

Determining Gutter Length

To determine the length of gutter required use the following guide:

1. For each Gutter Joiner, deduct 3mm irrespective of profile type
2. For each side of an Internal Corner, deduct 142mm for Classic, 135mm for Stormcloud and 150mm for Typhoon.
3. For each side of an External Corner, add 13mm for Classic, 10mm for Stormcloud and 25mm for Typhoon.
4. For each Expansion Joint, determine the required expansion measurement from the Expansion Joiner installation instructions, allowing for this measurement when determining the total gutter length required.
5. For each Expansion Outlet, measure from the last installed length to the witness marks on the Expansion Outlet backing plate.

Using a square, mark the outside of the gutter to the required length and cut with a hacksaw, placing a wooden block inside the gutter for support. Remove the burrs from cut edge.

Installation of Gutter

Internal Brackets (Classic and Stormcloud)

Position the front return of gutter onto the bracket ends and after ensuring each bracket is correctly engaged, roll gutter upwards towards the bracket until the rear edge locks firmly into the bracket. If working on a gabled roof, commence fitting the gutter at one end and work towards an expansion outlet.

Internal Brackets (Typhoon)

To install the gutter onto the MT2I internal bracket, fit the brackets onto the fascia as previously instructed. Align the end of the bracket with the gap in the small circular profile on the gutter. Using the palm of the hand, apply a small amount of pressure until the nose of the bracket clips fully into the small circular profile. Engage the back of the gutter; gently push upwards from beneath the gutter to fully clip the back-lock. Repeat for each bracket. The gutter profile can now slide along the brackets to the final installed position.

External Brackets (Typhoon)

To install the gutter onto the MT2E external bracket, fit the brackets onto the fascia as previously instructed. Place the length of gutter on top of the brackets so that the back of the profile engages the back-lock on the bracket. Gently apply pressure with the palm of the hand to the outer end of the bracket until it clips onto the small circular profile on the gutter. Repeat for each bracket. The gutter profile can now slide along the brackets to the final installed position.

Fitting Expansion Outlet (Classic, Stormcloud and Typhoon)

To fit an expansion outlet to the backing plate once brackets and gutter have been fitted, slide the expansion outlet onto one of the gutter ends, then slide it back in the opposite direction to accommodate fitting it onto the other cut sections. Check that the gutter does not cover the outlet. Place the top rear section of the expansion outlet under the retaining clips on the backing plate and

push the bottom of the expansion outlet until it locks into place. Never solvent weld the gutter into expansion outlets as it must be able to accommodate movement freely.

Fitting Expansion Joiners

Set bracket spacing at 400mm, the Expansion Joiner is to be installed mid distance between these brackets.

Solvent Cement the Gutter into one side of the Expansion Joiner (refer to the Marley Solvent Cement procedure) and insert into previously installed brackets. Set the Expansion Joiner using the graduated settings marked on the inside of the base of the fitting according to the temperature at the time of the installation.

The temperature variation in Australia varies widely dependent on location. To determine the "Average" temperature at your location consult the Australian Bureau of Meteorology. It is important that the fitting is set in the right position for it to function correctly. Determine the length of the next piece of gutter. Solvent Cement this length of gutter into the other side of the Expansion Joiner, ensuring the joiner is still set at the correct temperature position. Where an expansion outlet is at one end of the guttering run, use a stainless steel screw approximately 500mm from the opposite end of the guttering run.

For gutter runs exceeding 10 metres in length fix the top back edge of the gutter with a stainless steel No.6 x 40mm screw to the fascia an equal distance between expansion fittings.

Installing Gutter Joiners and Corners.

To join two lengths of gutter together use a gutter Joiner following the solvent cement procedure. To join an external or internal corner, solvent cement one of the corners on to the appropriate length of gutter. Fit the gutter into the brackets and install the second length of gutter following the solvent cement procedure.

Downpipe Installation for Round and Rectangular Downpipe

Downpipe should be fitted to Expansion Outlets. Pipe and bends should be solvent cemented together except for the top downpipe bend into the Expansion Outlet which should be joined with a stainless steel screw to enable the downpipe to be disconnected when cleaning gutters or roofs. Use stainless steel screws to fix the downpipe clips, so the downpipe can be removed in the future. Vertical downpipes should be fixed to the wall using clips every 1.2m. Note: Marley Gutter and Downpipes have not been designed for use as a concealed system or for use in wall or ceiling cavities. In addition, care should be taken that all joints are sealed if round downpipe is being installed horizontally.

Determining the Offset Length

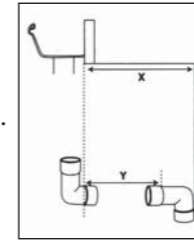
When installing downpipes, sometimes the overhang of the eaves requires the use of a downpipe offset. To manufacture an offset (Fig 4):

1. Measure from the front of the fascia to the wall of the house (Measurement X).
2. Transfer this measurement to a piece of paper, concrete path or floor

and draw two parallel lines to represent the house wall and the fascia board.

3. Place socket bends on the parallel lines.
4. Measure from the bottom of each socket (Measurement Y). This is the length of pipe required (if using 80mm downpipe, deduct 15mm).
5. The offset will now be placed at the exact distance from the wall to allow for correct installation of the downpipe and pipe clips.
6. Place the top pipe clip under the bend socket to prevent slipping

Fig 4



Painting & Maintenance

After installation gutter & downpipes can be painted to any colour. However, dark colours require additional expansion/contraction allowance, especially in areas of high average sunshine. Clean gutter, before painting, using methylated spirits. For best results, use a mineral base undercoat and 2 coats of 100% weatherable acrylic paint or refer to paint suppliers instructions for painting PVC gutter and downpipes. It is recommended that the ends of gutter in the expansion outlet and expansion joiners be painted so when the gutter contracts a white line is not visible. Painting must be carried out after installation and do not paint the inside of gutter or the internal brackets.

To ensure your new rainwater system maintains its good looks, it should be cleaned annually using warm soapy water and a car cleaning brush or cloth. Simply rinse off with clean water.

- Marley PVC Gutter and Downpipes are suitable as an external gutter and downpipe system exceeding the requirements of AS/NZS3500.3.
- If Marley PVC Gutter Systems are to be used in any application not covered by the current Marley Brochure, written confirmation of suitability should be obtained from Philmac.
- Over time there may be some chalking of the components as is customary with all exterior pigmented finishes. This will not affect the long-term durability of your Marley PVC Gutter System. Chalking can be removed by periodic washing with warm, soapy water.

Subject to the above product information, if Marley PVC gutter systems are used and installed strictly according to Marley's published installation instructions we guarantee the PVC Gutter System to be free from defects in material and manufacture for a period of 20 years from the date of purchase.

If you consider that our guarantee has not been fulfilled, do not attempt repairs or replacement. Contact Philmac Pty Limited, Toll Free 1800 755 899 with evidence of the product purchase date, Philmac will then institute timely inspection of the installation.

If the Marley PVC gutter system has been used and installed in accordance with the requirements of this guarantee, we will provide replacement product or refund its original purchase price.

Installation Guide

CLASSIC

STORMCLOUD

TYPHOON

Installation Instructions for Marley Classic, Stormcloud & Typhoon.



The connection you can trust.

It is important to read through the complete instruction booklet before commencing installation.

Planning

Draw your roof plan to scale, including ridge, hip and valley lines, using Figure A and B as an example. By drawing your roof plan it will enable the length of gutter, number of brackets and other gutter components to be easily estimated. To determine the number of downpipes and required fall, the correct ARI (annual rainfall intensity) must be determined for your location. Please refer to AS/NZS 3500.2003 which contains the calculations, ARI tables and worked examples to help you with this. The Philmac website (www.philmac.com.au) also has information that can aid in your planning.

FIG A - Gable End Roof

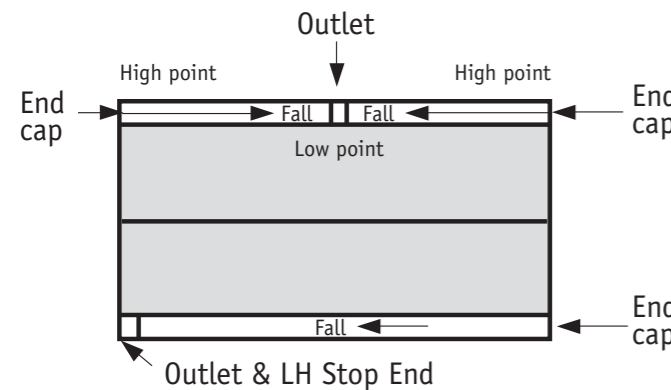
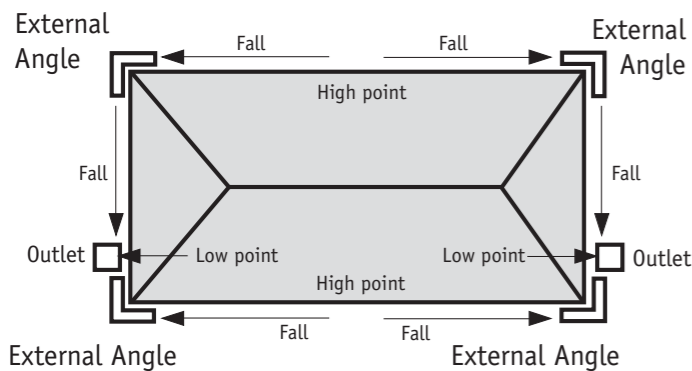


FIG B - Standard Hip Roof



Equipment Required

HAMMER, DRILL, SCREWDRIVER	PAINT (FOR FASCIA)
STRINGLINE/CHALKLINE	HACKSAW
BUILDER LEVEL/LINE LEVEL	CLOTH
LADDER/TRESTLES & PLANKS	SQUARE RULE
MEASURING TAPE	PAINT BRUSH
PENCIL	MARLEY SOLVENT CEMENT (MCS)
METHYLATED SPIRITS	

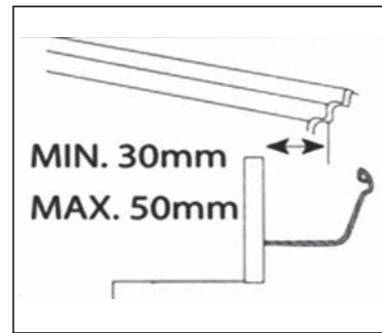
Installation Tips & Preparation

Roof Overhang

Roof overhang should be not less than 30mm or greater than 50mm to ensure correct roof water discharge into the gutter. [Fig 1]. If roof overhang is less than the minimum requirement of 30mm, a flashing will be required to prevent water running down behind the gutter. If the roof overhang is more than the maximum requirement of 50mm you may consider;

- Packing out the fascia board or brackets using painted strips of treated timber.
- If practical, cut back the roof overhang to 40mm.

Fig 1



Solvent Cement Procedure

Only "Marley Solvent Cement" (MCS) should be used when installing Marley Gutter. The surface areas to be joined must be clean, dry and free from burrs. The solvent cement must be evenly applied to both surfaces. Once the joint has been completed, unnecessary movement should be avoided for 10 minutes. Any surplus solvent on the exterior surface should be removed immediately with a clean, lint free cloth.

Plan the direction in which you will complete the installation; it is important to solvent cement each internal and external corner onto a length of guttering, working in one direction. Ensure that this assembly work is square and left fully supported on a flat surface until the solvent cement has cured (approx 10 minutes). All Marley Gutter System components should be joined using Marley Solvent Cement, with the exception of the Expansion Outlets, which should be left free to expand and contract.

Expansion

When a run of gutter exceeds 10 metres, expansion allowance is required to accommodate thermal movement. Expansion can be allowed for by either installing a Downpipe Expansion Outlet or an Expansion Joiner. Expansion will occur with normal temperature changes, the Marley Expansion Joiner has been developed to accommodate this thermal expansion. If the number or location of downpipes and therefore Expansion Outlets is restricted (i.e. are not every 10 metres) an Expansion Joiner needs to be installed. A dropper outlet does not provide any means of expansion or contraction and should be included as part of the overall length.

Water Flow Direction & Bracket Positioning

Establish the low points of the installation. These will be determined by the location of existing downpipes or stormwater outlets and will become the Expansion Outlet fixing points. Mark the center of each outlet on the fascia board. If a downpipe is located at the very end of a gable end run, solvent cement either a right hand gutter end cap or left hand gutter end cap.

Classic and Stormcloud Stopends have been designed to fit the Expansion Outlet and the gutter profile.

High points should be half way between low points or with complex roofs try to establish the high point at the corners.

External and Internal Bracket Positioning

Ensure you have the correct brackets for the gutter profile being installed.

Space brackets 500mm apart. Bracket spacing should be reduced to 300mm in very high wind zones or in snow prone areas. Position the first bracket at the determined high point as high as possible under the roof over-hang by nailing/screwing, using one of the bottom slots in the bracket first (this will allow for minor adjustments either up or down) then two of the highest top holes one on either side of the bracket. A minimum of 3 nails / 3 stainless steel screws must be used. The minimum size screw to be used is a No.6 x 1" coarse thread countersunk stainless steel screw.

N.B Gib clouds must NOT be used.

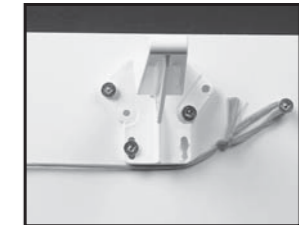
If working from an external corner allow 50mm clearance before fitting the first bracket. From an internal corner allow 200mm clearance before fitting the first bracket.

Brackets have also been designed to be fitted directly onto rafter ends. Screws or longer nails should be used in this type of application. Check alignment of rafter ends before commencing installation.

Stringline Placement

To position string, place a nail/screw on the fascia board approximately 50mm out from the first bracket and on the opposite side of the bracket from the direction you are working. (fig 2.)

Fig 2



Classic, Stormcloud and Typhoon

Run the stringline under the bottom of the bracket to the end of the first run, allowing a fall of 5mm for every 10 metres in the run. This now becomes the level to which the remaining brackets and expansion outlet backplates are fitted. Work towards the expansion outlet for all remaining brackets.

Expansion Outlets

(Classic, Stormcloud and Typhoon)

Mark the centre of each outlet on the fascia with the centre being positioned directly over the stormwater outlet or at the required downpipe position. Centralise the backing plate on this line and line up the witness marks located on the back plate with the stringline, making sure you use the correct witness mark for the chosen profile and bracket type (fig 3). Fix the back plate in this position.

Fig 3



NOTE: If an expansion outlet is not included in a straight run exceeding 10 metres, an expansion joiner must be fitted to accommodate thermal expansion/contraction.