

Looking for a new roof?

Even this 'forgotten' detail is going green

Miles Dyson

Living Green



Near-hurricane-force winds tortured roofs all over New Mexico and the greater Southwest early last month – including hundreds of homes in our county. Thousands of homeowners in the region (like my wife and I) now find themselves with insurance check in hand, trying to determine how best to protect their home and get the most out of their pending roof investment.

The roof of the home is one part of the structure, typically ignored until there is a problem. Even in new construction, and especially with so many low slope or “flat”-roof style homes built in our area, the type of roofing installed receives little attention from most homeowners and buyers – out of sight out of mind? Just like a strong foundation, a durable and low-maintenance roof system protects all the stuff we can see and care about inside.

So, a good roof is important. When we get serious about selecting a roof and begin to “Google” all of the modern residential roof options, we see a staggering number of choices. Just like most homeowners, affordability and durability will be key in our selection. Green home certification programs, including the National Association of Home Builders Green, LEED for Homes and Energy Star for Homes provide additional best practice considerations in roof selection that can help narrow the search.

Durable, affordable, sustainable and energy-efficient home design (also known as green home design) offers valuable insight for making a roof “green.”

A key best practice for any roof installation, regardless of the actual roofing material surface, is a well thought out and correctly installed underlayment and flashing system.

Underlayment material beneath a roof system serves as a second line of defense to prevent leakage. It is typically a heavy, Fiberglass reinforced asphalt paper product overlapped

to move moisture to the edge of a roof below the protective surface. Flashing is galvanized sheet metal strips or rubberized membrane installed at deck penetrations, valleys, against roof to wall transitions or at other points where the plane of a roof deck has changes in angle or elevation.

When a roof leaks, it leads to expensive damage to the interior finishes and potentially to our personal belongings. Moisture in attic insulation and interior wall areas will also lead to mold growth and can impact your family’s health.

Talk to your potential roofing contractors about how the roof will be prepared for your new roof covering. Be sure that a thorough inspection of the flashing and roof system underlayment is part of the re-roof quote and scope of work. Ask the contractor to detail costs and methods to resolve issues that may be discovered during the re-roof process – like points where water collects or stands, deteriorated boots at drain waste vents or gapped attic vent and chimney step flashing.

A reputable roofing contractor should be able to provide detail specification drawings to demonstrate proper installation techniques for flashing and underlayment installation. Homeowners should use these drawings during the installation to make sure the actual installation matches the specs provided. After walking over a thousand roofs in Las Cruces, I know that often we do not do a great job of installing flashing and underlayment (yes – it does eventually rain here).

Once the basics are covered, what’s next? If you look up “green roofing” on the web you will find exotic and futuristic architectural wonders with orchards, gardens and salt grass meadows installed on the tops of urban high-rise buildings. In parts of the world where real estate is scarce and population is dense, these engineered roof systems help to insulate structures, manage storm water runoff, deflect heat island temperature increases and provide aesthetically important urban green spaces.

These systems require a large upfront investment and a significant commitment by the owner or property manager to insure they per-

form as designed. This complex type of green roof is beyond the reach of most homeowners.

Fortunately, there are many more basic green roof options. Roof system manufacturers have embraced the public demand for products that last longer, require less maintenance and reduce utility costs. Many of these same products have been recognized by organizations such as Energy Star, LEED and NAHB Green for also reducing environmental impact through increased recycled content or their ability to be recycled after use.

Vinyl membrane roofing was first installed on large commercial structures and has now found its way in to the residential market, especially on our pueblo style, low slope roof homes. This material is typically white and reflects a large percent of the sun’s heat energy from the roof surface so is prized in hot and desert climates. The main types used are Ethylene Propylene Diene Monomer (EPDM), Poly-Vinyl Chloride (PVC) and another known as Thermal Poly-Olefin (TPO). These materials are very long lasting and UV resistant. They are installed with heat-welded seams that resist separation and when installed by a quality contractor they can be expected to last for 20 to 30 years with very little maintenance.

A low-slope roofing solution used frequently to extend the life of existing roofs is elastomeric reflective roof coating. Like the vinyl roof, heat buildup at the deck and attic space is reduced by the light reflective color. Unlike other replacement roof systems, the old roof cap sheet and system does not need to be removed before the product is applied. The performance of these coating formulations has improved greatly in recent years.

I have been impressed by installations of this product on many homes in Las Cruces. The price for application of this coating system is typically less than overall roof system replacement. These coating systems, when applied by a qualified contractor are often warranted for five to 10 years or longer. Service for these coated roofs is simple, when an area needs attention it just needs to be cleaned and to have additional coating applied. Sins of previous roofing mistakes can be remediated by use of these coatings since they provide a continuous seal at the roof surface.

Our home is a traditional pitched roof design. The sealed membranes and coatings above can be installed on this type of roof

but the stark visual impact may bring your neighbors out with pitchforks. Metal roofing is one of the most durable and attractive choices for homes with sloped roof designs. Galvanized or coated steel and copper standing seam metal roofing or other designs that clip in place with weather protected fasteners have no visible penetrations. This means they are essentially maintenance free for the 30 to 50 year life of the roof.

When considering a metal roof note the type of fasteners used to secure the roof to the deck. I see homeowner installed R-Panel type roofing (especially re-roofs) where the exposed screw fasteners have failed gaskets (leaks) or where mineral coated shingles left in place beneath the metal have caused corrosion of the metal roof. A good or a green roof starts with the quality of the installation. Nearly all metal roofing is made from recycled material and all metal roofing can be recycled at the end of its service life.

What about good old-fashioned asphalt shingles? Progress marches on here as well. Most traditional three-tab asphalt shingles now come with a 15 to 20 year manufacturer’s warranty. Heat build up on shingle roofs can deteriorate the plywood roof deck and increase attic temperatures and your summer cooling bills.

Special “cool roof” mineral coatings are available on most manufacturers shingles. These tend to be the lighter colored selections but they don’t have to be the lovely “shasta white.” Varying colors are available meeting Energy Star Cool Roof criteria and range from reds and tans to grays and blues. Layered or “architectural style” asphalt shingles simulate the look of wood shake shingles. These offer even longer warranties, up to 30 years and come in wind resistant designs that manufacturers claim can resist 130 mph wind.

A green roof is one that fits your budget, helps to reduce utility costs, will be easy to maintain, won’t scare your neighbors and is easy on natural resources. Take time to decide what green roof best fits your needs.

Miles Dyson is the owner of Inspection Connection LC - Professional Home Energy Rating and Home Inspection Services in Mesilla Park and can be reached at 202-2457. Dyson is a RESNET certified Home Energy Rater and ASHI certified Home Inspector. For more information, visit www.icenergyrate.com.