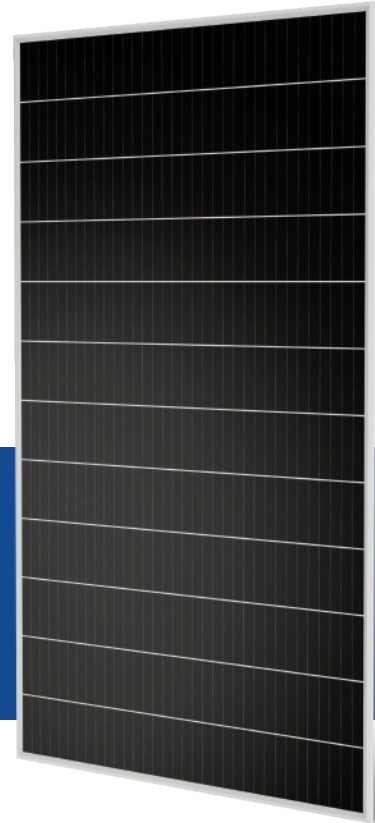


# HYUNDAI SOLAR MODULE

**VI**  
**SERIES**

## PERC Shingled

HiE-S470VI      HiE-S475VI  
HiE-S480VI      HiE-S485VI  
HiE-S490VI



Shingled  
Technology



For Utility-Scale  
Applications



More Power  
Generation  
In Low Light



### M6 PERC Shingled

M6 PERC Shingled Technology provides ultra-high efficiency with better performance in low irradiation. Maximizes installation capacity in limited space.



### Anti-LID / PID

Both LID(Light Induced Degradation) and PID(Potential induced Degradation) are strictly eliminated to ensure higher actual yield during lifetime.



### Mechanical Strength

Tempered glass and reinforced frame design withstand rigorous weather conditions such as heavy snow and strong wind.



### Reliable Warranty

Global Brand with powerful financial strength provide reliable 25-year warranty. (Australia and Europe Only)



### Corrosion Resistant

Various tests under harsh environmental conditions such as ammonia and salt-mist passed



### UL / VDE Test Labs

Hyundai's R&D center is an accredited test laboratory of both UL and VDE.

## Hyundai's Warranty Provisions



• **25-Year Product Warranty**  
• On material and workmanship  
**Australia and Europe Only**



• **25-Year Performance Warranty**  
• Initial year: 98.0%  
• Linear warranty after second year:  
with 0.55%p annual degradation,  
84.8% is guaranteed up to 25 years

## About Hyundai Energy Solutions

Established in 1972, Hyundai Heavy Industries Group is one of the most trusted names in the heavy industries sector and is a Fortune 500 company. As a global leader and innovator, Hyundai Heavy Industries is committed to building a future growth engine by developing and investing heavily in the field of renewable energy.

As a core energy business entity of HHI, Hyundai Energy Solutions has strong pride in providing High-quality PV products to more than 3,000 customers worldwide.

## Certification



## Electrical Characteristics

		Mono-Crystalline Module (HiE-S___VI)				
		470	475	480	485	490
Nominal Output (Pmpp)	W	470	475	480	485	490
Open Circuit Voltage(Voc)	V	46.4	46.5	46.6	46.6	46.7
Short Circuit Voltage (Isc)	A	13.04	13.10	13.16	13.22	13.28
Voltage at Pmax (Vmpp)	V	38.6	38.7	38.8	38.8	38.9
Current at Pmax (Impp)	A	12.18	12.27	12.37	12.50	12.60
Module Efficiency	%	20.1	20.3	20.5	20.7	20.9
Cell Type	-	PERC Mono-Crystalline Silicon Shingled				
Maximum System Voltage	V	1,500				
Temperature Coefficient of Pmax	%/°C	-0.34				
Temperature Coefficient of Voc	%/°C	-0.27				
Temperature Coefficient of Isc	%/°C	0.04				

\*All data at STC(Standard Test Conditions). Above data may be changed without prior notice.

\*Tolerance of Pmax:0~+5W.

\* Performance deviation of Voc [V], Isc [A], Vm[V] and Im[A]: ±3%.

## Mechanical Characteristics

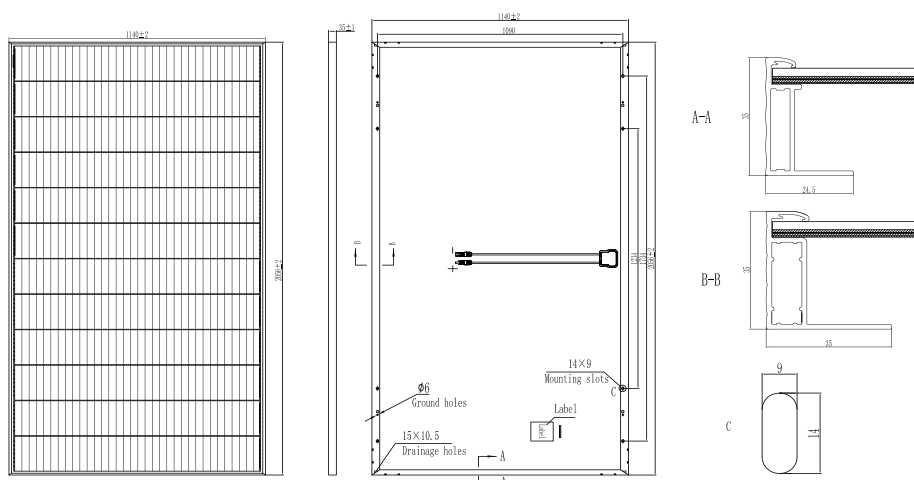
Dimensions	2,056 × 1,140 × 35mm (L × W × H)		
Weight	25kg		
Solar Cells	408 cells, PERC Mono-crystalline Shingled (166 × 166mm)		
Output Cables	Length 1,200mm, 1 × 4mm <sup>2</sup>	Connector	Stäubli : MC4-Evo2
Junction Box	Rated current: 20A, IP67, TUV&UL, 2 bypass diodes		
Construction	Front Glass: White toughened safety glass, 3.2mm Encapsulation: EVA (Ethylene-Vinyl-Acetate)		
Frame	Anodized Aluminum		

## Installation Safety Guide

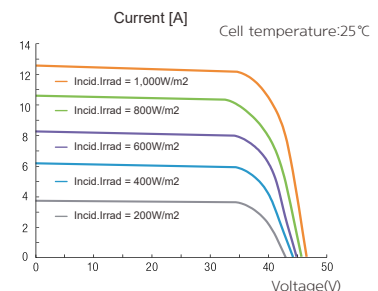
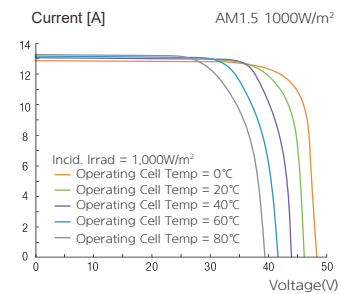
- Only qualified personnel should install or perform maintenance.
- Be aware of dangerous high DC voltage.
- Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

Nominal Operating Cell Temperature	42.3°C ( ± 2°C )
Operating Temperature	-40 ~ 85° C
Maximum System Voltage	DC 1,500 / 1,000 (IEC)
Maximum Reverse Current	20A
Maximum Surface Load Capacity	Front 5,400 Pa Rear 2,400 Pa

## Module Diagram (Unit: mm)



## I-V Curves



Manufactured in China

**HYUNDAI**  
ENERGY SOLUTIONS



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