

## **Frequently Asked Questions**

People who are interested in the SUNSLATES™ roofing system often have questions about what the system is all about. This page will answer some of these questions.

### **Q. Do I need to cover my entire roof with SUNSLATES™?**

A. It is not necessary to cover your entire roof with SUNSLATES™. For a "standard" system of 216 SUNSLATES™ you will use about 300 square feet of space on your roof. The number of SUNSLATES™ that you will want to use depends on several factors that you can discuss with one of our employees.

### **Q. Does my roof need to be oriented in a certain direction?**

A. As you may know, the best orientation for a SUNSLATES™ roof is due south. However a southwest or southeast roof will have a negligible reduction in power production (2-4%) and a due east or due west roof will see from 10 to 15% less power compared with a due south roof. Roof pitch is also a factor in power production, but it is not crucial. The difference in production between an ideally sloped roof and a regular 4/12 or 5/12 roof is usually no more than 5%.

### **Q. How does the system shed water?**

A. The SUNSLATES™ use an overlapping system, much like a shake roof where there are two layers at any point on the roof. This is the way the system sheds water. SUNSLATES™ need at least a 4/12 (18 degree) roof pitch in order to shed water properly. SUNSLATES™ are based on a Swiss company known as Eternit. They produce the fiber cement slate that Sunslates are based on. The Swiss Eternit system is well known in Europe and has been used for around 60 years with great success. In Europe, this type of roofing is popular. Below is an image showing a detail of an installation. You can see that the overlap goes up beyond the slate above it, guarding against wind driven rain.

### **Q. What kind of ratings do have? Do they work in all climates?**

A. The roofing system is UL Class A fire rated and rated to THE Dade County Florida standard. SUNSLATES™ systems have been installed successfully in nearly all environmental extremes. We have an installation at about 8000 feet in Truckee, California receiving an average of 217 inches of

snow per year. The SUNSLATES™ actually cause the snow to slide off due to the tempered glass surface. We have an installation near the ocean with no ill effects to the SUNSLATES™ due to salt spray, although inverters must be chosen and located carefully. We have over 100 installations in the Sacramento area where temperatures routinely exceed 100 degrees in the summer.

**Q. Do you have to use the SUNSLATES™ and Swiss Eternit system for the entire roof?**

A. Although the SUNSLATES™ mounting system is fairly unique, it is fully compatible with any other roof, be it tile, shake, metal or composite. You do not have to finish the entire roof with the Swiss Eternit slates. All other areas of the roof can remain the same in an add-on, or you can choose your style of roof in new construction or a re-roof. We believe that gray concrete roof tiles provide the most aesthetically pleasing option for the rest of the roof, but the choice is yours.

**Q. How are the SUNSLATES™ mounted on the roof?**

A. A SUNSLATES™ roof starts with standard 30# tar paper felt as used on any other roof. SUNSLATES™ are then mounted on the roof deck using a series of vertical 2 X 2 boards over the rafters (usually 2' on center), and a series of horizontal 1 X 4 boards nailed to the 2 X 2 boards at about 12" spacing. Hooks are then nailed to the 1 X 4 boards and the slates actually hang on these. This spacing off the roof creates a plenum, which allows airflow underneath the slates, which cools the slates and helps increase performance.

**Q. Who installs SUNSLATES™?**

A. Atlantis Energy Systems Inc. does not install your roof. SUNSLATES™ are installed by roofers who have been trained by our staff. In many areas of the US, we have trained roofers available already. The roof is installed based on the design produced in our office. This design will compensate for any areas that are possibly shaded by a chimney or other protrusion. It will also take into account any pipes or skylights in the roof area. The areas around the edges where SUNSLATES™ cannot be used are filled in with standard Eternit tiles.

**Q. How are electrical connections done with SUNSLATES™?**

A. SUNSLATES™ are grouped in "strings" of 24. Each string has a "home run" cable that runs down into the attic to a junction box. On most roofs, these cables go through a single roof penetration at the top center of the roof area. When the roofers have finished their part, all of the cables will be

waiting in the attic for the electrician. The electrician then goes into the attic and splices the cables to the cable runs to the inverter. The inverter is generally mounted in the garage or on an exterior wall near the meter.

**Q. How does the power I generate go to my home and the grid?**

A. When everything is installed, your system will generate power and feed it directly to your home. If your system is generating more power than you are using in the home, your meter will turn backwards and you will feed into the grid. When you are not home during the day, you will usually be spinning the meter backwards. When you get home, you will usually be using more power than the system is producing and spinning the meter forward. In this way, power you produce offsets power you use regardless of you being at home or not. Should you produce more power than you use in a month, you will receive a credit to your account. In some homes, your credit will build over the summer and then you will use the credit up in the winter months where power production will be lower.

**Q. I want to eliminate my power bill, is this the best approach?**

A. Generally, you will not want your system to produce all of the power used in your home. To be the most economical, you want a system that will offset the higher tiers of your power bill. If you are unfamiliar with power tiers they are a system where you pay more money as you use more and more power. Your power bill will show this, usually you get a certain number of kilowatt hours at a low rate and then beyond this you pay a higher rate. Your SUNSLATES™ system will allow you to produce the power that would normally come from the higher cost tier.

An important strategy is to make sure that you have a well insulated home with efficient electrical appliances. The more efficient your home the less energy is required.

**Q. How much should I budget for a SUNSLATES™ system?**

A. Keep in mind that you are replacing a section of roofing with SUNSLATES™. That said, your roofing and electrical contractors will on average be charging \$13,000 per 100 square feet (there is just over 1kW per 100 square feet) or \$13.00 per watt. The price may be less or more depending on roof slope, which can speed or slow the job. All pricing is an average and is before any state or federal rebates have been calculated.