

PV PRODUCTS · CATALOG

ACE-LITE

FRP Lightweight Module

An FRP composite laminate in place of glass

3–5 kg/m² · up to 1,314 × 2,424 mm · over 20% efficiency



The Area Weight Ruled Out

Instead of reinforcing the building, we made the module lighter

**Three times the capacity
on the same roof.**

A composite laminate of front film, FRP reinforcement, solar cells and rear FRP reinforcement, bonded under heat and pressure. The asymmetric design keeps the front transparent and flexible while the rear carries a higher fibre content for structural stiffness.

3–5 kg/m²

Over 70% lighter than glass modules at 15–20 kg/m²

640 W

Maximum output (ACE-LITE-640S, 20.09% efficiency)

9.79 kg

Weight of one 640 W-class module

30% lower

Installation cost with adhesive-bonded fixing

Product Characteristics

Reduce the weight and design, transport, installation and maintenance all change

1

Ultra-lightweight

FRP composite construction is over 70% lighter than conventional glass modules, minimising structural load.

2

Flexible

Specialised processes allow curved and free-form structures — walls, glass railings and noise barriers included.

3

Low transport cost

Total transportation cost per module is around 40% lower than conventional modules.

4

Easy installation

Simple handling cuts labour cost, and adhesive-bonded fixing reduces installation cost by around 30%.

5

Strong ROI

High efficiency, low BOS cost and easy maintenance bring down the levelised cost of energy.

6

Flame retardance

FRP materials provide good flame retardance, with durability designed to a 25-year level.

Compared to Conventional G2G

What changes at the design stage

Item	Conventional G2G	ACE-LITE FRP module
Weight	15–20 kg/m²	3–5 kg/m² (over 70% lighter)
Module size	Up to about 1 m × 1.5 m	Up to 1,314 × 2,424 mm
Conversion efficiency	18–20%	Over 20%
Process	Area limited by tempered glass	FRP production adapted from BIPV processes
Fixing method	Frame-mounted	Adhesive-bonded, 30% lower installation cost
Applicability	Mainly rooftops	Walls, glass railings, curved structures
Durability	25-year durability	Equivalent to conventional modules

ACE-LITE Series — TOPCon

High-efficiency bifacial line in an ultra-lightweight structure · model prefix ACE-LITE-

Item	171S	330S	430S	524S-1	228S	524S-2	640S
Power (W)	171	330	430	524	228	524	640
Voc (V)	17.75	34.02	44.5	53.25	17.81	40.07	48.94
Isc (A)	12.34	12.41	12.38	12.84	16.4	16.75	17.2
Vmp (V)	14.56	27.9	36.49	43.67	14.6	32.86	40.13
Imp (A)	11.75	11.83	11.79	12.0	15.62	15.95	15.95
Efficiency (%)	18.27	18.73	19.71	20.14	19.12	20.0	20.09
Size (mm)	784×1194	1134×1554	1134×1924	1134×2294	894×1334	1314×1994	1314×2424
Weight (kg)	2.88	5.42	6.7	8.0	3.67	8.06	9.79

Values at STC. Two 524S variants exist with different dimensions (1134×2294 / 1314×1994); the final model and specification are confirmed at quotation.

ACE-LITE Series — PERC

A flexible, cost-efficient line suited to curved surfaces and smaller projects

Item	ACE-LITE-110P	ACE-LITE-400P
Power (W)	110	400
Voc (V)	20.21	37.1
Isc (A)	6.94	13.66
Vmp (V)	16.63	30.7
Imp (A)	6.66	13.03
Efficiency (%)	17.46	19.41
Size (mm)	1000×630	1765×1167
Weight (kg)	2.2	7.2

Built on PERC technology for proven reliability, and designed for installation without structural reinforcement.

Applications

Turning constrained surfaces into generating area

1

Ageing factories

Installed on low-load roofs without reinforcement, activating idle roof area.

2

Facades

Integrated into curved envelopes, glass railings and curtain walls.

3

Noise barriers

Converts road and rail infrastructure surfaces into generating area.

4

Agriculture

Applied reliably to greenhouses, barns and other light structures.

Assessment Process

From structural review through to installation support



Output, size or color outside the standard line-up can be reviewed as a custom build — just tell us the requirement.

Helpful Information to Share

With these details we can propose a model and layout in our first reply

- Building use and location
- Surface geometry (flat or curved) and approximate area
- Available structural load capacity or existing drawings
- Target installed capacity and preferred schedule
- Color requirements and preferred fixing method

SUPPORT

Drawings are not required

Photographs and an approximate area are enough for a first feasibility check and capacity estimate.

CONTACT

Tell us about the area weight ruled out

Share the building conditions and target capacity — we will come back on feasibility and module configuration.

Phone **+82-2-6925-6916**

Factory **+82-31-354-5862 (Hwaseong, Gyeonggi-do)**

E-mail **info@aceivt.com**

Website **www.aceivt.com**

