Jim Quinn, Laurel, MD

"Thank you for getting our roof and gutter work done quickly and neatly!"

Mr. & Mrs. Carlberg, Germantown, MD

**To get a FREE, no-obligation roof repair or replacement estimate...
or to ask us your roofing question, call us at 301-368-3551**



Home Improvements, Inc.

On Top Home Improvements, Inc.

10818 Avonlea Ridge Place

Damascus, MD 20872

Tel: 301-368-3551

E-mail: ontophome@gmail.com

www.ontophome.com



Home Improvements, Inc.

On Top Home Improvements, Inc.

10818 Avonlea Ridge Place

Damascus, MD 20872

Tel: 301-368-3551

E-mail: ontophome@gmail.com

www.ontophome.com