

Composite Frame PV Module Solutions

Built for Corrosive, Extreme and Low-Carbon Solar Environments

A NEW PV MODULE SOLUTION FOR HARSH ENVIRONMENT CONDITIONS

As solar deployment expands into coastal regions, industrial zones, salt-alkali land and cold-climate environments, conventional aluminum-framed PV modules face increasing challenges including corrosion, grounding complexity and lifecycle maintenance.

Canadian Solar's Composite Frame PV Module Solution utilizes advanced Glass Fiber Reinforced Polyurethane (GFRP) technology to deliver superior insulation, corrosion resistance, mechanical strength and sustainability, enabling safer and more reliable solar deployment in the world's most demanding environments.

Composite frames provide a new approach to reliability, sustainability and lifecycle value.

Key Highlights *(v.s aluminum frame)*

4 x	80~85%	Grounding-Free	Anti-Corrosion
Tensile Strength	Lower Carbon Footprint	System Design	Frame Structure

Product Applications

Designed for environments where corrosion, moisture and extreme temperatures challenge conventional frame materials.



Advanced GFRP Composite Frame Technology

Engineered for Reliability

Canadian Solar composite frame is based on a Glass Fiber Reinforced Polyurethane (GFRP) architecture specifically designed for photovoltaic applications.



High Insulation: Naturally non-conductive material that simplifies system grounding design and enhances electrical safety.



Superior Strength: Glass fiber reinforced structure delivers outstanding tensile and mechanical performance.



Corrosion Resistance: Excellent resistance to salt mist, moisture and chemical environments without galvanic corrosion.



Low Carbon: Significantly lower carbon footprint compared with conventional aluminum frames, supporting ESG goals.

Customer Value Beyond the Module

Financial Benefits Dashboard

Composite Frame technology creates project value far beyond material replacement.



Lower CAPEX: Potential reduction in grounding-related materials and installation complexity.



Reduced OPEX: Lower maintenance requirements and reduced inspection activities.



Lower LCOE of 1.0%-1.7%: Project assessments indicate potential LCOE improvement of approximately 1.0%-1.7%.



Carbon Cost Savings: Potential carbon taxation savings in regions adopting low-carbon procurement policies.

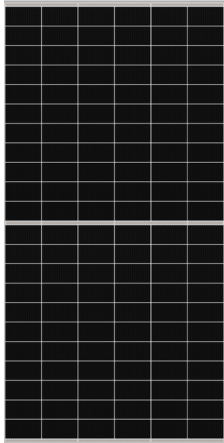


Composite Frame Product Portfolio

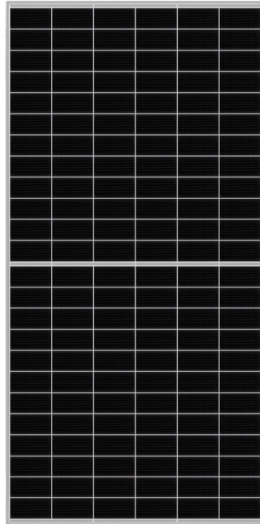
Successfully integrated across multiple product platforms and application scenarios, proving the maturity and scalability of composite frame technology.

Utility

C&I, Utility



CS6.2-66TB / HB
600-650 W



CS7N-TB-AG / CS7.3-66TB
700~750 W

Management System Certificates

- ISO 9001: 2015 / Quality management
- ISO 14001: 2015 / Environmental management
- ISO 45001: 2018 / Occupational health & safety
- IEC 62941: 2019 / PV module manufacturing quality

Product Certificates

IEC 61215 / IEC 61730 / IEC 61701 / IEC 62716 / CE / MCS / CGC

Reliability Validation

- 35 mm Hail Impact Resistance
- +5400/-2400 Pa Load Capacity
- Enhanced Testing

Applications	C&I, Utility Projects			
Module Types	CS6.2-66TB	CS6.2-66HB	CS7N-TB-AG	CS7.3-66TB
Cell Technology	TOPCon	HJT	TOPCon	TOPCon
Module Power	600--650W	600--650W	700-740W	740-750W
Module Efficiency	22.2%-24.1%	22.2%-24.1%	22.5%-23.8%	23.8%-24.1%
Module Size	2382 × 1134 × 30 mm		2384 × 1303 × 33 mm	
Module Weight	32.8 kg		37.8 kg	
Temperature Coefficient	-0.29%/°C	-0.24%/°C	-0.29%/°C	-0.26%/°C
Frame	Glass Fiber Reinforced Polyurethane (GFRP)			
Operating Temperature	-40°C ~ +85°C			
System Voltage	1500V (IEC)			
Mechanical Load	+5400 / -2400 Pa			

*Specifications are subject to the product datasheets. For additional product information, please contact support@csisolar.com.