



Emerald Coast Solar



WE PUT THE POWER OF THE SUN TO WORK FOR YOU!

10 questions to ask about solar panels

When buying a solar system, it is important to understand the various major components that go into your system. A solar system is a major expense, you should to be aware of the different components and, what makes a good product vs a bad product.

There are many things to consider when deciding, not just on who will install your solar system, but also, the quality of the equipment being used. This is our second article in our series on solar systems and ensuring you get the best system for your needs.

1) Is the solar panel manufacturer a top tier company?

In order to be a top tier company, the company must:

- have been in business for a minimum 10 years,
- dedicate a substantial portion of profits to research and development,
- be 100% vertically integrated (they handle the entire manufacturing process and do not outsource anything) and
- they must be 100% automated (the entire manufacturing process is done by robots). This automation is important because, when humans are involved in the manufacture of solar panels the failure rate of the panels increases dramatically.

2) Do the panels carry a twelve year or higher warranty against defects in construction?

The standard warranty for tier one companies, is 12 years. Anything less and the panel is not a good choice.

3) Do the panels have a minimum 25-year production warranty? If so, is this a sliding scale or step warranty? The best panels carry a 25-year or longer sliding scale warranty for production.

4) Where does this warranty start?

No company will offer the production warranty starting at 100% of the listed wattage of the panel. The better the panel, the higher the warranty starts at.

5) Are the panels tested against salt corrosion and abrasion?

The better panels will be tested and approved by either Tuv Reinhold or Tuv Nord. These are

A division of Beach Bums Limited S DE RL DE CV

Phone: Jo-Anne at 999-114-4974 or Tony at 999-219-1611

E-Mail: beachbums.ceo@gmail.com or beachbums.cfo@gmail.com



Emerald Coast Solar



WE PUT THE POWER OF THE SUN TO WORK FOR YOU!

independent testing companies that use advanced methods to determine a panel's durability against salt mist (just a little important for a beach install).

- 6) Are the panels tested against sand abrasion?

As above, the better panels will be tested and approved by either Tuv Reinhold or Tuv Nord. These are independent testing companies that use advanced methods to determine a panel's durability against sand abrasion (also very important for a beach install).

- 7) Are the panels tested against ammonia corrosion?

This is an important consideration at the beach – bird poop is high in ammonia and will corrode the surface of a solar panel. Checking for this test and pass is very important – think pelicans. As above, the panels should be tested by either Tuv Nord or Tuv Reinhold.

- 8) This one is technical. What is the PMax for the panel?

Panels are tested in the lab under perfect conditions in order to determine the wattage of the panel. They are also tested to see what the power reduction is, if the conditions are not perfect. This is the PMax. Every panel has a properties data sheet and, listed on this data sheet is the PMAX %. This will be a number such as 0.42%. What this means, is that for every degree rise in ambient temperature, the panel will be reduced in power output by this amount. For example: all panels are tested at 25 degrees Celsius. Our normal roof top temperature is easily 35 degrees. This is a 10 degree increase in temperature and results in a 4.2% drop in output power from the panel, so a 300-watt panel would be reduced to a maximum output of 287.4 watts.

The bottom line is – the higher the PMAX the less you want the panel.

- 9) How well do the panels perform in low light conditions?

Panels work best when the sun hits them directly (straight up and down). Any other angle and you will not get full production from the panel. This means, all morning and all afternoon, the panels are not performing to full potential. However, a high-quality panel will be designed to utilize more of the sun's energy at these lower light levels and therefore, will produce more power on average than a panel not designed to take advantage of the low light levels. The data

A division of Beach Bums Limited S DE RL DE CV

Phone: Jo-Anne at 999-114-4974 or Tony at 999-219-1611

E-Mail: beachbums.ceo@gmail.com or beachbums.cfo@gmail.com



Emerald Coast Solar



WE PUT THE POWER OF THE SUN TO WORK FOR YOU!

sheet for the panel will indicate if they are a low light panel or not.

10) What is the average power output for the panel? This is a little more difficult to be able to tell.

This is based on the installers experience with the product in the area it is being installed. A good installer should be able to tell you what you can expect to get, on average, from each panel, based on the area and the inverter being used. The higher the average daily power output, the higher your overall system will perform. Be aware – many installers will talk to you about the size of the system in kilowatts or about the maximum production you can expect. Neither of these, are what you should be interested in. You should be interested in the average daily power output per panel. This is what you can base your system size on.

This was the second article in our educational series on solar systems. You can find the previous article - Questions for any company you are considering as your solar installation team – on our web site at www.ecsolarmx.com.

Please watch for our articles on 10 questions to ask about solar system inverters.

Thank you for taking the time to read this. We hope you will consider Emerald Coast Solar when deciding on a company to install solar on your home or business. For more information please contact:

Jo-Anne at 999-114- 4974 or send us an e-mail at beachbums.cfo@gmail.com. You can also check us out at ecsolarmx.com.

A division of Beach Bums Limited S DE RL DE CV

Phone: Jo-Anne at 999-114-4974 or Tony at 999-219-1611

E-Mail: beachbums.ceo@gmail.com or beachbums.cfo@gmail.com