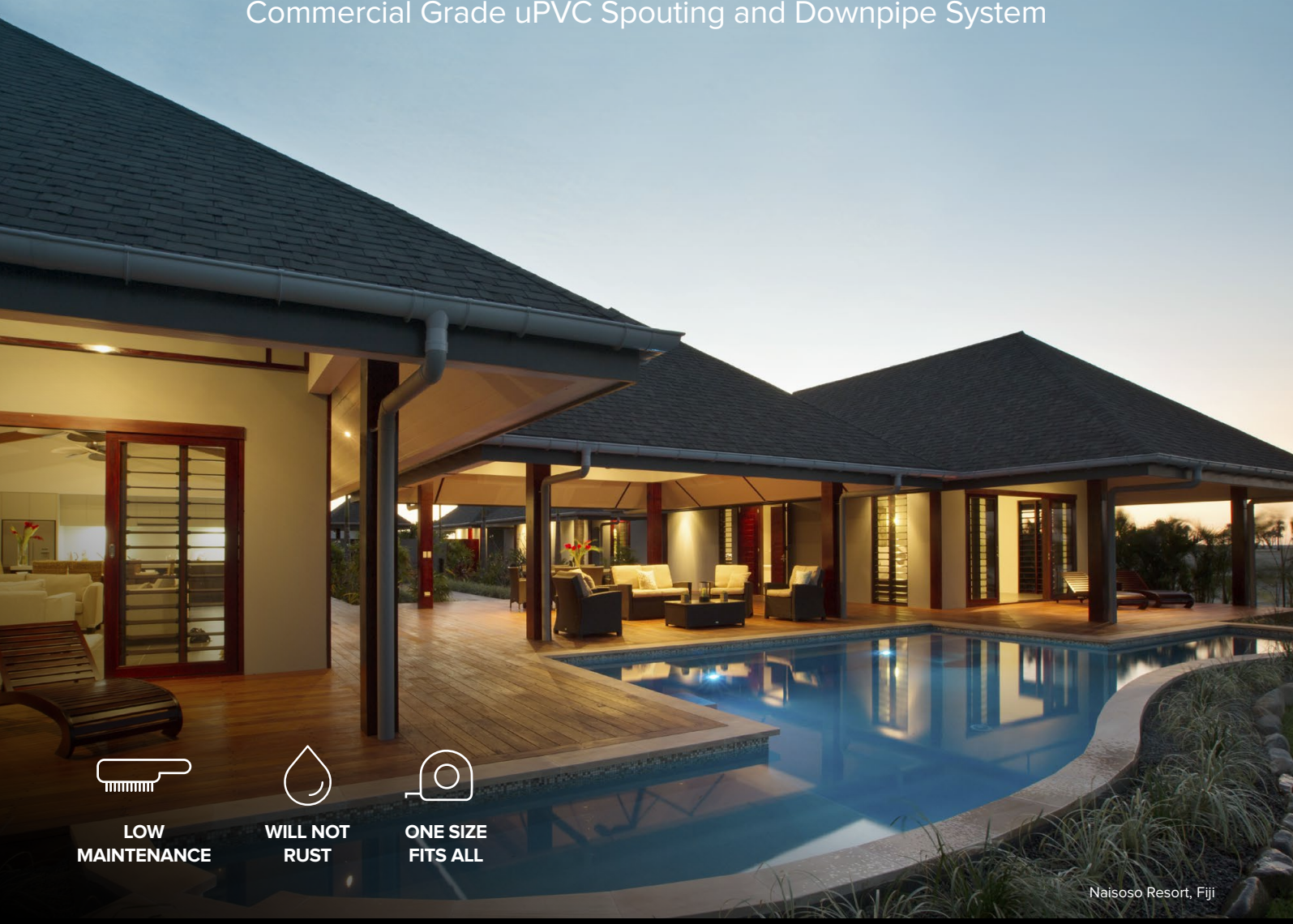
THE BIG *easy*

MARLEY MAGNUM®

Commercial Grade uPVC Spouting and Downpipe System



LOW MAINTENANCE

WILL NOT RUST

ONE SIZE FITS ALL

Naisoso Resort, Fiji

MARLEY by aliaxis

ONE SIZE FITS ALL

Magnum's large half-round profile and 100mm round downpipe gives it both excellent capacity and flow allowing it to be used on a variety of projects. From farm utility buildings to warehouses, sports stadiums, educational facilities, multi-story dwellings, large domestic dwellings, correctional facilities, retirement villages and motels. Specifying Marley Magnum® really is 'one size fits all'.

MARLEY GUARANTEE

Marley New Zealand Limited guarantees the purchaser of Marley spouting or downpipe products against defects in material and manufacture for a period of 15 years from the original date of purchase.

LOW MAINTENANCE

Often used on commercial buildings, its especially important that the spouting and downpipe system is low maintenance to reduce on-going costs. Magnum's durability ensures little maintenance is required and the external bracket system gives unobstructed access when removing any leaf debris from the spouting.

EXTREME CLIMATES

In extreme climates a spouting and downpipe system needs to be impervious to all conditions; resistant to the sun, anti-corrosion and able to handle heavy rainfall. Magnum® caters to all of these requirements with ease – a spouting cross sectional area of over 14,300mm^2 ensures excellent water capture even in heavy rainfall areas and it is made from high quality, UV resistant uPVC that will not corrode.

WILL NOT RUST

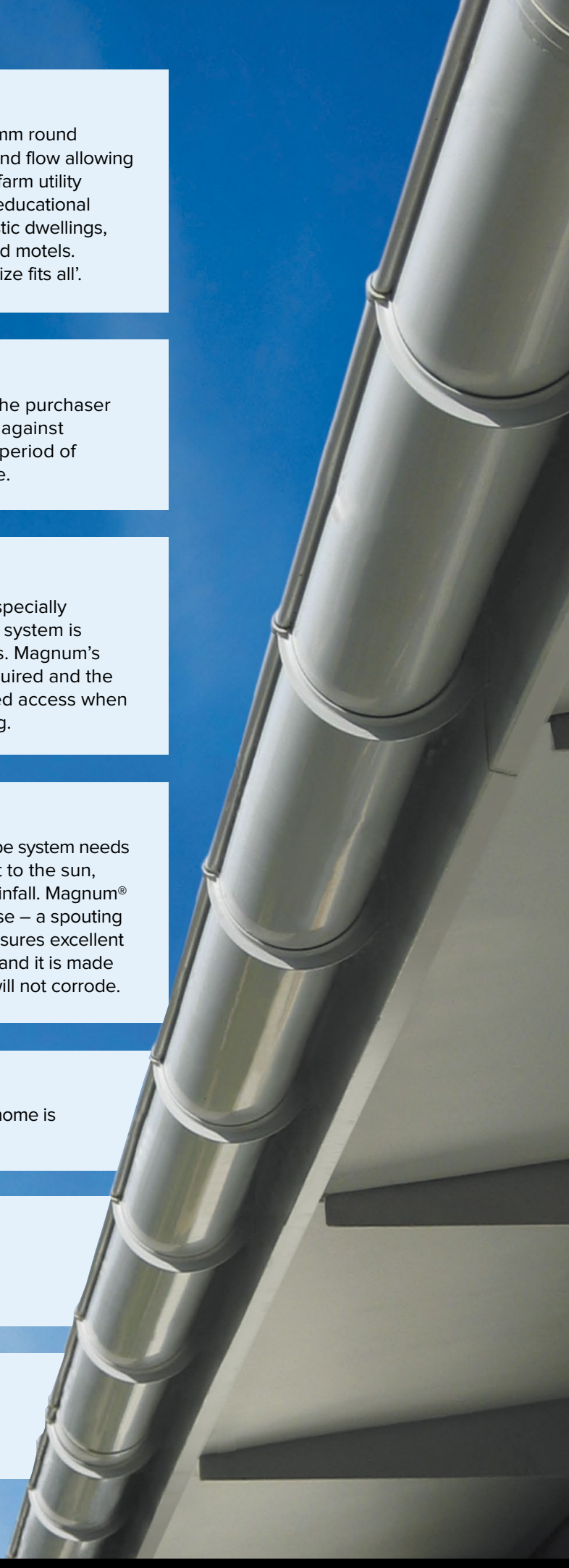
Never rusts, no matter what elements your home is exposed to.

SAFE FOR DRINKING

Complies with AS/NZS 4020, so safe for collecting drinking water.

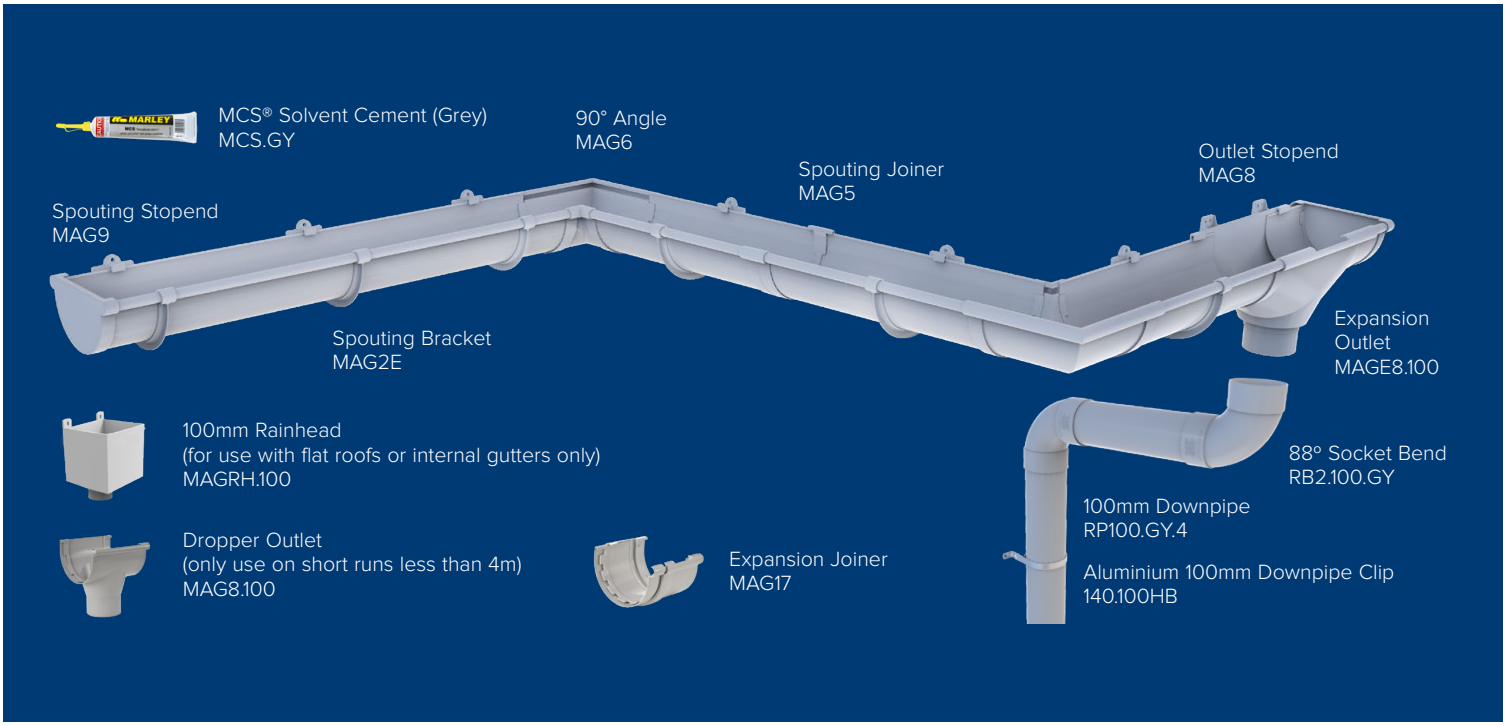
100% RECYCLABLE

Used spouting and downpipes can be returned to Marley for recycling.



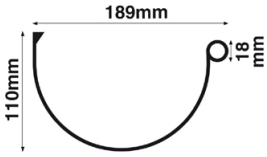
Master Plumbers Recommended

COMPONENTS



TECHNICAL

SPOUTING



Effective Cross Sectional Area: 14,300mm^2

Flow Capacity: 250 litres/minute

Material: uPVC (Unplasticised PVC)

Minimum Recommended Fall: 1:667
i.e. 15mm per 10m of spouting

Bracket System: External brackets. To be spaced at 500mm centres (reduce to 300mm in high wind or snow prone areas).

Bracket Load Resistance: Class H (Heavy Duty to EN1462)

Warranty: 15 years

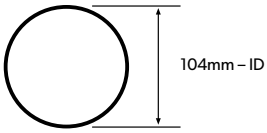
Potable water certified: AS/NZS 4020

Spouting Capacity:

Rainfall Intensity* (mm/hr)	40	50	60	70	80	90
Maximum Catchment Area per downpipe (m^2)	375	300	250	214	188	167
Rainfall Intensity* (mm/hr)	100	110	120	130	140	150
Maximum Catchment Area per downpipe (m^2)	150	136	125	115	107	100

* As per NZBC E1 – Surface Water, Rainfall Intensity equates to a 1 in 10 year storm and varies depending on geographic location. For example, 100mm/hr is a general rule of thumb for the Auckland region however please refer to hirds.niwa.co.nz for current rainfall intensity specific to your location.

DOWNPIPE



Diameter: ID 104mm

Material: uPVC (Unplasticised PVC)

Maximum bracket spacing:
2m - vertical pipes
1.2m - graded pipes

Bracket System: Flush bracket system

Warranty: 15 years

Potable water certified: AS/NZS 4020

Maximum Roof Area per 100mm diameter downpipe*:

Roof Pitch	Roof plane area served per downpipe (m^2)
0° – 25°	155
25° – 35°	130
35° – 45°	110
45° – 55°	90

*Based on average rainfall intensity of 100mm/hr. Table is based on BRANZ Bulletin Issue 509.

INSTALLATION DETAILS

PLANNING & PREPARATION

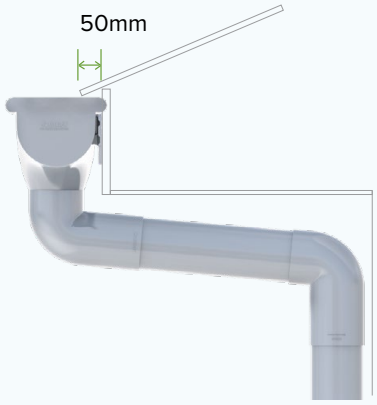
Draw the roof plan to scale, or use existing roof plans if available. A scaled drawing enables spouting lengths, spouting brackets and other required components to be properly estimated. Establish the following:

- downpipe locations
- thermal expansion relief points
- spouting and downpipe lengths required
- fittings required.

Where possible, position the outlet in the middle of each run of spouting to gain maximum efficiency (ensuring they are clear of access ways and windows) so the maximum length of spouting to an outlet is 12 metres. The outlet should be positioned at the lowest point of fall.

It is important to determine which direction the installation will be completed, as components should be solvent welded one after the other working in one direction.

Always start fitting the spouting at a high point, working towards the expansion outlet.



ROOF OVERHANG

The roof overhang should not be less than 50mm to ensure correct roof water discharge into the spouting.

MANAGING THERMAL MOVEMENT

Marley uPVC systems expand and contract at a linear thermal expansion coefficient of 0.7mm /m /10°C. Marley spouting systems allow for the thermal expansion of uPVC using expansion outlets and expansion joiners, creating relief points for expansion during the install.

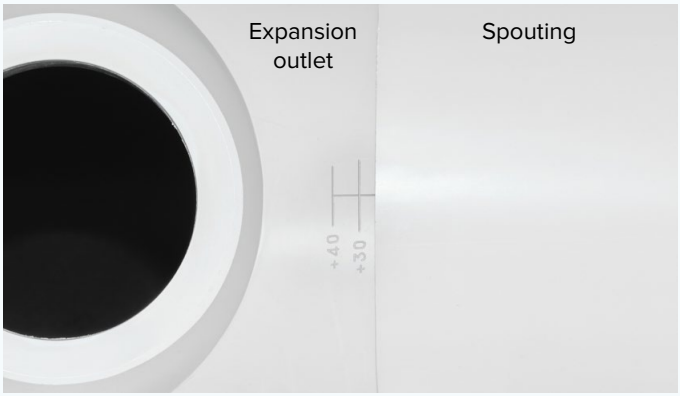
Expansion joiner (MAG17)

Expansion outlet (MAGE8.100)

Expansion Outlet

Where possible an expansion outlet should always be used as the downpipe dropper. The spouting length either side of an expansion outlet should be **cut to the temperature mark at time of install**.

Note the **spouting is not to be glued into the expansion outlet** but left to slide freely.

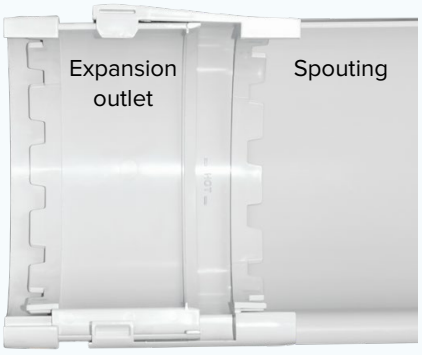


Example: Spouting set at 25°c.

Ngawha Prison, Kaikohe, Northland

Expansion Joiner

Where an expansion joiner is required (see following sections), the run should be measured including the expansion joiner **set at the temperature at time of install**. Spouting is to be glued into each side of the expansion joiner. The expansion joiner has a sliding rubber seal (gasket) which accommodates the movement of the spouting. The rubber gasket inside the MAG17 can be removed for cleaning by unsnapping the front retaining lug of the moulded unit. Lubricate the gasket with silicon grease after cleaning before reassembling.



Example: Joiner set at 25°c (half way between the average and hot marks*). The spouting needs to be glued into either side of the expansion joiner using colour matched Marley MCS solvent cement.

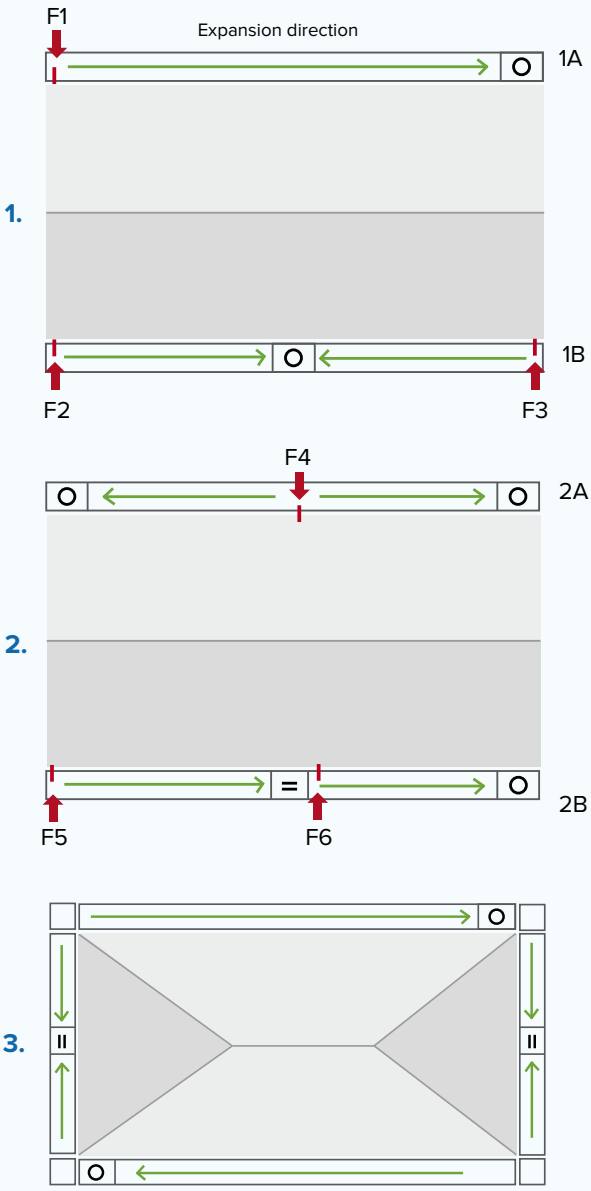
*Average temperature varies by region by season. See niwa.co.nz for details on your location.

Controlling the direction of Thermal Expansion/Contraction

To address thermal expansion, consider each run of spouting separately. Through continued expansion and contraction over a period of time, certain spouting runs which lead from an expansion outlet, may gradually creep in one direction. This may cause it to drop out of the expansion outlet or move too far into the expansion outlet. This can be prevented by screwing the spouting onto the fascia as indicated in the following diagrams.

Fixing spouting to the fascia

These diagrams illustrate where the spouting should be screwed to the fascia to control the direction of expansion, for a number of common scenarios.



1A. For an expansion outlet positioned at one end of a spouting run, the expansion will be directed from the stop end to the expansion outlet.
Fix at location F1 (see following section for further detail).

Maximum run length: 12m

1B. For an expansion outlet positioned in the middle of a spouting run, the expansion will be directed from the stop end to the expansion outlet.
Fix at locations F2 and F3.

Maximum run length: 24m

2A. For a long run of spouting with an expansion outlet at each end of the run, fix the spouting in the middle of the run to direct the expansion towards each outlet.
Fix at location F4.

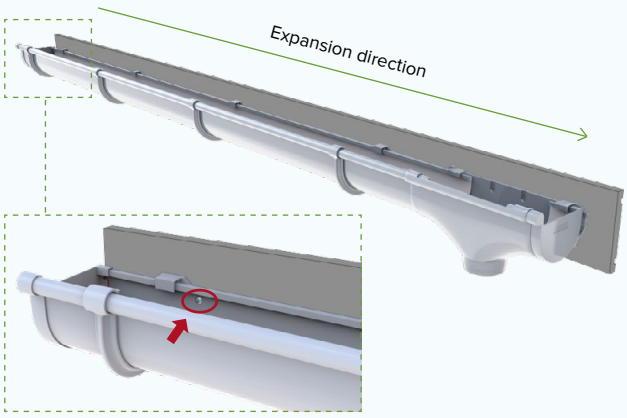
Maximum run length: 24m

2B. For a run of spouting exceeding 12 metres with an expansion outlet at one end, an expansion joiner is also required. The spouting will require fixing on the expansion outlet side of the expansion joiner and at the end of the run.
Fix at locations F5 and F6 (see following section for further detail).

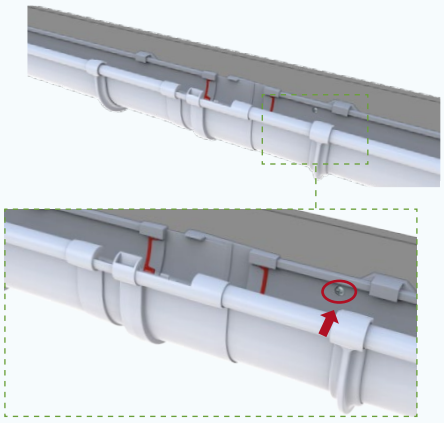
3. For a spouting run exceeding 4 metres between corners without an expansion outlet, an expansion joiner is required. In this instance, the spouting will not require screwing onto the fascia.

KEY: O Outlet
= Expansion Joiner

NB. The maximum run length calculations provided above are based on the maximum temperature variance expected in New Zealand. Actual thermal movement will vary depending on the building location, design and orientation.



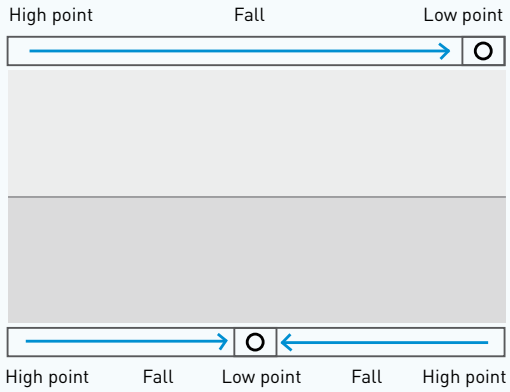
Screw spouting opposite end to expansion outlet **(refer to 1A above)**

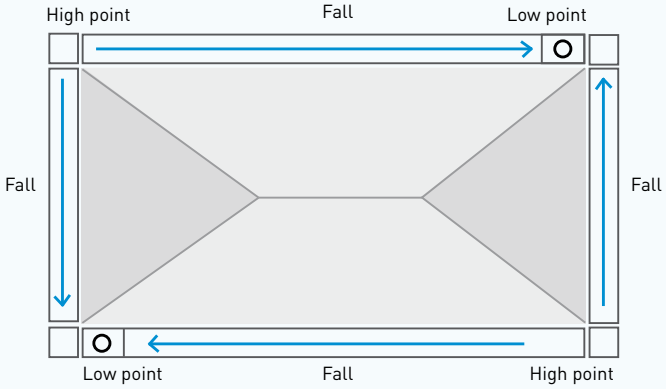


When expansion outlet and expansion joiner are used on the same run, also screw spouting adjacent to expansion joiner **(refer to 2B above)**

WATER FLOW DIRECTION – HIGH POINT TO LOW POINT

First establish the low points of the installation. These are determined by the location of downpipes or storm water outlets and will become the outlet fixing points. Mark the centre of each outlet on the fascia board. High points should be half way between low points or with complex roofs try to establish the high points at the corners.





RECOMMENDED FALL

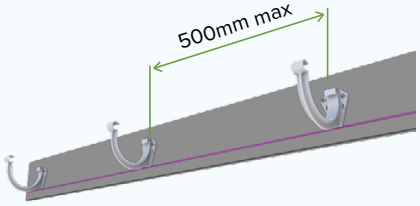
The New Zealand Building Code E1/AS1 stipulates that spouting should always be installed with a fall to the outlet. Marley recommend a minimum fall to the outlet of 15mm per 10m for Magnum®. This will ensure water travels efficiently to the downpipes and ponding is avoided.

Westgate Baptist Church, Auckland

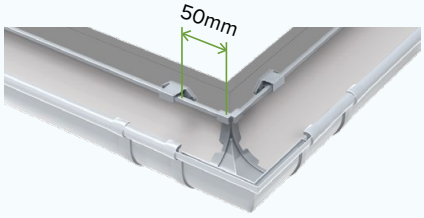
BRACKET POSITIONING

Brackets must be secured to the fascia with a maximum spacing of 500mm. In high wind or snow prone areas reduce spacing to 300mm. Magnum® is NOT recommended for HEAVY snow fall areas unless snow straps are also used.

General: Position the first bracket at the determined high point as high as possible under the roof over-hang. Run the string line under the bottom of the first bracket to the very end of the run, allowing the recommended fall of 15mm per 10m. Repeat this operation for each run always working from high point to low point.

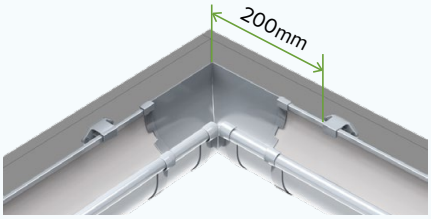


External corner (MAG6): For an external corner allow 50mm clearance from the fascia to the centre of the first bracket.

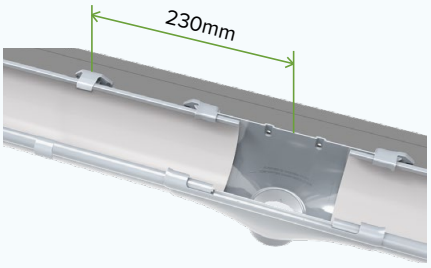


Internal corner (MAG6): For an internal corner allow 200mm clearance.

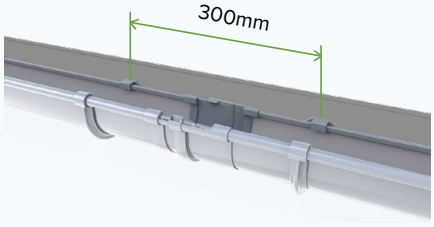
NB. The same MAG6 90° corner can be used as either an internal corner or an external corner.



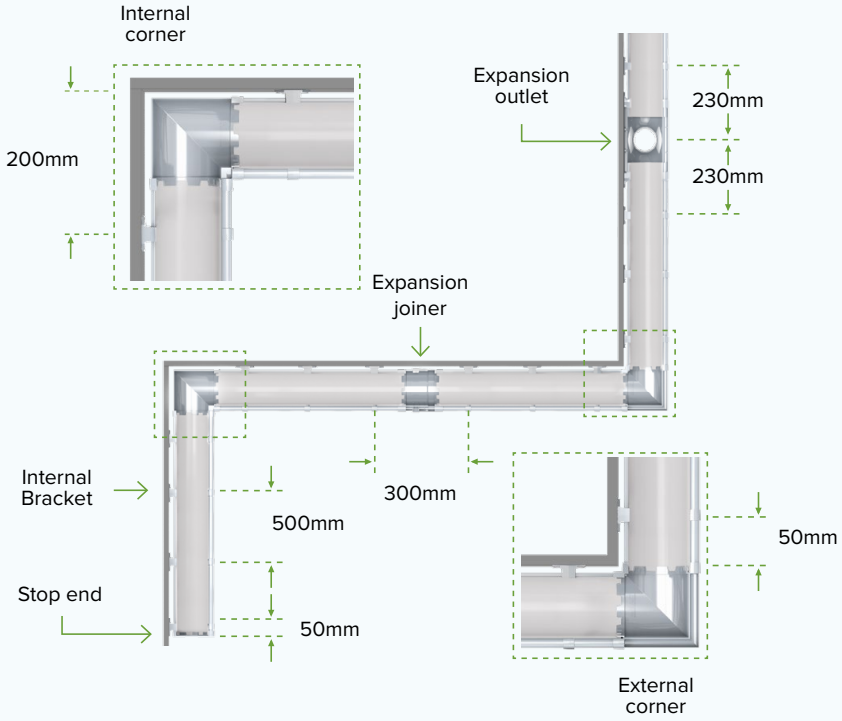
Expansion outlet (MAGE8.100): Position the first bracket 230mm from the centre of the expansion outlet.



Expansion joiner (MAG17): For expansion joiner, allow a spacing of 300mm (about the centre) between the two brackets.



The plan view below is indicative of a typical installation showing recommended bracket spacing for the different spouting components.

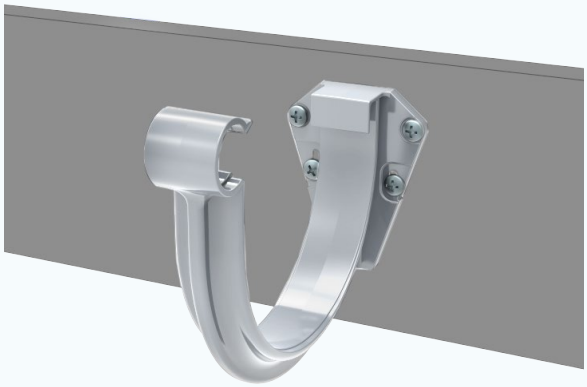


BRACKET FIXING

Use a **minimum of 3 fixings per bracket** including one in each of the two top holes. Use No. 10 stainless steel round head hold fast screws at least 30mm long.

Do not use screws with proud heads like roofing screws. These can jam against the spouting run and stop it from expanding and contracting as required. To ensure the right selection for your project, refer to a specialist fastener manufacturer for advice.

Ensure the brackets are correctly aligned to allow the spouting to freely slide as it expands and contracts.



DOWNPIPES

Fix the first downpipe clip 200mm max from the outlet or where the bend meets the wall. Then fit the next clips at 2 metre spacings for vertical pipes and 1.2 metres for graded horizontal pipes.

CUTTING TIP

Use a square to mark across the top of the gutter and an A4 sheet of paper to mark around the spouting before using a PVC saw or fine tooth hacksaw to cut the spouting. Remove the burrs from the cut edge before solvent welding into position.

A.

B.

C.

SOLVENT WELDING PROCEDURE

Marley spouting and downpipe systems can only be installed using Marley MCS Solvent Cement. This helps ensure ongoing water tightness and mechanical stress resistance. Use of any other solvent cement will invalidate the Marley Rainwater guarantee.

1. Ensure cuts of the spouting profile are straight and clean.

2. The surface areas to be welded must be clean and dry before the solvent is applied.

3. Apply colour matched Marley MCS® solvent welding cement evenly to both surfaces to be joined. (A)

4. Ensure that the spouting has been fully pushed until it stops. (B)

5. Apply a final bead of solvent to fully seal the assembly. (C)

6. Wait 10 minutes before manipulating the assembly.

7. Any surplus solvent on the exterior surface should be removed immediately with a clean cloth.

Matakana Barn, Rodney

Callesen residence, Kinloch

FOLLOW US

Sustainable Manufacturing

Marley is committed to creating environmentally sustainable processes and products and was the first plastics manufacturer in New Zealand to achieve ISO14001 registration. We are also Best Environmental Practice certified for our entire range of manufactured uPVC systems. This means we get our raw materials from sustainable and responsible sources, continuously work on our manufacturing processes to reduce our environmental footprint and accept our products back at the end of their useful life for recycling.

BEST ENVIRONMENTAL PRACTICE

AS/NZS 5395: 2024
LICENSE No 2969

ISO 9001
ISO 14001
BUREAU VERITAS Certification

PROUD SUPPORTERS OF CERTIFIED RENEWABLE ELECTRICITY GENERATION

NZGBC
TE KAUNIHERA HANGANGA TAUTAIAO
Member 2024-2025

MAR6487 March 2025

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