Sandtoft

in-roof solar

Stop thinking of solar as an addition to your roof. Start thinking of solar as your roof. In-roof solar sets a new standard for the modern roof that embraces the traditional aesthetic of an overlapping tile, whilst providing a seamlessly integrated sustainable energy source.

FEATURES & BENEFITS

MCS certified minimum roof pitch of 15 degrees.

15 year product warranty in line with our RoofSpec offering and a 25 year performance guarantee.

Directly mounted - no trays required.

Independently wind driven rain tested at the BRE.

Seamlessly smart integrated solar panels with minimal components.

Quick & easy to install (under 1 minute for panel to panel connection).

In-roof solar is more than just a solar panel, it is a solar roof. No trays or complicated and unsightly mounting systems, in-roof solar is a seamless Integrated Roof Panel that is easy to install and applied directly to the roof battens. In-roof solar helps you to meet the requirements of Part L legislation and is proudly ethically manufactured to SA8000 standard.

CONTENTS

Why chose in-roof solar?	4-5
The systems components	6
Technical data	7
Which system is right for my roof?	8-9
Case studies	10-11

WHY CHOOSE IN-ROOF SOLAR?

MCS certified roof pitch at 15 degrees

In-roof solar is independently tested for wind resistance, weatherproofing & fire safety.

We have gone above and beyond requirements by conducting independent wind driven rain tests at the BRE. MCS 012 - in-roof solar is a system you can trust in all conditions.

- Fire rated to BROOF (t4) standard, the highest possible European fire rating for roofs.
- Wind resistance exceeds all major roof mounting systems.

Small Number of Parts

Thanks to its interlocking design the in-roof solar solution provides an easy and fast installation.

- Minimal number of parts in comparison to other systems on the market.
- Single lapped design, which mimics roof tiles. The timeless character of the traditional tiled roof is maintained and futureproofed.
- No individual panel flashing is required due to interlocking design.

Fixes Directly to Roofing Battens

In-roof solar panels are mounted directly to the roof battens reducing mounting costs.

- Smaller number of parts when compared against other systems on the market.
- No trays required.
- Solar panels fit seamlessly inline with roof profile.

Simple to Install

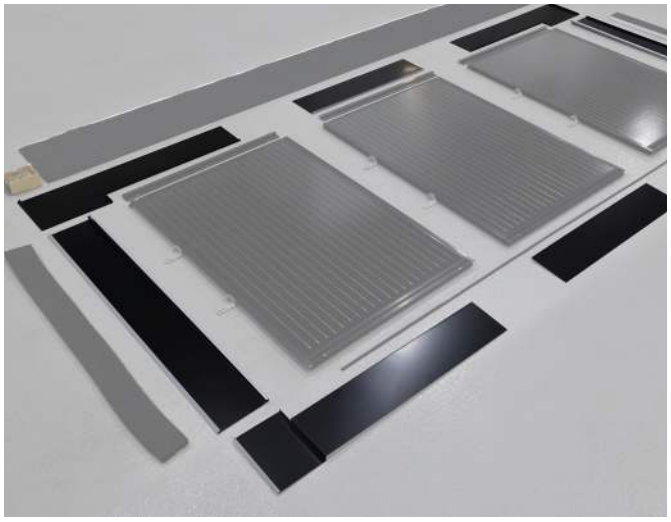
Easier to install than other conventional on roof and in roof systems.

- Panel to panel connection is less than 1 minute.
- Simple panel to panel connection guides the installer in to the correct position by simply pushing the panels together.
- No specialist equipment is required.

Lightweight & Easy to Handle

In-roof solar panels are lightweight and easy to carry.

- A combination of strength and simplicity - each panel weighs only 8.9kg.
- In-roof solar can be installed or removed in under one minute per panel.
- Interlocking design provides superior strength and wind rating.



Aluminium Flashing

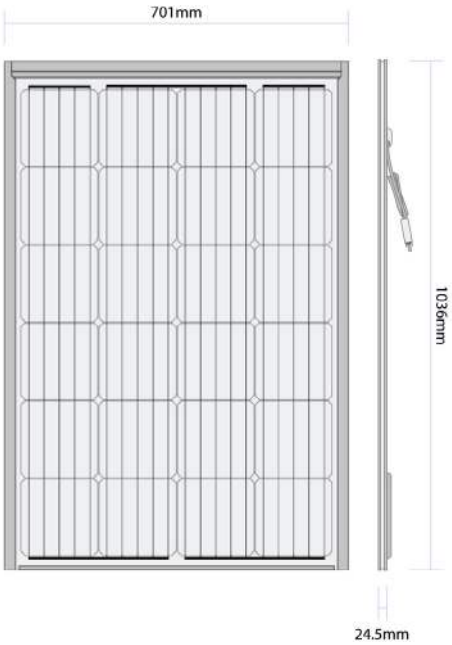
The flashing used is aluminium and interlocks together - no adhesive is required.

Universal system is compatible with all Sandtoft & Keymer roof tiles and roof membranes.

- No plastic which can suffer from degradation over time.
- Panels and flashing have an interlocking system designed with a product warranty of 15 years.

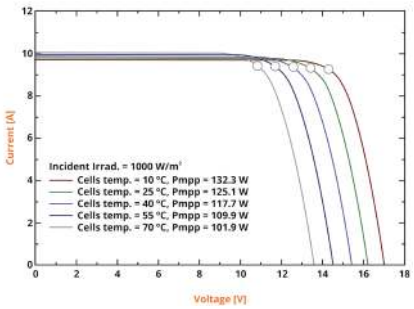
THE IN-ROOF SOLAR SOLUTION

Front and side profile



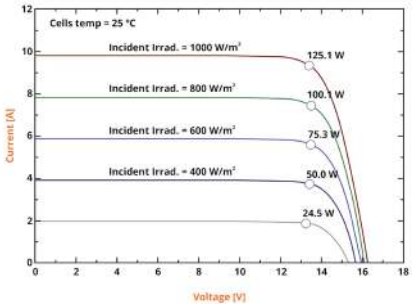
Cell Temperature I-V Curve

Showing how the voltage is affected by cell temperature.

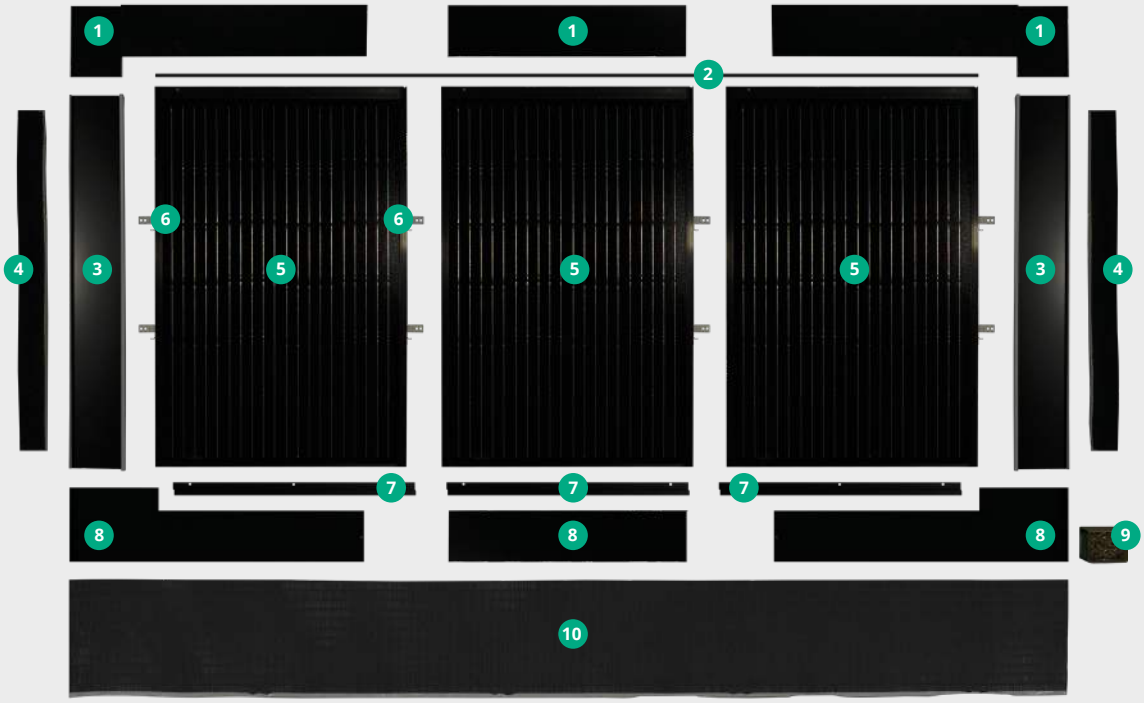


Irradiance I-V Curve

Showing how the current, power and voltage is affected by different light.



System components



1. Aluminium flashing top (left, middle, right)
2. Seal strip 01
3. Aluminium flashing side (left & right)
4. Seal strip 02
5. IRT Panels (left, middle, right)
6. Mid-clamp (right & left)
7. Bottom edge
8. Aluminium flashing bottom (left, middle, right)
9. Self tapping screws
10. Lead replacement

TECHNICAL DETAILS

Electrical Performance

Module type	PLM-125MB-24 SERIES		
Power output	Pmax	Wp	125
Voltage at Pmax	Vmpp	V	13.33
Current at Pmax	Impp	A	9.38
Open circuit voltage	Voc	V	16.22
Short-circuit current	Isc	A	9.79
Module efficiency	Eff	%	18.2

STC: 1000W/m² irradiance, 25°C cell temperature, AM 1.5g spectrum according to EN 60904-3
Power measurement uncertainty is within -/+ 3%

Thermal Characteristics

Nominal operating cell temperature	NOCT	°C	45±2
Temperature coefficient of Pmax	γ	%/ °C	-0.40
Temperature coefficient of Voc	βVoc	%/ °C	-0.30
Temperature coefficient of Isc	αIsc	%/ °C	0.06

Operating Conditions

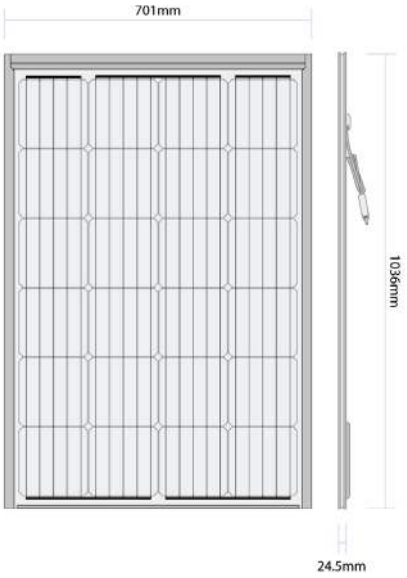
Max. system voltage	1000VDC
Limiting reverse current	15A
Operating temperature range	-14°C to 85°C
Max. static load front (e.g., snow)	5400Pa
Max. static load back (e.g. wind)	3420Pa

Mechanical Characteristics

Front cover (material / thickness)	low-iron tempered glass/3.2mm
Backsheet (colour)	black
Cell (quantity/material/dimensions)	-14°C to 24/monocrystalline silicon/156.75x156.75mm
Frame (material/colour)	anodized aluminium alloy/black
Junction box (protection degree)	≥IP67
Cables & Plug connectors	900mm/4mm² & MC4 compatible/IP67
Module Dimensions (L/W/H)	1036mmx701mmx24.5mm
Module Weight	8.9kg

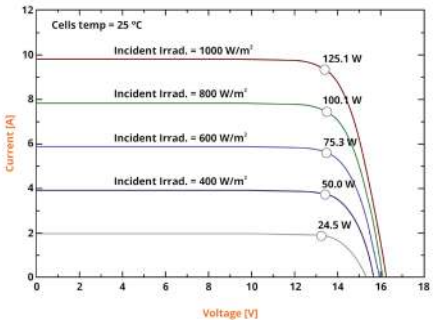
Sandtoft

Front and side profile



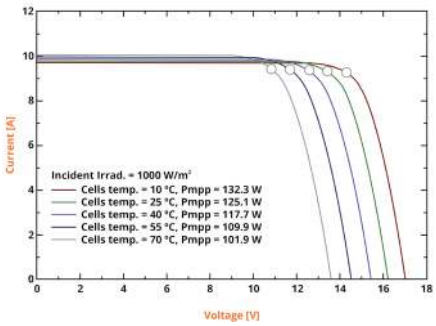
Irradiance I-V Curve

Showing how the current, power and voltage is affected by different light.



Cell Temperature I-V Curve

Showing how the voltage is affected by cell temperature.



www.wienerberger.co.uk/solar

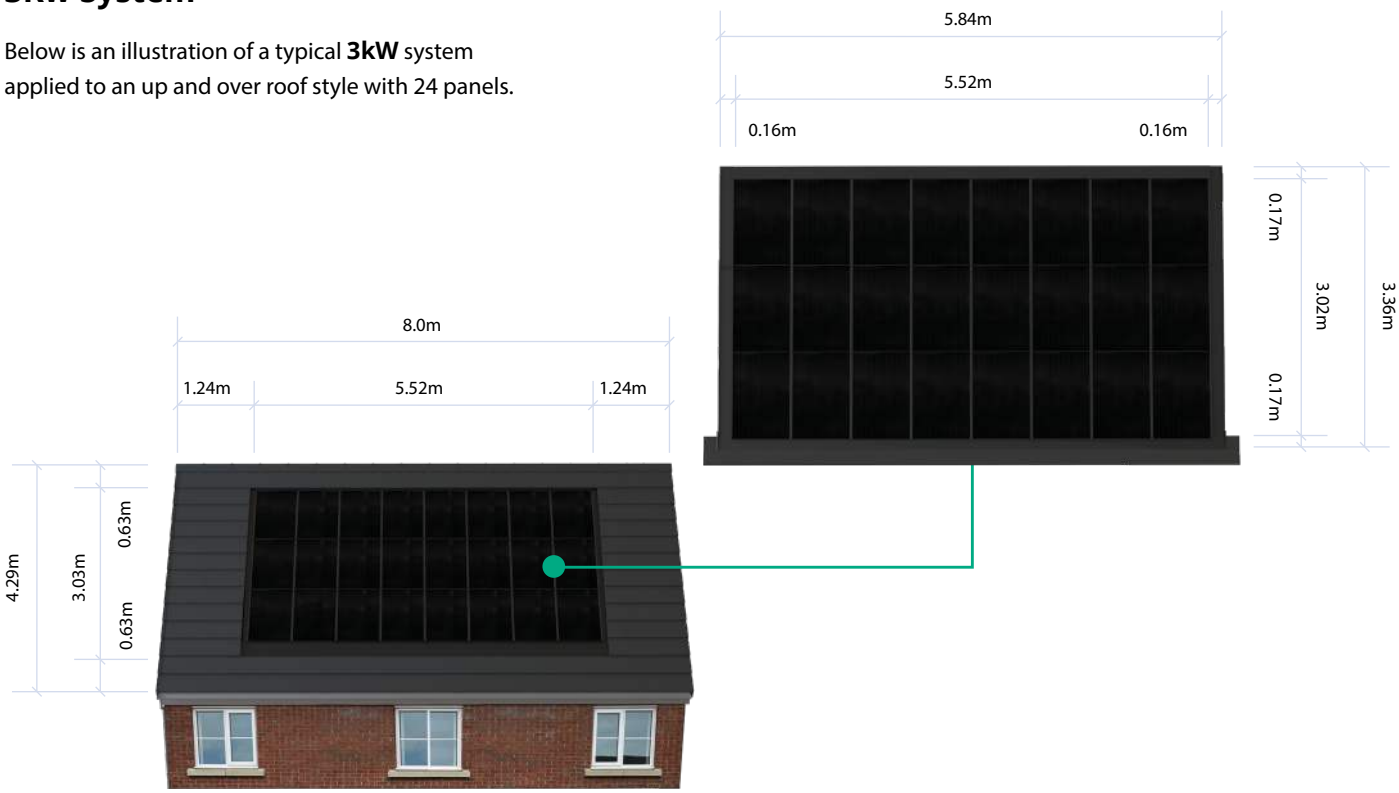
in-roof solar

WHICH SYSTEM IS RIGHT FOR MY ROOF?

When applying in-roof solar it's useful to know what system is suitable for your roof type.

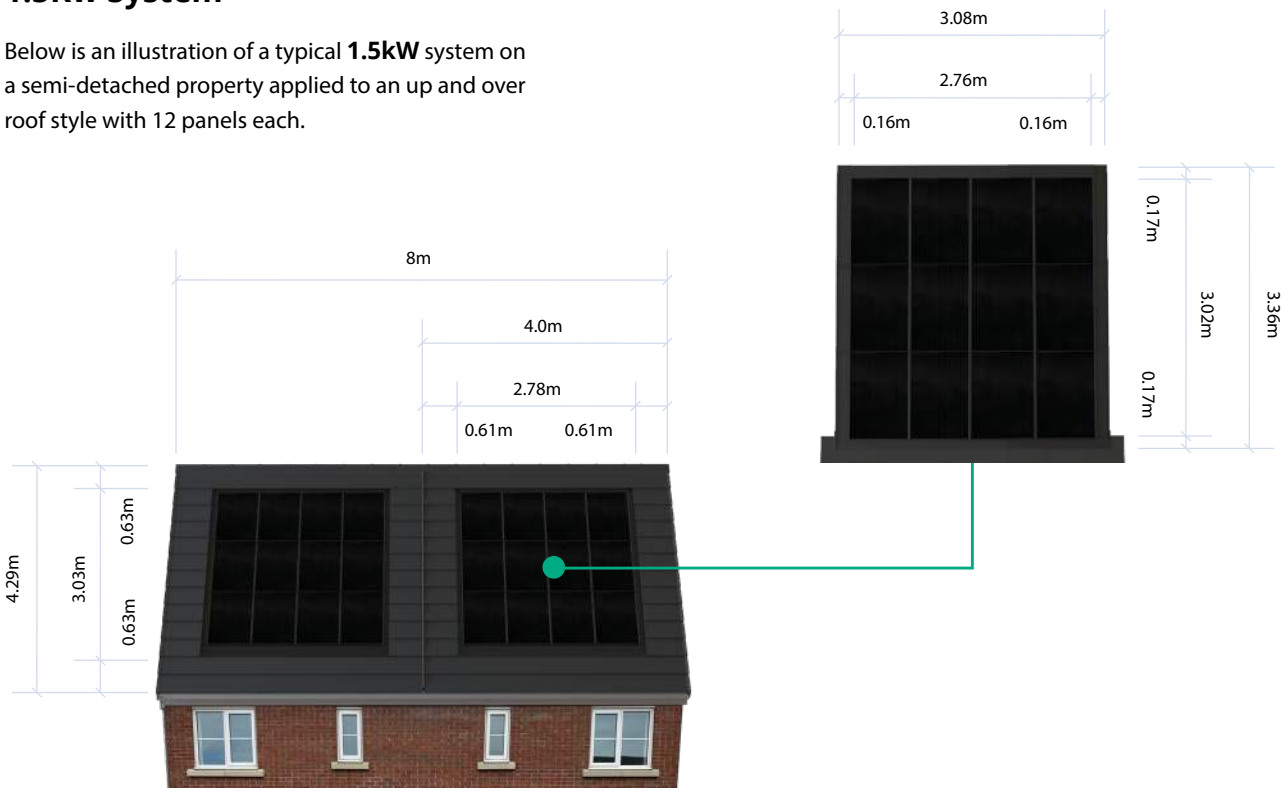
3Kw System

Below is an illustration of a typical **3kW** system applied to an up and over roof style with 24 panels.



1.5Kw System

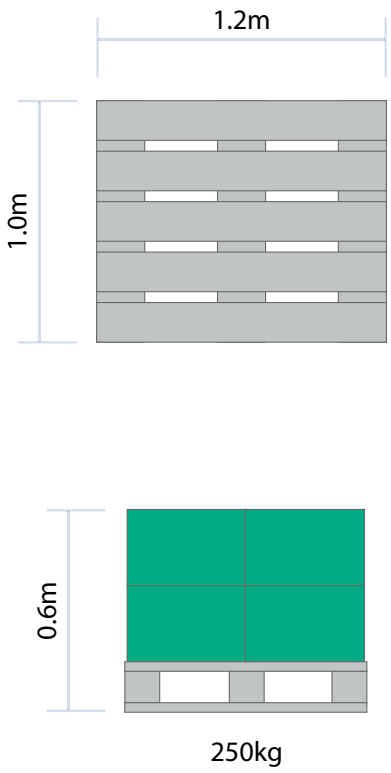
Below is an illustration of a typical **1.5kW** system on a semi-detached property applied to an up and over roof style with 12 panels each.



WE DELIVER WITH YOU IN MIND

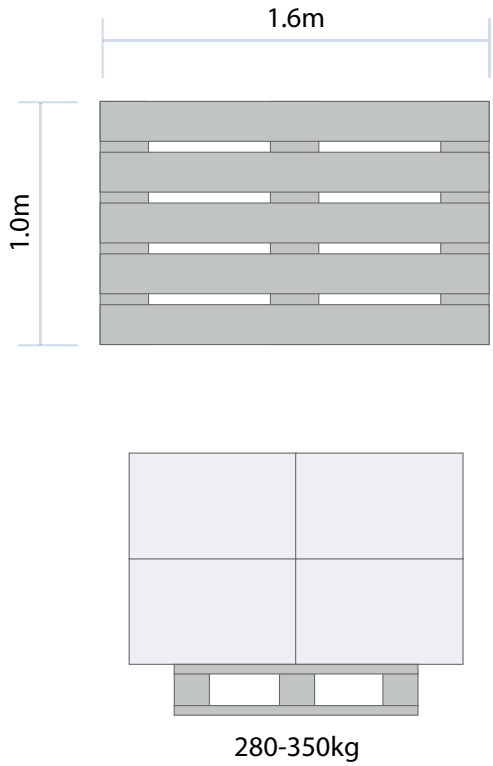
One of the many benefits of in-roof solar is the size of the delivery package when compared to other suppliers. By using a euro pallet, this provides many benefits such as ease of handling on site, particularly when working at height and the ability to load in smaller locations.

What you get from us (3kW system)



Euro Pallet

Typical delivery from others



Oversized pallet or standard pallet with product overhang

THE SERVICE WE OFFER

In-roof solar solution is covered by Sandtoft's 15 year RoofSpec offering.

We offer in-roof solar design services.

If required, we offer advice on the in-roof solar selection.

Our solar panels are compatible with all Sandtoft & Keymer roof tiles and roof membranes. The full system is MCS accredited down to 15 degree pitch following extensive BBA/ BRE testing.

CASE STUDIES

Premier Inn St Davids

192 panels – in-roof solar integrated roof panel system.
Growatt 12kW inverter

Site Address:-
Premier Inn
Glasfryn Road
St David's
Wales
SA62 6QF

Total peak power of installed system:	**24.00 kW**
Estimated annual output:	**21312 kWh**
Calculation for cost output:	**kWh x Tarif rate***
Estimated annual saving:	**£7,246**

Please speak to your local ASM/ customer support about in-roof solar

*Figure calculated by .GOV average price of electricity of 34p/ kWh quoted on 19th December 2022.

Persimmon Homes

30 panels per house – in-roof solar integrated roof panel
X1-HYBRID-5.0-O inverter

Site Address:-
Plot 75 - 76
Hartley Grange
Whittlesey
PE7 1RH

Total peak power of installed system:	**3.75 kW**
Estimated annual output:	**3420 kWh**
Calculation for cost output:	**kWh x Tarif rate***
Estimated annual saving:	**£1,163**

*Figure calculated by .GOV average price of electricity of 34p/ kWh quoted on 19th December 2022.

Please speak to your local ASM/ customer support about in-roof solar

Sandtoft

in-roof **solar**

Wienerberger Ltd
Wienerberger House
Brooks Drive
Cheadle Royal Business Park
Cheadle, Cheshire
SK8 3SA

T: 01427 871200
wbukmarketing@wienerberger.com
www.wienerberger.co.uk/solar

Visit the website

Watch how-to videos

The Institute of Customer Service
MEMBER