

This Old
House

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LESSON ↓



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upgrade your roofing

your complete guide to synthetic slates and shakes

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Shown: Multi-Width Shake, Tahoe Blend; davinciroofscapes.com



Looking up

Synthetic tiles offer the appealing style of traditional slate and wood roofing, but without their drawbacks

ONCE, NOT SO LONG AGO, if you needed a roof for your house, the materials for it most likely came out of a forest (shakes), a quarry (slate), or a kiln (clay tile). And while they all served their primary purpose well—protecting a structure from the elements—their natural variations in texture and color enhanced the entire facade.

That all changed about 100 years ago with the introduction of cheap, quick-to-install asphalt shingles. They did the job and had color, thanks to a layer of crushed-stone granules, but they were thin, flat, and completely forgettable. Nonetheless, they became, and remain, the most common type of roofing in the U.S.

Then, in the 1990s, came tiles made with advanced, injection-molded polymers. This new type of roofing emulates the appearance of slate or shingles—in fact the molds are made from those actual materials—without their high cost, fragility, and need for specialized installers. Yet synthetic roofing's real-world performance, in fires, high winds, hailstorms, and under the sun's relentless rays, equals or exceeds that of its natural counterparts.

Use this guide to learn more about the synthetic options, including styles, colors, how they're installed, and how well they survive the elements. Because if it's time to say goodbye to your boring roof, here's a replacement roof you can proudly look up to.

A handsome roof, with natural coloration and deep shadows marking every course, boosts a home's curb appeal. Shown: Bellaforté Slate, Slate Gray-VariBlend; davinciroofscapes.com

Vitals

COST The price for synthetic slates and shakes starts at about \$250 per square (100 square feet). While that is significantly more than asphalt shingles, synthetic roofing is more durable and will last much longer than asphalt roofing, making the material less costly over the long run.

WARRANTY The coverage against material defects is typically 50 years or longer, and is transferable if you sell. Some companies, such as DaVinci Roofscapes, offer complete replacement, including materials and labor, if the roofing fails within 10 years.

INSTALLATION This is a job for a pro, preferably one who has experience with synthetic shingles. Installing them takes less time than real slates or shakes but isn't as fast as a three-tab-asphalt job.

UPKEEP Properly installed, this roofing needs little more than an occasional inspection to ensure that no shingles have come loose.



HOW IT'S MADE

Intense heat and pressure turn plastic pellets into tiles that will last

EACH SHINGLE STARTS with pellets of colored plastic polymer blended with UV inhibitors and fire retardants. This mix is heated into a liquid and injected into a hot steel mold, where up to 1,000 tons of hydraulic pressure produces a tile of uniform density with a crisp, flawless profile. The tiles that pop out of the press are cooled, inspected, and collated by color before being shipped.



What to look for

Authentic appearance. When molds are made from a variety of actual slates and shakes, there's less chance for repeated patterns, the dead giveaway of a man-made material.

Engineered construction. Ribs on the underside help prevent curling in cold weather and allow tiles to look as thick as real slates or shakes without extra weight.

Wide variety of colors. Allows you to choose the right hue, or blend of hues, to complement the design and color scheme of your house.

Color-blended bundles. Tiles of different colors are mixed in the factory before shipment, saving installation time and preventing color splotches.

Third-party tested. Ensures that you are buying roofing that meets or exceeds industry standards and relevant building codes.

Choose your look in slate*

These tiles go well with formal house styles and masonry construction

1 > MIXED COLORS

Just like quarried slate, synthetic slates come in a range of hues, which, if blended randomly, turn any roof into an eye-catching architectural element. Shown: Multi-Width Slate, Brownstone Blend

2 > STAGGERED BUTTS

Varying the exposure of multi-width and single-width tiles in a controlled way imparts a pleasing informality to a roof. Shown: Multi-Width Slate, Weathered Green Blend

3 > SINGLE WIDTH

Straight courses of 12-inch-wide tiles mimic the most common look of quarried slate roofs. Saves on both material and installation costs. Shown: Single-Width Slate, Slate Black-VariBlend

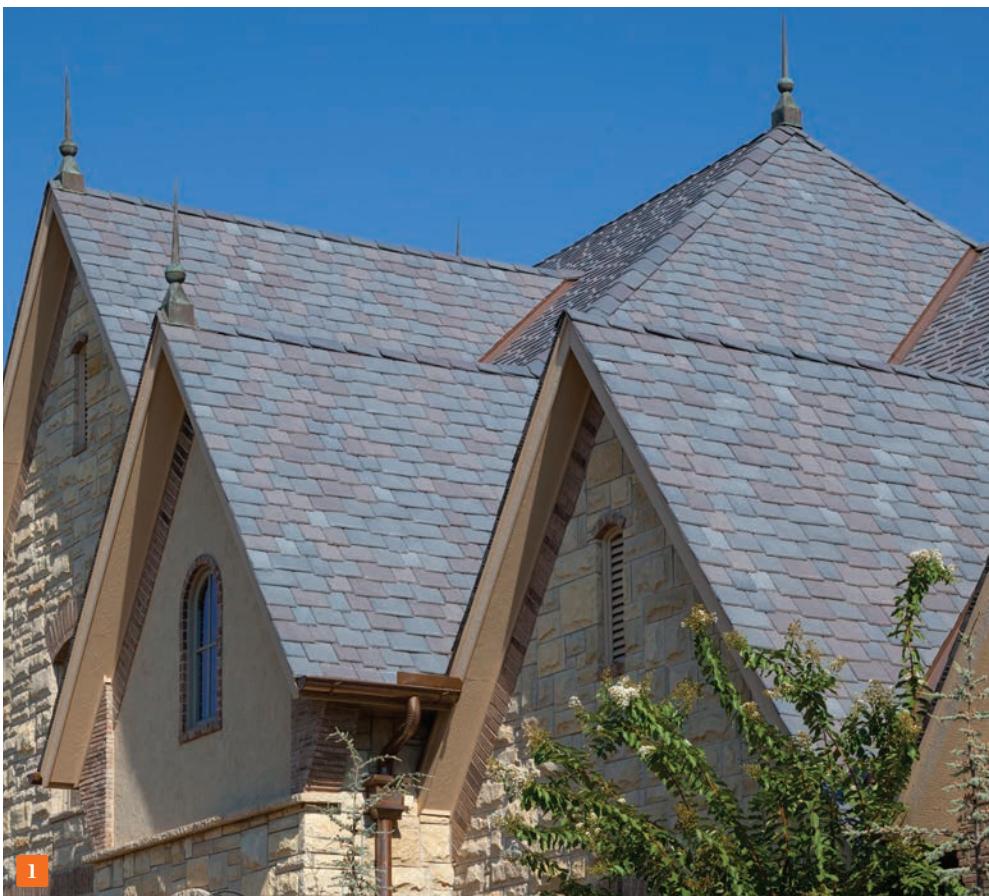
4 > MULTIPLE WIDTHS

This is another way to add visual interest to a roof, but the installer has to be careful that the gaps between tiles never line up with the ones below them. Shown: Multi-Width Slate, Aberdeen Blend

5 > INTERLOCKING

Tabs molded into the butt edges of these lightweight, snap-fit tiles enable them to withstand hurricane-strength winds of up to 175 mph without blowing off. Shown: Bellaforté Slate, Slate Black-VariBlend

TIP Create your own unique color blend by mixing and matching tiles of different hues.



* TO FIND THESE PRODUCTS, GO TO DAVINCIROOFSCAPES.COM



Choose your look in shakes*

The rough, uneven surface of these tiles, which mimics split cedar, suits more casual house styles such as Craftsman bungalows, cottage farmhouses, or log homes

1 > STAGGERED BUTTS

A ragged, sawtooth pattern on each course gives this roof a rustic appearance. Unlike real cedar, which inevitably turns gray with exposure to the elements, these tiles will retain their warm hues throughout their life. Shown: Multi-Width Shake, Autumn Blend

2 > MULTIPLE WIDTHS

This is the most authentic look, but it requires the installer to take extra care to offset the between-tile gaps from one course to the next. These tiles are colored to resemble weathered cedar. Shown: Bellaforté Shake, Weathered Gray-VariBlend

3 > SINGLE WIDTH

These cost-effective tiles are fast to install and give your roof a more uniform formality. Shown: Single-Width Shake, Tahoe-VariBlend

4 > SAWN TEXTURE

While we tend to think of cedar shingles as having rough-textured split faces, they can also be sawn, which gives them a smoother, more refined aspect. The same goes for these synthetic "sawn" shingles. Shown: Fancy Shake, Autumn Blend

5 > INTERLOCKING

As with interlocking slates, tabs molded into the butt edges of these lightweight, snap-fit tiles enable them to withstand hurricane-strength winds of up to 175 mph without blowing off. Shown: Bellaforté Shake, Tahoe-VariBlend



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SYNTHETIC SLATE



SYNTHETIC SHAKE

The details*

Here are the key factors to consider when comparing synthetic tiles and your other roofing options

THICKNESS Thanks to a ribbed structure on the underside, the tiles appear to be as thick as natural materials but aren't as heavy.

WEIGHT Ranges from 182 to 349 pounds per square, depending on the product and exposure—about the same as asphalt shingles. (Quarried slate of the same thickness can weigh 2,000 pounds per square!)

COLORS Choose from 50 standard options, or specify a custom hue. Bundles are color-blended at the factory, saving time at the job site and ensuring a random variation across the roof.

WARRANTY There's a transferable lifetime limited warranty on the material.

FIRE RESISTANCE Based on actual fire tests, these tiles earn a Class A rating, which is the highest resistance to flame spread. Suitable for wildland-urban interface zones. (Even Class B cedar shakes, which are treated with fire retardants, are prohibited in wildfire-prone areas.)

RECYCLABLE Yes. At the end of its life, this polymer can be made into starter-course tiles.

RECYCLED CONTENT None. The use of virgin polymers ensures optimum performance and longevity. Only starter-course tiles contain bits from recycled tiles.

WIND RATING Can withstand gales of up to 110 mph. Interlocking tiles go even higher.

IMPACT RESISTANCE These tiles rank at the top: Class 4. In lab tests, they shrug off 2-inch steel balls dropped from 20 feet. That means they resist hail, falling tree limbs, and footsteps without cracking.

INSURANCE Because of this material's resistance to impacts and fire spread, some insurance companies offer rate discounts.

GROWTHS AND PESTS Nonporous polymer tiles discourage algae, moss, lichen, and fungi, and do not harbor wood-eating insects.

* ALL SPECIFICATIONS ARE FOR TILES MADE BY DAVINCI ROOFSCAPES

THE COMPETITION

A quick look at the other roofing materials, real and man-made

PHOTOS: ('THE COMPETITION') MARK WEISS



SLATE

Pros: Ultradurable quarried stone can last 100 years or more. Doesn't burn. A favorite of traditionalists.

Cons: Heavy and brittle, it requires beefy rafters, skilled roofers, and lots of time to install. Can crack when walked on. Prices range from \$400 to \$600 per square.



SHAKE

Pros: Lightweight; turns an attractive gray with exposure to the sun. A favorite among traditionalists.

Cons: Vulnerable to fire, hail, and moss growth. Not allowed in some wildfire-prone areas. Lasts about 15 to 35 years. Ranges in price from \$400 to \$550 per square.



ASPHALT

Pros: Lightweight, fast to install, and inexpensive, about \$100 per square.

Cons: Sheds granules. Typical lifespan is about 25 to 40 years, less in hail-prone regions. Thin shadow lines between courses aren't especially attractive.



CLAY

Pros: Second only to slate in durability; lasts 75 years or more. Fireproof. Available in a wide range of shapes, including barrel tile.

Cons: Heavy, brittle, and expensive. Requires beefy rafters, skilled roofers, and lots of time to install. Ranges in price from \$170 to \$600 per square.



CONCRETE

Pros: Fireproof, hailproof, and unaffected by the sun. Less expensive than clay, slate, or asphalt: \$50 to \$75 per square. Available in a wide range of shapes, including barrel tile.

Cons: Heavy and vulnerable to freezing weather. Can crack when walked on. Lasts about 30 to 50 years.

WHAT'S ON THAT ROOF?

Sure, roofs keep you dry, but they can do so much more

1 > SNOW GUARDS

In snowy areas, these sturdy tabs prevent dangerous avalanches from sliding off. Shown: Multi-Width Slate, Slate Gray



1

2 > RAIN COLLECTION

Clean, nontoxic synthetic roof tiles make an ideal surface for capturing rainfall to irrigate lawns and gardens. Shown: Bellaforté Slate, Slate Black-VariBlend



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3 > COOL TILES

In a warm climate, look for tiles that reflect infrared radiation. They will help keep attics cooler and air-conditioning costs down. Shown: Bellaforté Shake, EcoBlend



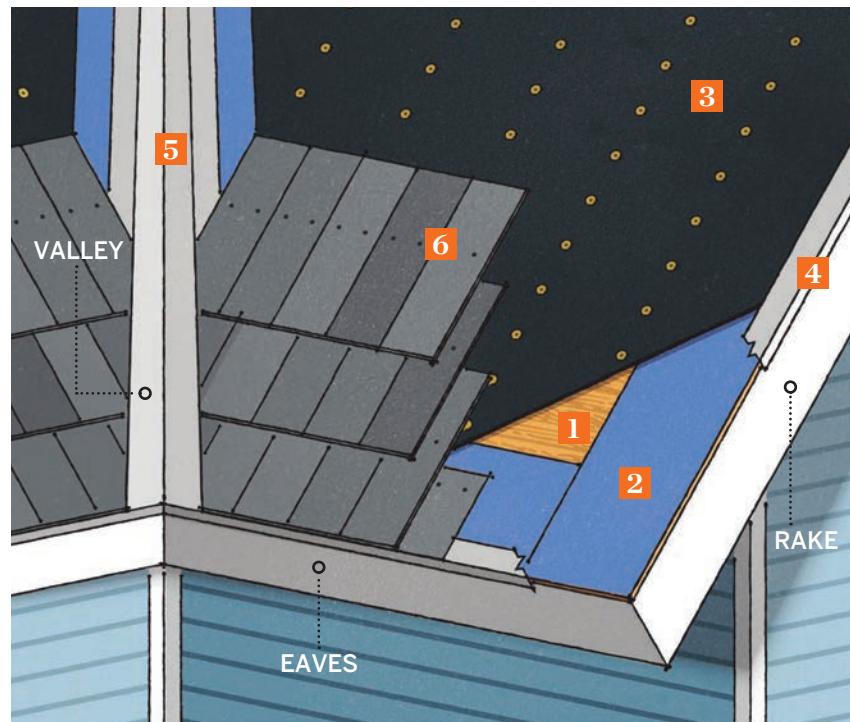
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4 > SOLAR POWER

With proper flashing and installation, the racks that hold solar panels can be installed on synthetic tile roofs. Shown: Multi-Width Slate, Slate Gray



4



First-class installation

A well-built, long-lasting roof starts with a clean $\frac{1}{2}$ -inch plywood or oriented-strand board (OSB) deck [1] fastened properly to the rafters. At the eaves and rakes, 3-foot-wide strips of self-adhering bitumen membrane [2] protect against ice dams and wind-blown rain. A layer of 30-pound builder's felt, or equivalent [3], covers the entire roof. It's held in place with nailing caps and has 6-inch overlaps at the seams. Metal drip edges [4] on the rakes and eaves keep water off the sheathing edges and the sun's rays off the underlayment. In the valleys, 20-inch-wide flashing [5] made of a durable metal such as copper sits atop a layer of bitumen membrane. Finally, the roofing is installed in overlapping courses with rustproof stainless-steel nails [6]. Once in place, its job is to shield all the layers underneath from the elements. ■



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