

MARCH 2025



INSTALLATION MANUAL



Innovative construction product assessments

Agreement Certification ref: 2021/624



A Division of **MACSTEEL**
Pursuing Reinvention

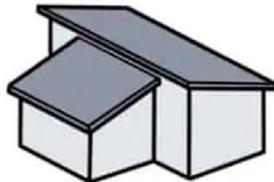
Pursuing Reinvention



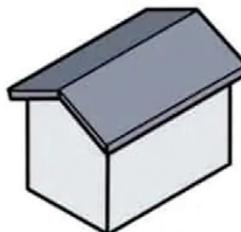


INSTALLATION GUIDELINES

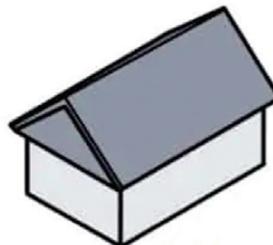
Harvey EcoTile® is an engineered product and may not be suitable for application to all roof types. Below depicts typical roof design where Harvey EcoTile® is suitable. Please contact our office if in doubt or intended use requires confirmation of suitability.



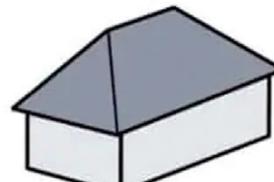
Skillion and Lean-to



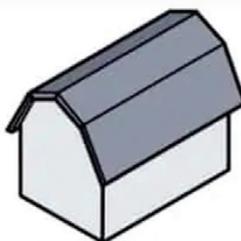
Open Gable



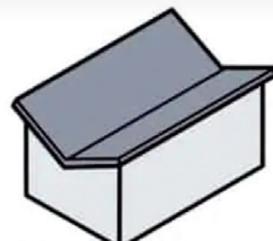
Box Gable



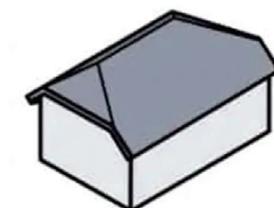
Hip



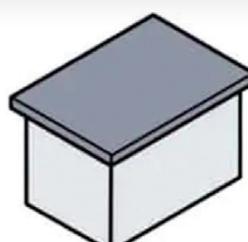
Gambrel



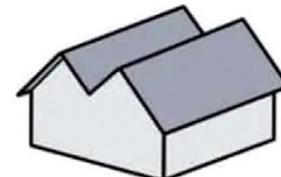
Butterfly



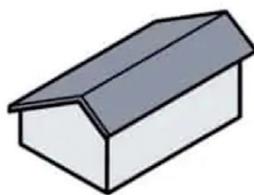
Jerkinhead



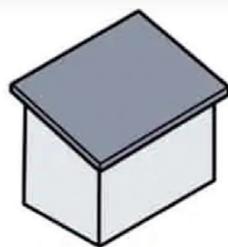
Flat (Minimum Pitch 12,5°)



M Shaped



Saltbox



Shed

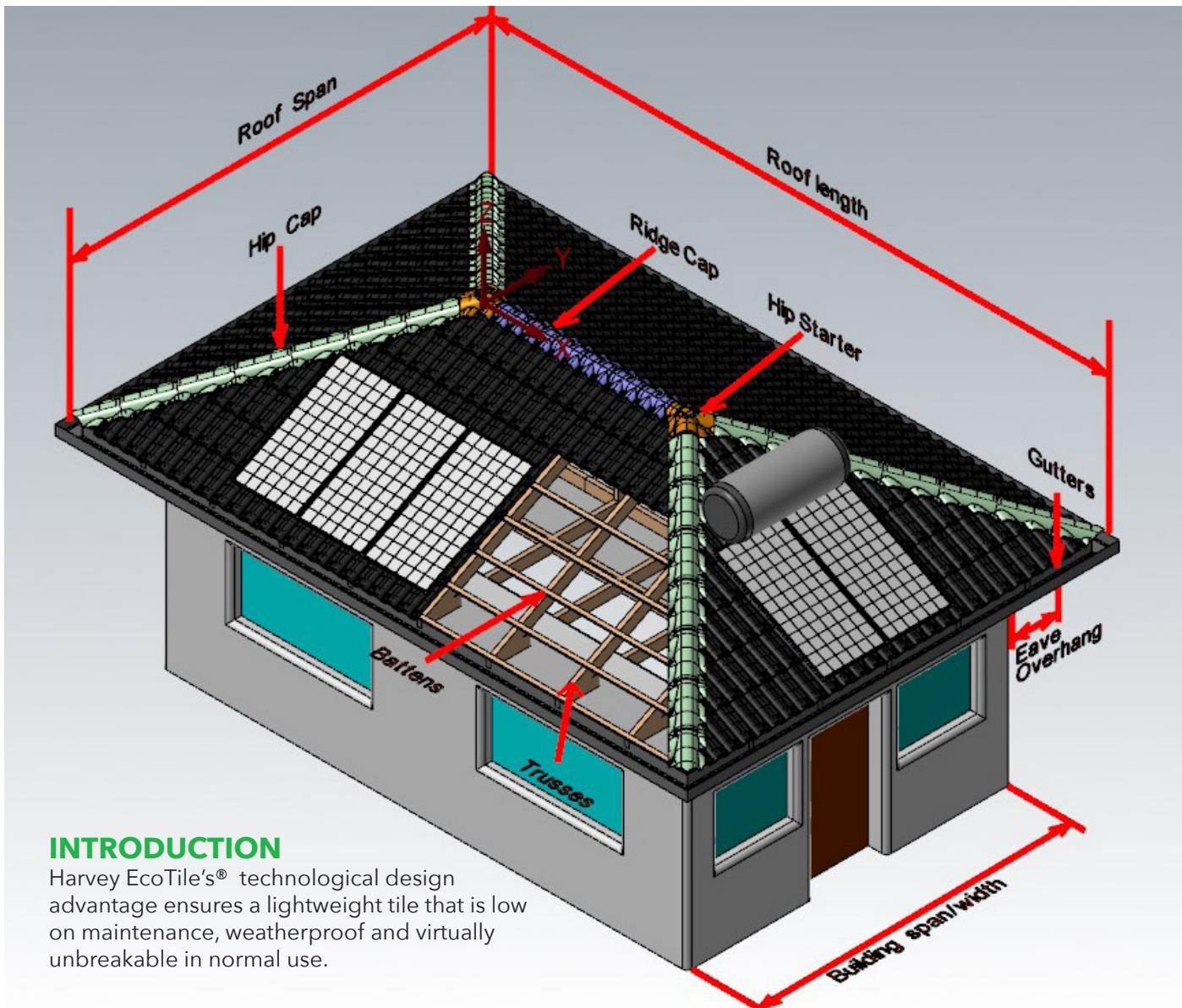
Disclaimer

Harvey EcoTile® is a precisely engineered product which requires specialised installation.

Harvey Roofing Products is not responsible for the actions of installers and the incorrect installation of Harvey EcoTile®.



INSTALLATION GUIDELINES



INTRODUCTION

Harvey EcoTile's® technological design advantage ensures a lightweight tile that is low on maintenance, weatherproof and virtually unbreakable in normal use.

TLING

Please ensure that you understand the mechanical fixing specification requirements as described in the Harvey EcoTile® assembly and fixing guide.



THE IMPORTANCE OF THE CORRECT BATTEN SPACING

As the Harvey EcoTile is an engineered product it is important that care is taken when fixing the battens.



LIGHT STEEL STRUCTURES

The information for the roof assembly in this installation manual is the same for light steel structures other than the specified fixing screws must be used.

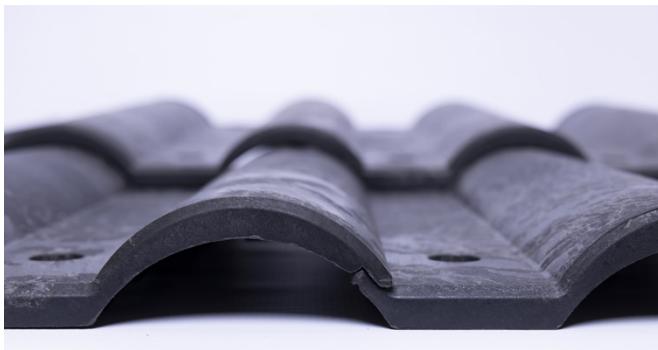
The standard wood fixing screws are not suitable for use on light steel structures.

Disclaimer: Heat Resistance

Note that as Harvey EcoTile® is a mineral composite tile, extreme heat may deform the tiles which could impair the structural properties. Tests revealed the tile can withstand up to 100 °C. At 130 °C some deformation of the tiles were visible. Care should be taken when installing tiles around chimneys, water pipes or any other heat sources exceeding 100°C by isolating the tiles from direct heat exposure.

MECHANICAL FIXING

Requires to be in accordance with the layout and fixing specifications. As the EcoTile weighs 1.6 kg the eave row of tiles requires a fixing screw at the lower edge. EcoTile should be fitted with at least 1 fixing screw. In high wind areas more fixing screws can be used. See fixing guidelines.



CUTTING TILES

Purpose-made cut tiles for use at hips or valleys are not manufactured because the position of the cut varies from tile to tile. Cutting is done on-site. Once the tiles are fitted use a chalk line to give the cutting line and using a small angle grinder with a thin cutting blade, cut the tiles down the chalk line. There will be no dust, but some swarf will be prevalent. Normal safety precautions should be practiced. This cutting method will be used on both hips and valleys.



HIPS

The EcoTiles from the adjacent slopes should be cut in line with datum at the apex of the start of the hip. This will ensure the correct location for the unique EcoTile hip starter and the hip ridge tiles. All of the EcoTile ridge tiles fit the shape of the tile form perfectly, so that no gap filling is required. See fixing guidelines.



CAUTION!

There will be no dust when cutting the Harvey EcoTile. However suitable PPE is recommended.



HARVEY EcoTile® and Accessories

PART	PART NAME / DESCRIPTION	MAXIMUM DIMENSIONS	EFFECTIVE COVER SIZE
A	Double - Roman Profile Marbled Charcoal	420mm x 322mm	335mm x 310mm
B	Double - Roman Profile, Horizontal Ridge	290mm x 322mm	290mm x 310mm
C	Double - Roman Profile, Hip Ridge	490mm x 290mm	463mm x 290mm
D	Double - Roman Profile, Hip Starter L/H	416mm x 498mm	
E	Double - Roman Profile, Hip Starter R/H	416mm x 498mm	
F	E3400 S/D Fixing Screw And Washer Assembly Class 3	4.8 x 45 HWASH T17 CL3+B	
G	16mm Hex black colour screw cap / cover		
H	Solar Geyser Bracket 40 230 1.05		
I	Silicone Adhesive for Screw Caps		
J	Hip End Cap	118mm x 295mm	
K	S/D Screw 12x35mm - for accessories	12 x 35mm HEX T17	
L	Bonded Washer 6 x 19mm - for accessories	Bonded Washer 6 x 19mm	



Important Safety Notice

Avoid walking on roofs when they are wet. If access is necessary, use proper safety equipment such as harnesses and non-slip footwear. Always prioritize safety to prevent accidents and injuries.



FIXING GUIDELINES

As the Harvey EcoTile® weighs 1.6 kg per tile it is a requirement that ALL tiles are fixed to the battens. For this purpose Screws must be Class 3 and are supplied with a cap/cover (see page 8) which hides the screw head once installed, and are easy to fit using the correct size driver bit and a battery powered driver. Use the correct torque setting, do not overtighten the screws. Ensure that all caps are sealed with a silicone adhesive sealant.

Once the EcoTile® has been placed in position and depending on the wind conditions at the installation site, either 1 or 2 fixing screws per tile may be used. The use of 2 screws per tile fitted as per the fitment guidelines, will protect against the worst wind conditions and prevent wind upliftment. The use of fixings provide an added security benefit by making roof intrusion from the exterior extremely difficult.



TOOLS REQUIRED

- Angle Grinder with thin Masonry blade
- Chalk Line
- Tape Measure
- Power Screwdriver (battery or mains)
- Rubber Mallet
- Brush
- Screw Bag



USEFUL TIPS

Materials or tools should be carried up the roof and not dragged over the roof. Do not overload the battens, undertile membrane or roof structure. Ideally materials should be placed on the truss lines.

Take care when walking on the roof. Do not walk on the accessories. Always step on the bottom middle of the tile. Make use of non-slip footwear.

ROOF PITCHES

Harvey Eco Tile® is an engineered product and, providing the fitment / fixing specifications are followed there should be no gap between the tiles. Note that Harvey EcoTile® is not suitable for pitches lower than 12.5 Degrees.

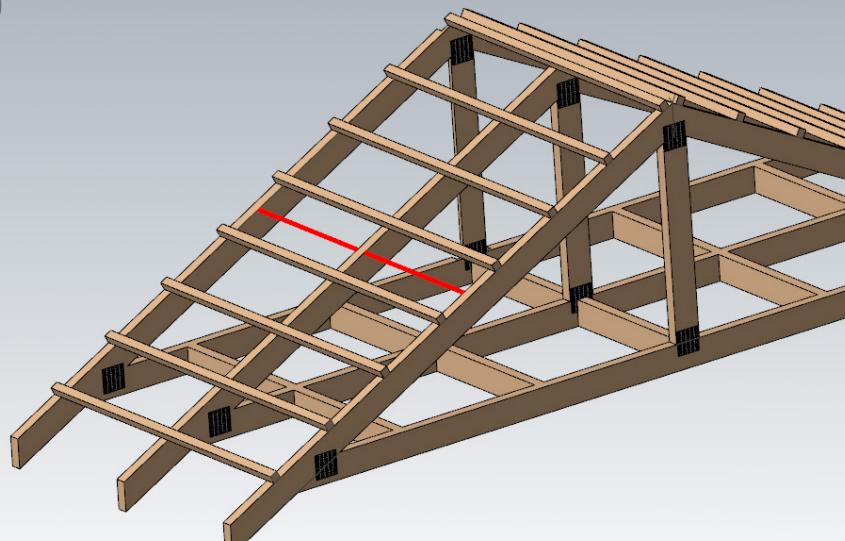
The table below provides recommendations for pitches:

PITCH	MEMBRANE REQUIRED
22 to 30 degrees	NO
12.5 to 22 degrees	YES

Installation Steps for RIDGE & GABLE Roofs



1



TRUSS CENTRES

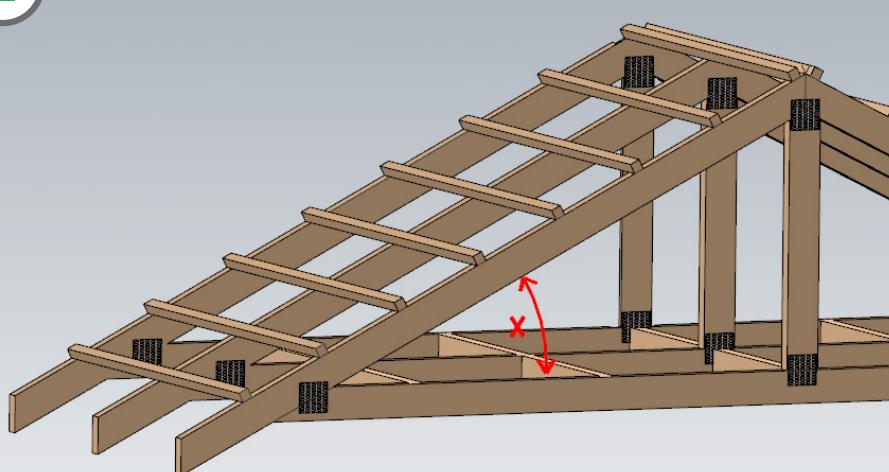
Recommended truss spacing distance of 1100mm using SABS approved timber of size 114mm x 38mm.

Always consult your timber / light steel merchant for truss design and timber light steel sizes.

Truss centres must be equal and correct distances apart.

Apex-truss heights must be level.

2

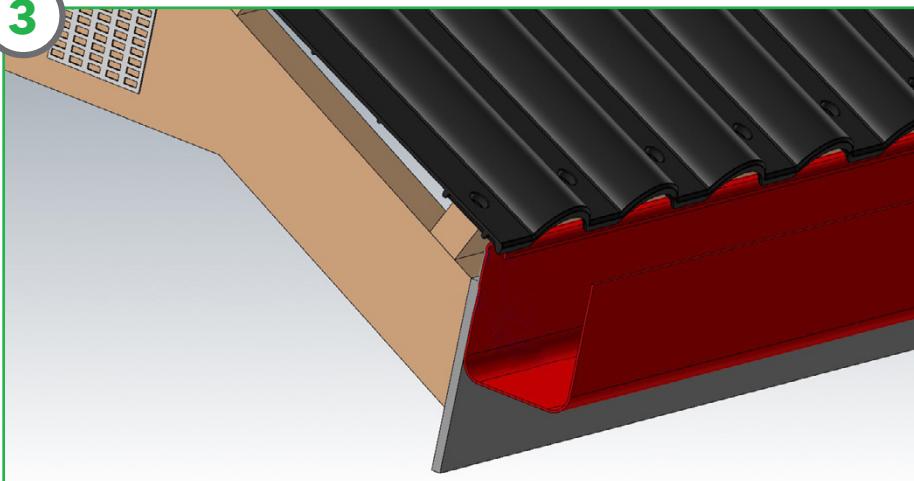


EAVES AND APEX

All battens to be the same size including the Eave Batten. From the Eave batten to the next batten 335mm Pitch.

Installation Steps for RIDGE & GABLE Roofs

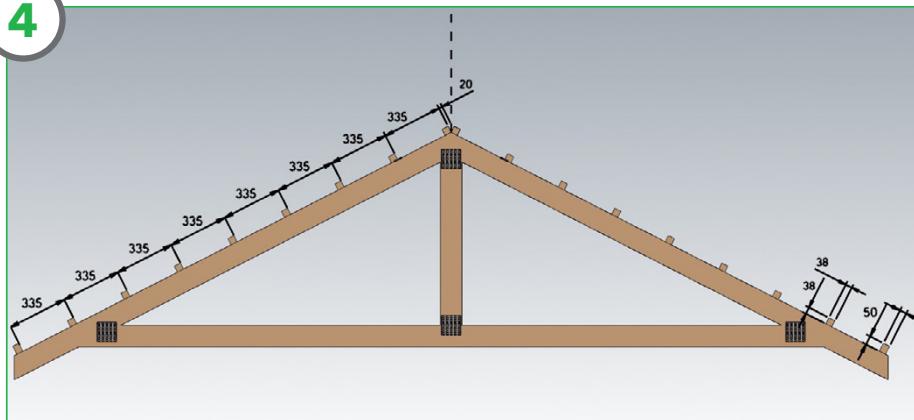
3



The overhang into the gutter must be 20-40mm as standard.

At the Apex the bottom of the adjacent battens must meet.

4



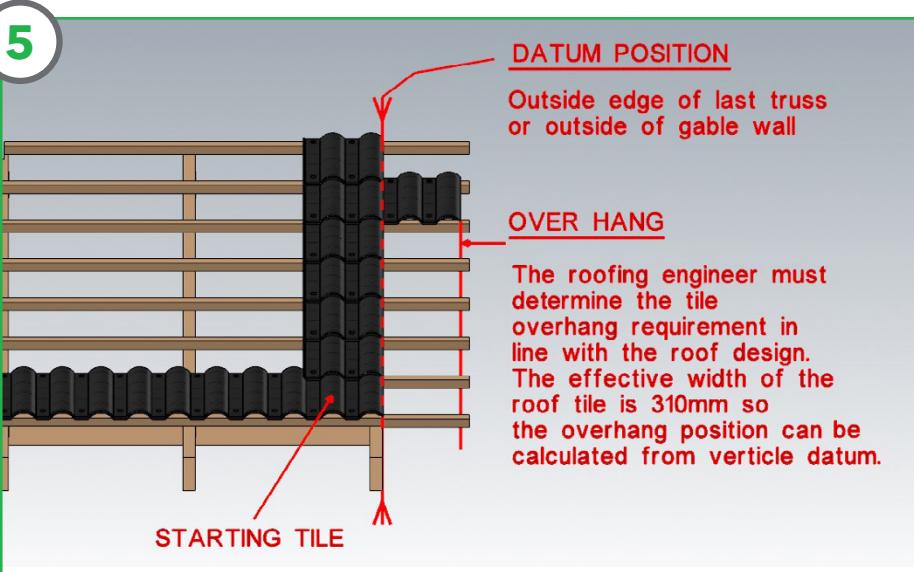
BATTEN CENTRES

ROOF PITCHES

The pitch of the branding does not change. The batten spacing must always be 335mm.

Always join battens on alternate trusses i.e. Do not have all batten joints on the same truss.

5

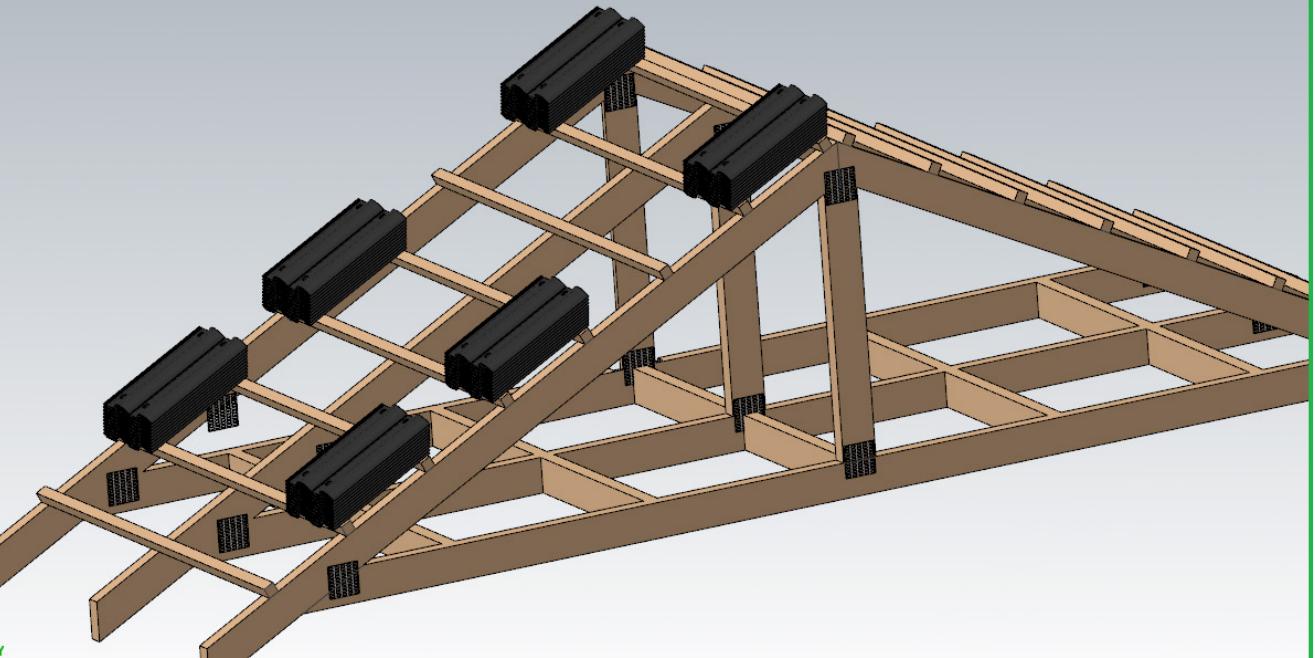


DATUMS AND STARTING TILING

Once the battens have been correctly attached and checked for dimensional correctness, the eave batten is the same size as the general battens. The tiles can be laid from the bottom right-hand corner. Harvey EcoTile® can be assembled in horizontal rows or vertical rows. The EcoTile® interlocks in the north south direction which gives the correct location every time, the east west fitting has location points to ensure the correct location is attained every time. Please take care that the first tile is checked with the top tile (at the apex) in that row to ensure that you are on the correct datum and your over hang is correct at the top and bottom rows.

Installation Steps for RIDGE & GABLE Roofs

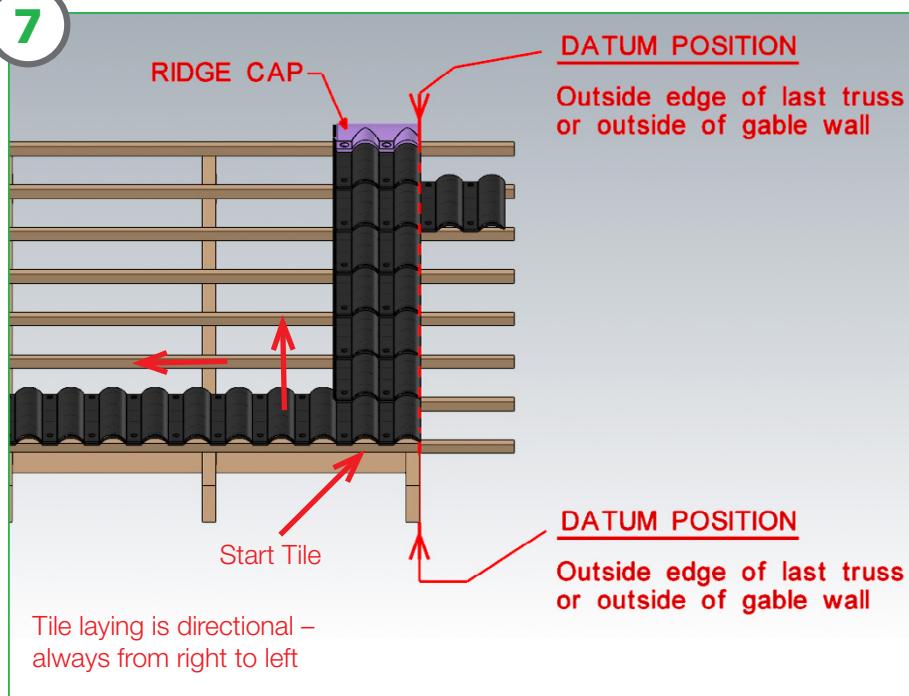
6



LOADING OF ROOF

The roof can now be loaded. Start by stacking in bundles working from apex to roof down towards the eaves. The bundles of seven tiles must be stacked on top of the rafters on alternate battens. Both sides of the roof to be equally loaded.

7



LAYING OF TILES

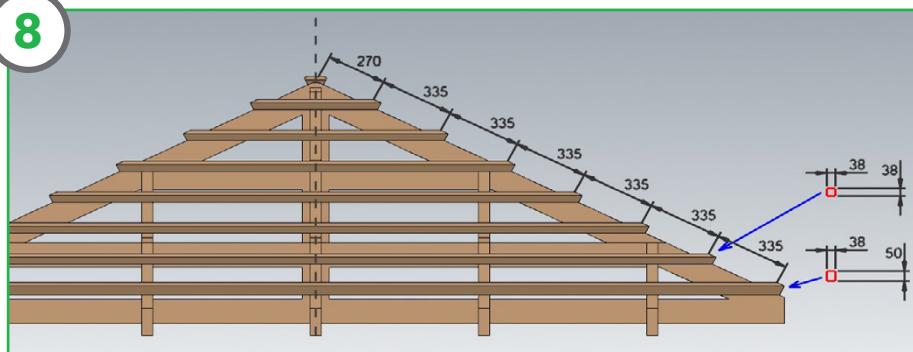
The first tile to be installed is bottom right hand corner. You can work vertically or horizontally to assemble the roof. Once the datum lines are checked they can be extended to the other side of the roof. Proceed to lay tiles from right to left keeping to chalk lines. Lay three rows at a time.

The image shows a horizontal ridge cap in position.

Installation Steps for HIP Roofs



8

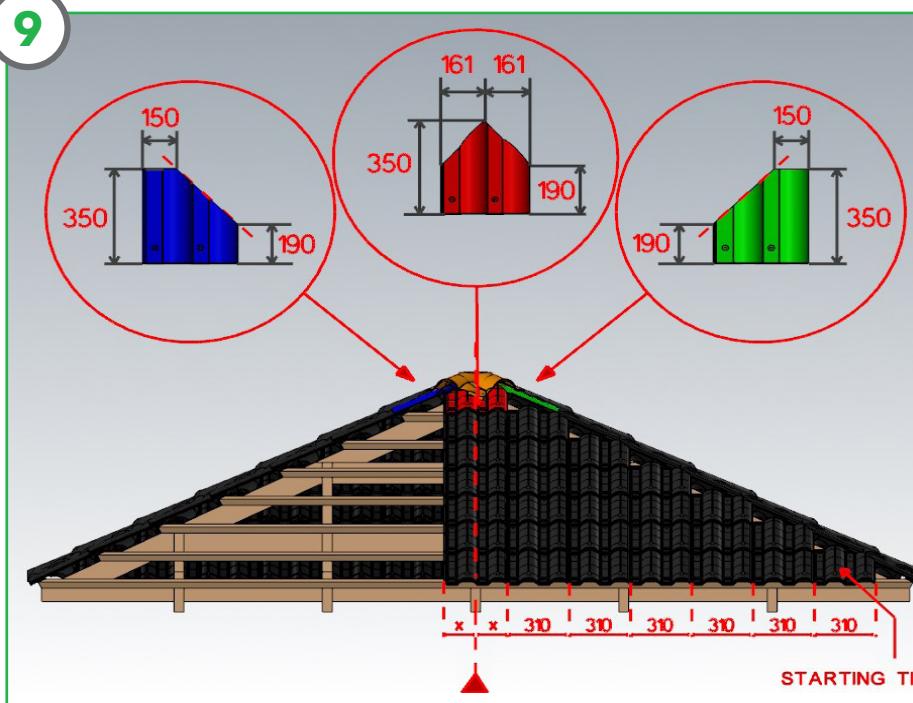


HIP ASSEMBLY

It is very important that the correct process of laying the hip tiles is followed.

Ensure batten spacings are as per sketch, starting with 270mm spacing from the apex batten. Followed by 335mm spacings to the eves. This spacing should be replicated on all sides of the roof.

9



Pre cut the top tile as per the drawing. Now locate the pre cut tile and centre them using the hip starter, as per the drawing.

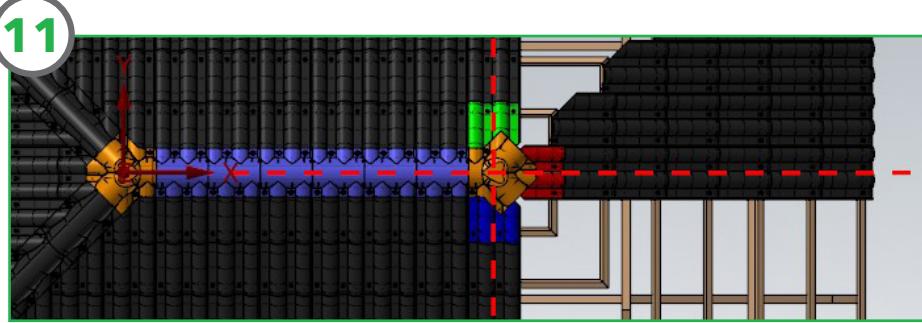
Using a chalk line mark the battens down to the eaves ensuring squareness. Following the centre line from the Apex to the eves, start assembling the roof tiles away from the centre line towards the hip lines. Before fixing the tiles ensure that the assembly lines up with the chalk line

Once the hip tiles are assembled and fixed mark the cut line (using the chalk line) on both sides of the hip and cut in line with drawing cut top.

Installation Steps for HIP Roofs



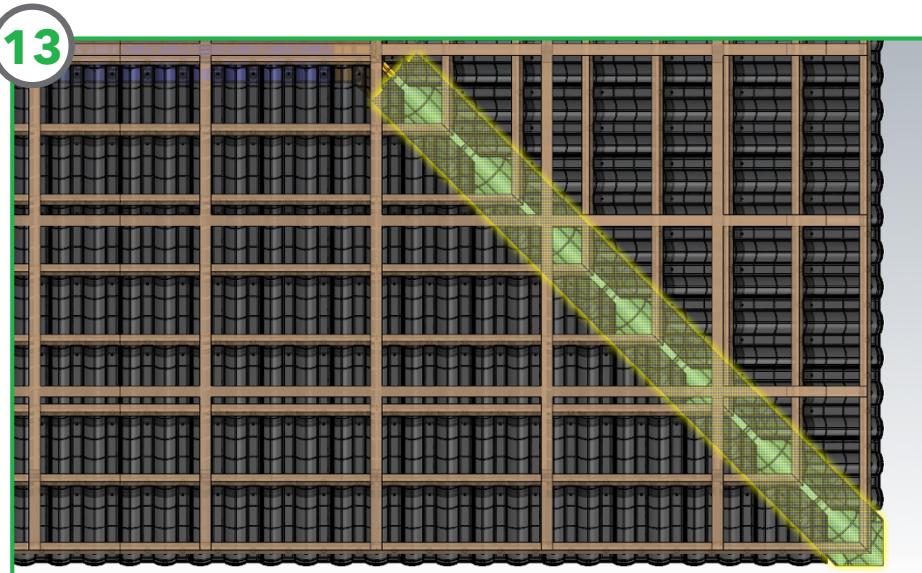
The double Roman roof tiles can be pre-cut (as per the drawing) to ensure a correct fit with the hip starter tile.



Once both sides of the main roof have been laid and trimmed, the hip starter can then be installed.



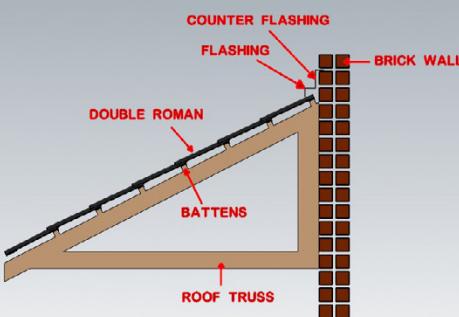
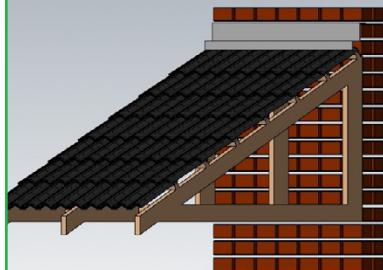
View showing a correctly assembled roof.



Bottom view of the hip line.

Other Installation Guidelines

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PARAPET WALL / ROOF DETAIL

WALL FLASHING

A standard steel sidewall flashing can be used (Galvanized or pre-painted).

15

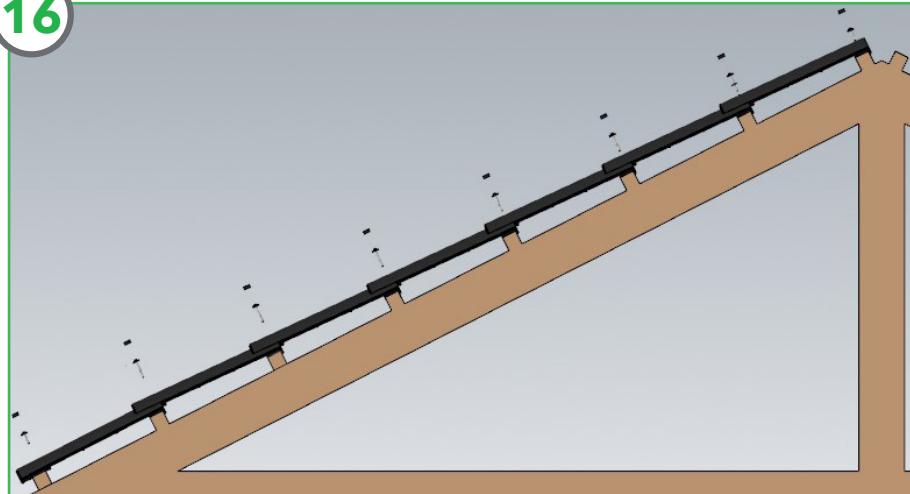


FIXING EXPOSED AREAS

Normal wind conditions.

When fixing the ridge and eave tiles one screw fixing is required in the bottom right fixing hole. Tiles require one fixing screw with washer in the bottom right corner, which will fix through the overlapped tile.

16

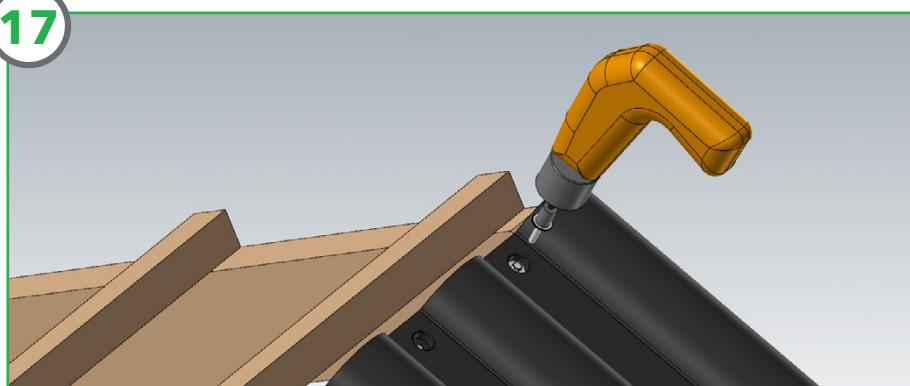


For high wind areas.

We recommend that the eaves and general roof have both screws fitted.

Note: Caps to be fitted silicone adhesive when inserted.

17



SECURING RIDGE TILES, HORIZONTAL, HIP AND THE HIP STARTER

The correct screw is required to fix directly into the roof tile below the ridge tile, the fixing holes at the overlap are used. Take care not to over-torque the screws.

Insert cover caps and apply silicone adhesive when the assembly is completed.

Sealing of cut-to-size Ridges or Hip Caps

BUYTAL FIBASTRI[®] Installation with LIKWID RUBBER[®] Finish or equivalent.

Ensure the surface is clean, dry, and free of any debris or loose material. Cut the BUYTAL FIBASTRI[®] to the required length. Peel off the backing paper and press the strip firmly onto the surface, ensuring there are no air bubbles. Use a roller to press the strip firmly into place, ensuring good adhesion.

Check for any gaps or areas that may need additional sealing. Stir the LIKWID RUBBER[®] paint well before use.

Apply using a brush, ensuring to apply LIKWID RUBBER[®] under the edges of the FIBASTRI[®] for a lasting result, then an even coat over the FIBASTRI[®].

Ensure the FIBASTRI[®] is well saturated with the LIKWID RUBBER[®].

Allow to touch dry for approximately 1 hour and apply a second coat.

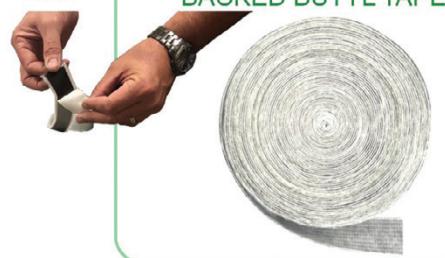
PEEL - PASTE - PAINT

LIKWID RUBBER[®]
WATERPROOFING PAINT
AT ITS BEST



10 YEAR
LIMITED
PRODUCT WARRANTY

FIBASTRI[®]
IS A PAINTABLE FIBER
BACKED BUTYL TAPE



LIKWID RUBBER[®] is primarily used as waterproofer and adheres to Harvey EcoTile composite roof tiles. It has excellent stretch and sealing properties for large and fine gaps.

FIBASTRI[®] seals Harvey EcoTile ridge gaps, gutters, flashings, fasteners, skylights, ventilation units, down pipes and gullies.

LIKWID RUBBER[®] and FIBASTRI[®] are available exclusively from Harvey Roofing Products.

18



Before the ridge caps are sealed.

19



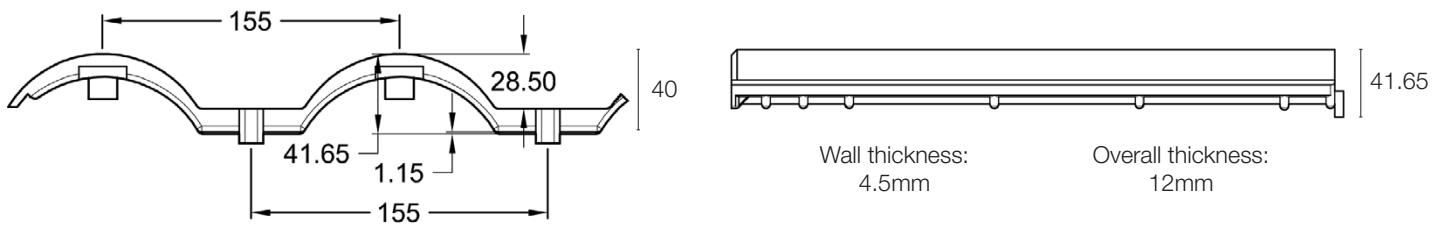
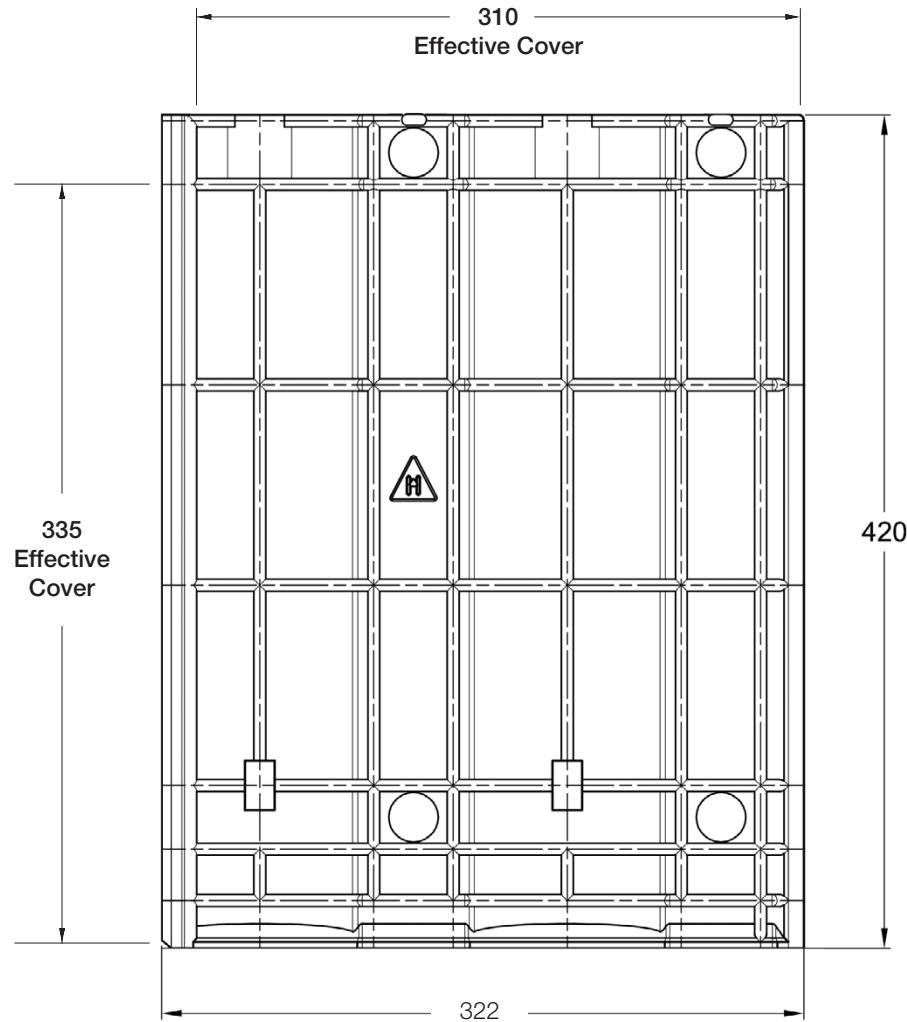
After sealing ridge cap gaps with FIBASTRI[®] and LIKWID RUBBER[®]

Technical Specifications

A. Double Roman Profile

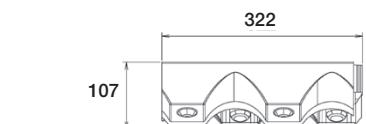
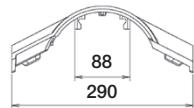
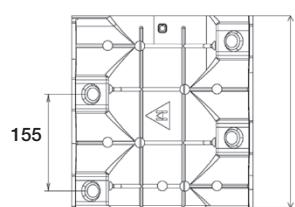
(Dimensions in mm)

Tile weight (ave): 1.6kg each
Tiles per m²: 9.6
Weight per m²: 15.36kg



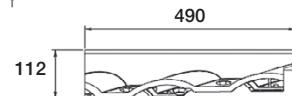
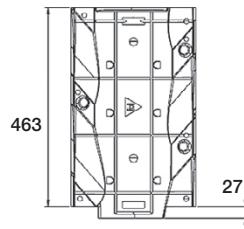
Accessories

B. Ridge Cap



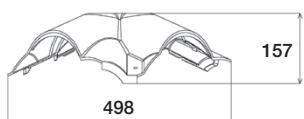
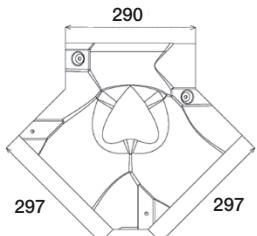
Weight: 1.6kg each

C. Hip Cap



Weight: 1.6kg each

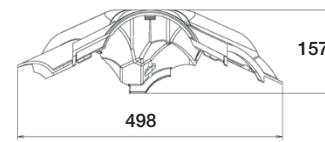
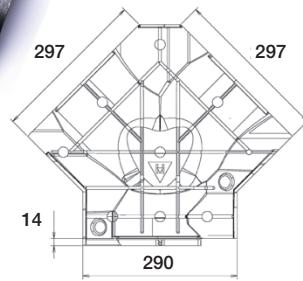
D. Hip Starter (Left)



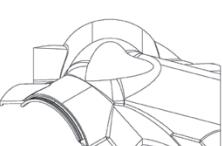
Weight: 1.6kg each



D. Hip Starter (Right)



Weight: 1.6kg each



G. Fastening Accessories

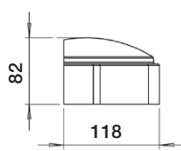
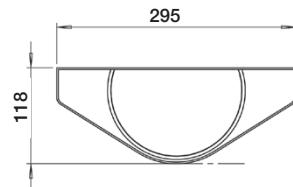
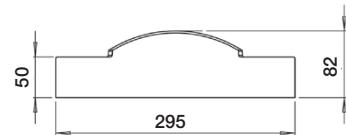
Self Drilling screw #10 (4.8mm) x 45mm Hex Washer Head T17 CL3 + #10 x 16mm Bonded Washer with Seal



H. Solar Bracket



J. Hip End Cap



Harvey Roofing Products

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AGRÉMENT
SOUTH AFRICA

innovative construction product assessments

Agreement Certification ref: 2021/624

