



# Marlon CST Heatguard



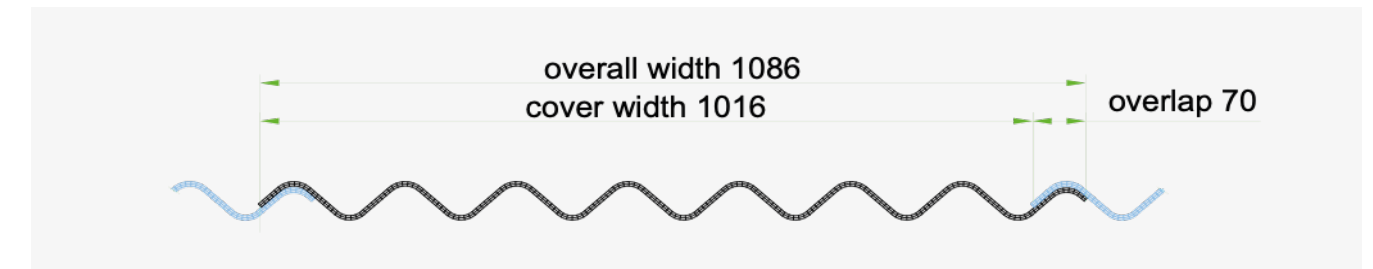
Installation Guide  
Whole Roof Application



Marlon CST Heatguard is a range of high performance corrugated polycarbonate sheeting offering controlled light transmission and solar gain. Marlon CST Heatguard can be used to form complete roof coverings or can be incorporated into profiled roofing & cladding.

# Marlon CST Heatguard

## Profile



## Roof Pitch

Marlon CST sheets must be installed at a minimum pitch of 5°

## Thermal movement

For UK & Ireland we recommend a maximum sheet length of 5.3m. For other geographical regions please contact the technical department.

Fixing holes and end laps must allow for thermal movement of the CST Heatguard material. It is very difficult to install longer sheets and still allow sufficient thermal movement around fixings. Saddle washers may need to be used to allow for larger hole sizes while still providing adequate weather proofing.

## Safety - Roof Access

**NEVER** walk directly on Marlon CST rooflights. Always use crawler boards placed across at least two support purlins of the structure.

## Safety - Handling

For safety, sheets should be handled by two or more people. Take particular care when handling Marlon CST sheets in windy conditions.

## UV Protection

Sheets must be installed with UV protection uppermost in accordance with printed Inkjet code.

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## Fastening and Sealing

The same fixing used for fibre cement sheet should be used to secure Marlon CST Heatguard. The primary fixings must secure the sheet, permit thermal movement and provide a weather tight seal. Profiled foam fillers at the fixing positions reduce the risk of distorting the profile.

Cross-linked butyl sealing tape is required at both end and side laps to increase protection from wind driven rain and reduce noise from material movement.



Profiled Foam Fillers



Cross-linked Butyl Sealing Tape



Grommet Fastener



Primary Fixing with BAZ Washer

## Warranty

To maintain Brett Martin's product warranty, installation must comply with the recommendations contained within this document.



# Marlon CST Heatguard

## Cutting

Sheets are supplied to project specific lengths and heat sealed at the ends to prevent the ingress of debris, insects or water. If necessary, single sheets are easily cut with an angle grinder fitted with a thin metal slitting disc. Circular saws for hardwood or plastics can be used to cut Marlon CST Heatguard with a high rotating speed and slow feed rate. Electric jigsaws, handsaws or metal sheers can be used for limited cutting of curved or complex lines. The open ends of the multiwall structure should be sealed with tape or a compatible sealant. Consult the technical department regarding compatible accessories, sealants, and tapes.

Recommended	Circular Saw – 40/60 Diamond Grit Blade
Clearance Angle	10 - 15°
Rake Angle	0-6°
Cutting Speed	1800 – 2400m/min
Feed Speed	19-25m/min

## Fixing Pattern

### General Roof Area

Fix with primary fixings on every other corrugation (second wave).

### Perimeter, Ridge, Verges & Eaves

Fix with primary fixings on every corrugation.

### Side Laps

Fix with grommet fasteners at maximum 450mm centres.



1  
**Primary Fixing**  
At every corrugation



2  
**Primary Fixing**  
At every other corrugation



3  
**Secondary Fixing**  
Along side laps at maximum  
450mm centres

# Primary Fixings

In order to allow for thermal expansion, holes should be 6mm greater than the fixing shank for sheet lengths up to and including 5300mm. Clearance holes to be drilled at 12mm. For longer sheet lengths contact technical department for clearance hole requirements. Failure to accommodate thermal movement can result in buckling or tearing around the fixing. Fixings should be complete with BAZ washers to conform to the shape of the profile.

Holes should never be punched through the polycarbonate sheet. All holes should be predrilled as per recommended guidelines.



## Pre-drilling and Installation

### Step 1

Select 12mm metal drill bit for drilling of oversized hole – primary fixings only.



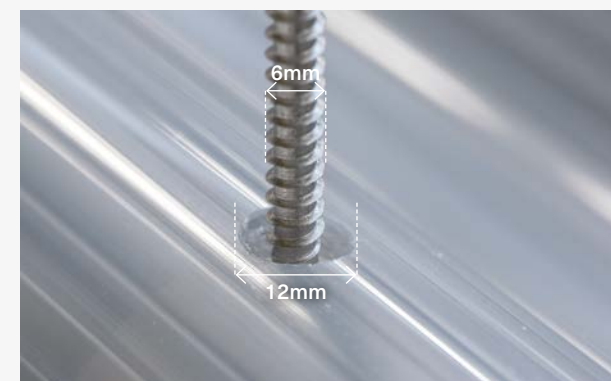
### Step 2

Drill oversized hole at each primary fixing location as per recommended fixing pattern. Attention to be taken to remove all swarf/debris from drilled hole.



### Step 3

Primary Fixing with BAZ Washer to be placed in the centre of oversized hole to allow adequate space for thermal movement/expansion.



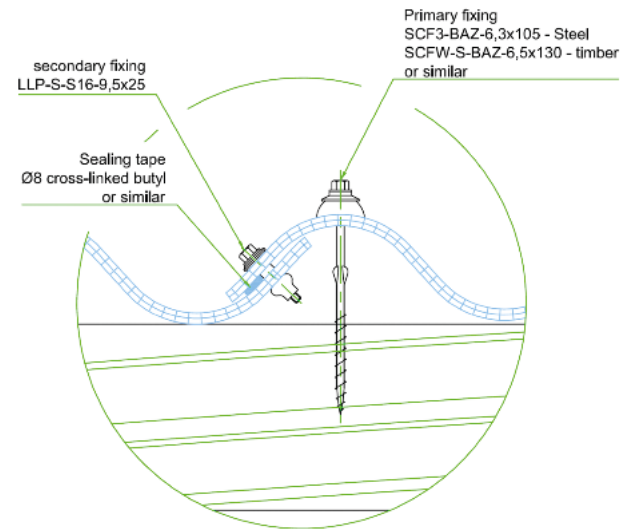


# Secondary Fixings

## Side Lap

Grommet fasteners to be installed on side lap at maximum 450mm centres.

**Do not use metal rivets** or standard metal to metal stitching screws. If required consult technical department for full fastener specifications.



## For airtight construction

Apply 9mm x 5mm butyl tape along side laps (on outer edge of the secondary fixings).

Use profiled foam fillers below Marlon CST sheets at ridge and eave purlins.

## Pre-drilling and Installation

10mm Diameter holes should be drilled for grommet fasteners.

### Step 1

Select 10mm metal drill bit.



### Step 2

Drill hole at each location as per recommended fixing pattern – maximum 450mm centres. Attention to be taken to remove all swarf from drilled hole.



### Step 3

Place grommet fastener in position at each side lap fixing position (max 450mm centres), take care to ensure fixing is fully seated in position prior to engagement.



### Step 4

Install grommet fastener using low torque drill setting. Sidelap should be fully closed with additional care taken not to over tighten fastener.

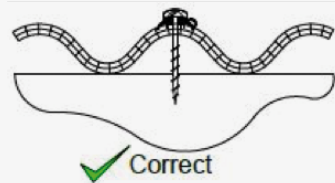


# Correct Fixing Placement

Fasteners must not be over tightened as this will prevent thermal movement of the sheet with changes in temperature. The screws should be tightened moderately to prevent damage to the washer and deforming the gasket, resulting in damage to the sheet.

## Correct Fixing Placement

Even spread of rubber washer contouring to the shape of the CST Heatguard Material. Correct placement critical to seal oversized hole.



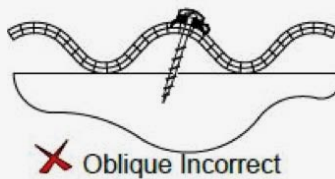
## Over tightened Fixing Placement

Excessive pressure on rubber washer will cause CST Heatguard Material to deform. Care to be taken not to overtighten.



## Vertical Fixing Placement

Attention to be taken to ensure correct vertical placement of fixing. Fixings placed otherwise will cause incorrect seating of rubber washer and increase potential of leaking around fastener.



# Alignment

It is important, especially on longer sheets, to maintain the sheet width when securing fixings. The profile can distort or spring if not correctly positioned. This can lead to wasting or bulging affecting the lapping between sheets. Use a template board or a chord line ensure that cover width is correct before securing fixings.

## Step 1

Place profile board as show, install primary fastener to one side of sheet.



## Step 2

Using the timber profile board lift or push CST sheeting into correct placement. This can be done by lifting the corrugation or pushing the sheet from one side.



## Step 3

Continue fixing sheet with primary fasteners as per correct fixing pattern.

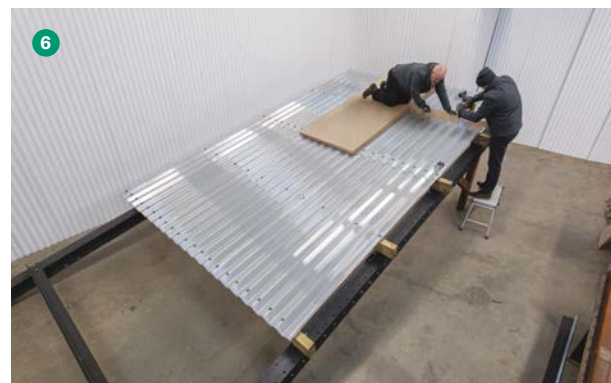
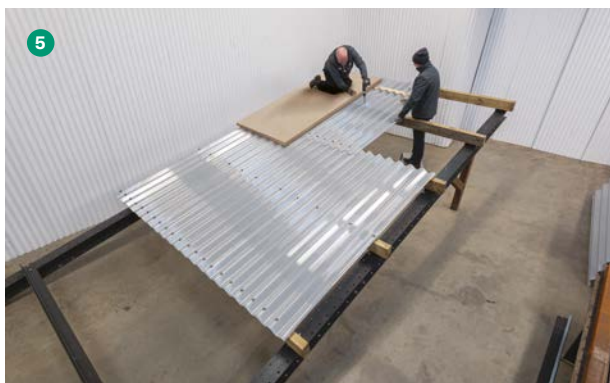
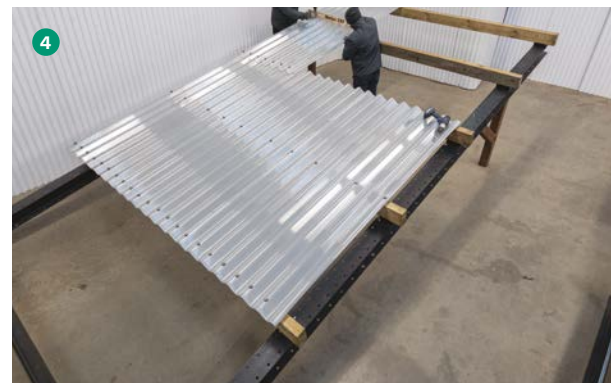




# Installation

## Installation as a complete roof

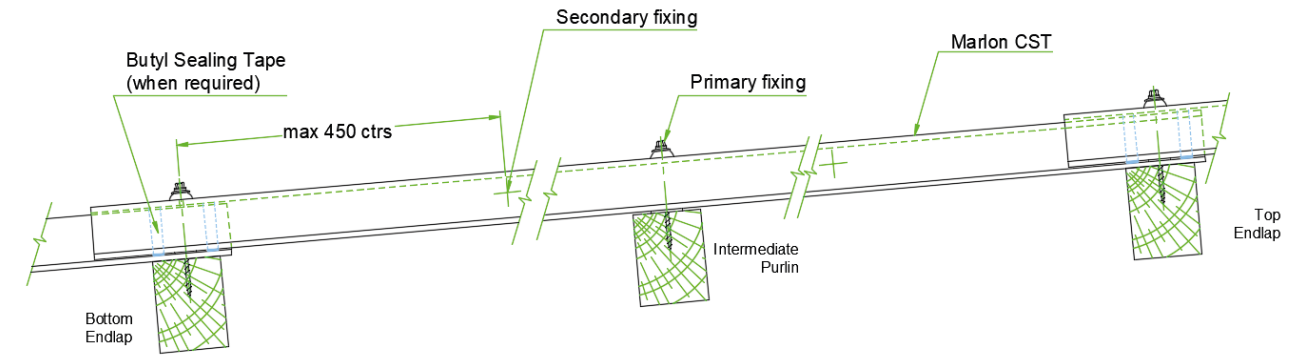
Marlon CST sheet can be installed as a complete roof covering. Standard folded metal flashings should be used to protect the ridge and verges from wind uplift. Fixing at every corrugation at ridge verge and eaves is recommended.



**NEVER** walk directly on Marlon CST rooflights, use crawler boards placed across at least two purlins to spread the load.

# Polycarbonate General Guidelines

## Panel Structure



Minimum roof pitch 5°

## Accessories

It is important when installing Marlon CST sheet that all accessories are compatible for use with polycarbonate. All accessory products should be light in colour, preferably white, to avoid heat absorption that could build up and damage the sheet. Our full range of installation accessories are fully compatible, visit [brettmartin.com](http://brettmartin.com) for further details.

gently remove dirt. Never use solvents or alkaline cleaners on Marlon CST and do not scrub the surface with brushes or sharp instruments, as these will mark the surface.

## Aftercare, Maintenance and Cleaning

The general condition of Marlon CST and the security of fixings and sealant should be checked periodically as part of the overall maintenance programme for the structure into which they are incorporated. An inspection is recommended every 12-18 months, and a log should be kept of the findings. Care should always be taken to use appropriate scaffolding, lifting devices and equipment when inspecting for damage.

For rapid cleaning of large areas pressure washers can be used. The nozzle should be held at a shallow angle to the sheet surface and not pressed directly onto the sheet. Do not apply the nozzle directly into the sheet laps. Incorrect cleaning which in any way damages the sheet automatically renders void all warranties.

When carrying out a maintenance check, also check for debris, dirt retention, mosses or mould growth, local damage and the conditions of the fixings. If these have been damaged they should be replaced immediately, as faulty or badly fitting fixings can cause leakage or rust staining.

## Warning

Care should be taken to observe the following precautions:

1. Do not scrub Marlon CST sheets with brushes or sharp instruments.
2. Avoid any abrasives or cleaners of a highly alkaline composition.
3. It is generally advisable in all instances to test any cleaner on a sample piece of the Marlon CST sheet first and it should also be remembered that cleaners and solvents which state that they are suitable for cleaning polycarbonate may not be safe for use on the UV protective surface of the sheet.

The high gloss finish of the Marlon CST sheet will retain little dirt, however periodic cleaning will preserve the appearance and ensure optimum performance. Loosen any dried dirt with lukewarm water and wash with lukewarm soapy water using a soft cloth or sponge to

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**[brettmartin.com](http://brettmartin.com)**

