

FAQ's

[What is PowerFilm Solar?](#)

PowerFilm is a global solar technology company located in Ames, Iowa, USA, that manufactures flexible solar panels with a thin film plastic substrate.

[Can I install PowerFilm Solar products on my home?](#)

PowerFilm currently offers no residential or commercial building integrated solutions. We specialize in lightweight and portable solar solutions.

[What is the base technology of PowerFilm?](#)

Thin film amorphous silicon photovoltaics.

[How is PowerFilm solar material made?](#)

PowerFilm is manufactured using an internally developed, proprietary manufacturing processes. The core process is a true roll-to-roll process. The general process steps are Vacuum Deposition (Back Metal, Amorphous Silicon, Transparent Top Contact), Printing and Laser Scribing, Bus Bar/Lead Attachment, Encapsulation, and Die Cutting. PowerFilm is patterned on a 13-inch wide web on a roll up to 2400 feet long.

[What are the benefits of PowerFilm panels being produced in a true roll-to-roll process?](#)

The proprietary roll-to-roll semiconductor manufacturing process of PowerFilm, Inc. enables lower-cost manufacturing and enhanced product functionality through ease of customization.

[How thin are PowerFilm flexible solar panels?](#)

PowerFilm is very thin, like paper. Encapsulated modules range from 0.22mm (8 mil) to 1.22mm (44 mil) thick. The thin aspect of PowerFilm allows it to be ultra flexible.

[How does PowerFilm solar panel flexibility compare to other solar panels?](#)

PowerFilm is so flexible it can be curved around a cylinder 2 inches in diameter. This is possible because PowerFilm has a plastic (polyimide) substrate. PowerFilm is the most flexible solar panel technology in the marketplace.

[What can PowerFilm solar panels power?](#)

PowerFilm solar panels can be used for both large and small-scale power generation. Panels are designed to be ultra-light and can power devices directly or recharge batteries.

[How much wattage will a PowerFilm solar panel output?](#)

This depends on the product, but as a general rule, the wattage that is listed on a solar panel is in ideal settings (angled towards the sun at peak times of solar collection). If you are seeing a drop off in performance when the panel is not angled towards the sun don't be alarmed. This performance is to be expected and should be something to account for when selecting a panel to charge whatever your end device might be.

[What is the efficiency of PowerFilm solar panels?](#)

Overall efficiency is strongly dependent on the module design configuration which determines the percentage of the area which is actually collecting sunlight. You can use 5% as a starting point. We have ongoing research and development programs to continue to improve the efficiency of PowerFilm panels. Note: There are widely varying standards for panel efficiency numbers. We encourage you to test actual commercially manufactured panels on a consistent basis.

[What is the ideal temperature range for PowerFilm solar panels?](#)

The panels are guaranteed to perform in normal atmospheric conditions (50 C° surface temperature). The optimal temperature is usually 25-50 C. For all solar panels voltage output drops with increasing temperature.

[In what range of voltages are PowerFilm panels manufactured?](#)

Standard products come in the following powerpoint voltages: 1.8, 3, 3.6, 4.2, 7.2, and 15.4. Custom voltages are available.

[What is the life expectancy for PowerFilm solar panels?](#)

The encapsulation of the PowerFilm module will determine the life expectancy of the encapsulated module.

Photovoltaic Semiconductor Device - No particular life expectancy limitation in a protected environment.

Polyester Encapsulation - Limited to protected use (e.g., consumer electronics) or limited time outdoor use. ETFE Encapsulation - Best protection for permanent outdoor use.

[How do I get the best performance out of my solar panel?](#)

Place the solar panel perpendicular to the sun for best performance.

[How do I know if my solar panel is working?](#)

You can check your PowerFilm Solar Panel is functioning properly with a voltmeter.

[What type of connectors are used for PowerFilm solar chargers and accessories?](#)

We use Delphi marine-grade connectors.

[How do I clean my Rollable Solar Panel?](#)

Use a damp cloth with a mild soap solution and allow to dry thoroughly.

[How do I clean my Foldable Solar Panel?](#)

Use a damp cloth with a mild soap solution and allow to dry thoroughly. DO NOT submerge or leave in a wet environment.

[How should I roll my Rollable Solar Panel?](#)

Always roll the Rollable Solar Panel solar side out. Rolling solar side in will damage the panel and affect performance.