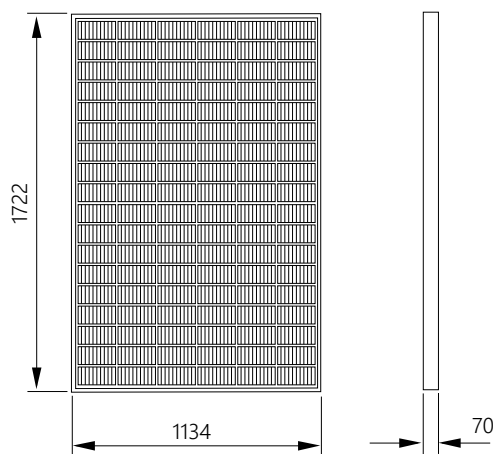




PV16-445AG-M10

- Simple roof integration with clean, low-profile aesthetic for new build and retrofit
- Rapid installation times of less than 45 min/kWp easily achieved
- Compatible with the widest range of slate and tile including special fixings for different batten thickness
- Fitted during the normal roofing programme, enabling clarity of responsibility and safe working practices
- Achieves highest fire rating and wind resistance without modifications to the roof



PV16-445AG-M10



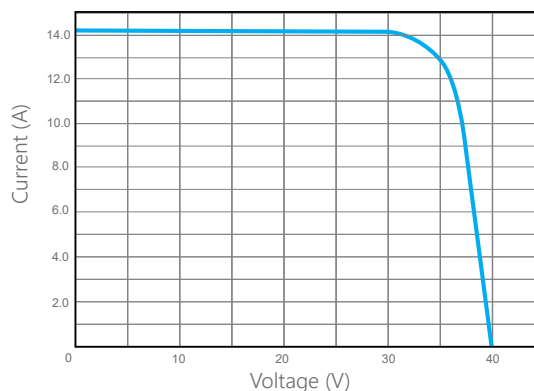
Mechanical Specification

Model		PV16-445AG-M10
Aperture Area	m ²	1.885
Width	mm	1,134
Length	mm	1,722
Thickness	mm	70
Weight	kg	28.3
Static roof loading (distributed)	kg / m ²	14.5
Characteristic Wind Resistance	kPa	4.65
Ultimate Design Load ¹	kPa	4.65
Positive Design Load	IEC 61215	5.40
Roofing System Fire Rating	EN 13501-5	B _{ROOF} (T1, T4)
Power Warranty	% rated	95% 10 years, 87% 30 years
Product Warranty		15 years
Standards		IEC61215, 61730, TUV, MCS05, MCS12
Structural Durability		Equivalent to roof structure

Electrical Specification

Model		PV16-445AG-M10
Peak Power ²	Wp	445
Module Efficiency ³	%	23.6
Number of Cells		54x2
Maximum Power Voltage (V _{mpp})	V	33.02
Maximum Power Current (I _{mpp})	A	13.48
Open Circuit Voltage (V _{oc})	V	39.90
Short Circuit Current (I _{sc})	A	14.18
NOCT ⁴	°C	42.0
Cell Type		N-Type TOPCon
Power Temperature Coefficient	% / °C	-0.29
Current Temperature Coefficient	% / °C	0.04
Voltage Temperature Coefficient	% / °C	-0.25
Maximum System Voltage	VDC	1,000
Maximum Fuse Rating	A	30
Safety Classification		Class 2
Electrical Connectors		Genuine Stäubli MC4 PV-KST4, PV-KBT4

I-V Curve



¹ Design resistance to ultimate loads includes a partial material safety factor of 1.0

² Subject to a manufacturing tolerance of +/- 5 %.

³ Based on aperture area.

⁴ Nominal Operating Cell Temperature

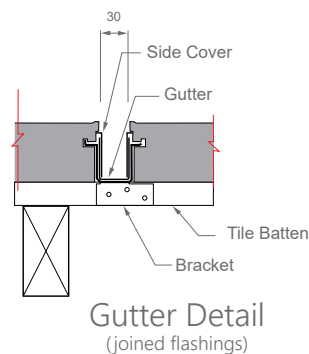
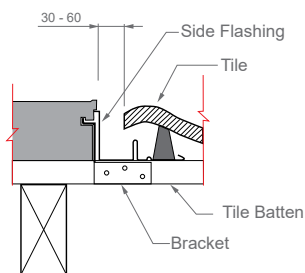
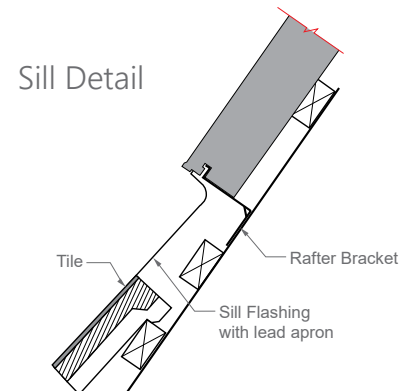
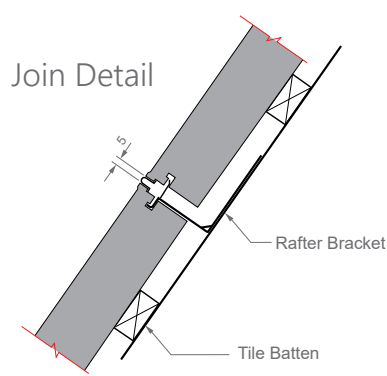
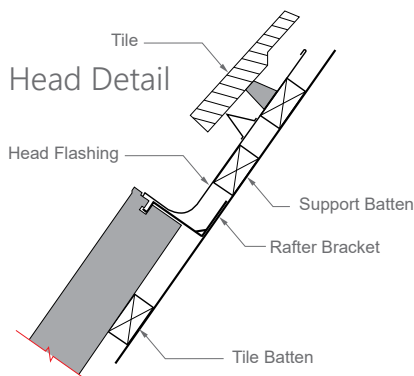
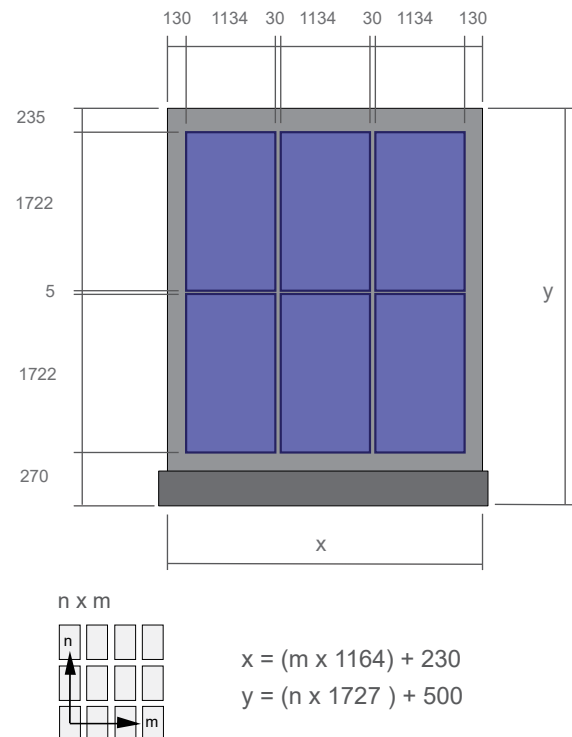
Electrical specification measured under standard test conditions: Irradiation 1 kW/m² with light spectrum AM 1.5 and a cell temperature of 25°C.

AG-M10 Solar Photovoltaic Panels

Pitched Roof Integration

Sleek, low-profile integrated solar that replaces the roof covering for an improved aesthetic and for simple roof maintenance, now at similar cost to above-roof panels. Simple, beautiful, durable.

Solar never looked so good.





Limited Guarantee

Viridian Solar Ltd., (hereinafter “Viridian”) shall provide to any purchaser (“Purchaser”) of its products as listed in the table below (“Products”), limited guarantees as to the quality and/or performance of its Products in accordance with the following terms and conditions.

1.0 General Conditions

The guarantees will start from the date of installation of the relevant Product and is transferrable to subsequent owners of the location to which the Product is installed. Where the installation date cannot be confirmed, the start date will be taken as one month after the shipment of the product from Viridian. The execution of the guarantees will not lead to any prolongation of the original guarantee period. The guarantees apply to products delivered after 1st June 2022. The Purchaser’s statutory rights under applicable national legislation are not affected by the guarantees.

The guarantees are conditional upon the Products being properly handled and installed by competent persons who have correctly followed the installation instructions applicable at that time and have used best-practice methods for their respective trades. It is also contingent on the Products being used in the manner that Viridian intended. The guarantees are also dependant on the proper use and maintenance of the Products according to Viridian’s instructions. It is the responsibility of the Purchaser to demonstrate, to the reasonable satisfaction of Viridian that the exclusions in this section 1.0 and section 4.0 of this document do not apply in respect of any claim under the guarantees.

The guarantees may not be claimed against unless and until the relevant Product has been paid for in full. Any claim under the guarantees shall be promptly notified in writing by the Purchaser as set out in section 5.0 below.

Viridian does not accept liability (whether in tort [including for negligence or breach of statutory duty], contract, misrepresentation or otherwise) for any loss of profits; loss of business; depletion of goodwill or similar losses; loss of anticipated savings; loss of goods; loss of use; or any special, indirect or consequential losses arising from the failure of the Products howsoever caused.

This exclusion of liability does not affect, or attempt to affect, any of the Purchaser’s rights under applicable national legislation.

The guarantees do not cover costs associated with installation, removal or reinstallation of the Products. The Output Guarantee does not cover compensation for declined energy yield or lost profits from the sale of energy caused by output losses.

In no event will Viridian’s aggregate liability under the guarantees exceed the original value of the Products which are the subject of a claim or dispute.

Any exchanged or replaced components or Products shall pass into the ownership of Viridian.

The Purchaser accepts that the Products were not designed and produced to its individual requirements and that it was responsible for their selection.

2.0 Product Guarantee

For the purposes of this Product Guarantee, a “Defect” means behaviour of the relevant Product which does not meet the relevant specification set out in the technical data sheet (available at www.viridiansolar.com) and which is caused by failings in the materials or workmanship used or deployed in the production of the relevant Product. For the avoidance of doubt, a Defect does not occur when the Product does not meet a



particular need but does meet a reasonable interpretation of the behaviour defined in the technical datasheet.

Viridian guarantees in respect of each Product that, for the periods set out in respect of each Product type below, the relevant Product will not be subject to a Defect.

Product	Product Code Starting	Years
Solar PV Panels	PV16	10
Flashings	F16TL, F16TC, F16TR, F16TY, F16J, VAT16, F16-VC, F16-VB F16LL, F16LC, F16LR, F16LY, F16LJ, VAL16 F16CLB, F16CLBS, F16CRB, F16CLT, F16CRT F16LCLB, F16LCLBS, F16LCRB, F16LCLT, F16LCRT	10
ArcBox	ARC04, ARC-BM	10

The Purchaser shall promptly notify Viridian in writing of any breach of the above Product Guarantee in accordance with section 5.0.

In the event of a claim being approved, the Purchaser's sole remedy for breach of this Product Guarantee and Viridian's sole obligation shall be that Viridian will, at its sole option, reimburse the Purchaser for the original purchase, repair the Product, supply a new component for the Purchaser to effect a repair or supply a replacement Product. If the type of Product which is subject to the claim is no longer available, a Product of equivalent performance (as judged by Viridian), may be supplied. The above being subject to the return of the defective product unless agreed otherwise by Viridian.

The Purchaser shall provide all information as may be deemed necessary by Viridian to assist Viridian in remedying any Defect.

The period of Output and Product Guarantees for any replacement Products supplied pursuant to this Product Guarantee will be equal to the remainder of the guarantee period of the originally supplied panels.

3.0 Output Guarantee

In addition to the Product Guarantee, the following Output Guarantee applies to degradation of the photovoltaic cells resulting in power loss for the following Products: PV16 only.

Viridian guarantees that for a period of ten (10) years from the date of installation, the power output of the above specified Products will be at least 90% of the minimum output specified in the relevant technical datasheet prevailing at the time and for a period of twenty five (25) years from the date of installation, the power output of the above Products will be at least 80% of the minimum output specified in the relevant technical datasheet prevailing at the time. Where the installation date cannot be confirmed, the start date will be taken as one month after the shipment of the product from Viridian.

The Purchaser shall promptly notify Viridian in writing of any breach of the above Output Guarantee in accordance with section 5.0. In the event of a claim being approved, the Purchaser's sole remedy for breach of this Output Guarantee and Viridian's sole obligation shall be that Viridian will, at its sole option either compensate the Purchaser for the loss of output by supplying additional Products to provide sufficient additional power output so that the total power provided by the original Products together with any additional Products is at least equal to the guaranteed output of 90% or 80% (as applicable) of the minimum output specified in the relevant technical datasheet prevailing at the time of purchase for the original Products or by repairing or (subject to the return of the defective products) replacing the defective Products, or, reimbursing the amount of the purchase price taking into account an annual depreciation of 4% of the original purchase price.

In order to determine whether the above Product Output guarantee has been met, the power output values of the relevant Products will be measured when the voltage is at an optimum and under standard

measurement conditions as follows: (a) light spectrum of AM 1.5 (b) irradiation of 1,000 W/m² and (c) cell temperature of 25 C. Such measurements are carried out in accordance with IEC 60904 as tested at the junction box terminals.

In case of dispute under the Output Guarantee, an independent test institute such as TUV Rheinland in Cologne, Germany will be used for final judgement, with costs borne by the losing party.

The period of Output and Product Guarantees for any replacement Products supplied pursuant to this Output Guarantee will be equal to the remainder of the guarantee period of the originally supplied panels.

4.0 Exclusions

No claim may be brought after expiry of the applicable guarantee periods.

The Product and Output guarantees do not cover output loss or other defects which in Viridian's judgement have been caused by:

- Installations by persons who are not qualified or competent for the task
- Installations that are not in conformance with product specifications, installation instructions, operation manuals, labelling or prevailing standards and regulations
- Failure to demonstrate that recommended maintenance procedures have been followed
- Defective transportation, storage or handling
- Use of incompatible spare parts or accessories or use of the Products with other equipment or systems not supplied or approved by Viridian.
- Unauthorised modification of the Product, including the addition of marks and stickers
- Use of the product for purposes other than those intended by Viridian
- Breakage due to external influences – flying objects, external loads, vandalism or theft.
- Damage caused by external factors – such as dirt, soiling, smoke, chemicals, pollution, the build up of scale
- Use on mobile units such as vehicles
- Damage by natural disasters (such as fires, earthquakes, cyclones, hurricanes, volcano eruptions, lightning, indirect lightning strikes, heavy snow falls, avalanches, frost damage) or other unforeseeable circumstances.
- Removal or modification of the data label on the product
- Relocation from the original place of installation
- Faults caused by interaction with equipment not supplied or approved in writing by Viridian

Change of colour and fading of the Products will not be considered breaches of either guarantee.

Solar PV cells have a natural variation in colour. Viridian Solar does not guarantee colour matching between PV panels. Steps are taken to ensure that colour matching is as close as possible, especially within production batches, but it is the responsibility of the customer to ensure that, where a colour match is important, and before the installation is completed, that the panels used have an adequate colour match.

These limited guarantees cover only the transportation cost for shipment of any repaired or replaced Product to the applicable location. It does not cover the cost for the return of the product to Viridian for confirmation of the validity of the claim. Where onsite inspections conclude that a breach of the guarantees has not occurred, Viridian will charge the Purchaser for its time and costs.



5.0 Claims Procedure

Please submit a written description of the defect and provide the model type, serial number and evidence of the purchase date for the relevant Product. Viridian will endeavour to respond to the claim within 5 working days and resolve the claim within 28 days.

Any guarantee claims should be addressed to

warranty@viridiansolar.co.uk

or
Viridian Solar
Atlas Building
68 Stirling Way
Papworth
Cambridge, UK
CB23 3GY

Viridian will need to agree the validity of the claim, and may require further evidence and/or the defective part to be returned to confirm this.

No returns of Products will be accepted without prior written authorisation from Viridian.

6.0 Disputes

In the event of any dispute arising under this guarantee which cannot be resolved between the parties, either party may propose that the dispute be referred for final determination to an expert ("Expert") who shall be deemed to act as an expert and not as an arbitrator.

The Expert shall be selected by mutual agreement or, failing agreement, within ten (10) business days after a request by one party to the other, shall be chosen at the request of either party by the Chief Executive of the Solar Trade Association.

Both parties shall afford the Expert all necessary assistance that the Expert requires to consider the dispute.

The Expert shall be instructed to deliver his determination to the parties within 60 days after his appointment

Decisions of the Expert shall be final and binding and not subject to appeal, except in the case of fraud or manifest factual error.

The fees of the Expert shall be borne by the parties in the proportion determined by the Expert having regard (amongst other things) to the conduct of the parties.

7.0 Conditions Applying to Specific Jurisdictions

7.1 Australia

Our goods come with guarantees that cannot be excluded under the Australia Consumer Law. You are entitled to a replacement or refund for major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to major failure.