

# Installation Guide

## Installation of Spouting

### Internal Brackets (Stormcloud®, Classic™ and FL2®)

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

### Internal Brackets (Typhoon®)

To install the spouting 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 spouting. 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 spouting; gently push upwards from beneath the spouting to fully clip the back-lock. Repeat for each bracket. The spouting profile can now slide along the brackets to the final installed position.

### External Brackets (Typhoon®)

To install the spouting onto the MT2E external bracket, fit the brackets onto the fascia as previously instructed. Place the length of spouting 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 spouting. Repeat for each bracket. The spouting profile can now slide along the brackets to the final installed position.

### External Brackets (FL2®)

To install the spouting onto the FL2® external bracket, fit the brackets onto the fascia as previously instructed. Place the length of spouting 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 top edge of the spouting. Repeat for each bracket. The spouting profile can now slide along the brackets to the final installed position.

### Fitting Expansion Joiners

Set bracket spacing at 300mm, the Expansion Joiner is to be installed mid distance between these brackets. Solvent Cement the Spouting 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, using the "key to temperature graduation" guide set out below. It is important that the fitting is set in the right position for it to function correctly.

### Key to temperature graduation

Hot: When the temperature of the day is considered to be 10° C above the average temperature.

Average: When the temperature is average; In New Zealand the average temperature condition is considered to be 16 – 18° C.

Cold: When the temperature of the day is considered to be 10°C below the average temperature conditions.

Determine the length of the next piece of spouting. Solvent Cement this length of spouting into the other side of the Expansion Joiner, ensuring the joiner is still set at the correct temperature position.

### Installing Spouting Joiners and Corners.

To join two lengths of spouting together use a Spouting 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 spouting. Fit the spouting into the brackets and install the second length of spouting following the solvent cement procedure.

### Downpipe Installation for Round and Rectangular Downpipe

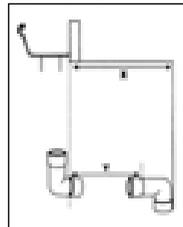
Downpipe should be fitted to Expansion Outlets. Pipe and Elbows should be solvent cemented together except for the top downpipe elbow into the Expansion Outlet. Use stainless steel screws to fix the downpipe clips, so the downpipe can be removed in the future. Vertical downpipes should be fixed to the wall using clips every 1.2m. Note: Marley spouting and downpipes have not been designed for use as a concealed system, for use in wall or ceiling cavities or for buried applications. Instead Stormwater/DWV pipe should be used for these applications. 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 piece of paper, concrete 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 Spouting & Downpipes can be painted to any colour. However, dark colours require additional expansion/contraction allowance. Clean spouting, 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 spouting and downpipes. It is recommended that the ends of gutter in the expansion outlet 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 spouting 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 Spouting and Downpipes are suitable as an external gutter and downpipe system exceeding the requirements of NZBC clause B2.1.3(c), E1 and AS3500.3.3.
- If Marley PVC Spouting Systems are to be used in any application not covered by the current Marley Brochure, written confirmation of suitability should be obtained from Marley.

- 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 Spouting System. Chalking can be removed by periodic washing with warm, soapy water.

Subject to the above product information, if Marley PVC spouting systems are used and installed strictly according to Marley's published installation instructions we guarantee the PVC Spouting System to be free from defects in material and manufacture for a period of 15 years from the date of purchase.

If you consider that our guarantee has not been fulfilled, do not attempt repairs or replacement. Contact Marley New Zealand Limited, Private Bag 802, Manurewa, Auckland with evidence of the product purchase date, Marley will then institute timely inspection of the installation.

If the Marley PVC spouting 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.

This guarantee is given to consumers as defined in and who have the rights under the consumer guarantees Act, 1993.

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**Marley Spouting Systems**  
Installation Instructions for  
Marley Classic™, Stormcloud®,  
FL2® and Typhoon®.

Rainwater  
Solutions

**MARLEY**

## 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, as per FIG A & B. By drawing your roof plan it will enable the length of spouting, number of brackets and other spouting components to be easily estimated. It also enables the number of downpipes required to be established. The Marley Rainwater Quantifying Guide provides details on all system components including product codes to make ordering easier.

FIG A - Gable End Roof

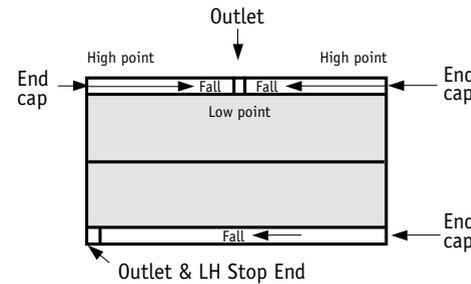


FIG B - Standard Hip Roof

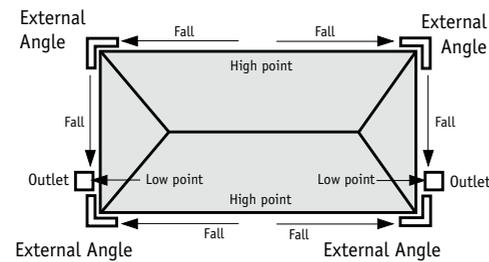


FIG C

The number of downpipes required is based on the roof area and roof pitch FIG C. For example an average 120m<sup>2</sup> house will require 2 RP80 downpipes, based on an average rainfall of 100mm per hour.

ROOF PITCH	RP65/MC16	RP80/MC140
0-25°	1 downpipe per 60m <sup>2</sup>	1 downpipe per 100m <sup>2</sup>
25-35°	1 downpipe per 50m <sup>2</sup>	1 downpipe per 80m <sup>2</sup>
35-45°	1 downpipe per 40m <sup>2</sup>	1 downpipe per 70m <sup>2</sup>
45-55°	1 downpipe per 35m <sup>2</sup>	1 downpipe per 60m <sup>2</sup>

Rectangular downpipes should NOT be used in a horizontal application or where the downpipe is subjected to pressure e.g. wet systems connected to water tanks. Downpipes should NOT be used in wall or ceiling cavities. Care should be taken that all joints are sealed if a round downpipe is being installed horizontally.

### Equipment Required

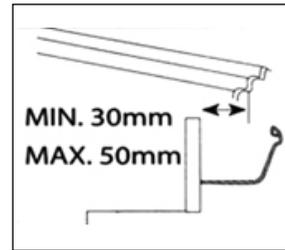
HAMMER, DRILL, SCREWDRIVER	PAINT (FOR FASCIA)
STRINGLINE/CHALKLINE	HACKSAW
BUILDER LEVEL/LINE LEVEL	CLOTH
LADDER/TRESTLES & PLANKS	SQUARERULE
MEASURING TAPE	PAINT BRUSH
PENCIL	MARLEY SOLVENT CEMENT (MCS)
METHYLATED SPIRITS	

### 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 spouting. [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 spouting. If the roof overhang is more than the maximum requirement of 50mm you may consider;

Fig 1



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

#### Solvent Cement Procedure

Only "Marley Solvent Cement" (MCS) should be used when installing Marley Spouting. 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 spouting, 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 Spouting 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 spouting exceeds 12 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 Joiners have 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 12 metres) an Expansion Joiner needs to be installed.

#### 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 spouting end cap or left hand spouting end cap.

Classic™ and Stormcloud® Stopends have been designed to fit the Expansion Outlet and the Spouting Profile. FL2® has separate Stopends for Expansion Outlets and Spouting, and when installing Typhoon® a small length of Spouting will need to be solvent cemented between the Outlet and the Stopend. 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 spouting 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. N.B Gib clouts must NOT be used. The minimum size stainless steel screw is No.6 x 25mm coarse thread countersunk.

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®, Typhoon® and FL2®

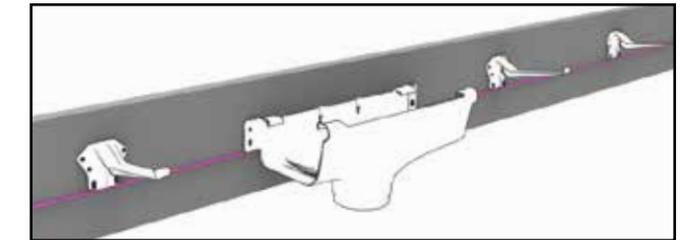
Run the stringline under the bottom of the bracket to the end of the first run, allowing a fall of 5mm for every 10 metres in the run. This now becomes the level to which the remaining brackets and expansion outlet are fitted. Carry this method on for all remaining brackets always working in the direction of the expansion outlet.

If the expansion outlet is located in the middle of a straight run extend the stringline to each end of the run, ensuring that it is kept level, calculate required fall and mark this under the stringline at the outlet position. The low points of the spouting fall become the expansion outlet fixing points.

#### Expansion Outlets

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. Mark the fascia board under the stringline at the downpipe position. Extend this mark using a builder's level 160mm either side of the center line. This is the position for the expansion outlet.

Fig 3



Position outlet so that stringline aligns with feature on side tabs.

NOTE: If an expansion outlet is not included in a straight run exceeding 12 metres, an expansion joiner must be fitted to accommodate thermal expansion/contraction.

#### Determining Spouting Length

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

- For each Spouting Joiner, deduct 3mm irrespective of profile type
- For each side of an Internal Corner, deduct 150 mm for Typhoon®, 142mm for Classic™, 135 mm for Stormcloud® and 141 mm for Flowline.
- For each side of an External Corner, add 25 mm for Typhoon®, 13 mm for Classic™, 10 mm for Stormcloud® and 10 mm for Flowline.
- For each Expansion Joint, determine the required expansion measurement from the Expansion Joiner installation instructions, allowing for this measurement when determining the total spouting length required.
- For each Expansion Outlet, measure from the last installed length to the appropriate temperature marking on the outlet at time of installation.

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