

Cell Technology	Crystalline Silicon	Thin Film
Types of Technology	Mono-crystalline silicon (c-Si) Poly-crystalline silicon (pc-Si/ mc-Si)	Copper Indium Gallium Selenide (CIG/ CIGS)
Voltage Rating (Vmp/ Voc) (Higher is better as there is less gap in Voc and Vmp)	80%-85%	72%-85%
Temperature Coefficients	Higher	Lower (Lower is beneficial at high ambient temperatures)
I-V Curve Fill Factor (Idealized PV cell is 100%)	73%-82%	60%-80%
Module construction	With Anodized Aluminum	Frameless, sandwiched between glass; lower cost, lower weight Lower cost of installation No support required Less weight Less man power Heavy machinery to lift not required
Module efficiency	12%-21%	11%- 17%

Inverter Compatibility and Sizing	Lower temperature coefficient is beneficial	System designer has to consider factor such as temperature coefficients, Voc-Vmp difference, isolation resistance due to external factors
Mounting systems	Industry standard	Bitumen, Adhesive, Special Clips Peel and stick labor cost is significantly saved Installation time is 1/10 of standard panels
DC wiring	Industry standard	May require more number of circuit combiners and fuses
Application Type	Residential/ Commercial/ Utility	Commercial/ Utility/Residential Military/Mobility Can be Customized Respect Look of
Required Area	Industry standard as to Mono or Poly standards	Space required is more for a given project size
Power Output Per Day	Standard	Provides more power per day as it uses UV RAYS (CIGS) hence it functions 4 to 5 hours longer per day
Sunlight Requirement	Must	Functions in Sun, Cloudy days, Rain days, Low light and even covered by up to 3 CM of snow.
Support Weight	Not recommended to apply any weight on the panel	Can be used as flooring, Real-estate is not lost, it can be walked on drive a car on it, Very Beneficial

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Flexibility	None Minimal	Fully Flexible Semi Flexible And Rigid available
IP Rating	IP 65 Protected from total dust ingress. Protected from low pressure water jets from any direction.	IP 67 Protected from total dust ingress. Protected from immersion between 15 centimeters and 1 meter in depth.
Maintenance	High	Low to none
Warranty Output	85% Output 25 years	85% Output 25 years
Warranty Workmanship	5 years	5 to 25 Years
Life Time	3 to 10 Years	20 to 25