

Roof Integrated System



Stealth Energy

Welcome To Stealth Energy

Stealth Energy is a Solar Photovoltaic (PV) System which has been developed by Infinity Innovations Ltd. Many years of experience in the Solar Renewables Industry has culminated in the development of this new solution to the generation of sustainable energy in the form of electricity.

The Solar Renewables industry has seen a meteoric rise in demand for PV systems, driven by feed in tariffs from the government which meant that the installation of Solar PV systems for homeowners was a highly viable financial option. However although the technology has continued to improve, the level of subsidies has reduced dramatically. Those looking to benefit from Solar PV systems face a tighter financial decision, and therefore are demanding more from the traditional on roof frame mounted systems – they are demanding that the PV looks agreeable.

Stealth Energy is a complete system which looks to bridge the gap between the significant benefits of Solar Photovoltaics, with the difficulties of living with many renewable energy systems– which is that often they are unsightly. Existing attempts at solutions, such as in roof solar, and solar tiles have tried to offer a solution, and improve on standard solar Pv systems, however both have limitations due to performance, finished looks and costs.

Stealth Energy bridges the gap of aesthetics and efficiency to provide a cost effective solution to generating domestic energy. The frameless PV panels, or Pv tiles, or solar tiles displace a section of the existing roof covering to allow the in-roof solar tile, or solar roof tile to sit flush with the existing roof on a specific 'performance efficient' mounting system, and as they are black in colour, they are almost unnoticeable on dark roofs.

The Stealth Energy system matches the efficiency of standard solar Pv systems while allowing the solar tile, or solar roof tile to be relatively unnoticeable once installed.



Stealth Energy

About the Product

The Stealth Energy solar tile is a frameless Pv panel. It is much smaller than a standard solar panel, and comprises of 12 highly efficient Monocrystalline Cells, giving an output of 50w per panel.

The development of the Stealth Energy Solar tile allows an in roof solar solution, which uses the minimum of space to achieve high yield.

Highly Efficient Cells

The best quality cells will produce the highest returns from the smallest area. The Stealth Energy solar tile uses highly efficient Monocrystalline PV cells, or wafers, which allow this small solar tile, or frameless Pv panel to generate 50w of power under standard conditions.

Frameless Pv panel

A standard solar Pv panel has a thick frame all the way around it. This frame creates additional weatherproofing, strength for the long standard Pv panels and a frame to grip on when mounting the panels. It also adds a substantial amount of weight to each solar Pv panel.

The Stealth Energy solar tile is a frameless Pv panel. Considerable amounts of research and development have solved the requirement for any frame in terms of weatherproofing. As the individual solar tiles are small by comparison to large standard Pv panels, each one is incredibly strong. As no frame is attached to each panel, they are very light and easy to handle.

Pre Drilled Holes

To develop a frameless Pv panel, or solar tile and then drill holes in it would seem entirely counterintuitive. However this specialist ability to provide the frameless Pv panels or solar tiles with pre drilled holes allows for a very simple and extremely strong mounting system to be used. As existing Pv panels have a frame around them, all kinds of mounting systems have been developed to effectively 'grip' the frame to secure it to the roof. With the frameless Pv panel, or solar tile, it is very simple as you just screw them down.



Small Dimension, Lightweight & Tough

The benefit of having a frameless Pv panel, or solar tile, is that they are much lighter units. Many solar roof installations happen at height on second and third floor height, and so to only have small Pv tiles instead of standard Pv panels which can be up to 2 meters long, makes for a much safer and simpler handling experience.

Small solar tiles also allow much greater use of space on a roof. Many small areas cannot be used with standard Pv panels as the Pv panels are too large. This is not the case with the Stealth Energy solar tile modules.



NOT RECCOMMED BUT EASILY PASSES

THE 15 STONE TEST

Full Black Appearance

Additional manufacturing processes in the productions of the Stealth Energy PV Tile, ensures that all the back sheet of the unit is black. The monocrystalline cells or wafers are not actually black, they are very dark blue, but they have the appearance of being almost black, which means that the frameless Pv panels, or solar tiles appear to be black. The black appearance for the solar tiles means that the look of the in roof solar installation is very low impact. Where the existing roof is dark coloured, the in roof solar Pv tiles once installed are highly integrated and therefore much less noticeable.

Standard Connections

The back of the Stealth Energy solar tile uses industry standard MC4 connecters. The back-box itself has been specially designed for this smaller and slimmer application, but any installer will be familiar with the MC4 male and female connectors which allow the panels to be connected in series.

Electrical Characteristics

The electrical characteristics are such that the voltage of the panels allows for all installations up to 4kwp to be installed in a single string. This is important as particularly on the systems of 2kwp and onwards the voltage is high, which assists with higher performance from the inverter. Single string installations are much simpler for the installers, quite simply it requires much simpler installation as each solar tile is simply connected one to the next, in series.



Gallery



Ideal For Both Retro Fit & New Build

Retro Fit:

The Stealth Energy Tile system is designed to work beautifully with retro fit projects bring old and new perfectly inline with one another



Ideal For Both Retro Fit & New Build

New Build:

The Aesthetics of the Stealth Energy Tile system is designed to work ideally with new build giving a sleek and as unobtrusive Look.



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Mounting System

The Stealth Energy System uses small frameless Pv panels, or solar tiles, which are installed as in roof solar. The Stealth Energy solar tile is a frameless Pv panel which is supported using a mounting system, so that it is flush with the existing roof. The Stealth Energy mounting system is unique and specific to the Stealth Energy solar tiles.

Mounting systems are now, or shortly due to be, subject to a new standard which is called MCS 012. This new system is intended to rigorously test mounting systems in relation to weatherproofing, strength and fire safety. The Stealth Energy mounting system has been developed to more than comply with this new industry standard in all aspects.

The Stealth Energy Mounting system has specific advantages:

- Simple installation
- Low Profile
- Designed Airflow
- Strength Testing
- Weatherproofing
- Minimal parts
- Black components



Tile

Stealth XT 50-12M

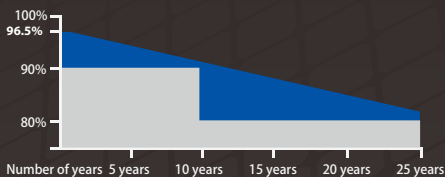
Stealth Energy™ Highest efficiency Tile

Performance Warranty

Within the first year, the output power shall not be less than 96.5% of the minimum output power in product datasheet, thereafter the loss of output power shall not exceed 0.68% per year ending with 80.18% in the 25th year.

■ Stealth Energy ■ Standard warranty

Stealth Energy linear performance warranty



19.2%

Average cell efficiency

10 year

Material & Workmanship warranty

50W

High power output

25 year

Linear power output warranty

Stealth XT 50-12M

Electrical characteristics

Module type	Stealth XT 50-12M
Pmpp(W)	50.1
Voc(V)	7.74
Isc(A)	8.54
Vmpp(V)	6.17
Impp(A)	7.99
Module Efficiency	19%
Maximum system voltage [V]	1000
Voltage temperature coefficient	-0.307%/K
Current temperature coefficient	+0.039%/K
Power temperature coefficient	-4.23%/K
Series fuse rating [A]	20
Cells	2x6 pieces mono cell series string(156)
Junction box	with 1 bypass diodes
Cable	length 300mm and 1200mm, 1x4mm
Front glass	White toughened safety glass, 4mm
Cell encapsulation	EVA(Ethylene-Vinyl-Acetate)
Back sheet	composite film
Frame	None
Dimensions	1020×408×5mm(L×W×H)
Weight	5Kg(11lbs)

The electrical data relates to STC: 1000 W/m²; AM 1.5; 25 °C.
Performance deviation of P_{mp}: 0~±3%;
Performance deviation of Voc, Isc, Vmp and Imp: ±10%.
Certified in accordance with IEC61215, IEC61730-1/2 and UL1703.



World class mono efficiency for rooftop projects



Positive tolerance offer



PID-free



Unique structural design effectively decreases power loss during the course of usage



Precise sorting of current distribution reduces power loss during module assembly



Load certificates: wind to 2400 Pa and snow to 7200 Pa



Coastal condition: certified for salt/ammonia corrosion resistance

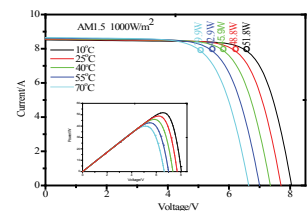
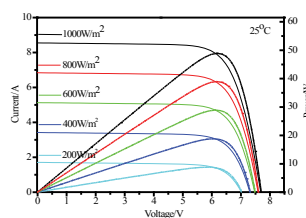


Excellent performance under low light conditions

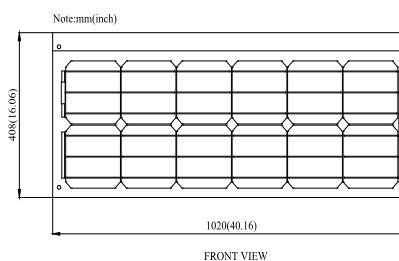


Good Temperature Coefficient enables higher output in high temperature regions

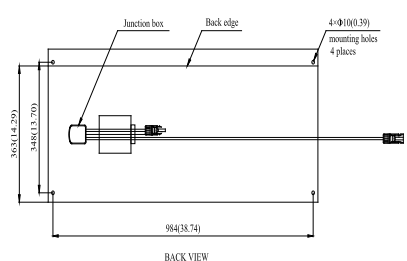
IV-Curves



Dimensions



FRONT VIEW



BACK VIEW



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All information and data are subject to change without notice.

www.stealthenergy.co.uk

Contact Us

For further information on our latest offer and sales information of Stealth Tile System, or any general queries please use any of the methods below.

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