

TAKE IT EASY! 27 WAYS TO REDUCE HOME MAINTENANCE

# This Old House

Renewed+  
Refreshed

Making a vintage house  
comfortable for today

ALL  
ABOUT

# Metal Roofs

It's hard to top the versatile looks, longevity, and peace of mind that come with a roof made of metal. Here's what you need to know before putting one on your own home BY SAI VAGLICA

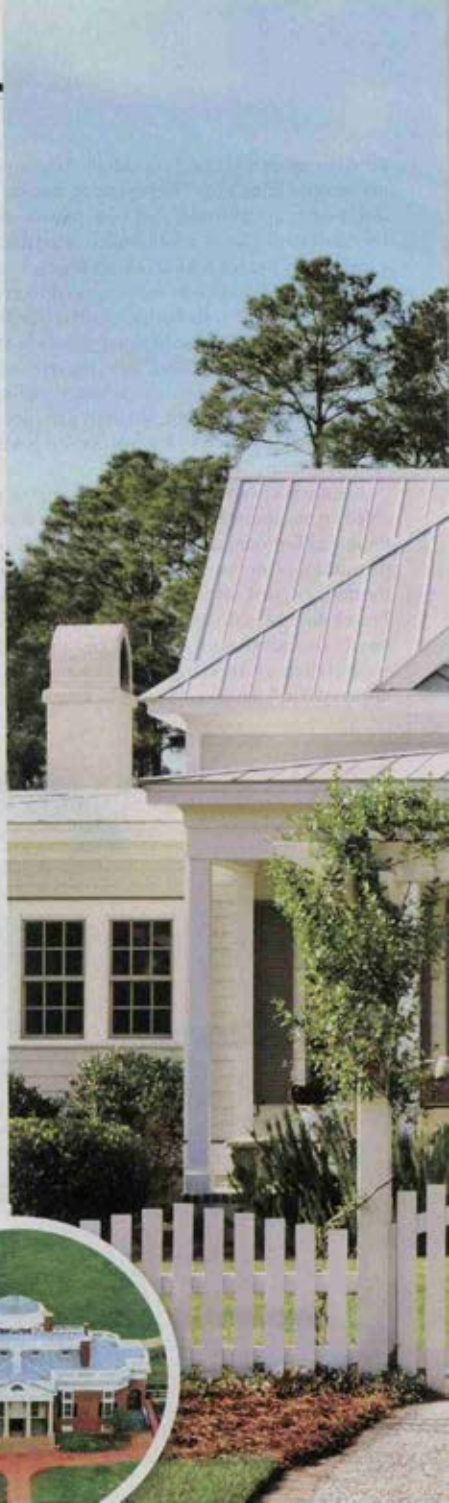
**THE ADVANTAGES OF METAL ROOFS** are tough to ignore. They're strong, able to survive hurricanes, hail, and wildfires. They're durable, enjoying a life span of up to 50 years or more. They can save energy, thanks to their ability to reflect the sun's heat. And properly installed, they need virtually no upkeep.

In America, copper and lead roofs appeared on important public buildings beginning in the 18th century, including New York's City Hall in 1764. By the mid-1800s, metal roofing became more common as mass-produced steel began covering ordinary homes and barns. By the 1920s, lightweight, no-rust aluminum entered the market, as did paint coatings that added color and longevity to both aluminum and steel roofs.

Today, metal roofing is on the rise again: Its popularity has nearly quadrupled in the last 20 years. And while it commands a premium—the components are expensive, as is the skilled labor for installation—a metal roof can boost a home's resale value by up to 6 percent in some areas. Up ahead: a look at materials and styles to consider, plus how to get the job done right, so your house will stay cool and dry for decades to come.

## FAVORED BY A FOUNDING FATHER

In 1824, Thomas Jefferson replaced the original wood shingles on Monticello's roof with ones made of terno, a tin-coated iron; they lasted until 1855. After a succession of inferior, leak-prone substitutes, the roof regained its 1824 look in 1992 with the installation of terno shingles made of tin-coated stainless steel.



## VITALS

**WHAT DO THEY COST?** Installed, metal roofs run \$7 to \$20 per square foot, depending on the type of metal used. That's two to six times the cost of an asphalt roof.

**HOW LONG DO THEY LAST?** On average, they have a 40- to 70-year life span, depending on the type of metal used, the harshness of the local climate, and the skill of the installer.



**ARE THEY NOISY?** Properly installed over plywood sheathing and the recommended underlayment, a metal roof isn't noticeably louder during a rainstorm than one made of asphalt (52 decibels versus 46).

**WHAT'S THE WARRANTY?** Most makers guarantee the products for as long as you own your house, and allow the warranty to be transferred to the next owner.

Light-gray metal roofing keeps this cozy cottage cool in summer. Similar to shown: 5V-Crimp Galvalume Plus panels, \$1.30 per square foot; [mcelroymetal.com](http://mcelroymetal.com)

## Select a style

From smooth and seamed to deeply embossed, and in a range of colors, there's a metal-roofing profile to suit virtually every architectural style



**STANDING SEAM** Its crisp lines, formed where panel edges interlock, complement a wide variety of houses, from traditional to modern. Hidden clips hold panels in place and let the metal move. Similar to shown: Universal Standing Seam in Silverstone, from \$2.75 per square foot; greenamericanhome.com



**SLATE LOOK** With subtle color variations and "split" edges, these painted steel panels offer the look of slate without the weight. Each 50-by-12-inch panel, embossed to suggest six separate slates, installs much faster than the real stuff. Shown: Arrowline Enhanced Slate in Stone Blend, from \$3 per square foot; edcoproducts.com



**SHAKE LOOK** These painted aluminum panels offer a realistic representation of hand-split wood without the high installation costs and upkeep that a real wood roof demands. Shown: Country Manor Shake in Mustang Brown, from \$2.75 per square foot; classicmetalroofingsystems.com



**VICTORIAN SHINGLE** These clear-coated, Galvalume-steel panels replicate the elaborate scalloped roofing of the Victorian era. Each 9-by-12-inch panel is embossed with the profile of five shingles; concealed clips secure them to the roof sheathing. Shown: Victorian Shingles in Zinc Gray, \$4 per square foot; berridge.com



**DIAMOND SHINGLE** The appealing pattern of these individual 16-by-16-inch, painted steel shingles will dress up any roof. They come in six colors, so a contrasting band, as seen here, is an easy upgrade. Shown: Diamond Steel Shingle in Graphite Grey and Stone, from \$2.60 per square foot; diamondroof.on.ca



**TILE LOOK** These 38-inch-long panels have the thick profile of six clay tiles, but not the weight, fragility, or fussy installation of fired clay. A low-gloss PVDF finish and a special embossing technique help approximate the real thing. Shown: Met-Tile Metal in Bravo Red, from \$3 per square foot; mcelroymetal.com

# Material choices

Every metal has its pluses, whether it's durability, color, or cost. Choose the one that suits your climate and your budget, and that will enhance the style of your house

**1 > STEEL** This is the strongest, most popular, and, typically, least expensive option. To prevent rust, it's usually dipped in molten zinc (making galvanized steel) or an aluminum-zinc alloy called Galvalume. Dipped steel can be left in a silvery state, but is generally painted to maximize longevity. Can last 30 to 50 years.



**2 > ALUMINUM** Lighter, softer, and pricier than steel, aluminum comes in many of the same embossed styles; under a coat of paint—aluminum is almost always painted—it's hard to tell the two metals apart. Aluminum is a good choice in areas with salt air or acid rain since it doesn't rust. Can last 30 to 50 years.



**3 > COPPER** The oldest, longest lasting, and most expensive metal for roofs, copper is easy to cut and shape. Uncoated, its bright, gleaming shine quickly acquires a protective brown patina that can turn a soft blue-green over time. Unlike other metals, which are specified by thickness, or gauge, roofing copper is specified by its per-square-foot weight in ounces. Can last up to 200 years.



**4 > TERNE** The original tin-and-lead-coated roof, used in Europe in the 18th century, it was often painted to protect its iron substrate. Today's lead-free version—stainless steel sandwiched between layers of tin—naturally resists the harshest conditions, never needs paint, and weathers to a uniform matte gray. Can last more than 100 years.



**5 > ZINC** As with copper, zinc is so naturally weather resistant that paint is superfluous. Often alloyed with titanium for strength and extra corrosion resistance, it's easy to form and work with. Zinc weathers to a handsome bluish gray over time—think of the famed rooftops of Paris. Can last 80 to 100 years.



## WHAT IS STONE-COATED ROOFING?

Like other steel roofing, these Galvalume panels are pressed into shapes resembling shakes, tiles, or shingles. Then they're covered with fade-resistant ceramic granules that give this roofing its variegated color and distinctive lack of sheen. It also has a Class A fire rating, a 50-year warranty, and can withstand 120 mph winds. Shown: Boral Steel Pine-Crest Shake in Charcoal, from \$3.50 per square foot; boralroof.com

## Pick a paint finish

These factory-applied coatings enhance the appearance and longevity of steel and aluminum roofing:

> **Polyvinylidene fluoride (PVDF)** Specialty metal paints such as Kynar 500 or Hylar 5000 are widely recognized as being the most durable and UV resistant out there. You'll find them on premium roofing products with 30-year warranties against fading and chalking, a powdery residue on the paint surface.

> **Silicone-modified polyester (SMP)** These paints are applied to less expensive metal roofing with warranties that cover color defects for about 25 years. Expect noticeable fading in about 10 years.

### TIP

**Understand the finish warranty.** A coating with a 45-year warranty sounds great, but usually covers only the integrity of the paint film: cracks, chips, or peeling. Guarantees against chalking and fading are usually 5 to 10 years shorter than film-integrity warranties.

## WHEN GAUGE MATTERS

> **Metal roofing's thickness** ranges from 22 to 29 gauge; the lower the number, the beefier it is (16- and 20-ounce copper are equivalent to 24 and 22 gauge, respectively). Thinner metal can still meet UL hail- and fire-resistance standards, but thicker material won't dent or buckle as easily, and should perform better in high winds or under heavy snow.

## Get the job done right

You can expect an experienced metal-roofing installer to follow these time-tested practices

**TEAR OFF THE OLD** While heavily embossed metal panels can be laid over old asphalt shingles, a full tear-off of the old roof is recommended. That way, the sheathing and flashing can be inspected (and, if necessary, replaced) before the new roof goes down, reducing the chance of a leak.

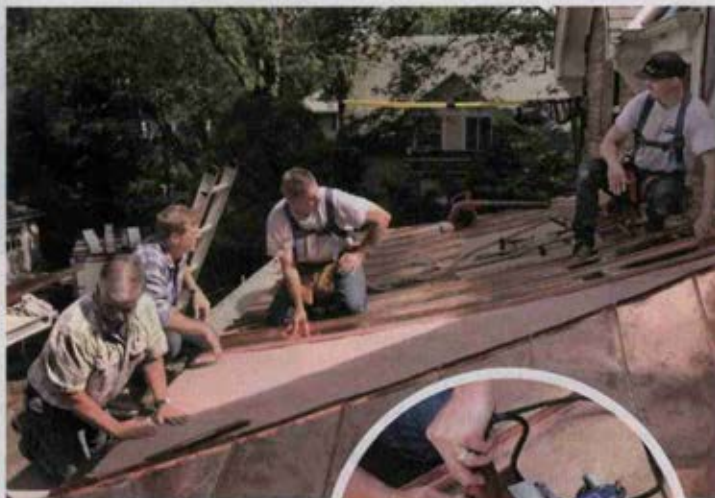
**PROTECT THE SHEATHING** Water will get past metal joints; the best way to stop it is with a high-temperature, waterproofing underlayment stuck to the entire roof deck. This material also seals around each fastener penetrating the roof.

**ALLOW THE METAL TO MOVE** Slip sheets, typically rosin paper, laid between the roofing and the underlayment, allow the metal to expand and contract freely, and protect the integrity of the underlayment.

**INVEST IN THE RIGHT SEALANT** If you see tubes of home-center silicone on the job, that's a bad sign; it won't last. Pros prefer polyurethane sealant formulations that are made to adhere to metal and to flex with it.

### TIP

Look for a roofer who will offer a warranty that covers labor in case of a leak for at least five years after installation. If a metal roof doesn't leak in that time, there's little chance of it leaking afterward.



### Finding the right contractor

A quality job depends on hiring a pro who specializes in the style of metal roofing you're after. You can start with an online product search, and then work directly with the manufacturer to find a qualified contractor in your area. Or visit the Metal Roofing Alliance's website ([metalroofing.com](http://metalroofing.com)) to connect with local pros and to view their websites for examples of their work.



Top: At TOH's Arlington Arts and Crafts project, Tom Silva and Kevin O'Connor get an up-close look at the standing-seam portico roof installation. Each copper panel is laid over a slip sheet and fastened with copper nails; then an electric seamer (inset) crimps panel edges for a tight, no-leak joint.



## KEEP YOUR COOL

> You may be surprised to learn that during peak hot-weather months, a metal roof stays 50 to 60 degrees cooler than one made from any other material. Light-colored metal roofs naturally reflect more of the sun's energy than darker ones, but thanks to new heat-reflective paint pigments, even dark-colored metal roofs can meet the EPA's Energy Star criteria. In sunny places like Florida, Texas, and California, the energy savings from such roofing can be as high as 50 percent. Elsewhere, expect air-conditioning bills to go down by 10 to 15 percent. To find roofing with a high level of performance, go to the Cool Roof Rating Council's database at [coolroofs.org](http://coolroofs.org). Look for products with a Solar Reflective Index (SRI) of 29 or more. The higher the SRI, the cooler a roof will stay.

## Use it as an accent

No budget—or need—for a whole new roof? Enhance small-scale areas with distinctive metal detail

**1 > PORTICO ROOF** Dark bronze standing-seam metal stands out against crisp white trim on a traditional Colonial Revival-style house. Since a portico bears the brunt of rain and snow falling from the main roof, metal roofing is a natural choice for this spot.

**2 > BAY ROOF** The graceful, curved seams of this copper-colored bay window topper show off metal's ability to conform to contours and elevate the look of this popular architectural detail. Where metal abuts brick, a groove should be cut into the wall so that flashing and counterflashing can be inserted to ensure a leakproof joint.

**3 > TURRET TOP** Scalloped copper shingles follow the tight curves of this conical roof. Its multihued verdigris color, a sign of the natural patina that guards the underlying metal from deterioration, lends a dramatic counterpoint to all the other attention-grabbing features of this French Eclectic-style house.

**4 > PORCH ROOF** The pale-gray metal finish on this standing-seam roof offers a welcome contrast to the textured stucco siding and raw-wood porch posts of this Spanish Colonial-influenced house. In hot, dry climates, a heat-reflecting roof like this creates a shady oasis from which to enjoy the outdoors.

**5 > OUTBUILDING ROOF** This playful shed's steel, screw-down roof panels echo the ribs of its board-and-batten siding. Sold at home centers for about \$1 per square foot, these panels could offer a rewarding roofing project for a DIYer, given the shed's simple gable design. While fine for outbuildings, the exposed fasteners on screw-down roofing make it too vulnerable to leaks to be a worthwhile investment on a house.

**6 > EYEBROW DORMER** Windowed dormers add a graceful detail—as well as light, air, and interior headroom—to sloped roofs, but they also increase the potential for leaks. That's one reason metal roofing—in this case long-lasting standing-seam copper—was specified here. Thanks to copper's antimicrobial properties, runoff from this dormer keeps neighboring wood shingles free of roof algae, too. ■

