

▲ SOLAR ROOF SYSTEM & RENEWABLES





With Marley SolarTile®, the integrated solar roof system has come of age.

We offer the highest quality with desirable aesthetics at competitive prices, and the ability to capitalise on the design, installation and long-term performance benefits of the full Marley Roof System.

Solar power has developed into an in-demand home improvement requirement, with the genuine cost-saving benefits of using renewable energy to help power our homes. Add to this, the sleek aesthetics of Marley SolarTile and true kerb appeal can be added to long-lasting, maintenance-free performance.

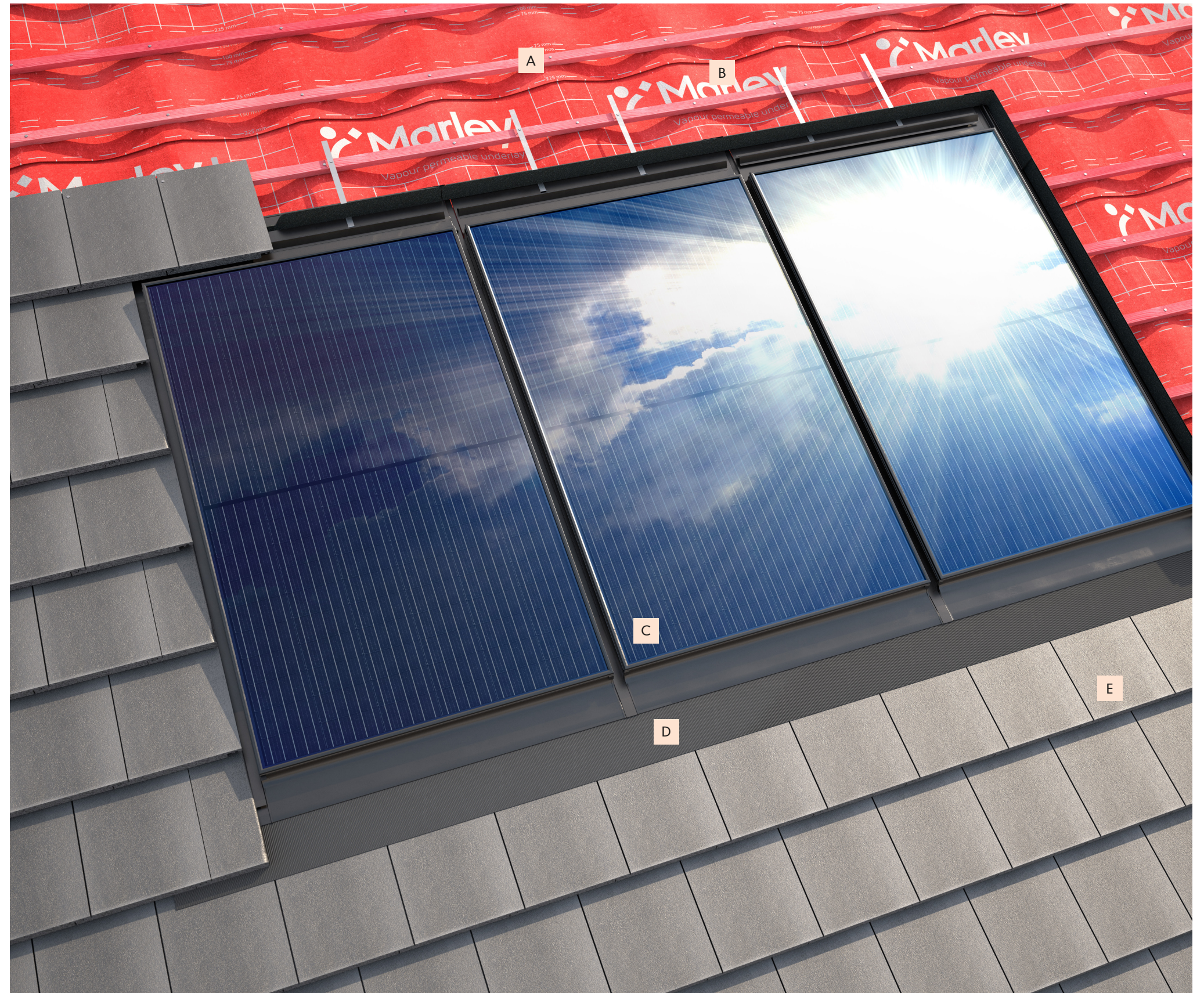
- ▲ Integrated with full Marley roof system and all tile types
- ▲ Available with power rating of 335Wp and 405Wp
- ▲ Renewable energy to reduce household bills
- ▲ Very low profile and unobtrusive
- ▲ Lightweight, compact, simple and fast to install
- ▲ Market-leading fire performance\*
- ▲ Exceptional industry leading wind resistance performance
- ▲ 15 year guarantee

15  
YEAR

MARLEY ROOF  
SYSTEM WARRANTY

The illustration to the right shows 335 Marley SolarTile® used with Modern interlocking tiles. Marley SolarTile can be integrated with any of Marley's ranges of tiles, or those of other manufacturers.

- A JB Red machine-graded, BS 5534-compliant battens
- B Vapour permeable underlay system with superb wind-uplift resistance
- C Flush-fitting (level with roof covering), Marley SolarTile® 335 or 405 panels with excellent wind resistance and full integratability with all elements of the Marley roof system.
- D Aluminium push fit flashing for durability and high fire rating with robust lead flashing to minimise wind uplift
- E Concrete or clay interlocking or plain tiles, available in a range of colours and options (Modern shown)

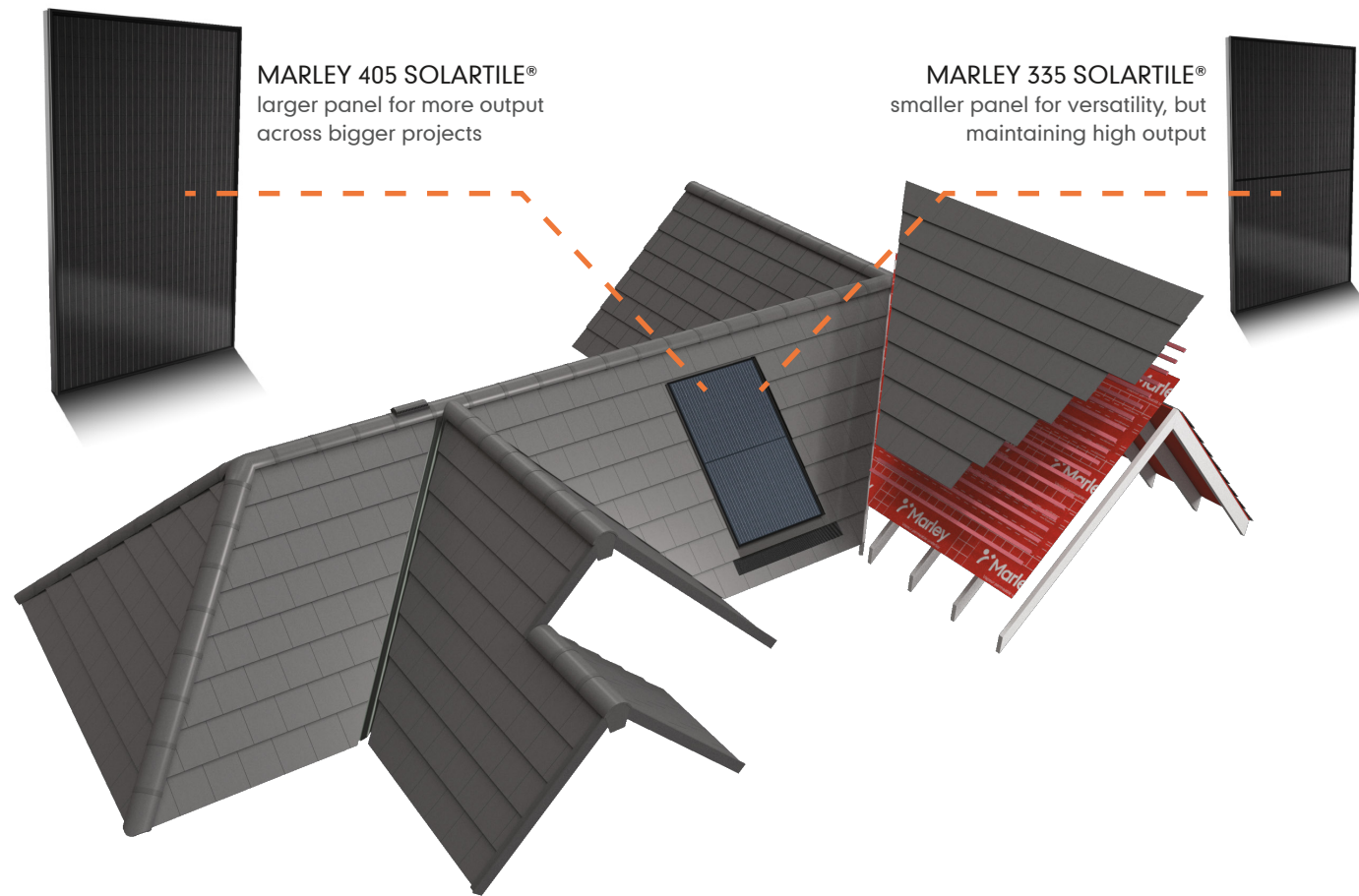




## MARLEY SOLAR ROOF SYSTEM

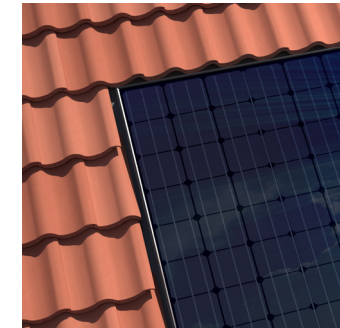
Marley SolarTile® can be used as a fully integrated element of our comprehensive roof system.

This brings with it all the benefits of broad design scope, simple, fast installation with long life, high-performance outcomes and a 15 year guarantee.

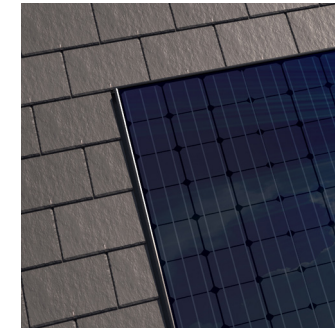


Our SolarTile® systems are low profile and fully integrated with the roof covering, from deep profiled tiles, to plain tiles, to natural or fibre cement slates, making them the ideal performance and aesthetic solution for all Marley and other manufacturers' products.

SolarTile® is a fully integrated low profile solution for all tile and slate profiles.



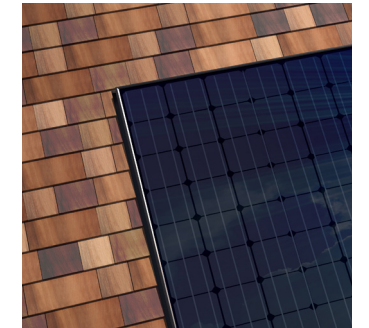
Profiled tiles



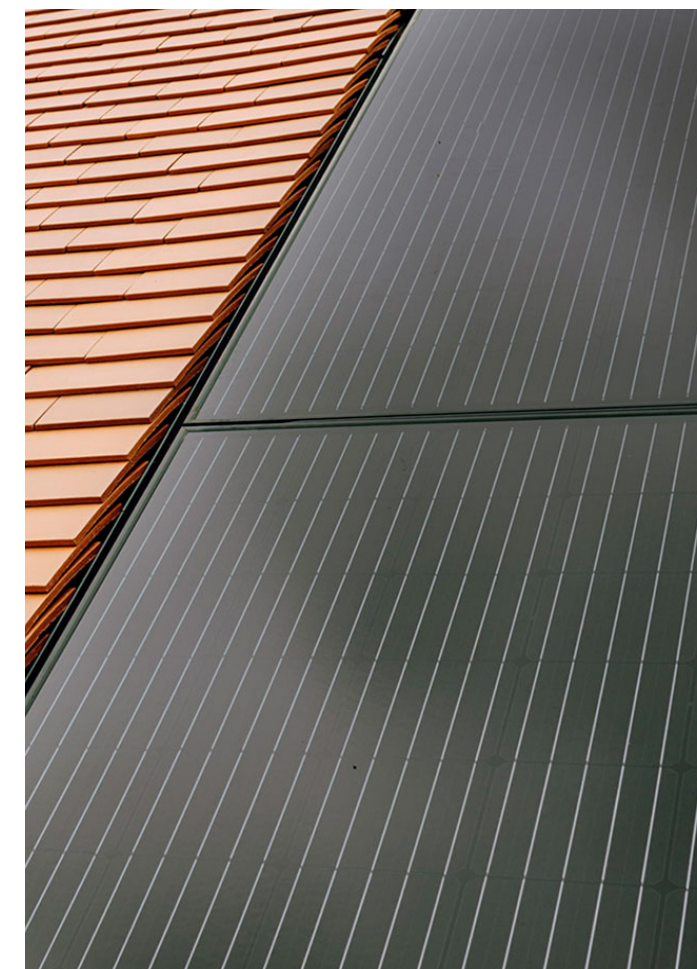
Fibre cement or natural slates



Plain tiles



Shingles or shakes



### Arcbox making solar even safer

The ArcBox enclosure simply snaps around a DC connector to ensure that, if an arc ever occurs, it is safely contained and doesn't spread to combustible materials in or around the solar installation. The effectiveness of the product has been independently verified by the KIWA fire test laboratory and Loughborough University.

Visit [marley.co.uk/arcbox](http://marley.co.uk/arcbox)



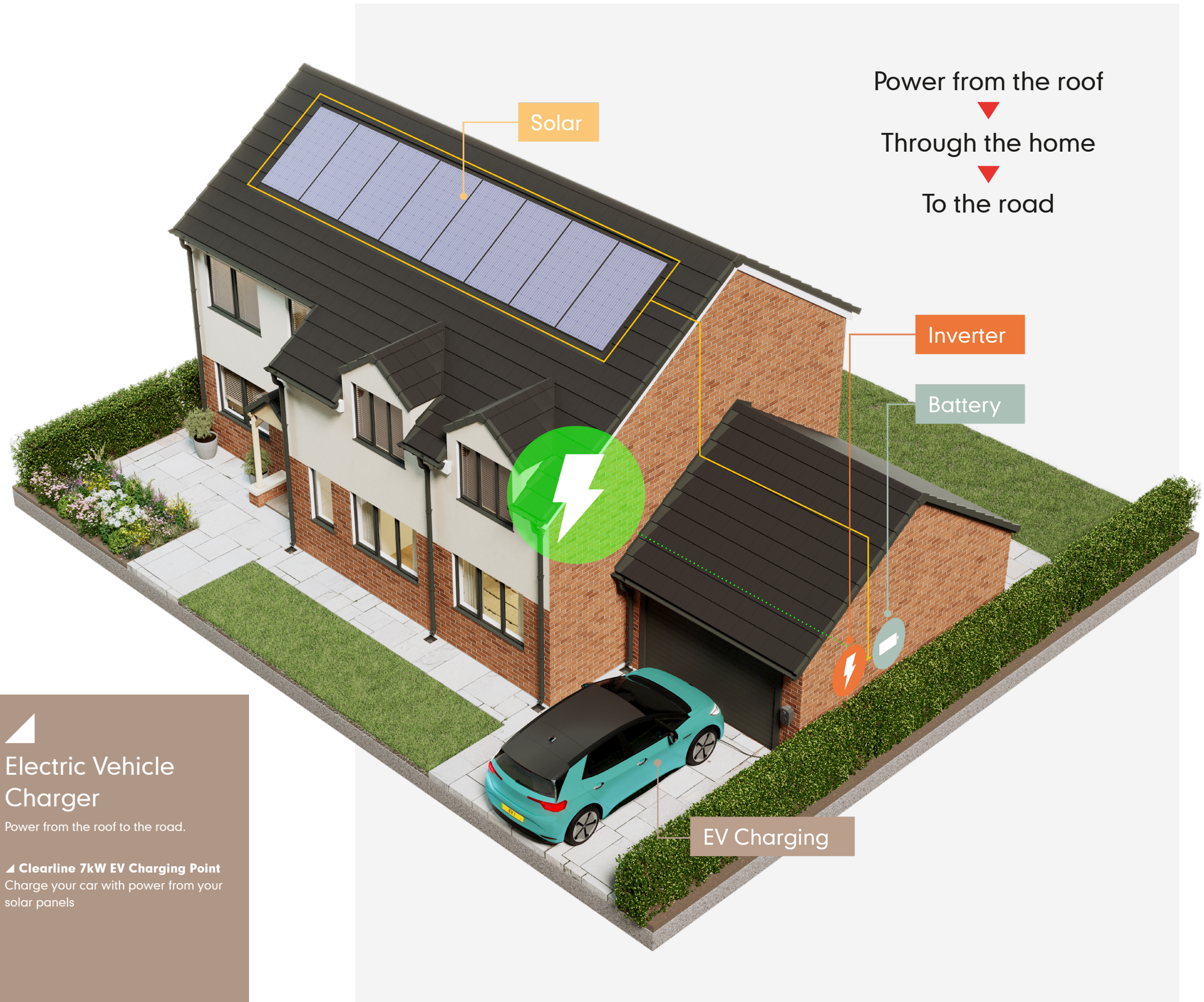


# The Complete Renewable Energy System. Made simple.

The Marley Solar Roof System provides a sleek, integrated solar solution that combines roof security with solar power generation.

And now there's more.

The new ES G2 Series Hybrid Inverter and Lynx Home U Series battery storage can be complemented by our Clearline EV Charging point to provide a complete, energy efficient system from a single source.



## Solar Inverters

A choice of Solar Inverters to maximise self-consumption of the generated solar energy.

▲ **Clearline Single Phase Inverter**  
Power from the roof to the home

▲ **ES G2 Hybrid Solar Inverter**  
Compact and efficient inverter for optimised solar energy back-up

## Battery Storage

Specially designed for superior performance in residential applications.

▲ **Lynx Home U Series Battery**  
Flexibility for self-consumption and back-up applications, with a wide capacity range scalable from 5.4 – 32.4 kWh

## Electric Vehicle Charger

Power from the roof to the road.

▲ **Clearline 7kW EV Charging Point**  
Charge your car with power from your solar panels



## Solar energy ready for the home

### ES G2 HYBRID SOLAR INVERTER

The ES G2 Solar inverter, ranging from 3 to 6kW, is a single-phase hybrid inverter designed to increase self-consumption of the generated solar energy, with the ability to control the flow of energy intelligently. The inverter can automatically realize UPS-level switching to the back-up mode in less than 10ms. Its smart design also offers great flexibility for installation in the home, or outdoors. Featured with plug-and-play, compact design, and minimal weight.

Importantly, ES G2 is compatible with our Lynx Home U battery Series for complete energy efficiency, giving homeowners a high degree of energy autonomy, reliable power supply and affordable energy prices.

- ▲ Optimised energy autonomy
- ▲ Smart and efficient operations
- ▲ Modern and compact design
- ▲ Highest safety standards
- ▲ UPS level switching <10ms
- ▲ Smart home integration
- ▲ Parallel connection



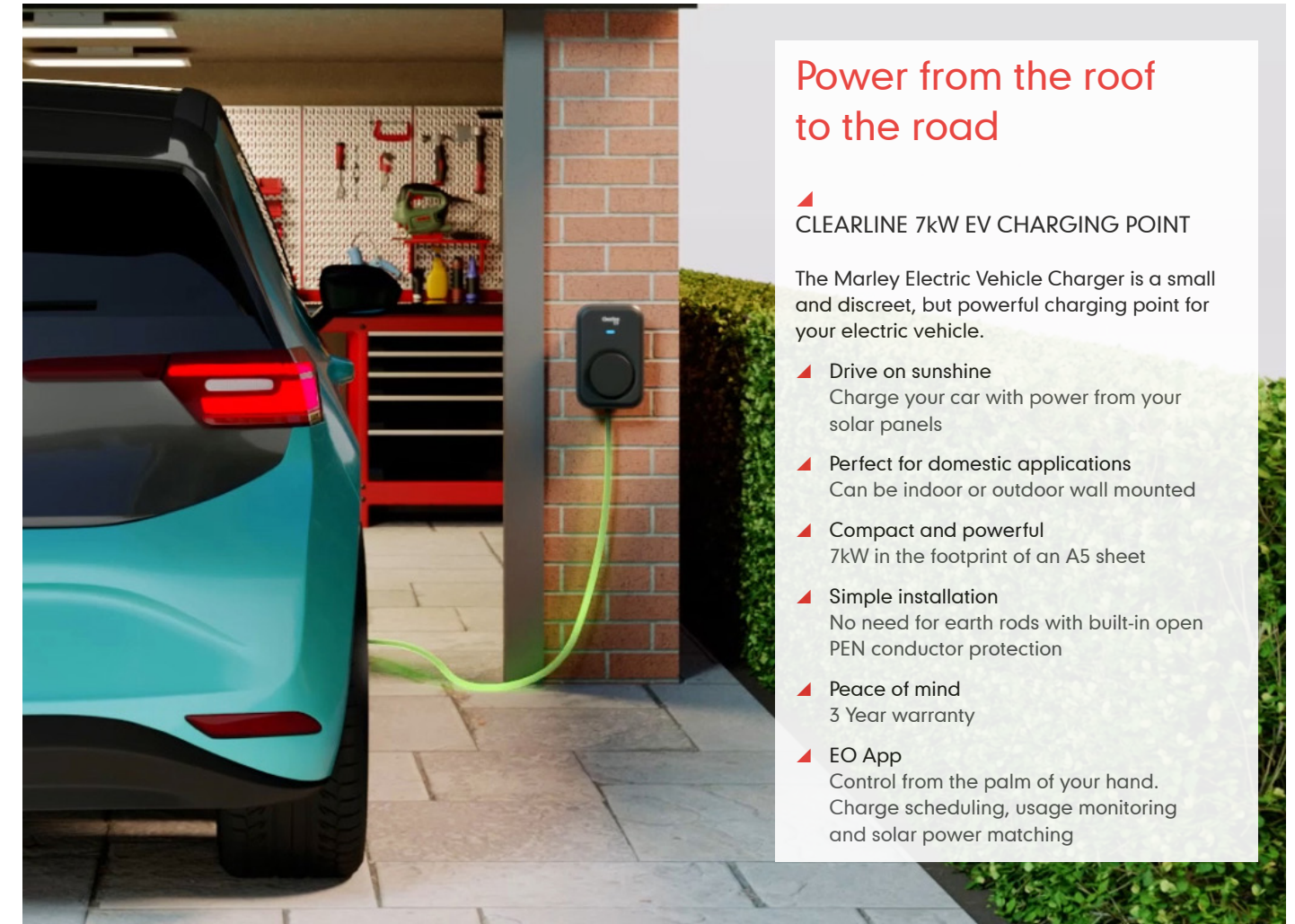
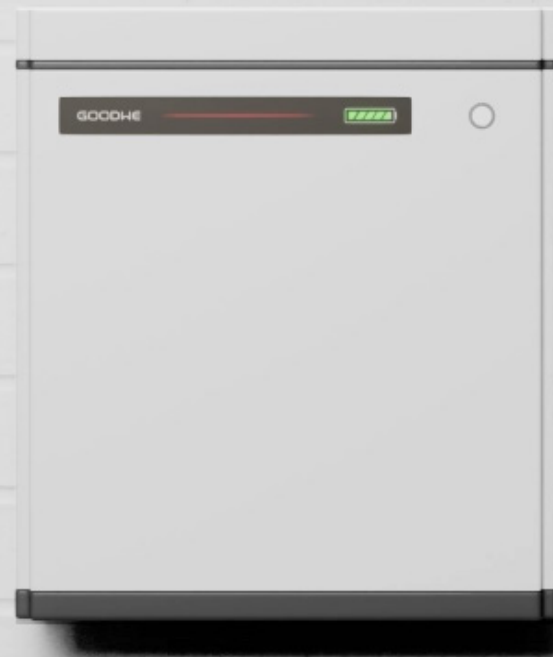
## Energy stored for when you need it most

### LYNX HOME U SERIES BATTERY

A low-voltage lithium battery specially designed for residential applications with superior performance. Compatible with GoodWe ES/SBP inverters, it can be used flexibly for both self-consumption and back-up applications, with a wide capacity range scalable from 5.4 – 32.4 kWh.

The installation and commissioning are easier and faster than ever with simple Plug and Play wiring and module auto recognition during system setup. A high efficiency solution for storing your solar power to use when you need it.

- ▲ Smart control – remote diagnosis and update
- ▲ Auto reboot after undervoltage
- ▲ Reliable LFP technology with high cycle stability
- ▲ IP65 protection for outdoor installation safety
- ▲ Auto-recognition modules
- ▲ Plug and play wiring
- ▲ 5.4 – 32.4kWh wide capacity range



## Power from the roof to the road

### CLEARLINE 7kW EV CHARGING POINT

The Marley Electric Vehicle Charger is a small and discreet, but powerful charging point for your electric vehicle.

- ▲ Drive on sunshine  
Charge your car with power from your solar panels
- ▲ Perfect for domestic applications  
Can be indoor or outdoor wall mounted
- ▲ Compact and powerful  
7kW in the footprint of an A5 sheet
- ▲ Simple installation  
No need for earth rods with built-in open PEN conductor protection
- ▲ Peace of mind  
3 Year warranty
- ▲ EO App  
Control from the palm of your hand.  
Charge scheduling, usage monitoring and solar power matching

## Unlock the potential of sustainable living

### CLEARLINE 1.0 TO 3.0KW / 3.6 TO 6.0 KW SINGLE PHASE INVERTERS

Efficient, compact and high quality single phase solar inverters for residential solar applications. The Clearline Inverters perfectly complement the Marley SolarTile where immediate energy usage is required, or generated energy can be exported and sold back to the grid.

- ▲ Low start-up voltage generates power in low light conditions
- ▲ Smart control generation monitoring and optional export limitation
- ▲ Compact footprint and whisper quiet operation for a discreet installation





## PRODUCT DATA – 335 PANEL

### ELECTRICAL DATA

|                                   |                                      |
|-----------------------------------|--------------------------------------|
| Model                             | PV16-335                             |
| Peak power*                       | 335Wp                                |
| Efficiency**                      | 20.7%                                |
| No. of cells                      | 60x2                                 |
| Max. power voltage ( $V_{mpp}$ )  | 34.7V                                |
| Max. power current ( $I_{mpp}$ )  | 9.7A                                 |
| Open circuit voltage ( $V_{oc}$ ) | 42V                                  |
| Short circuit current $I_{sc}$    | 10.3A                                |
| NOCT†                             | 44°C                                 |
| Cell type                         | Monocrystalline Silicon              |
| Power temperature co-efficient    | -0.38%/°C                            |
| Current temperature co-efficient  | 0.05%/°C                             |
| Voltage temperature co-efficient  | -0.30%/°C                            |
| Max. system voltage               | 1000 $V_{DC}$                        |
| Max. fuse rating (A)              | 20                                   |
| Safety classification             | Class II                             |
| Electrical connectors             | Genuine Stäubli MC4 PV-KST4, PV-KBT4 |

\* Subject to a manufacturing tolerance of +/- 3%.

\*\* Based on aperture area.

† Nominal Operating Cell Temperature

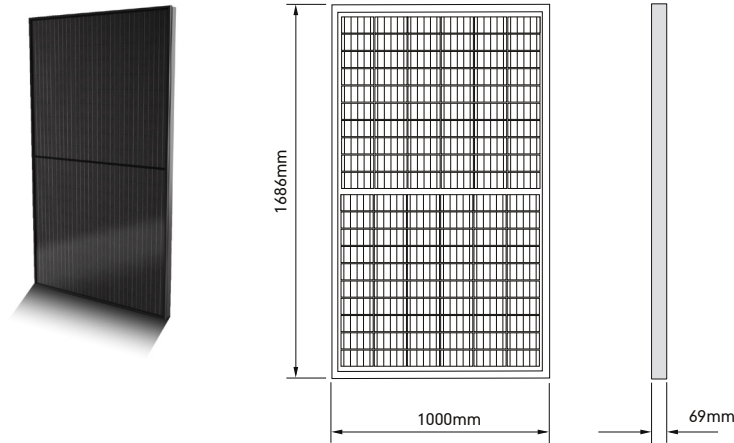
Electrical specification measured under standard test conditions: Irradiation 1 kW/m<sup>2</sup> with light spectrum AM 1.5 and a cell temperature of 25°C.

### TECHNICAL DATA

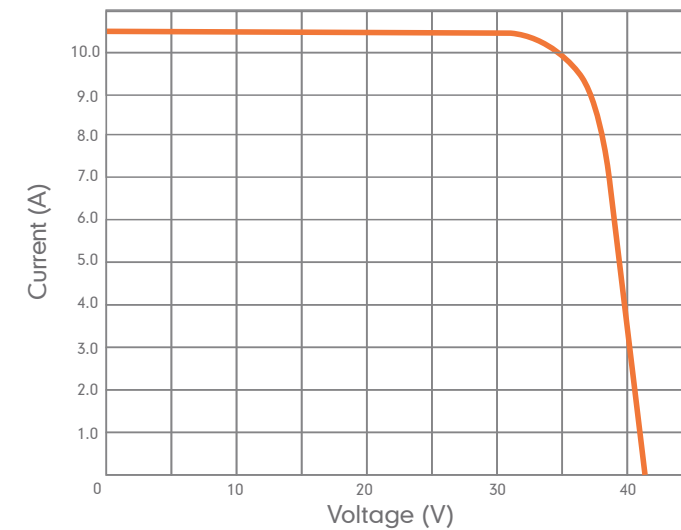
|                                  |  |
|----------------------------------|--|
| Size of 335 panel                | 1000mm wide x 1686mm high  |
| Aperture area                    | 1.622m <sup>2</sup>  |
| Minimum pitch                    | 20°  |
| Maximum pitch                    | 60°  |
| Body thickness (nominal)         | 69mm   |
| Weight                           | 21.7kg   |
| Static roof loading              | 12.9kg/m <sup>2</sup> (distributed)  |
| Characteristic wind resistance   | 5.32kPa  |
| Ultimate design load***          | 5.32kPa  |
| Positive design load (IEC 61215) | 5.4kPa   |
| Fire rating EN 13501-5           | B <sub>ROOF</sub> (T1, T2, T3, T4)   |
| Authority                        | IEC 61215, 61730, TUV, MCS05, MCS12  |
| Compatible roof coverings        | All Marley concrete and clay plain, and interlocking tiles. Also compatible with tiles and slates of other manufacturers |

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

### DIMENSIONS



### IV CURVE



## PRODUCT DATA – 405 PANEL

### ELECTRICAL DATA

|                                    |                                      |
|------------------------------------|--------------------------------------|
| Model                              | MAPV16-405-M10                       |
| Peak power                         | 405Wp                                |
| Efficiency*                        | 21.5%                                |
| No. of cells                       | 54x2                                 |
| Max. power voltage ( $V_{mpp}$ )   | 31.02V                               |
| Max. power current ( $I_{mpp}$ )   | 13.06V                               |
| Open circuit voltage ( $V_{oc}$ )  | 37.05V                               |
| Short circuit current ( $I_{sc}$ ) | 13.62A                               |
| NOCT†                              | 44°C                                 |
| Cell type                          | Monocrystalline Silicon              |
| Power temperature co-efficient     | -0.35%/°C                            |
| Current temperature co-efficient   | 0.05%/°C                             |
| Voltage temperature co-efficient   | -0.28%/°C                            |
| Max. system voltage                | 1000 $V_{DC}$                        |
| Max. fuse rating (A)               | 25                                   |
| Safety classification              | Class II                             |
| Electrical connectors              | Genuine Stäubli MC4 PV-KST4, PV-KBT4 |

\* Based on aperture area

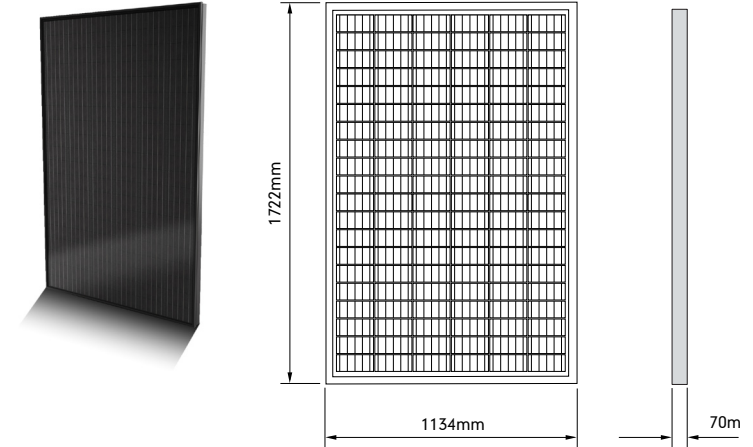
† Nominal Operating Cell Temperature Electrical specification measured under standard test conditions: Irradiation 1 kW/m<sup>2</sup> with light spectrum AM 1.5 and a cell temperature of 25°C.

### TECHNICAL DATA

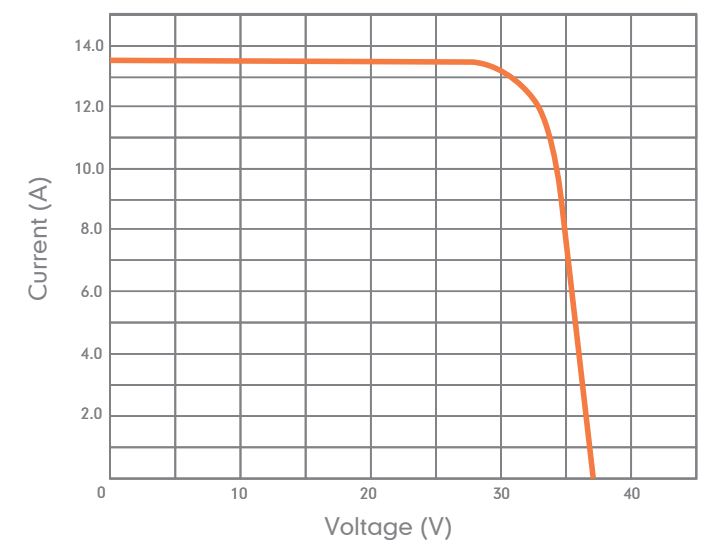
|                                  |  |
|----------------------------------|--|
| Size of M10 panel                | 1134mm wide x 1722mm high  |
| Aperture area                    | 1.885m <sup>2</sup>  |
| Minimum pitch                    | 20°  |
| Maximum pitch                    | 60°  |
| Body thickness (nominal)         | 70mm   |
| Weight                           | 25.0kg   |
| Static roof loading              | 12.8kg/m <sup>2</sup> (distributed)  |
| Characteristic wind resistance   | 4.24kPa  |
| Ultimate design load***          | 4.24kPa  |
| Positive design load (IEC 61215) | 5.4kPa   |
| Fire rating EN 13501-5           | B <sub>ROOF</sub> (T1, T2, T3, T4)   |
| Authority                        | IEC 61215, 61730, TUV, MCS05, MCS12  |
| Compatible roof coverings        | All Marley concrete and clay plain, and interlocking tiles. Also compatible with tiles and slates of other manufacturers |

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

### DIMENSIONS



### IV CURVE



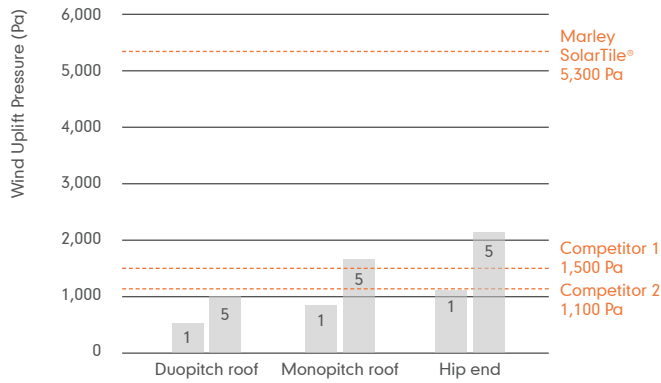


# PRODUCT DATA

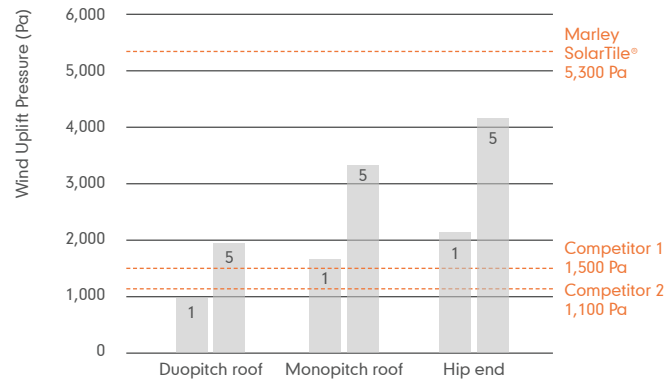
The certified wind resistance for Marley SolarTile® is more than four times higher than competitor products and suitable for even the most exposed locations.

Marley SolarTile® is the only roof-integrated solar system accredited with the highest resistance to spread of flame and fire penetration in all European fire safety tests, achieving B<sub>Roof</sub> T1, T2, T3 and T4.

TOWN CENTRE, INLAND, SEA LEVEL  
Wind Zones 1 and 5 shown.

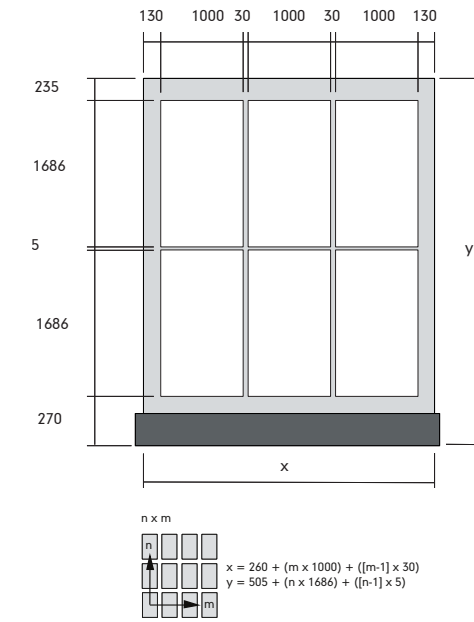


EDGE OF TOWN, COASTAL, 200M ALTITUDE  
Wind Zones 1 and 5 shown.

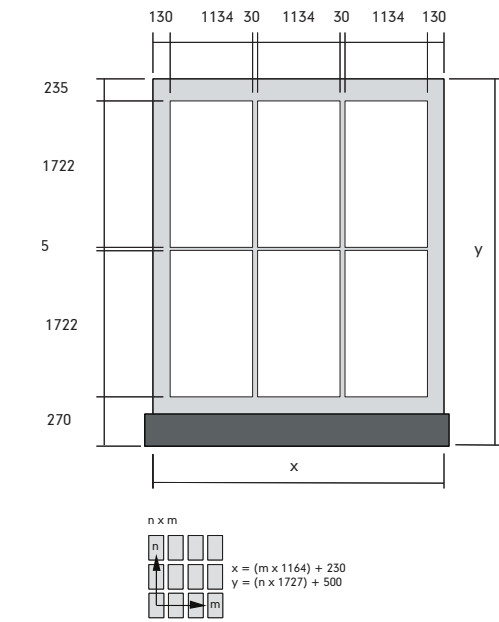


# DESIGN DETAILS

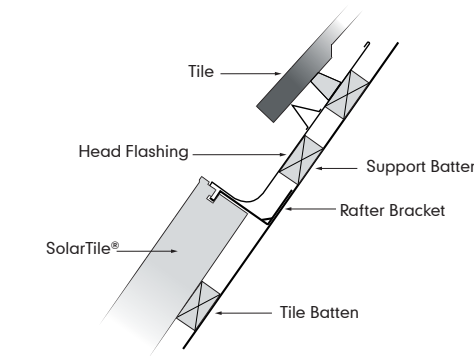
TYPICAL 335 CONFIGURATION



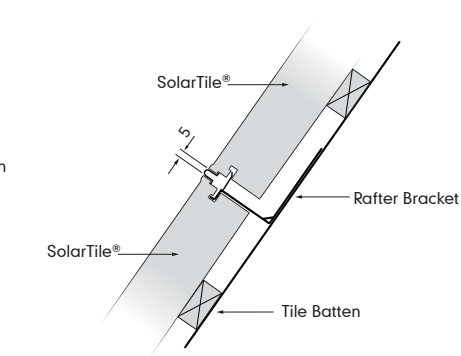
TYPICAL 405 CONFIGURATION



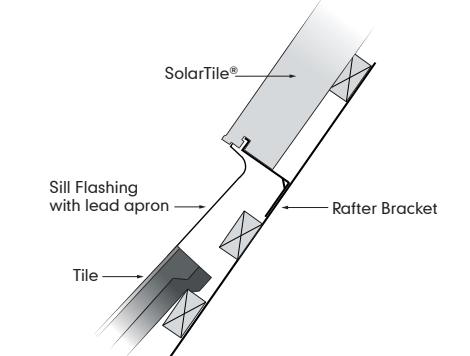
HEAD DETAIL



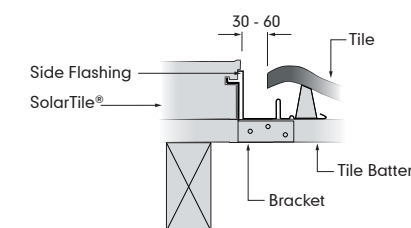
JOIN DETAIL



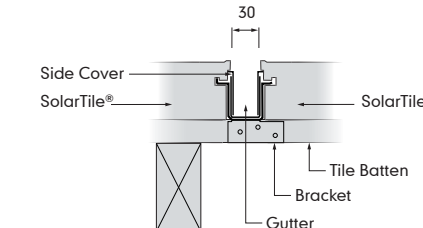
SILL DETAIL



SIDE DETAIL



GUTTER DETAIL

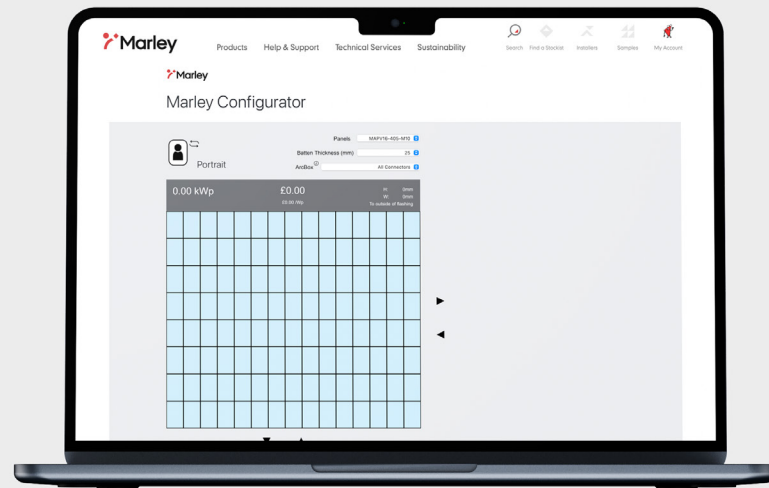


## Specification toolkit

Marley provides a comprehensive technical service and a range of online tools to ensure design performance and compliance to the latest Building Regulations and NHBC Technical Standards.

- ▲ Solar configurator
- ▲ Fixing specifications
- ▲ NBS clauses
- ▲ CAD details
- ▲ BIM models

Visit [marley.co.uk/specifying](http://marley.co.uk/specifying)





## INSTALLATION

For new roofs or extensions to existing buildings, regulations require that all tiles are fixed with nails or clips. Roof integrated solar panels, like Marley SolarTile®, can be installed easily in a new roof application. The solar panels and flashings can be fitted to the roof first and then the roof covering can be fixed around them.

Integrated solar panels are also easy to install as a retrofit option. Simply remove a patch of tiles and install the solar panels, which leaves spare, perfectly matched tiles available for any future roof repairs. As well as being easy and simple to fit, the installation time for Marley SolarTile is really quick. The patented connection of simply pushing the panels together to create a weather-tight and secure fixing means installation can be less than one hour per kilowatt-peak



For installation advice, contact our technical team 01283 722588

## SOLAR INSTALLATION TRAINING COURSE

Successful solar roof systems aren't just about products and guarantees; they're about knowledge and communication too – that's why we're here to give practical, engaging and informative training.

With a balance of theoretical and practical learning, our courses are designed to make you more knowledgeable about Marley SolarTile® and other products, giving you the confidence to sell and install them.

[marley.co.uk/training](http://marley.co.uk/training)



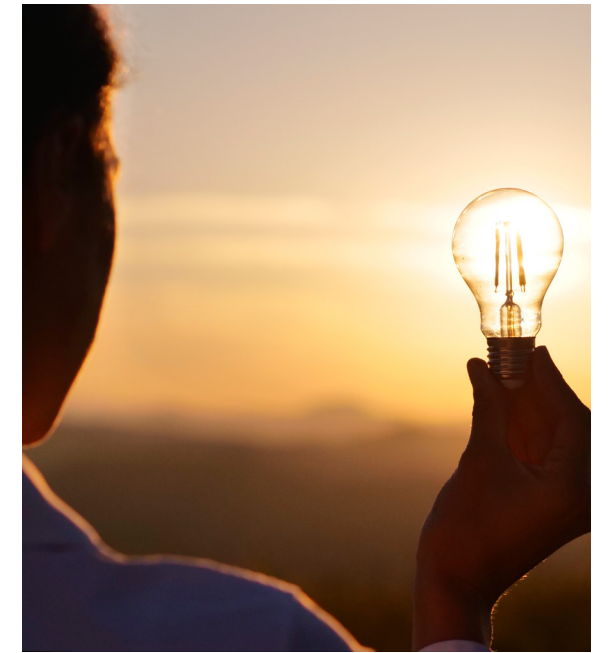
## WHY SOLAR?

Solar panel systems, which are often referred to as photovoltaics (PV), work by capturing energy from the sun using photovoltaic cells. What makes the cells so effective is that even on a cloudy day they generate electricity, because the cells don't need direct sunlight to work.

The cells operate by converting sunlight into electricity which can be used by the home or building they are on. The key benefit of adding solar panels to the roof is reduced energy bills. As sunlight is a free energy source, it means energy bills will come down as soon as the panels are installed, and in new build applications it means that bills for home buyers and tenants will start at a reduced rate.

Solar electricity is also a renewable energy and it doesn't release carbon dioxide, so it can significantly cut a building's carbon footprint. A typical home could save between 1.3 and 1.6 tonnes of carbon per year and make a saving of up to £260 on the annual electricity bill (when using the energy generated) simply by installing solar panels\*.

\*This data is from the Energy Saving Trust



## REBUILDING NATURAL FORESTS

For every 5 solar panels sold as part of the Marley group, we plant a tree through charitable organisations across the world.



### Eden Reforestation Projects

Eden Reforestation Projects operates in Nepal, Mozambique, Haiti, Madagascar and Indonesia. The charity employs local people to help reduce poverty and ensure that trees survive to maturity.

- Supporting people living in impoverished communities
- Restores healthy forests
- Employs local people to manage the forests for the long-term



### Trees For Life

Trees for Life is on a mission to revitalise wild forests in the Highlands of Scotland, by creating a network of woodlands and forests, working with local landowners and communities.

- Enabling the restoration of the Caledonian Forest
- Creating rich habitat
- Supporting wildlife including red squirrels, black grouse and golden eagles





## Tell me more

Call 01283 722588

Email [info@marley.co.uk](mailto:info@marley.co.uk)

Or visit [marley.co.uk/solar](http://marley.co.uk/solar)

Marley, Lichfield Road, Branston, Burton upon Trent, DE14 3HD

