

# Let the sunshine in!

## **BIPV** (Building Integrated PV Solar Panels)

### Almaden<sup>®</sup> glass-glass modules



60 Monocrystalline cells  
1662 x 990 x 5 mm  
N 145,550

Become a trendsetter for  
sustainable power generation

# Almaden<sup>®</sup>

 PSC SOLAR UK

# Outstanding properties



## Slim Module Design - Ultrathin - Ultralight

No frame, no back sheet. 2mm physically tempered glass exclusively used as front and back protection material.



## Outstanding performance in case of wind/snow load

Certified to withstand high wind loads of 2400pa & snow loads of 5400pa.



## Simple Cleaning

Frameless design, no dust sticks on the edge. The nano coating which is applied during the Anti Relection Coating process ensures a surface where dirt particles roll off.



## No Micro Cracks

No micro-cracks under harsh transportation, complicated handling and installation conditions as well as during lifetime module operation.



## Fire Resistance

The glass-glass design helps to save the module from damages caused by arc and hot spots, eliminating potential dangers of fire.



## Predominant weak-light performance

Outstanding weak light performance guaranteed by Almaden's anti-reflective nano-coating technology.



## Extended Guarantee

10 years product warranty on workmanship & materials 30 years warranty on linear power output.



## Positive power output tolerance

0 / +5 W positive tolerance.



## PID free

Guaranteed free of PID (potential induced degradation).

## ADDITIONAL PROPERTIES AND GUARANTY

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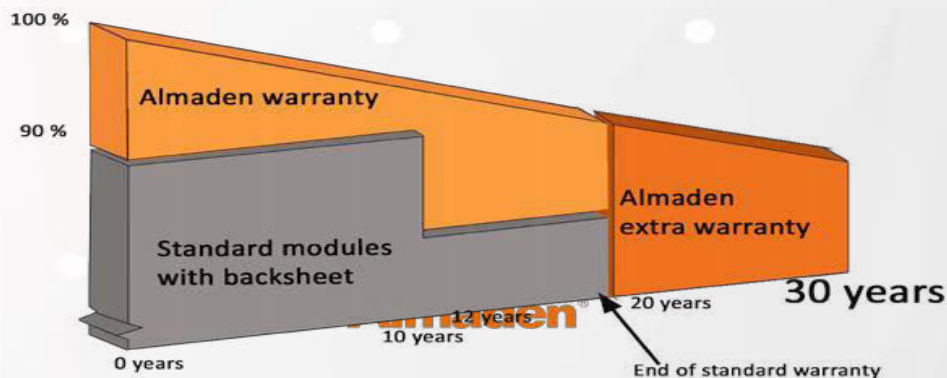
up to 40% transparency

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12 years product warranty on materials & workmanship 30 years linear performance warranty

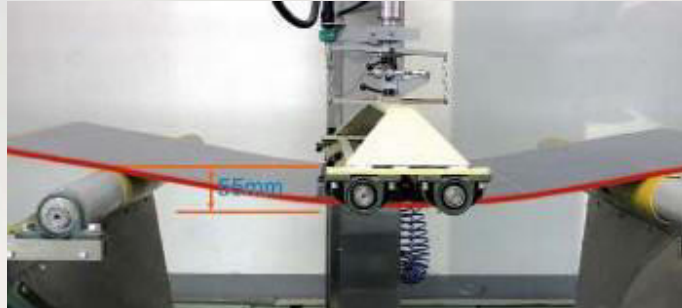
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30 years linear performance warranty



## Almaden Glass-Glass Modules convince through outstanding properties

- Light weight: Two only 2 mm thin sheets of glass,
- High reliability through tempered glass back ins- tead of plastic backsheet
- Extreme durability through Hi-tec tempering and lamination process comparable windshields of cars
- Highest wind load > 2400 Pa and snow load > 5400 Pa
- Best performance even in case of very high temperatures



### 30 years Warranty

ears Warranty

The structure of all Almaden modules with 2 sheets of hardened glass ensures an extremely long lifetime of over 50 years (proven in aging tests).

The glass sheets are welded together with a particularly durable POE ilm (lamination). The structure is similar to that of windshields of cars. For physical reasons, the power produced degrades slightly over time.

**Very high stability and unrivaled lexibility** Almaden modules made of laminated safety glass bear the highest loads: During the test, a VW Passat drove on top of the module. During this experiment the module bent, but held the load. As a result, no cracks were visible on the glass surface.

We started a bending test. Even after an extreme delection of 55 mm with 100 cycles, the glass and later the laminate remained totally intact and - even more amazing: there were no microcracks in the solar cells and thus no performance limitations of the modules.



# Glass-Glass Modules

## Technical Details



### M60 Module monocrystalline Cells



#### ELECTRICAL SPECIFICATION (STC)

Rated Power (P <sub>mpp</sub> )	270 W
Rated Current (I <sub>mpp</sub> )	8.50 A
Rated Voltage (V <sub>mpp</sub> )	30.59 V
Short Circuit Current (I <sub>sc</sub> )	9.07 A
Open Circuit Voltage (V <sub>oc</sub> )	38.24 V

1662 x 990 x 5 mm



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#### Certificates:

