Dual Glass N-Type Panel

AUSGEM

Obsidian

Designed to last

AUSTRALIAN OWNED

Introducing All Black N-Type Dual Glass

OBSIDIAN Series

AG-OS-108N
415-425W

• Aesthetically and Functionally Designed to Last 30 Years

Solar Products designed in Australia and manufactured by Tier 1 Suppliers

• Transparent Dual Glass

Improved efficiency with Bifacial rate reaching 85%, Highest possible Fire Protection rating (A Class) going beyond the Australian minimum (C Class)

• N-Type TOPCon Technology

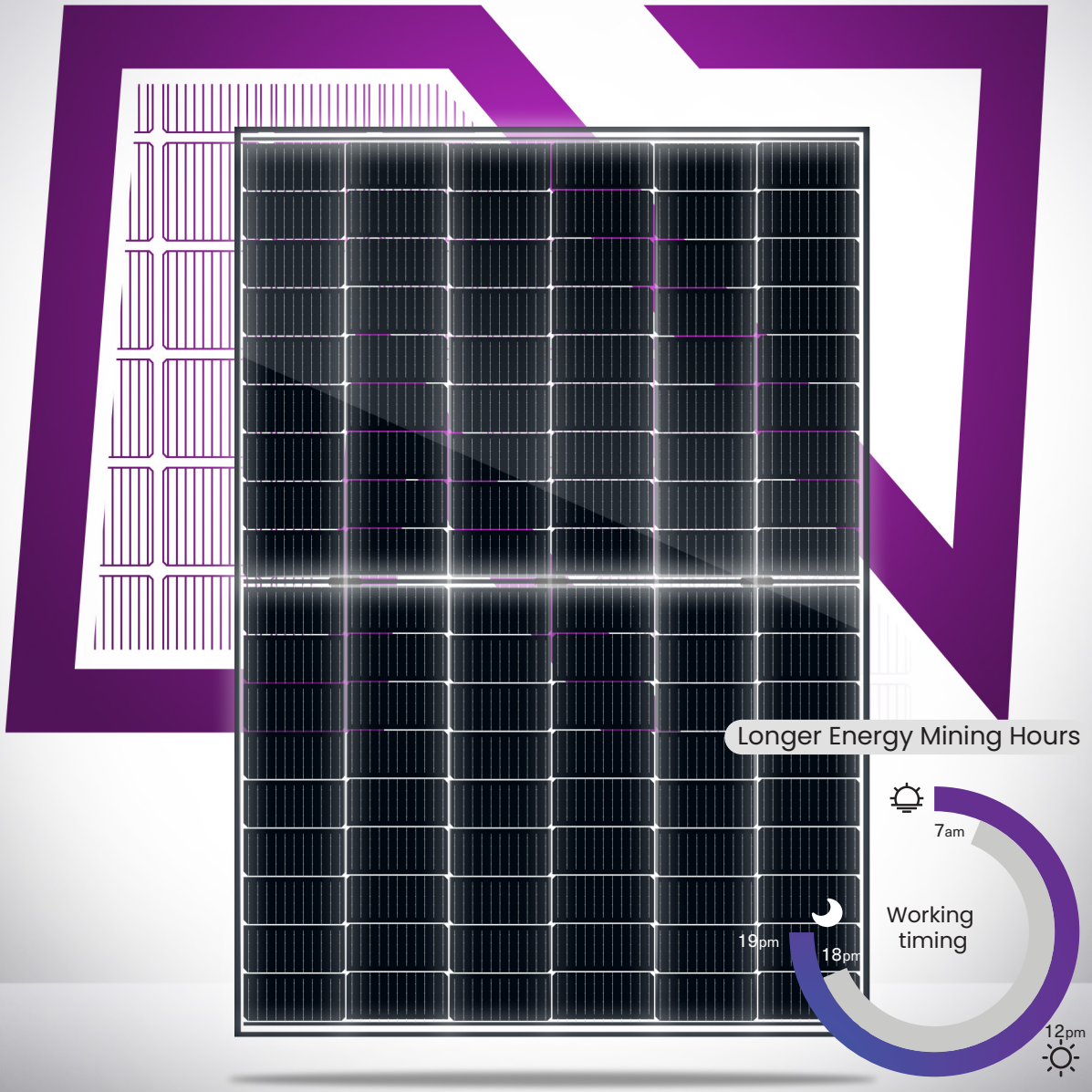
30 Years Product Warranty & 30 Years Performance Guarantee. 50% less degradation compared to the conventional P-Type panels

• Up to 30% Extra Power Gain

Longer operating time, 3-5% extra rooftop generation and up to 30% ground mount generation

• Higher Utilization of Roof Space with Higher Efficiency

Up to 24.5% Cell Efficiency & up to 21.69% Panel Efficiency



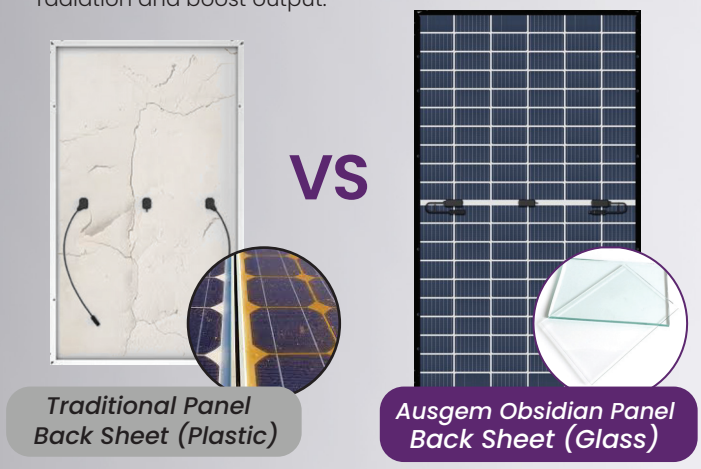
Obsidian Panels built to last

30 years Product warranty | **30 years** Performance warranty

DUAL GLASS BENEFITS

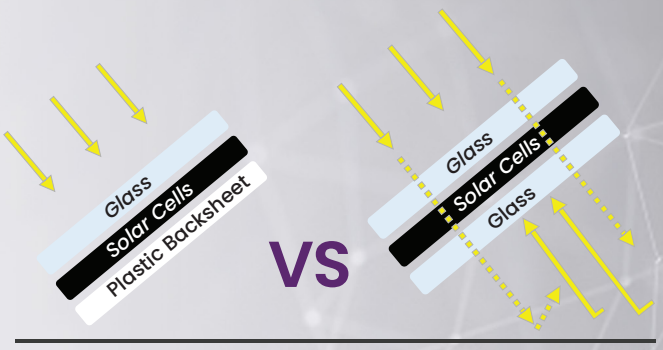
1. Dual Glass Technology
Gains more radiation to improve output

Both front and back panels are well designed to gain more radiation and boost output.



Traditional Panel Back Sheet (Plastic)

Ausgem Obsidian Panel Back Sheet (Glass)



Traditional Panel Back Sheet (Plastic)

Ausgem Obsidian Panel Dual Glass Panel

2. Up to 30% Extra Power Gain
The back of the panels will also work for you now

Having Dual Glass exposes both the front and backside of the solar cells whereas the conventional solar panels with a plastic backsheet only work from the front. Particularly, the potential power gain can be up to 30% compared to the conventional solar panels.

3. No Plastic Back-Sheet
Designed to last in Australia's Harsh Conditions

With glass-on-glass technology, we are able to entirely remove the need for a plastic sheet on the back of the panel, which is one of the most common causes of solar panel failures in Australia. The second layer of glass prevents vapors from penetration through the solar panel and can be installed next to the coastline and desert regardless of the Australia's harsh climates

** Sample Installation Photo*

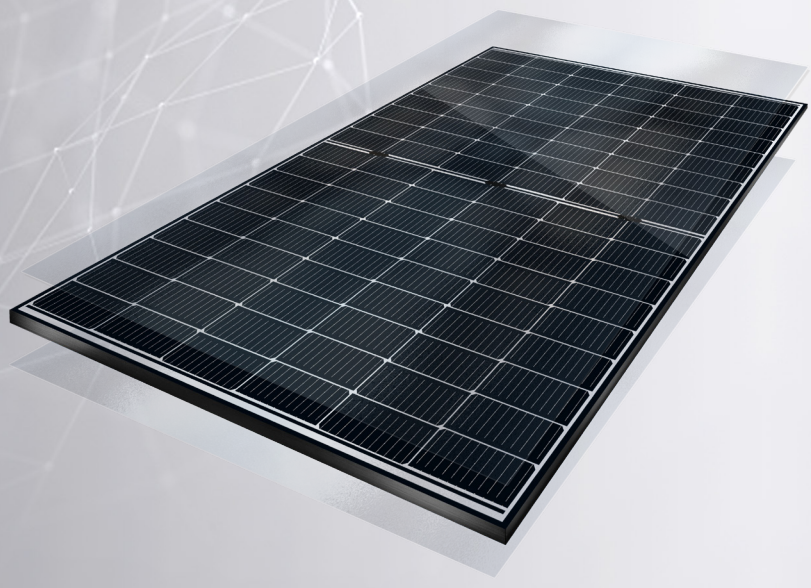
4. Fire Protection - Glass Insulator
Safe Product = Safe Investment

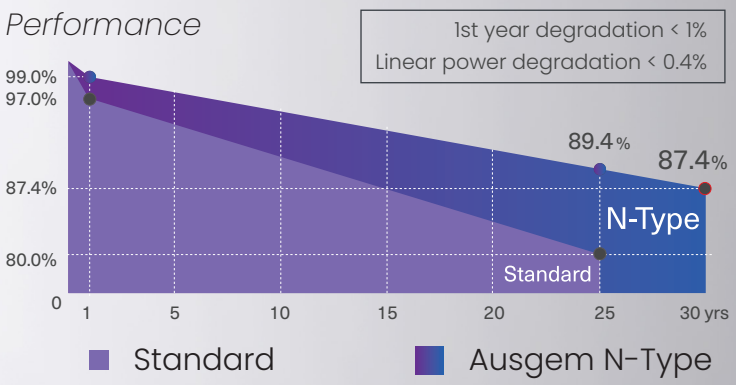
In the case of solar panels, glass is used as an electrical insulator, sealing out environmental agents, and being non-reactive with most chemicals.

N-TYPE TOPCon BENEFITS

1. Longer lifespan with more productivity
N-Type TOPCon Technology

Product life of at least 30 years
Additional power generation over its longer life
10-30% high power gain compared to conventional panels

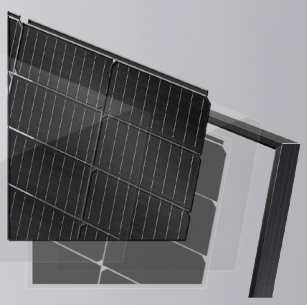




2. UP TO 22.52% MODULE EFFICIENCY and 24.5% Cell Efficiency on our OBSIDIAN Series

The main reason behind our Obsidian Series' superior efficiency is its techno-logical compositions and quality materials, which allow it to last longer.

The N-Type solar cells are created from phosphorous doped silicon, which not only eliminates the defect but are also less prone to metallic impurities. Another additional perk of the N-Type solar cells is that they are immune to the Light-Induced Degradation effect, which is also due to the absence of the boron-oxygen defect.



Obsidian Series

AG-OS-108N-410/415/420/425

N-type High Efficiency Mono Black Silicon Half-Cell Double Glass Module

Electrical Properties | STC*

Testing Condition	Front Side	Front Side	Front Side	Front Side
Peak Power (Pmax) (W)	410	415	420	425
MPP Voltage (Vmp) (V)	31.5	31.7	31.9	32.1
MPP Current (Imp) (A)	13.02	13.10	13.17	13.24
Open Circuit Voltage (Voc) (V)	37.5	37.7	37.9	38.1
Short Circuit Current (Isc) (A)	13.82	13.91	13.98	14.05
Module Efficiency (%)	21.00	21.25	21.51	22.02

*STC: Irradiance 1000 W/m², Cell Temperature 25°C, AM1.5
The data above is for reference only and the actual data is in accordance with the pratical testing
Power Measurement Tolerance ±3%

Electrical Properties | NOCT*

Testing Condition	Front Side	Front Side	Front Side	Front Side
Peak Power (Pmax) (W)	311	315	318	322
MPP Voltage (Vmp) (V)	29.6	29.8	30.0	30.2
MPP Current (Imp) (A)	10.50	10.56	10.62	10.67
Open Circuit Voltage (Voc) (V)	35.8	36.0	36.2	36.4
Short Circuit Current (Isc) (A)	11.14	11.22	11.27	11.33

*NOCT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s

Operating Properties

Operating Temperature (℃)	-40~+85 ℃
Maximum System Voltage (V)	1500V (IEC)
Maximum Series Fuse Rating(A)	30
Power Tolerance	0~+5W
Bifaciality*	80%
Fire class	A

*Bifaciality=Pmaxrear (STC) /Pmaxfront (STC) , Bifaciality tolerance:±5%

Temperature Coefficient

Temperature Coefficient of Pmax*	-0.310%/℃
Temperature Coefficient of Voc	-0.260%/℃
Temperature Coefficient of Isc	+0.046%/℃
Nominal Operating Cell Temperature (NOCT)	42±2℃

*Temperature Coefficient of Pmax±0.03%/℃

Mechanical Properties

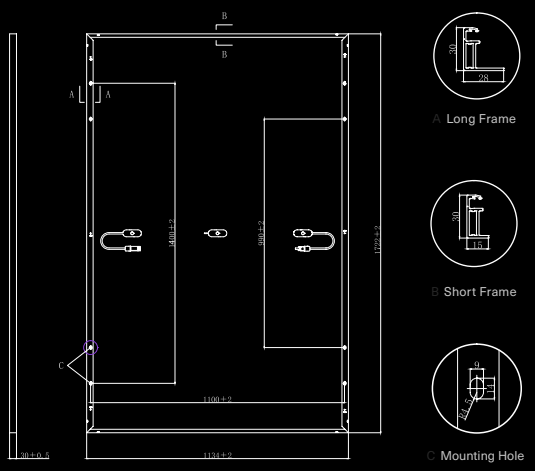
Cell Type	182.00mm*91.00mm
Number of Cells	108pcs(12*9)
Dimension	1722mm*1134mm*30mm
Weight	24.5kg
Front /Rear Glass*	2.0mm/2.0mm
Frame	Anodized Aluminium
Junction Box	IP68 (3 diodes)
Length of Cable*	4.0mm², 300mm
Connector	QC Solar QC4.10-cd / Staubli EVO2

*Heat strengthened glass
*Cable length can be customized

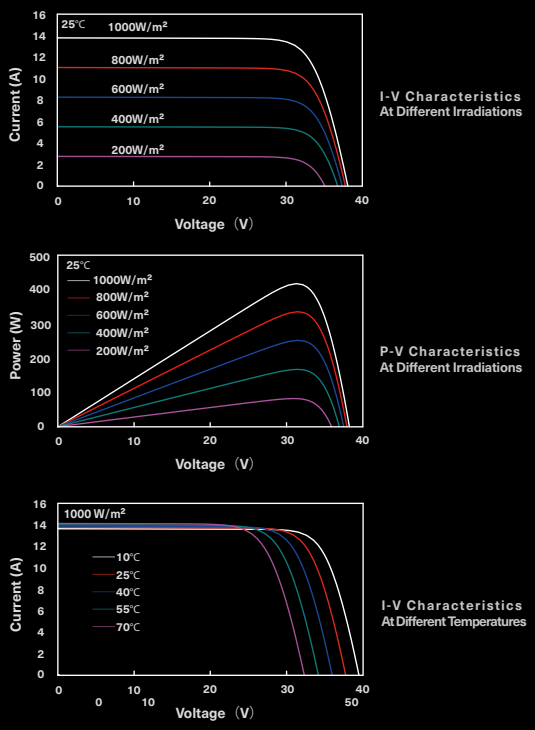
With Different Power Generation Gain (regarding 415W as an example)

Power Gain (%)	Peak Power (Pmax) (W)	MPP Voltage (Vmp) (V)	MPP Current (Imp) (A)	Open Circuit Voltage (Voc) (V)	Short Circuit Current (Isc) (A)
10	448	31.7	14.13	37.7	14.99
15	465	31.7	14.65	37.7	15.54
20	481	31.7	15.17	37.7	16.08
25	498	31.7	15.69	37.7	16.62
30	515	31.8	16.20	37.8	17.16

Engineering Drawing (unit：mm)



Characteristic Curves | Obsidian-415



Packaging Configuration

Packing Type	20'GP	40'GP	40'HQ
Piece/Pallet		36	
Pallet/Container	6	13	26
Piece/Container	216	468	936

*The specification and key features described in this datasheet may deviate slightly and are not guaranteed. Due to ongoing innovation, R&D enhancement, Ausgem reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.

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