

Solar Side-By-Side Semi-Flexible Crystalline Modules

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Semi-flexible crystalline modules are a popular choice for RV's, vans, boats, and temporary transportable solar power systems. In this analysis, we put several brands side-by-side to illustrate key differences & help in the purchase decision-making process.

Manufacturer	Powerfilm	GoPower!	Matrix	Renogy
Brand Name	Soltronix	SolarFlex	-	-
Model	RP-32F16.6V	Flex-100	MA-FP110M	RNG-100DB-H-BC
HQ/MFR	USA/USA	Canada/Asia	Canada/Asia	USA/Asia
Warranty	5-Years	5-Years	5-Years	5-Years
Price (est) \$CAD	\$599	\$539	\$419	\$299

Cells & Performance

Type	Mono	Mono	Mono	Mono
Cell Mfr	SunPower	SunPower	Unknown	Unknown
Configuration	32 (4x8)	32 (4x8)	32 (4x8)	36 (4x9)
Cell Bus Wiring	Back	Back	Front	Front
Peak Power (W)	100	100	110	100
Voltage (Vmpp)	18.1	17.6	17.6	18.9
Current (Impp)	5.3	5.68	6.25	5.29
Temp Coeff (%/C)	-0.32	-0.38	-0.50	-0.42

Module Construction

Top sheet	ETFE	ETFE	ETFE	Unknown
Back sheet	Fibreglass	TPT	Unknown	Unknown
Connector	Delphi WeatherPack	MC4	MC4	MC4
Weight (kg)	2.5	1.35	2.35	1.9
Dimensions (mm)	1130.3x533.4x2.0	1134x544x3	1120x540x3	

Notes...

- ❖ **ETFE vs PET Lamination Top Sheet**
ETFE is generally the preferred material due to thermal stability for optimal performance in hot climates, rigidity which helps protect the silicon solar cells from breakage, UV passivity across a broad light range, & lifespan.
- ❖ **Power vs Charging Current**
When used with an MPPT charge controller, the current will be maximized according to battery SOC. Therefore module power rating is the governing performance metric.
When using a PWM charge controller, a higher amperage output is preferred as long as the panel's voltage.
- ❖ **SunPower Cells**
SunPower is a leading cell manufacturer, providing cells that outperform standard cells at lower light levels, resulting in improved total energy harvest. SunPower holds patents for cells used specifically in semi-flexible solar modules that resist breakage & maintain electrical connectivity.
- ❖ **Featured Manufacturers**
Powerfilm :
Long-time leader in thinfilm solar cell & module manufacturing. Excellent history & controls with lamination materials & processes.
Supplier to the US military.
GoPower :
RV & marine solar & off-grid products including modules, controllers, & inverters.
Outsourced manufacturing with high standards.
OEM supplier to major RV & trailer manufacturers.
Matrix, Renogy :
Wide range of RV & marine solar & off-grid products.
Outsourced manufacturing - some warranty exclusions.

Every attempt has been made to ensure the accuracy of the information provided here. Corrections, edits, & additions are welcome. Modern Outpost's interest is to ensure that clients are able to select the optimal equipment for their application.

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