



SUSTAINABLE MASTERPIECES

Metal Roofs Deliver When It Matters



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CREDIT: MRA MEMBER, MCELROY

Beautiful, sustainable, durable, energy efficient ... from all perspectives, metal roofs are the best choice for today's high-performance homes—and in many areas of the country, the only choice.

IF YOU HAD ASKED homeowner Kristi to list the reasons she picked a metal roof when re-roofing her 1940s house five years ago, she would have emphasized its appearance and ability to stand up to the brutal Panama City, Fla., sun while keeping the house cooler than asphalt shingles.

If you asked her the same question today, she would emphatically add “safety” to the list of metal roofing upsides. Kristi, along with her fiancé, son, and dog rode out Category 4 Hurricane Michael under a mattress in the bathtub of her home.

“It was bad, bad, bad,” she recounts. “I was sitting there thinking we might die. There were 155-mile-per-hour winds swirling, and you could feel it lift up the house ... just amazing shaking,” she says.

After two hours of terror, the storm passed. When the family emerged they were stunned to find a 60-foot pine tree had crashed down on the house. The roof supported the weight of the massive tree and sustained almost no damage. “Our roof literally saved our lives,” she says.

In the weeks that followed the devastating storm, every house on Kristi's street except hers was deemed uninhabitable because of unsafe conditions and mold and mildew caused by water that coursed through shredded roofs.

Kristi's harrowing tale prompted judges to name her the winner of the Metal Roofing Alliance's 2018 Top Survivor Home contest.

While Kristi's story ended well, she worries about people who rebuild after disasters using the same products they used before. “After what we went through, it's shocking when you hear people say they are replacing their roofs with asphalt shingles again. When you live through something as horrific as this hurricane was and understand first-hand the power it has to cause mass devastation and suffering, it's simply not worth the risk to your home, or your life,” she says.



Category 4 Hurricane Michael unleashed its wrath in Florida. Asphalt shingles (above) for the most part did not survive the onslaught. Many metal roofs, however, stayed strong. The metal roof on top of Metal Roofing Alliance's 2018 Top Survivor Home even kept a tree from crashing through the house (pictured top).

This roof is MRA member EDCO's Infiniti Roadhouse Steel, which is designed to blend in areas where home buyers prefer rustic-looking roofs.



THE DURABILITY VS. COST CONUNDRUM

Particularly after the recent spate of East Coast hurricanes, building materials—such as roofs, structural members, and windows—have come under scrutiny.

“The performance of metal roofing in these weather extremes has become much more visible,” says Renee Ramey, executive director of the Metal Roofing Alliance. “Metal roofing’s ability to withstand these disasters and protect a home’s structure inside and out has definitely caused interest in metal roofing to increase amongst homeowners.”

Having such dire proof points hammered home by the media, storm after storm, educates homeowners about the importance of using resilient building materials. However, when it comes time to pay for replacement, many people cite the higher upfront cost of longer lasting materials when they ultimately choose less durable options. This explains why many of Kristi’s neighbors re-roofed with asphalt shingles, even after suffering through a hurricane.

“Metal roofing may cost more initially, at the time of install, but the long-term costs are typically less over the life of the roof,” Ramey explains. “Why? Because a quality metal roof will last three to four times longer than an asphalt roof. While you may pay more at first, you are not paying to replace your roof every 10 to 15 years, which is typically how long an asphalt roof will last.”

WHEN ALL HAIL BREAKS LOOSE

When it rains, it may pour, but when it hails, it can be hellish for homeowners.

Recent reports show that hailstorm costs are increasing in the United States, averaging \$8 billion to \$10 billion in damage annually and accounting for 70 percent of insured loss from severe storms.

Homes take the worst beating from hail, especially roofs. To protect homes from damage and the increasing threat of hailstorms, experts say that choosing more resilient materials is essential.

Studies conducted by the Insurance Institute for Business & Home Safety (IBHS) show that while all roof types can sustain some cosmetic damage depending on hailstorm severity, metal roofing performed best and was much less likely to puncture as compared to asphalt, withstanding even golf ball-sized hail stones without compromising performance.

Damage to asphalt roofs from hail also can be difficult to detect. A weakness, crack or penetration in a roof caused by hail may allow water to intrude and damage a home’s interior before a homeowner even realizes there may be a problem, making a costly problem that much more expensive to fix or repair.

Keep in mind that labor costs make up the largest percentage of the overall cost when installing a new roof. “So you can pay the labor costs once to install a metal roof or you can pay the labor costs three to four times to install several asphalt roofs over a 50-year period,” Ramey explains. “One metal roof vs. three to four asphalt roofs ... the math pencils out very quickly and showcases that metal roofing, in the end, is typically less expensive over the life of your home.”

Other factors to consider when looking at metal roofing are that, on average, metal roofing can increase the value of your home, you may save on heating and cooling costs (depending on your location and how your house is sited), and, as Kristi’s experience clearly illustrates, metal roofs offer better protection and peace of mind against increasing weather threats caused by climate change.

“A roof damaged by severe storms and weather can compromise an entire home, both on the interior and exterior, which obviously can cost significantly more than the price to put on a better quality metal roof,” Ramey emphasizes.

DURABILITY IS SUSTAINABILITY

When considering costs, don’t forget to weigh the environmental costs. “Less durable asphalt roofs have to be replaced more often and wind up in the landfill,” Ramey reminds. “A metal roof is an investment not only in your home, but helps lighten the impact on the earth’s resources as well.”

People typically consider “sustainable products” to be recycled, upcycled, or resource efficient. However, just as important as these attributes are how long a product lasts. The embodied energy of creating products—even if they are made from recycled materials—is multiplied over and

5 METAL ROOF MYTHS

When selecting a roof for your home, don’t succumb to misinformation. Here are the facts about metal roofs.

ACCORDING TO A RECENT STUDY of U.S. homeowners conducted by the Metal Roofing Alliance, metal has become the second most preferred type of roofing material and is quickly gaining in popularity. However, there are still misconceptions about metal roofs among some homeowners, including these:

MYTH #1: Style and color options are limited.

Fact: Metal roofing offers a nearly endless number of design options to fit with the architectural style of just about any home. Metal roofs that mimic the look of shakes, slate and clay tile, yet offer exceptional durability and performance, are just some examples of the beautiful styles available.

Metal also offers homeowners more color choices than any other type of roofing material. A wide range of rich color options—as well as raw organic hues such as copper, titanium and bright stainless steel—are increasingly attracting homeowners for their one-of-a-kind appeal.

MYTH #2: Metal roofing is not as energy efficient. It may make my home too hot in the summer.

Fact: Metal roofs have proven energy-efficiency performance and are ENERGY STAR qualified as “Cool Roofs.” Even basic, unpainted metal roofs will reflect more solar radiation than asphalt, which typically absorbs and holds heat.

By choosing proper colors and coatings, low-glare metal roofs reflect mostly non-visible UV and Infrared sun rays, the kinds that produce the most heat, re-emitting as much as 85 percent of solar heat gain to help keep homes cooler. That means, even darker color metal roofs will lower your home’s temperatures and can help you save up to 40 percent on your annual energy costs.

MYTH #3: A metal roof won’t perform as well in extreme conditions.

Fact: Metal roofs are by far the preferred and most durable choice for withstanding hurricane force, 140-mile per hour winds and extreme storms, which is why they are so popular in hurricane prone areas like Florida and the southeast U.S. region. Quality metal roofs stand up to damaging hail much better than other types of roofs and have the strength to hold up under heavy snow and ice loads.

As an extremely strong, long-lasting, low maintenance and durable material, metal is a top choice for severe weather and climate conditions, including in wildfire prone areas.

MYTH #4: It’s not as sustainable as other materials

Fact: For the environmentally conscious, the fact that metal roofing lasts 50-plus years (nearly two to three times longer than other materials), can be recycled at the end of its long life rather than dumped into the landfill, and is energy efficient are major benefits.

Quality metal roof coatings can also mean lower long-term maintenance by naturally resisting moss and fungus, which reduces the need for strong chemical treatments that can be harmful to the environment.

MYTH #5: A metal roof will be noisy.

Fact: When installed correctly, a metal roof is as quiet as an asphalt roof. A combination of attic space, insulation and proper installation methods are important to reduce noise transmission for any roof, no matter what the material type, and makes the biggest difference when it comes to sound. Make sure your installer uses a good quality underlayment and adds/tightens fasteners securely to help manage noise.

For more facts about how metal roofs compare to other roofing choices on the market, visit the [Metal Roofing Alliance](#).



This Drexel Metals roof was custom-machined and mechanically sealed to provide high performance in Aspen, Colo.'s extreme climate.

CREDIT: MFA MEMBER, DREXEL METALS

over if that product has a short life span and must be replaced often.

Compared to nearly all other products in a home, metal roofs represent the gold standard for longevity—50-plus years (nearly two to three times longer than other materials). Quite simply, your roof could outlast all the other components of the home. This incredible durability means the metal will not end up in a landfill, and because it is recyclable, the material can be reused. The sheer durability of the material earns metal roofs a place in most green building programs, such as LEED for Homes or the National Green Building Standard.

In addition, the quality coatings on a metal roof provide an environmental advantage because they resist moss and fungus growth, and reduce the need for strong chemical

treatments that can be harmful to the environment.

Metal's durability is especially important for homes that may experience extreme weather or wildfire damage. Millions of tons of debris from weather events end up in overburdened landfills or floating out to sea.

Building to prevent that loss in the first place is a strategic decision that many homeowners make for themselves and many municipalities and insurance companies are beginning to encourage (even mandate) to mitigate this escalating waste issue, not to mention the skyrocketing costs.

SUPPORTING CAST FOR ENERGY EFFICIENCY AND RENEWABLES

While the environmental benefits of selecting metal roofing are becoming well known, there are still misconceptions to overcome, such as the inaccurate belief that a metal roof will



WILDFIRE DEFENSE

Metal roofing is the first line of defense against wildfires.

THE SPATE OF OUT-OF-CONTROL WILDFIRES over the past few years has prompted organizations such as the National Fire Protection Association (NFPA), to put forth plans for mitigating property loss.

NFPA's wildfire mitigation plans include incorporating ignition-resistant building materials as part of home renovation plans, especially during spring re-roofing season. (Do you live in a wildfire prone area? You can learn about NFPA's FireWise USA program [here](#).)

To help protect homes, the Federal Emergency Management Agency (FEMA) recommends that in fire-prone areas, if a roof is covered with wood or asphalt shingles, homeowners consider replacing it with a fire-resistant material, such as metal because metal roofing has a Class A fire rating, the highest available. Class A roofing must be able to withstand flames up to four hours and resist tests using 15 cycles of gas flame turned on and off.

Studies show more areas in the western U.S. and Canada are vulnerable to wildfire, and last year's devastation, particularly California's Camp Fire, demonstrates how quickly the problem can spread, even to areas that were previously considered safe.

Flying embers from a wildfire can destroy a home up to a mile away and a roof is one of the most vulnerable areas. Yet a 2016 study by the U.S. Forest Service entitled "Recovery and Adaptation after Wildfire on the Colorado Front Range" shows that local communities and homeowners are still woefully unprepared when it comes to adapting to future threats, even after wildfires strike.

"Choosing home improvement products that look great, perform well and are made to last are always top priorities for homeowners," says Renee Ramey, executive director of the Metal Roofing Alliance. "Now they also need to consider how to better protect their home against growing regional threats and extreme climate conditions. Thankfully, there are materials like metal roofing available that check all the boxes."

cause a home to be hotter in extreme summer temperatures. In fact, the opposite is true.

In addition to providing energy-efficiency attributes, metal roofs are essential when high-performance houses add solar PV to the energy saving plan, particularly in areas like California, the first state in the nation to require all new homes to have solar power.

"California's leadership is a giant step forward to bring solar power into the mainstream for all homeowners, no matter where they live," says Ramey. "It also promises to cause a major shift in the building and construction industry for how to adopt methods and materials that are better suited for solar systems. After all, the return on a residential roof-mounted solar investment is only as good as the quality and longevity of the roof where it's installed."



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Renee Ramey, executive director of the Metal Roofing Alliance

This move by California will pay off for homeowners, who stand to save an estimated \$80 a month on heating, cooling, and lighting. However, these gains can be wiped out quickly if the roof underneath the solar system fails, necessitating extra labor costs to remove and reinstall the panels.

Is a solar system in your home's future? Keep these points in mind:

- A solar system lasts 20 to 25 years. A metal roof lasts 50-plus, meaning it will outlast not only one PV system replacement, but potentially two.
- Metal is able to support the weight of PV systems using a simple attachment and clip system that does not require ballast systems or drilling holes into the roof, reducing the possibility of roofing failures and leaks.
- Metal roofs, even unpainted ones, will reflect more solar radiation than asphalt, delivering high total solar reflectance and high infrared emittance, which keeps homes cool and saves energy by reemitting most of what solar radiation is absorbed.



Picking a quality metal roof and using a reputable contractor to install it is important. Above right, an inferior metal roof with a sub-quality paint system grew fungus. The homeowners replaced it with a Drexel Metals roof in Mansard Brown (above left).

BUYER BEWARE!

Here's why you need to pick a quality metal roof—and how to do it.

AT FIRST, JAYNE SVENTEK AND HER HUSBAND thought they might be seeing things. Their home's sparkling white metal roof, only just eight months old, had begun to show a distinctive black tinge creeping over the surface like a five o'clock shadow.

As the weeks and months went by, it was clear that something was seriously wrong. The black fungus menace began to grow thicker, until the entire roof was nearly covered with a mottled, ugly discoloration.

The nightmare didn't end there for these Naples, Fla., homeowners. In fact, it was just beginning. For nearly five years, Jayne desperately tried to get the original local installers to stand behind their work and fix the problem.

She called building officials and worked to hunt down the manufacturer of the roof's material, all to no avail.

Cleaning the roof wasn't an option, for fear of voiding any warranty that may have been in place. In the region's warm, humid climate, the fungus continued to thrive.

More research confirmed what Jayne and her husband were beginning to suspect: The installer had used an inferior material from an unknown manufacturer with a sub-quality, under-cured foreign paint system. The problem wasn't going to go away, it was only going to get worse unless the roof was replaced.

Out of options, the Sventeks happened to get in touch with the Metal Roofing Alliance and subsequently, Drexel Metals, a leading metal roofing systems and custom fabrication company with an excellent reputation. Drexel worked closely with the homeowners to ensure the replacement product would withstand the region's environmental conditions.

The Sventeks installed a beautiful Drexel Metals Mansard Brown standing seam metal roof that came complete with a 35-year warranty and Sherwin-William/Valspar's Fluoron 70% PVDF coating, a highly-durable finish designed stand up to severe climate conditions, including saltwater, humidity and storms.

The Sventeks couldn't be happier with their new roof, but the

true test came in 2017 when Hurricane Irma, an extremely powerful and catastrophic hurricane, hit Naples. Winds up to 130 miles struck the region, leaving massive damage, downed trees, and homeowners like the Sventeks without power for 10 days. Miraculously, even with all the surrounding destruction, their house was not only still standing, the roof was intact and in great shape.

"That was a true test," said Jayne. "Our new roof looks and performs beautifully. It's great peace of mind for us to know that now, the roof will not only stand up to the test of time, but to Mother Nature as well."

Don't let this same problem happen to you. Here is MRA's advice for evaluating metal roofing project bids and choosing your perfect metal roof:

- Where is the metal roofing material manufactured?
- What type of metal is it and what protective coatings does it have?
- What kind of product and installation warranties are offered, are they transferable and how long is the product guaranteed to last?
- What verifiable safety, performance and environmental standards, testing and regulations do the manufacturer adhere to?
- What type of performance ratings does the product have for conditions such as severe weather and fire protection?
- What customer service support does the manufacturer offer should an issue, problem or question arises?
- How long has the manufacturer and installer been in business? What is their track record?
- Does the manufacturer have favorable reviews from other customers and credible, third-party business rating organizations?
- Are they members of industry-leading trade organizations, such as the MRA?

For more information about metal roofing, visit the [Metal Roofing Alliance](#).



Metal's durability is especially important for homes that may experience extreme weather or wildfire damage. Shown here, a metal roof by MRA member, American Metal Roofs.

EXTREME COVERAGE, DESIGN APPROPRIATE

While energy efficiency, durability and toughness are important when selecting a roof, you aren't going to buy something that doesn't enhance the look of your home. And this is truly where metal shines.

Recently, MRA awarded the Best Metal Roofing prize to a metal re-roofing project installed on a rustic log cabin at Moon Dance Ranch in Sonoma County, Calif. The stunning Forest Green Skyline Roofing steel panel style produced by ASC Building Products and installed by Wedge Roofing won for its beauty and attention to performance. (See photo below.)

The solid-wood log home is close to the location of the recent devastating wildfires in Northern California. "Even though this

project pre-dated the recent significant fires, we knew it was located in high fire danger," says Gary Harvey, general manager of Wedge Roofing. "So when we talked with the homeowners about replacing their 'kindling roof,' steel was the go-to material."

TOUGH WINS

Among 600 U.S. homeowners recently surveyed by the Metal Roofing Alliance, durability ranked as the number one priority for re-roofing decisions.

The company specified a 26-gauge steel roof with a Class A fire rating that uses Cool Dura Tech XL paint system to increase energy efficiency.

Wedge Roofing stays one (and even two or three) steps ahead of its competition by paying close attention to how codes are developing and by designing its roofs to meet specs appropriate for homes in the Wildland Urban Interface (WUI). "WUI codes are important to us," Harvey says. "In addition to using steel, we build a Class A fire assembly."



MRA member Wedge Roofing's Forest Green Skyline Roofing, a 26-gauge steel roof with a Class A fire rating, is both beautiful and wildfire resistant.

CREDIT: MRA MEMBER, ASC BUILDING PRODUCTS

A Class A assembly includes using a fire resistant sheet under the metal, removing the intake for the attic from under the eaves and putting it on top of the roof (to prevent hot attic air from drawing cool air under the eaves up into the attic, spreading the fire), and offering Fire and Ice underlayment that “ooze seals.”

“No structure is going to be impervious to fire except a concrete box,” Harvey reminds. “But we try to give people as much time as possible to react to a disaster.”

Harvey is particularly proud of the work Wedge Roofing did on the ranch. “This is an authentic cabin on a beautiful estate that is planned to be a no-kill shelter for llamas, horses, and other large animals.”

The cabin is made from log walls and when it came to wood replacement he had to order trees instead of dimensional pieces of lumber. “It was a lot different working with chainsaws than a Sawzalls,” he laughs.

Another example of form beautifully following function can be found in a modern masterpiece built in Aspen, Colo. (see photo, page 5.) The architectural centerpiece of this home’s exterior is its striking dark bronze metal roof—a custom-machined and mechanically sealed engineering wonder manufactured by Drexel Metals.

The beauty of this curved-panel roof is much more than skin deep: It is designed to deliver high performance in Aspen’s extreme climate. The roof features built-in gutters and an ice melting system under the eaves. A special paint coating keeps the home cooler in the summer, saving energy by reflecting the intense mountain sun’s rays. Like the Moon Dance Ranch, the roof is installed to Class A assembly standards for wildfire protection. “No other material could have achieved the architectural requirements of this project as well as delivered the exceptional performance and longevity needed to withstand the extreme weather conditions that Aspen gets,” says Brian Partyka of Drexel Metals.

Because the roof of this LEED-Silver Certified home is 24-gauge Galvalume—a mix of zinc and aluminum—it is 100 percent recyclable. “Between the energy-efficient performance, the longevity, and the recyclability, you couldn’t have a more sustainable roofing choice for this project,” says Partyka.

By ensuring their home would be built to last for generations, these homeowners selected materials, like the metal roof, that would be earth-friendly both now and for the long run.

The Metal Roofing Alliance (MRA) is your one-stop source for information on metal roofing products, design ideas, and contractors. Visit the [Metal Roofing Alliance](#).



MRA member Decra's Stone-Coated Metal Shake is the type of innovative roofing product that has gained acceptance in communities with HOAs because it blends well with asphalt and wood roofing products.

CREDIT: MRA MEMBER, DECRA

HOAS IN THE SPOTLIGHT: LOBBY FOR SAFETY

Homeowners Associations must re-evaluate and update defensible home strategies.

WITH CLIMATE CHANGE TOP OF MIND, the Metal Roofing Alliance is calling for HOAs to do more to allow and encourage member homeowners to make improvements that increase their neighborhood’s resiliency and offer greater protection. That includes ensuring that homeowners have the option to use materials such as metal roofing that can make a home more defensible, especially as the impacts of extreme weather and wildfire dangers increase.

Renee Ramey, executive director of the Metal Roofing Alliance, says while HOAs aren’t intentionally putting homes at risk, old-school thinking can prevent better options to help homeowners “harden” their homes and increase neighborhood safety. One major misplaced reason for that, she says, is due to a lack of understanding of the many style options now available with metal roofing.

“Individual HOA design standards haven’t always kept up with the latest advancements in the market,” Ramey notes. “Today’s metal roofing comes in a wide array of color options and can beautifully mimic traditional styles, patterns and designs—including clay tiles, slate, wood shake and even asphalt—while better protecting homeowners’ properties. Bottom line, if style is holding HOAs back from allowing homeowners to choose metal roofing as an option, it’s time to re-evaluate.”

HOAs are a powerful influence for U.S. homeowners. Statistics indicate there are more than 351,000 HOAs, representing over 40 million households or 53 percent of owner occupied households in America. Ramey says there’s no doubt HOAs can make a massive difference by allowing homeowners to use the most effective, long lasting and durable materials designed to offer greater protection against climate change impacts.