INSTALLATION GUIDE

Solar Roof Tiles Engineered for Stunning Rooflines

For Professional Installer Use Only
Please read this guide fully before commencing installation

Introduction

SolarTyle solar roof tiles convert solar energy directly into electricity in an environmentally friendly manner. This guide covers all steps required for a safe and compliant installation.

SolarTyle has been tested with FP McCann Thin Flat Tiles and Permavent Apex underlay, installed to 50×25mm graded batten. Other compatible thin leading-edge concrete tiles and underlays may be used — contact your distributor or SolarTyle representative to confirm compatibility before installation.

For optimum roof ventilation and long-term system performance, use ventilated eaves and ridge details in accordance with roof manufacturer recommendations and current roofing standards.

Before You Begin

- Read this manual carefully before installation commences.
- Keep this manual available to the operator at all times during installation.
- Contact SolarTyle for any additional technical information required.

Safety Regulations

⚠ All installation work must be carried out by qualified professionals. Failure to comply with these regulations will result in loss of warranty rights and may cause personal injury or property damage.

Safety Information

General Site Safety

This installation guide covers the safe installation of the SolarTyle system only. It does not replace project-specific Risk Assessments, Method Statements (RAMS), manufacturer guidance, or statutory health and safety requirements.

All operatives must work in accordance with:

- Site-specific Risk Assessments and Method Statements.
- Current Working at Height Regulations.
- Relevant roofing industry guidance and best practice.
- Project-specific requirements for edge protection, access equipment, fall prevention, lifting operations and electrical works.

It is the responsibility of the installer to ensure suitable safety measures are in place before commencing work.

Product Safety

- SolarTyle panels generate electricity when exposed to daylight. Treat all cables and connectors as live.
- Do not disconnect connectors under load.
- Do not touch exposed electrical conductors.
- Do not install damaged panels, cables or connectors.
- Do not cut, drill, modify or otherwise alter any SolarTyle panel or electrical component.
- Do not stand, walk or place excessive loads on SolarTyle panels.
- Keep all connectors clean and dry during installation.
- Only compatible components specified by SolarTyle should be used.

Personal Safety

- Remove metal jewellery, watches and other conductive items before carrying out electrical work.
- Use appropriate PPE in accordance with site requirements and project RAMS.
- Installation should only be carried out by competent persons familiar with roofing and photovoltaic systems.

Electrical Safety

- SolarTyle panels may produce voltage whenever exposed to light.
- Cover or isolate panels where necessary during installation and commissioning.
- All electrical work must be carried out by suitably qualified personnel and in accordance with current electrical regulations.
- Follow inverter, battery and electrical equipment manufacturers' instructions at all times.

It is essential that personnel **do not walk directly on the surface of installed solar tiles** at any stage during installation, commissioning, inspection or subsequent roof works. Where access across the roof is unavoidable, **appropriately designed load-spreading platforms, crawling boards or other suitable protective access systems must be used** to distribute weight and prevent point loading on the solar tiles.

Solar tiles contain laminated photovoltaic cells and integrated electrical components that are designed to withstand environmental loading, but **are not designed to support concentrated foot traffic**. Walking directly on the tile surface can introduce micro-cracks within the photovoltaic cells, damage internal interconnections and bypass diodes, or compromise the laminate structure. Such damage may not be immediately visible but can significantly reduce power output, create high-resistance faults, and lead to premature module failure.

Damage resulting from foot traffic can also manifest as **localised hot spots**, which are commonly identifiable through thermal imaging inspections. Hot spots are indicative of damaged or electrically compromised cells and can adversely affect the performance, efficiency and long-term reliability of the solar array.

Any damage, reduction in performance, cell cracking, diode failure, micro-fracturing, or thermal hot spots determined to have resulted from personnel walking on the solar tile surface will be deemed installation or handling damage and is expressly excluded from the manufacturer's product warranty and any associated workmanship warranty.

It is the responsibility of all installers, contractors and any subsequent trades accessing the roof to ensure that appropriate access methods are employed to prevent damage to the solar tile system.

1. What's in the Pallet

Each SolarTyle pallet contains the following components. Check all items are present before commencing installation.

SolarTyle Solar Panel

	
Left-Hand Joiner (Joiner A)	*Right-Hand Joiner (Joiner B)*

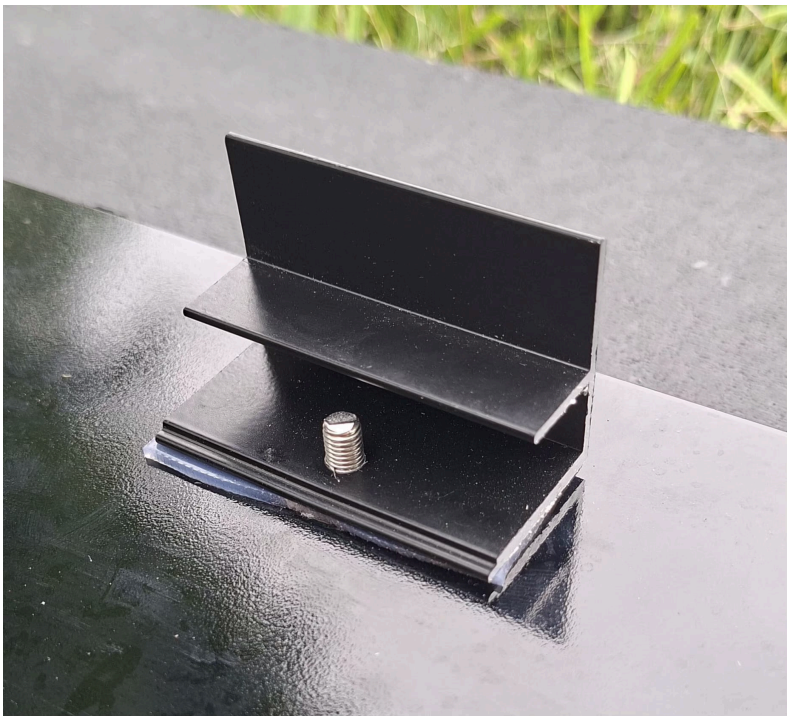
		
2 × Hooks	*2 × Rubber Isolation Pads*	*2 × Bolts*

		
2 × Nylon Washers	*1 × Wind Fastener (2-part)*	*6 × 4×25mm Wood Screws*

STEP 2 Preparing the Solar Tiles

Before taking tiles to the roof, attach the mounting hooks to each SolarTyle panel at ground level.

- Fit the two hooks to the rear of the SolarTyle panel, inserting the rubber isolation pad between each hook and the panel surface.
- Secure each hook using a bolt and nylon washer through the pre-drilled holes.
- Tighten firmly — ensure hooks are aligned flush and level with the panel edge.
- Check that all fixings are tight before carrying the tile to the roof.



Hooks securely fitted to rear of panel with rubber isolation pads and bolts

STEP 3 Batten Setup

Correct batten spacing is critical to ensure SolarTyle tiles align precisely with the surrounding concrete roof tiles.

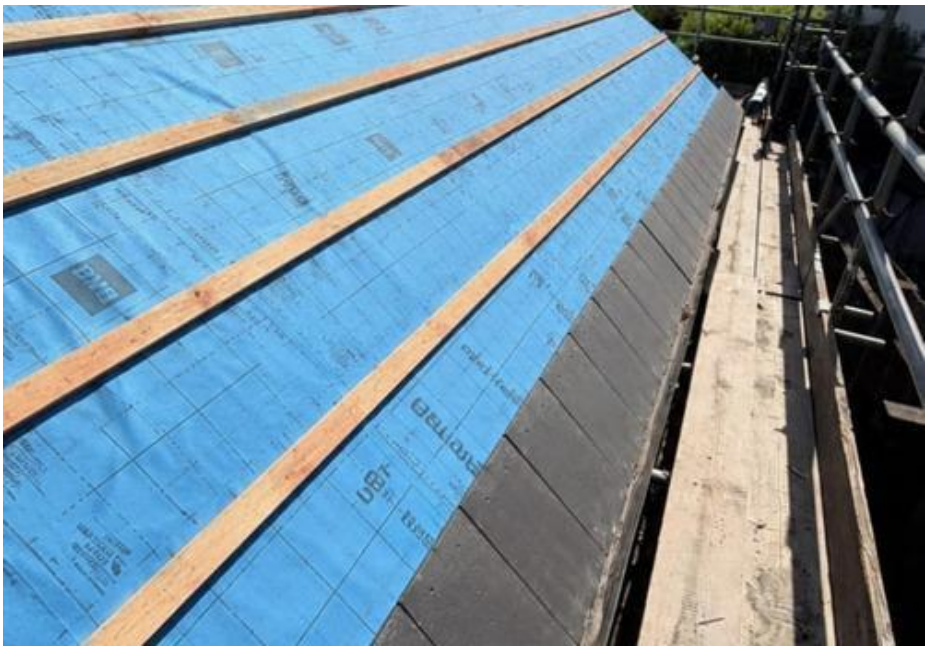
- Set battens at 345mm centres for a 75mm headlap.
- Set battens at 330mm centres for a 90mm headlap.
- Batten spacing must match the roof pitch and tile specification in use.
- All battens must be straight and level — misaligned battens will cause misalignment of the SolarTyle panels.

Batten spacing at 345mm centres shown with Permavent Apex underlay

STEP 4 Install Base Roof Tiles

Install the standard concrete roof tiles before fitting any SolarTyle panels. This establishes the base courses and surrounding tile pattern into which SolarTyle tiles will integrate.

- Lay concrete roof tiles from the eaves upward.
- Always complete the first course at the eaves before proceeding.
- Tile up to the course immediately below the intended SolarTyle zone.
- Tile the final course below the ridge line.
- Standard dry ridge, dry verge, or wet bedded systems may be used as per concrete tile specification.



First run of concrete roof tiles laid at eaves

STEP 5 Installing SolarTyle Tiles

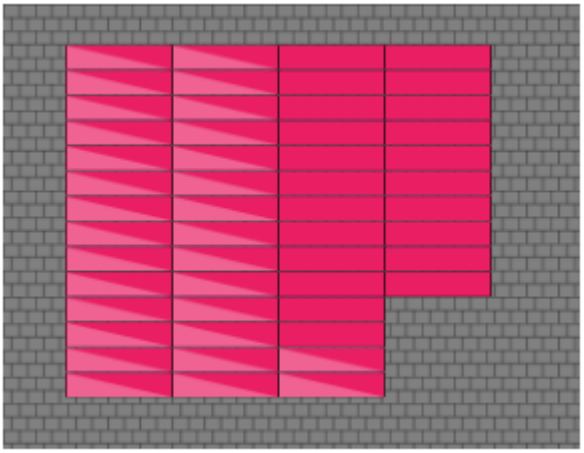
SolarTyle panels can be installed using two methods depending on the layout design. Both are valid — select the approach that best suits your specific roof layout.

Method A — Low to High Installation

Panels are installed from the lowest course upward, working row by row.

Low-to-high installation in progress

String Layout diagram — low to high

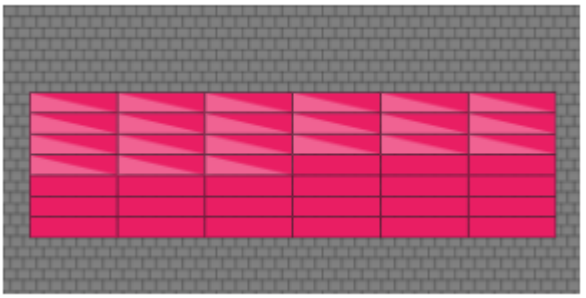


Method B — Left to Right Installation

Panels are installed across the roof from left to right, completing each column before moving across.

Left-to-right installation in progress

String Layout diagram — left to right



Follow your project's SolarTyle layout design to determine which installation method applies. Ensure the concrete tile pattern is maintained around all SolarTyle panels.

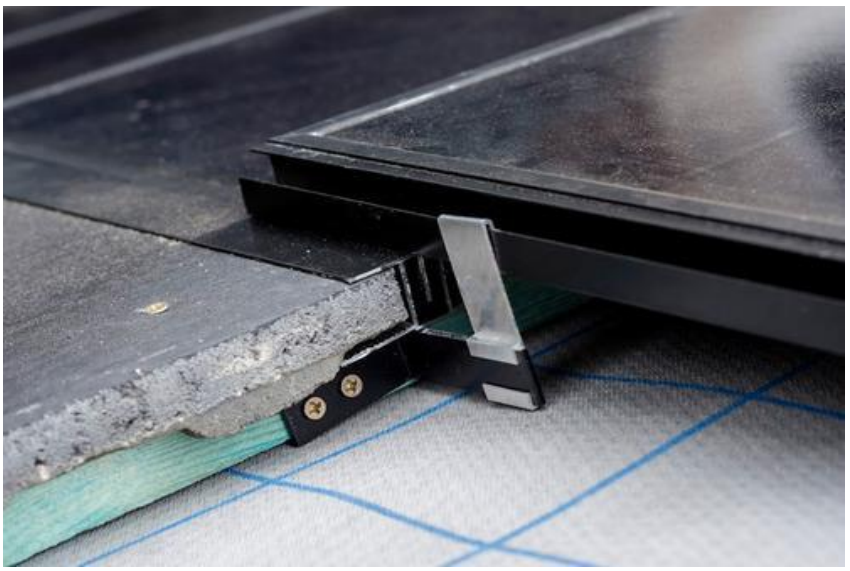
STEP 6 Fixing Each SolarTyle Tile

Once panels are prepared and correctly positioned, fix each one to the battens using the following procedure.

- Place the SolarTyle onto the roofing battens using the hook.
- Fix each hook to the batten with 2 × wood screws (provided) — 4 screws total per SolarTyle
- Ensure hooks are fully seated and level before tightening.
- Install the 2-part wind fastener on the right-hand side of the tile.
- Clip the wind fastener onto the solartyle and fix it into the batten below.

Fixing hooks into batten with screws

Wind fastener installed on right-hand side



Wind fastener clipped into flashing and fixed into batten below

STEP 7 Connecting the System

Continue installing tiles across the roof following the solar layout design. Connect each tile's wiring as you go.

- Follow the same hook-fixing and wind-fastener process for each successive SolarTyle
- Connect all Staubli MC4 connectors securely — push until you hear/feel a definite click.
- Do not leave any MC4 connectors unconnected or exposed.
- Ensure all cable connections are fully clipped and cannot be pulled free.

MC4 connectors must be pushed together firmly until they click and lock

⚠ Never make or break MC4 connections under load. Ensure the system is fully isolated before disconnecting any connectors.

STEP 8 Cable Routing

Once all tiles are connected, complete string connections and route cables to the exit location.

- Complete all string connections as per the electrical layout design.
- Route string cables either through the roof felt, or out through the side if required.
- Ensure all cables are protected from abrasion at entry/exit points.
- Cables must be correctly positioned and not pinched under tiles or battens.
- Identify all strings by labelling the MC4 connector's.

String cable routed through roof felt — ensure cable is protected and neatly positioned

Cable routing should be agreed with the project electrical designer prior to installation. Ensure all cabling complies with applicable electrical regulations.

STEP 9 Installing Joiner Tiles

Once all SolarTyle panels are installed and wired, fit the joiner channels and surrounding concrete tiles to complete the weatherproofing.

- Fit Joiner A (left-hand joiner) on the left-hand side of the SolarTyle array.
- Fit Joiner B (right-hand joiner) on the right-hand side.
- Fix each joiner to the top batten using an appropriate fixing.

Joiner A — Left-Hand Channel

Joiner B — Right-Hand Channel

Securing joiners with fixings

Illbruck Compriband Tape — Application

The Illbruck Compriband tape creates a weatherproof seal between the concrete roof tiles and the SolarTyle joiner channels.

- Ensure the joiner channel is clean, dry and free from dust, dirt, oil and debris before applying tape.
- Remove only the length of tape required for immediate use — do not unroll the full reel.
- Remove the release paper and apply the tape firmly into the designated joiner channel.
- Do not stretch the tape during application.
- Install the concrete roof tile into the joiner immediately after applying the tape — do not allow the tape to expand before fitting.

⚠ Compriband tape begins expanding within approximately 30 minutes and fully expands within 1 hour. Tiles must be installed immediately after tape application. If the tape expands fully before the tile is inserted, it may be impossible to fit the tile and the tape will be damaged.

Install cut concrete tiles securely into the joiner channels. The expanded Compriband tape will form a fully weatherproof seal.

Apply the Compriband tape to the joiner channels

Compriband tape expands within the hour.

Concrete tile fitted in to joiner channel

Surrounding tiles installed into joiners

Compriband Tape — Storage and Handling Notes

- Store unused tape in a cool, dry location.
- Only remove the amount of tape required for immediate installation.
- After use, secure the cut end of the roll with a small piece of tape to prevent unwanted expansion.
- Do not use the tapered sections at the start or end of the roll — these will not expand correctly.
- Do not install tape onto wet, dirty or contaminated joiners.

STEP 10 Final Check — Completed Roof

Before concluding the installation, carry out a full visual and physical inspection of the completed roof. Confirm each of the following items:

☐	All tiles are correctly aligned and seated on the battens.
☐	All fixings (hooks, wind fasteners, screws) are tight and secure.
☐	All Staubli MC4 electrical connections are fully clipped and locked.
☐	All cables are correctly routed, protected and secured.
☐	Joiner channels and surrounding concrete tiles are fully installed and weatherproofed.
☐	Compriband tape has been applied to all joiner channels and tiles fitted before expansion.
☐	Roof is clear of all tools, fixings and debris.
☐	Installation manual has been handed to the building owner or end user.

Completed SolarTyle installation