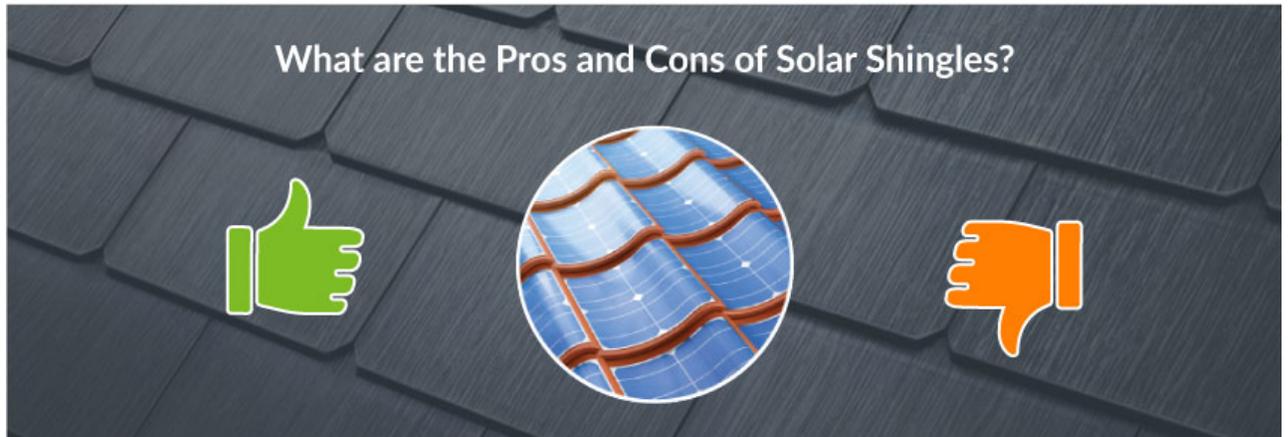


Pros and Cons of Solar Shingles.

Published on 04/27/2018 by Andrew Sendy
Read time: 5 minutes



Solar shingles have been around for a number of years. However, the first installations of the Tesla solar shingles in 2018, also known as the Tesla solar roof, has turned the way we think about solar shingles on its head. Their sleek glass tiles that both generate electricity and can replace an existing roof have drawn new attention to the previously unloved segment of the solar industry known as building integrated photovoltaics (BIPV).

Tesla is the first solar panel shingles manufacturer to make the active solar shingles that contain solar cells look the same as all the other non-active Tesla roof tiles that don't generate power. Many homeowners have not installed a solar power system despite the positive economics and utility bill savings because they think traditional solar panels are ugly as an add-on to a traditional roof. Elon Musk saw this as a massive opportunity to grow a new division to complement the electric cars produced by Tesla Motors and so today we have the Tesla solar roof shingles.

Do the Tesla solar shingles work?

In short YES...they work as a roof and as a functioning home solar power system

What are solar roof shingles?

They are roof tiles that contain solar cells. They both generate solar electricity and function as a waterproof roof product.

How are Tesla roof tiles different to previous solar shingles?

Traditional solar shingles that came before the Tesla roof shingles replaced a portion of the asphalt tiles with solar tiles that produced solar power but these looked different to the remaining tiles (see image below). The Tesla solar panel shingles replace the entire roof and all the tiles look the same.

How do solar shingles compare to conventional solar panels?

Unlike traditional solar panel grids that were mounted a few inches above your roof, solar shingles replace your roof material. They're the same size and shape as normal shingles and can cover as much roof space as your home needs. Solar shingles are typically installed when other asphalt shingles on your roof need replacing, making it easy for solar installers to integrate your shingles with your roof's existing layout.



Image source: ineedagoodroof.com

What are the advantages of solar shingles?

Solar roof tiles are great for the environment, your home, and your utility bills:

- Reduce CO2 footprint – Leverage a clean and natural source of energy that reduces your family's carbon footprint. SAME for traditional panels.
- Reduce energy bills [Solar shingles reduce annual energy costs](#), often by 40 to 60 percent. SAME for traditional panels.
- Tax credits – Eligible homeowners who install solar power may receive tax credits or rebates. All American homeowners are eligible for the 30 percent federal solar tax credit until the end of 2019. SAME for traditional panels.
- Aesthetics – Unlike conventional solar panels that mount to your roof, solar shingles integrate seamlessly with your roof's asphalt panels. You get the benefits of a full solar installation in an unobtrusive form.

• What are the disadvantages to solar shingles?

Solar shingles do have a few drawbacks:

- Solar Roof Cost – As a roofing material the solar roof tiles are about 10 times the cost of conventional roofing materials and as solar panels the solar roof tiles are about three times the cost of a conventional residential solar power system for the same production capacity
- Tesla solar shingles wait time. The Tesla roof tiles will come in a number of different styles with sleek low profile glass tiles, terracotta look roof tiles and slate shingle look tiles. However, very few styles are available yet.
- There is a long wait from ordering to installation of the Tesla solar roof and very few trained installers.
- Orientation – Shingle efficiency is subject to roof orientation. Rack-mounted grids can be installed at angles or on the ground to capture maximum amounts of sunlight, but solar shingles are limited to the natural direction of your roof. They tend to produce lower energy outputs as a result.

- You can't just replace half of your roof with the Tesla solar shingles otherwise the same aesthetic problem that existed with previous solar shingles would exist

How much do the Tesla solar shingles cost to install?

The [Tesla solar](#) shingles currently cost \$21.35 per square foot (PLUS installation costs). The strange thing about the pricing of the Tesla solar panel roof shingles is that the active roof tiles containing solar cells are the same price as the non-active roof tiles. This means the cost of the solar roof won't vary depending on how much electricity your home consumers, which seems strange. Perhaps Tesla will limit the ratio of active to non-active roof tiles in their solar roof installations. At a cost of \$21.35 per square foot the cost of putting the Tesla solar roof on a 2500 square feet home would be more than \$60,000 (installed).

Tesla solar shingles cost compared to a conventional roof cost?

Conventional roof materials are only around \$1-\$2 per square foot but to properly evaluate the value of the solar shingles you have to also add in the value of the solar system you are getting and also the fact that the solar shingles have a lifetime warranty. A solar system for a large home of around 8kw will cost around \$25,000 less the federal tax credit. When this is taken into account the cost doesn't seem that far out of the ballpark. However, the cost of \$21.35 per square foot does NOT include the installation cost. You could expect installation costs to be another \$5,000-\$8,000.

Who can install solar panel shingles?

There have been so few Tesla solar roof installations that it is hard to know whether solar companies will install them or whether roofing contractors will install them. The Tesla solar shingles are also an unproved technology in the field.

Solarponics advice:

What do we recommend in relation to the Tesla solar roof shingles cost to conventional solar panels?

As with all new technology, there are unknowns. In this case, if you are an early adopter, need a new roof, know of a local installer who has experience installing solar shingles, don't mind spending a small fortune on your new roof, have plenty of time to wait for product delivery, are not worried about payback and return on investment, then maybe you should consider solar shingles. However, current traditional solar panels are a field-tested product, with a pretty good guaranteed payback.