

Roof Replacement Matrix

	Replacement of original roofing with the same material (replacement-in-kind)	Replacement of a Substitute Material with Another Substitute	Replacement of a Traditional Material with a Substitute Material	
			Original Material	Substitute Material Allowed
For buildings <u>listed</u> on the State or National Register of Historic Places...	<p>No zoning permit required</p> <p>Confirmation must be made that the roof material is either original, or has previously been permitted to qualify for exemption.</p>	<p>Any replacement roof material allowed.</p> <p>If there are no permits for the original replacement it would be treated as if the replacement was for the original historic materials.</p>	<p>Slate¹ Copper¹ Metal (Steel, tin) Rolled Roofing EPDM Wood shakes</p>	<p>Slate Asphalt Wood Shingles Clay & Concrete Tiles Metal; steel, copper EPDM</p>
For buildings <u>eligible but not listed</u> on the State or National Register of Historic Places...	<p>No zoning permit required</p> <p>Confirmation must be made that the roof material is either original, or has previously been permitted to qualify for exemption.</p>	<p>Any replacement roof material allowed.</p> <p>If there are no permits for the original replacement it would be treated as if the replacement was for the original historic materials.</p>	<p>Slate Copper Metal Rolled Roofing EPDM Wood shakes</p>	<p>Slate Asphalt Wood Shingles Clay & Concrete Tiles Metal; steel, copper</p>
For buildings <u>not eligible or listed</u> on the State or National Register of Historic Places...	<p>No zoning permit required</p>	<p>Any replacement roof material allowed.</p>	<p>Any</p>	<p>Any replacement roof.</p>

Here is a list of the most popular roofing materials, including key factors like cost, life span and level of sustainability so you can choose the right roof for your building.

*Prices are quoted as of November 2018.

Slate: Slate has a beautiful, distinctive appearance. Although very heavy, a slate roof is non-leaching and can last for hundreds of years. It is easy to repair and recycle. Because slate is often a dark color it isn't recommended for high-heat locations.

Cost: \$850/square, depending upon material. (10 x 10 area = 100 square feet = 1 square)

Life Span: 50 to 150 years+. Fasteners sometimes fail before material.

Green Factor: Excellent sustainable roofing choice. Quarrying and splitting slate tile has little environmental impact compared to the production of other roofing products.

Asphalt shingles: Over 75% of American roofs have asphalt shingles due to low cost, ease of installation, and resiliency. Unfortunately, asphalt shingles have a low insulatory value and a shorter lifespan than many other roofing materials available today. They are also made from petroleum products and are not usually recyclable because of the layer of fiberglass added to the shingles. Standard asphalt shingles come in a variety of colors, longevity options, and price points and are always going to be your cheapest option for your roof, but they have the worst environmental track record.

Cost: \$4.50 square foot, or \$450.00 per square (10' x 10' = 1 square.)

Life Span: 15 to 25 years

Green Factor: Least-green roofing option. Price fluctuates with petroleum costs.

¹ The replacement of a historic slate or copper roof on a building listed on the state or National Register of Historic Places will require submission of a report from one who is qualified to both install and repair slate or copper roofs. This report will include both qualitative and quantitative analyses of the existing roof, i.e. material, age, design, and color; assessment of the current condition and percentage of the roof material in that condition, estimated material and cost to repair the existing roof, and cost to replace with a new material. Supporting photographs shall be submitted with this report to substantiate the conditions and assessment provided, and to act as a record of the particular characteristics of the roof for documentation purposes.

Wood shingles and shakes: Wood shingles and shakes can be purchased in cedar, redwood, southern pine and other woods, cedar being the most costly. Wood shingles are cut by machine, while wood shakes are handmade and have a more rustic look. Since most wood shingles and shakes only have Class C fire ratings or no ratings at all, be sure to check your local building codes before deciding on this type of roofing. You can purchase Class A wood shingles with fire-resistant treatment for an additional cost.

Cost: Hand splits (rustic), \$1200-1400 per square.

Life Span: 30 to 50 years

Green Factor: A natural product, but skilled installation can be expensive; high maintenance, poor fire rating and they tend to rot, split and mold.

Clay & Concrete Tiles: Clay tiles are very heavy, requiring additional roof framing, but they are non-combustible and extremely durable. Clay roofing tiles can come in lighter colors, which adhere to the cool roof standards and can reflect well over 50% of the sun's solar energy. Concrete roofing tiles offer elegant, enduring aesthetics for your home's design and added value. Concrete tiles are very versatile and provide greater protection to the homeowner. These flexible tiles come in so many different hues, shapes, textures and styles that they don't even look like tiles at all. Shingle, shake and slate are just some of the varieties of tile.

House Style: Mediterranean, European, Mission and some contemporary or ranch-style homes.

Cost: \$300 to \$600 per square (10 x 10 area = 100 square feet = 1 square)

Life Span: 50 plus years

Green Factor: If a local source is available, clay tiles are definitely one of the greenest roofing choices. Concrete is highly energy-efficient and can be made from a sustainable mixture.

Metal (steel, aluminum, tile and copper): Metal roofs are some of the coolest roofs around, both in temperature and style for new homes. Metal roofs are available in copper, aluminum, and stainless steel, and often have a high percentage of recycled content. They offer high insulation solar reflectance, and durability, often lasting twice as long as wood or asphalt. Metal shingles typically simulate traditional roof coverings, such as wood shakes, shingles, slate and tile. Aside from its longevity, metal shingles are much lighter than most materials and very resistance to adverse weather.

Cost: Standing seam steel \$750/sq. ft. Copper \$12.00 sf. Or \$1,200 per square (10' x 10'.) Price is now in flux with federal tariffs.

Life Span: 20 year finish, material will last at least 50 years.

Green Factor: Very green because they are highly energy-efficient and environmentally friendly.

EPDM (ethylene propylene diene terpolymer): A durable, synthetic rubber roofing member that is widely used on low-slope or flat roofs.

Cost: The average installation cost (as of May, 2018) is \$4.00 to \$8.00 per sf, or about \$6,000 to \$12,000 for a 15 square (1,500 square feet) flat roof.

For residential buildings, it is frequently a replacement for low-pitched porch roofs.

Cost: Depends upon insulation and penetrations. \$6.50-8.50/sf.

Life span: 22-35 years. Material warranties may be longer.

Green factor: If ballasted, high performance to cool roofs in Zones 4 and above. Increasingly recyclable. Fire resistant.