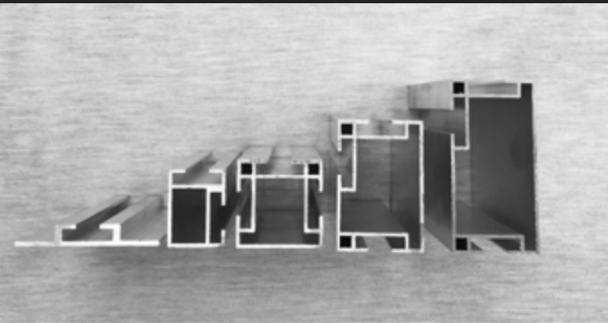




SYSTEMS BROCHURE



QUALITY DESIGN

Since the incorporation of **SUNFIXINGS** in January 2011, we've strengthened our presence in the solar industry as a trusted leader in designing, manufacturing and supplying quality solar PV mounting systems.

Through our continued flexibility and innovation we concentrate our efforts in building, maintaining and reinforcing business relationships with both our customers and supply partners to provide a streamlined committed service. For us, quality as a principle, forms the foundation of our core ethos and is routinely applied to all aspects of our growing business.

On-Site Support

We undertake each project with the same commitment and precision, from concept stage through to delivery of the final product. Our support doesn't just end once your project is delivered either. We offer on-site support and training locally to your project or offices.

Maintaining Standards

We feel a shared responsibility to significantly contribute in the development and awareness of solar energy in Europe and beyond. We're actively working in cooperation with the Microgeneration Certificate Scheme in the UK, through collective working groups, lending our expertise and industry knowledge to establish and maintain suitable Standards to help solidify correct, professional practices.

QUALITY - [mass noun]

"The standard of something as measured against other things of a similar kind; the degree of excellence of something."





FLAT ROOFS

Light Tegra

We've taken great care in designing a system that is really quick and simple to install but also requires a minimal amount of ballast.

The design incorporates aerodynamic principles which allows the system to use the effects of the wind uplift to its benefit and effectively self-ballasts.

We've taken significant steps to ensure that our system complies and protects the existing roof covering by applying a separation layer to the bottom of the support feet prior to delivery.

East West Tegra

With this system we can create an east west split for the modules, which reduces the space required between the rows of modules and in some cases allow more modules to fit on the roof compared to a north south split.

We've specifically designed the support feet to be wide enough to distribute the weight of the system over a greater area, so there aren't any heavy point loads.

We calculate all projects using a combination of Eurocode Standards and physical wind tunnel testing results, safely ensuring the correct amount of ballast is installed.

Hook Plate

This system is an alternative solution for flat and some pitched roofs as it mechanically fixes to the roof via a secure connection to the roof deck.

A secondary piece of the same roof covering is used over the top of the Hook Plate and hot welded to the existing to ensure a weather tight seal.

It works on pitched roofs too, where they have been finished with a membrane or bitumen covering, making ballasted systems impractical because of the risk of the ballast sliding.

Elevation Ballast

The elevation frames fix directly into the ballast using either stainless steel screws specially designed for fixing into concrete or chemical anchors.

The ideal ballast to use for this system is either concrete blocks or lintels with a minimum 100mm depth.

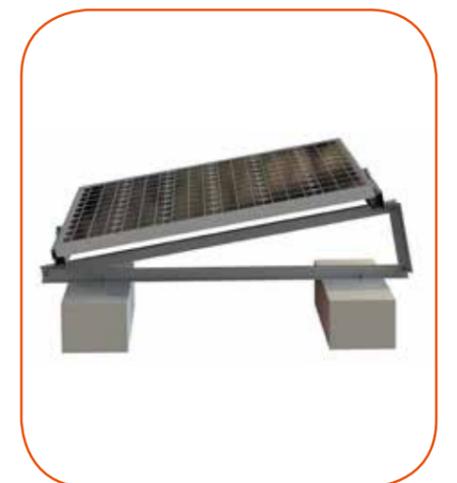
We design and produce the elevated frames to order, so this gives us the flexibility to be able to incorporate any angle or height requirements that are necessary for your project's realisation.



East West Tegra



Hook Plate



Elevation Ballast



INDUSTRIAL ROOFS

Mounting Rail Direct

With its low, continuous mounting rail profile, this system allows the weight and pressure of the solar modules to be distributed evenly across the trapezoidal profile roof, which helps to avoid heavy point loading that could otherwise damage and deform the trapezoidal profile.

Each stainless steel, self-drilling screw achieves 1.1kN minimum uplift resistance from 0.5mm steel. This means that fewer screws are needed within your project compared to similar products on the market.

Hanger Bolt

With a wide range of different sizes available in stock, it doesn't matter if your project involves timber or steel substructures, we can help you find the best fit for your project.

Our hanger bolts have a pre-assembled washer made from UV resistant EPDM. During installing the washer is pushed against the roofing sheet to properly seal the fixing hole. In addition to this, we supply saddle washers with your system to provide further weatherproofing and also to help steady the hanger bolt against the roof.

Standing Seam Round

We've designed our standing seam clamp to be installed quickly but still offer a strong and secure connection to the roof profile.

We use our mounting rails to help strengthen the system and allow the weight of the modules to be distributed across a larger roof surface, so it doesn't damage the existing roof.

We design to offset the clamps, so there isn't too much pressure on a single seam.

Standing Seam Flat

There are a lot of flat seams that differ in size, shape and thickness, so we've got an extensive range of clamps to suit these and we'll help you find the right clamp for the job.

Each type of mounting rail that we offer has a different spanning capability according to its size and profile. We use this information with other calculations to specify the most suitable mounting rail profile from our collection. This means that we optimise the distance between the clamps, which in turn, saves you on material and also installation time.

Trapezoidal Console

The console is designed to sit over the trapezoidal crown and can fix either into the roofing sheet itself or provide additional fixing into the substructure.

It doesn't matter whether the substructure is steel, timber or concrete, we'll supply the correct type and size of fixing screws for your project.

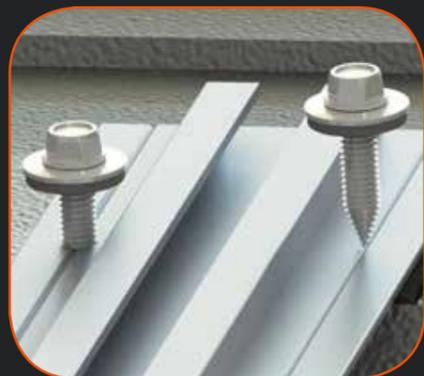
We use EPDM to cushion the console against the roof, which creates a separation layer between the different materials and avoids any chemical reactions from occurring.

Concrete Purlin Bracket

An ideal solution for problematic purlins, particularly concrete ones, is our bracket that securely clamps around the purlin rather than fixing directly into it.

The bracket has 2 flat plates, 1 for the top of the purlin and another for the bottom. These plates are held in place using threaded rods, which creates a secure clamp around the purlin.

It can be used for steel and timber substructures too.



Mounting Rail Direct



Hanger Bolt



Standing Seam Round



Standing Seam Flat



Trapezoidal Console



Concrete Purlin Bracket

GROUND MOUNTED

Park Tegra Ground Anchor
This system is designed to easily screw into ground that has a high clay content, making it a fast and popular solution, particularly for small to medium projects.

We know that sometimes ground conditions can be problematic, whether it's because of a slight incline or just the simple fact of it not being even. To get around this, we've ensured that our Ground Anchor system allows greater adjustability in the height of the individual posts of the frame, as well as the positioning of the posts within the Ground Anchors.

Park Tegra Pile Driven
Using traditional piling techniques used throughout the construction industry, this system has a single leg that is driven into the ground to achieve a secure anchoring point, making it a quick, streamlined installation for medium to large projects.

It's important for us that, as a sustainable energy solution, our system settles within its surrounding environment. This is why we've ensured it creates minimal ground disturbance and can be incorporated into land which holds livestock.

Park Tegra Ballast
We've designed the support feet, that sit beneath the main structure, to fix directly into concrete ballast using chemical anchors.

There are 2 main fixings per support foot, which provide a secure hold into the concrete foundation. Although this is the main method of connecting to ballast, there is an alternative whereby a concrete mixture is poured around the support feet to create a secure hold.

These foundations can be dug into the ground with a layer of soil applied over the top to hide them from view, or can simply be left to sit on top of the existing ground.

Park Tegra Single Structure
Sometimes a system is required to sit lower to the ground and reduce its overall height, so we've taken some elements from our other systems to create an elevated frame suitable for holding a single module.

This allows us to easily adjust the height and angle of the modules.

It can either screw into the ground or connect to concrete ballast.



Park Tegra Pile Driven



Park Tegra Ballast



Park Tegra Single Structure



PARK TEGRA
GROUND ANCHOR

Staynor Farm, 50kWp, North Yorkshire, UK



CAR PARK SPACES

Since car park spacing is widely available throughout Europe, our carport structures are the ideal addition to generate energy for either electric cars or to be used for nearby businesses.

We understand the value of these spaces and so it's important to us that they retain their original function. It's why we design and calculate each project on an individual basis to make sure that all the spaces are still usable while maximising their solar capacity.

Traditional building methods are used to connect the structures to concrete foundations, which are hidden underneath the ground level. Fresh tarmac is then applied around the structure to complete the overall look of the car park.

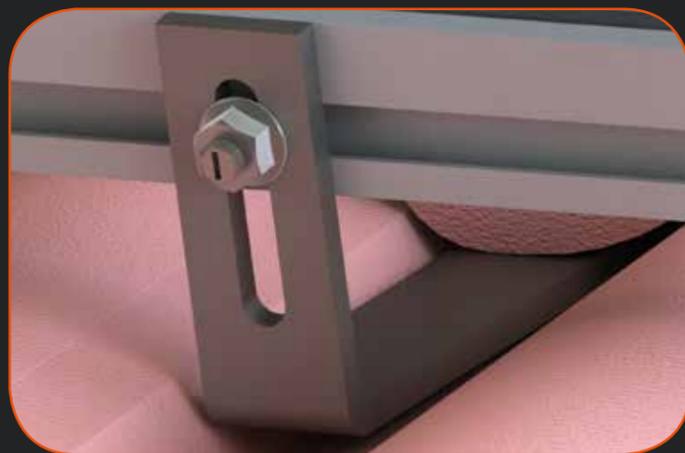
Whether you require a basic structure to hold framed modules or an aesthetically driven scheme to hold glass modules, we have the flexibility to manufacture a wide range of designs.

From these designs, we can adopt and apply them to different types of car parks and requirements, including schemes that cover up to 4 spaces at a time.

Typically galvanised steel is used for our basic structure, however, we have the flexibility to use timber, depending on the overall project requirements.



RESIDENTIAL ROOFS

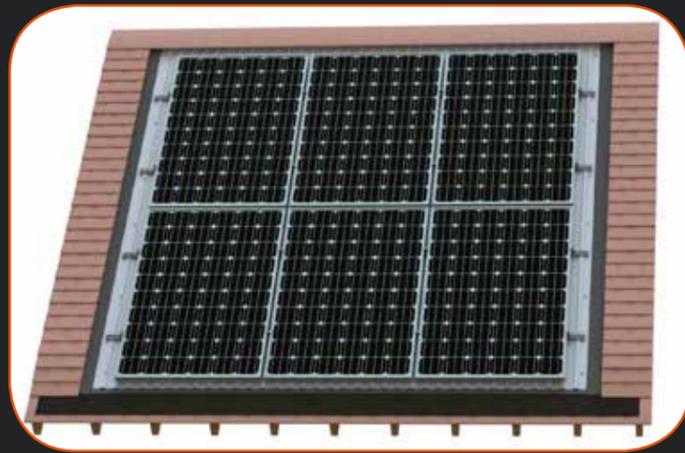


Roof Hook

Since there are a vast number of different types of roofing tiles with different properties, we've designed just one roof hook that works and fits for all of them.

The height adjustability in the arm of the hook, the ability to shift the arm left, right or centre and the smaller fixing holes in the base plate, all help to ease domestic installations with the use of just one type of roof hook.

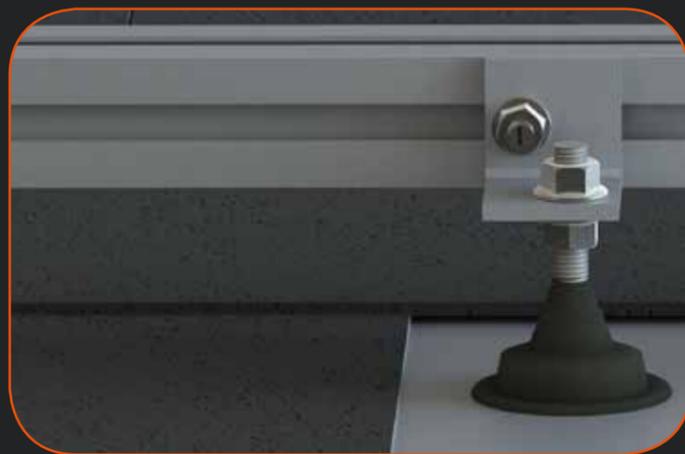
We've offset the fixing holes to protect the rafter.



In Roof

Our integrated roof system has a metal backing sheet, which is not only fire resistant but also doesn't melt in high temperatures unlike similar plastic counterparts available on the market.

We use an aluminium base flashing around the entire system, making sure that it's completely weatherproof and UV resistant, so that it doesn't crumble with exposure to the sunlight.



Roof Hook Slate Set

We've developed an alternative solution for roofing tiles that effectively replaces the tile with a flashing that sits over the fixing point.

The metal plate sits so that its longer edge runs in the same line as the rafter and fixes into it using 2 screws. There is a threaded rod already attached to the plate that allows the aluminium flashing to slot over. We can then connect our mounting rail profiles to the threaded rod.



SKYSHIELD SKYLIGHT PROTECTION

Our Skyshield product is designed to not only protect someone from falling through a fragile skylight but also protects the actual skylight too.

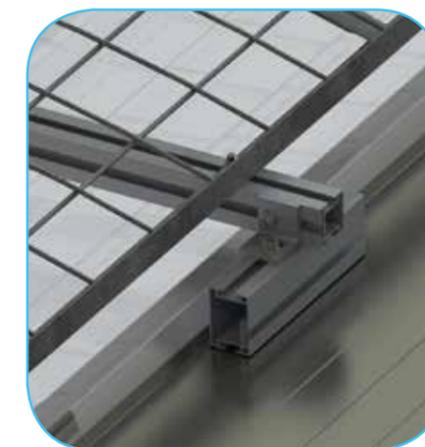
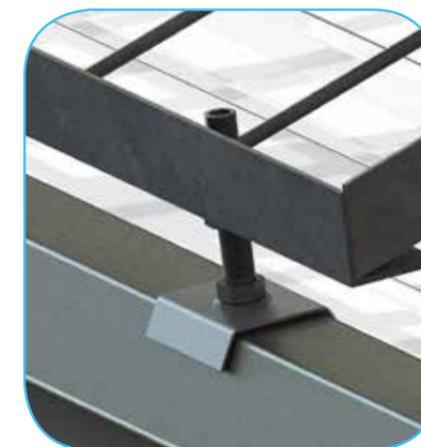
Its unique Registered Design achieved a Class B certification in the test for non-fragility of large element roofing assemblies (ACR [M]001:2014),

proving that this system protects the skylight from any damage if something or someone falls onto it. This in turn safeguards people working underneath the skylight from any harm as well.

Whilst we offer a permanent option, where the Skyshield is fixed directly into the roofing sheet, we also offer a

temporary option, which allows work to be completed safely on the roof.

With its quick, simple installation, Skyshield gives additional security both in Health and Safety as well as acting as a deterrent to would be thieves.





B E S P O K E

Battersea Dog's Home, 30kWp, London, UK

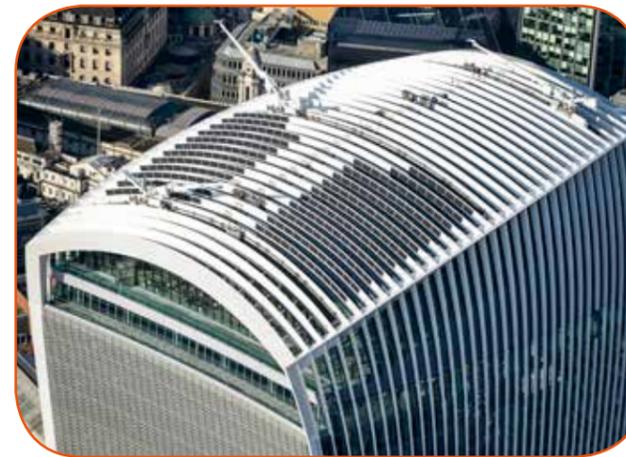
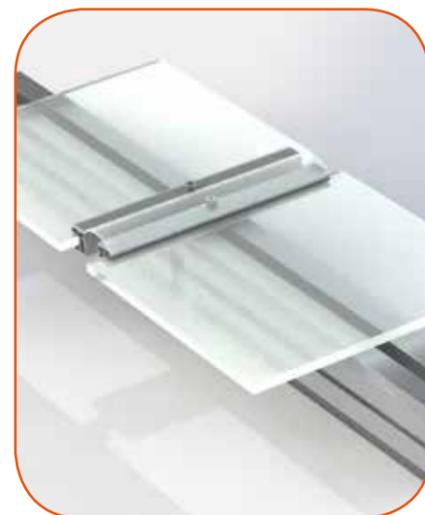
In 2015 we established a design scheme with the architects for a bespoke facade system on the newly constructed Battersea Dog's Home in London.

Extensive consideration went into the aesthetics of the final scheme in order to promote the building's sustainable aims.

This included the use of glass modules, which not only generates renewable energy but also allows sunlight to shine through between the individual cells.

The bespoke nature of these modules means that specialist clamps were needed, which run the full width of the module itself.

A steel structure was designed to cantilever off the main roof, where the modules are fitted to create a light canopy over the walkway around the building.



F E N C H U R C H S T R E E T

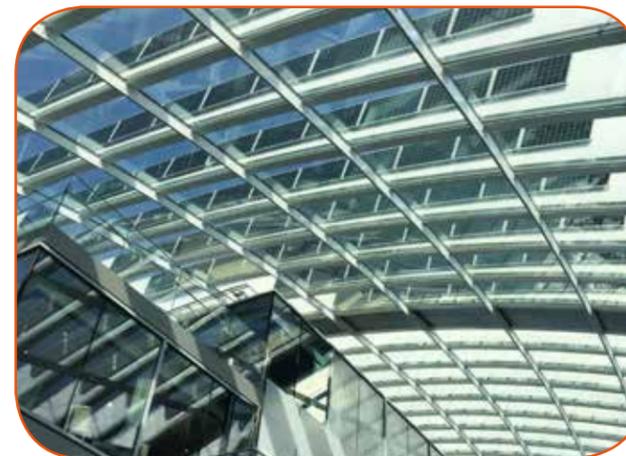
50kWp, London, UK

2014 saw the installation of 250 modules on top of London's newest skyscrapers, 20 Fenchurch Street, otherwise known as 'The Walkie Talkie Building'.

We engaged with Evo Energy during 2013 to develop suitable engineering solutions to fix each 200wp module to the curved steel fins of the building's roof situated 38 storeys up, making it one of the highest solar installations completed in the UK.

This completely bespoke mounting system uses our Mounting Rail Direct profile as a base connection point, which fixes to the steel fins with specially specified screws. The client requested that no module clamps were to be visible, so our solution utilised the mounting holes on the rear of the module frame, creating an elegant 50kWp solar array.

During the installation we provided on-site support to the four fully harness trained installers, something that we always offer as part of our service.



S O U T H B A N K T O W E R

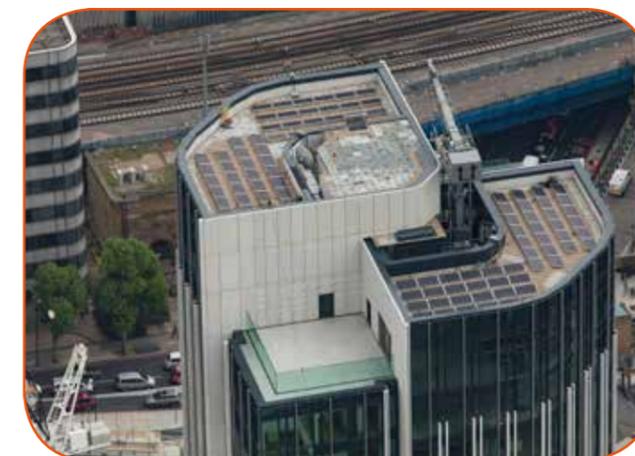
26kWp, London, UK

We developed a bespoke "up-stand" solution that would not only create the 10° module angle, but also keep the modules as low to the roof surface as possible.

Produced from grade A2 stainless steel, the up-stand is designed to fix into the structural concrete deck using 4 anchor rods with the remaining layers of the roof built up around them.

Each upstand achieves in excess of 40kN uplift resistance, which comfortably safe guards the whole system against the heaviest wind loadings for a building of this height. This strong performance in uplift resistance means that fewer up-stands were needed and therefore fewer connection points were made into the concrete deck.

The 10° module tilt was created by producing the front up-stand slightly taller than the front one, together with a correctly aligned angle manufactured into each upstand. A length of mounting rail runs along to connect the front up-stands together and similarly another set of mounting rails connects the back up-stands together, which forms the base frame. To add stability to this, a second layer of mounting rail is used across the first layer, which then allows clamping of the modules on their long edge.





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SOLAR TRADE
ASSOCIATION

BPVA British
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BSI MEMBER

