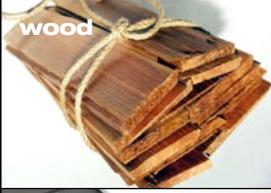
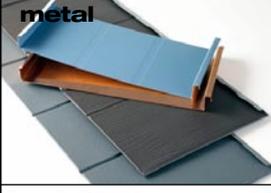


# roofing

| material type  | what you need to know   | other considerations  | durability/maintenance  | cost   |
|--|---|---|---|--|
|  <p><b>composition</b></p>        | Cellulose or fiberglass mats coated with asphalt and mineral granules. Look for Class A fire rating (greatest fire-resistance). Order algae-resistant granules in warm, humid climates. | Lightweight; flat profile. The most economical material and the easiest for do-it-yourself installation. Not much textural beauty.                                | The heavier the shingle, the longer it should last. Standard weights should last 15–30 years. Make biannual checks for cracked, curled, and loose shingles, which should be replaced. | Composition shingles start at \$50 per square (100 square feet), uninstalled. Premium asphalt shingles can overlap laminated fiberglass shingles in price.             |
|  <p><b>wood</b></p>               | Shingles are smaller, lighter, and sawn on both sides. Shakes are thicker, often hand-split. Preferred wood is grade 1 Western red cedar. Fire-retardant coatings improve safety.       | Cedar resists decay. Natural character blends with landscape. Little color variation. Requires a roof with at least a 4:12 slope to shed moisture.                | When grade 1 was first-growth timber, it lasted 50 years or more. Now, second- or third-growth wood lasts 15–25 years. Apply preservative and fungicide every two to five years.      | Prices vary according to species (cedar, cypress, redwood, pine), format (shake or shingle), grade, and weight. From \$100 per square, uninstalled.                    |
|  <p><b>metal</b></p>              | Pieces or panels of steel, aluminum, or copper in standing-seam, corrugated, or faux-shake styles. Metal conducts heat; insulate below and look for reflective coatings.                | Weights range from 45 to 200 pounds per square. Can be installed on almost-flat roofs and over composition shingles. Fire-resistant and recyclable; can be noisy. | Can last 40–50 years; color coatings guaranteed against fading for 25 years. Aluminum won't rust; lower grades can dent.  | Steel and aluminum, \$150–\$260 per square, uninstalled, depending on style and finish. Copper, \$250–\$500 per square, uninstalled.                                   |
|  <p><b>clay tile</b></p>         | Molded from pulverized clay and water, curved or flat tiles can weigh more than 1,000 pounds per square. Get professional advice about the need to reinforce roof framing.              | Hundreds of glaze colors. Energy-efficient; noncombustible. One of the most expensive roofing materials. High installation costs.                                 | Overall surface is very durable (50–100 years). Occasional cracked or chipped tiles are possible—check annually to biannually.  | Clay roofing tiles cost \$250–\$500 or more per square, uninstalled.   |
|  <p><b>slate</b></p>            | Natural, quarried stone. Grade and color vary by source. Because of weight (700–2,000 pounds per square), it usually requires reinforced roof framing.                                  | Fire-, moisture- and insect-resistant. Moderate range of colors. Expensive, heavy, and requires professional installation.  | Natural slate can last 100+ years. Replacing cracked or missing slates is the only maintenance.   | \$300–\$600 per square, uninstalled, depending on where quarried. Shipping and labor-intensive installation add to expense.  |
|  <p><b>concrete tile</b></p>    | Concrete tiles come in a variety of shapes including those that imitate clay, slate, and wood shakes.   | Some tiles are molded to interlock so they're easier to install. Roof framing may need to be reinforced.  | Several products come with limited lifetime warranties, transferrable to new owners. Annually or biannually check for loose or cracked tiles.   | \$150–\$250 per square, uninstalled, for standard-weight, \$350–\$500 for lightweight types. Also consider additional weight-related expenses of shipping and framing. |
|  <p><b>laminated</b></p>        | Thicker and heavier than composition shingles, these have a fiberglass core instead of an organic core. Multilayer panels produce three-dimensional profiles and dramatic shadow lines. | From afar many have attractive shake profiles. Greater fire- and wind- resistance than composition shingles. Algae deposits can occur in warm, humid regions.     | 40–50 years for high-end products weighing up to 450 pounds per square. Perform biannual checks for signs of loose or damaged shingles and replace.                                   | \$60–\$80 per square, uninstalled, with variation for premium or “architectural” product lines.  |
|  <p><b>rubber composite</b></p> | Molded from a combination of plastic and rubber and bonded molecularly. Also known as synthetic slate. Optional fire-resistant type.  | Convincing texture with color through the material. Lightweight yet strong and flexible. Limited supplier network.  | 50-year limited warranties are typical. Perform annual to biannual checks for signs of damaged shingles and replace.  | \$295–\$400 per square, uninstalled, depending on weight, style, and fire rating.  |