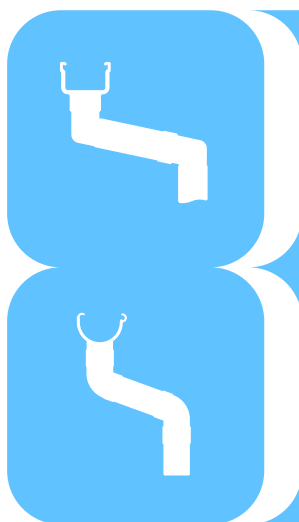


uPVC
Rainwater
Systems



***Streamline
Double-Flo®***

VYNADEEP®

upvc-rainwater-sys_v001

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an ***OAliaxis*** company

“Marley Pipe Systems is one of South Africa’s leading manufacturers and suppliers of Plastic Pipe reticulation systems, meeting the needs of the plumbing, civil, agricultural, industrial and petrochemical industries, primarily in South Africa, but also supplying into Africa, the Indian Ocean Islands, Europe, Australia and America.



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About Standards & Quality

In most modern homes the owners are very aware of the finishes to their buildings, but less aware of what goes on inside the walls, underneath the floors, in fact almost anywhere out of sight. Yet water supply and sanitation are vital components of convenient living.

Standards and the regulating authorities are there to protect consumers; by preparing National Standards - increasingly harmonized with International Standards, by testing products and by certifying products as compliant, ultimately providing assurance of quality and safety.

Marley Pipe Systems have been manufacturing SABS approved products since consumer protection was first mandated in the industry.

“ In keeping with international trends, Marley is a market leader in converting to lead free materials.

Marley's commitment to quality and safety has all pipe and components manufactured in an ISO9001 accredited facility.



Introduction

Marley Rainwater Systems made their first public appearance at the London Ideal Homes Exhibition in 1970 and since then have continued to build a sound reputation based on technical performance, ease of installation and low maintenance.

Marley Streamline Double-Flo® and Marley Vynadeep gutters and downpipes combine functional efficiency with pleasing aesthetics.

- Use the Vynadeep® System for a robust half round gutterline featuring round down pipes. Alternatively, square downpipes and fittings from the Streamline Double-Flo® series can also be used.
- Use the Streamline Double-Flo® System for a clean, uncluttered, square profiled gutterline with concealed brackets. Neat, square downpipes are standard for the Streamline Double-Flo® series. Alternatively, 80mm round downpipes and fittings from the Vynadeep® series can also be used.

Both systems feature the proven elastomer gutter sealing system - allowing watertight joints to be made quickly and outlets with a generous radius for optimum flow.

Features and Benefits



Ease of Installation.

Contractors enjoy the ease with which installations may be undertaken and the increased productivity this offers.

- Easily handled and transported due to low mass and resilience
- Easily cut
- Simplified jointing
- Clean to work with
- No expensive tooling or equipment required



Resilience. The system is resilient and offers high resistance to impact. As a result, site breakages and other failures are minimal.



Certified. Specifiers, engineers, contractors and property owners alike can rest assured in knowing that

the Marley Streamline Double-Flo® and Vynadeep® rainwater systems conform to the relevant South African National Standard and bear the SABS mark. Marley’s commitment to quality and safety has all extrusions and components manufactured in an ISO9001 accredited facility.

Standard	
	SANS 11:2007 (SABS 11)
Unplasticized poly(vinyl chloride) (PVC-U) components for external rainwater systems	



Performance and

Aesthetics. Marley Streamline Double-Flo® and Vynadeep® uPVC rainwater systems are white in colour with a smooth finish. The system offers corrosion resistance (unaffected by

surface scratches) and excellent flow rates. Completed installations are neat in appearance and will offer many years of use under normal operating conditions.

Both of the systems carry a warranty, provided installations conform to Marley's instructions.



Please note that the use of unapproved components in an installation would void the warranty.

Material

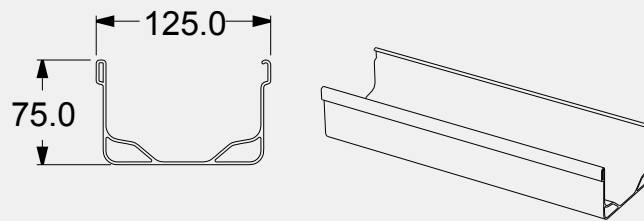
Impact modified unplasticised polyvinyl chloride (uPVC) has been selected for the following features:

- Impact modification and UV stability: The formulation used has been designed for high impact performance and excellent stability against harsh climatic conditions.
- Corrosion resistant: It is unaffected by coastal atmosphere and completely resistant to industrial air pollution.
- Light weight: The product is easily transported and installed.
- Performance: The excellent flow characteristics allow for low maintenance and trouble-free performance.

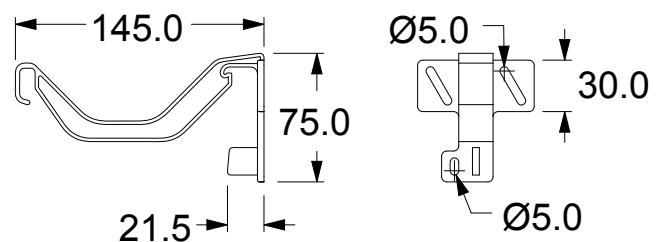
Products

Streamline Double-Flo®

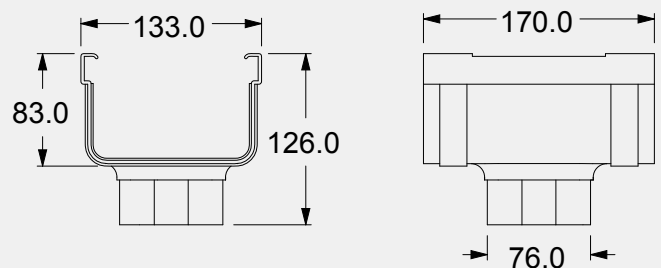
SGH510 3m
SGH515 4,5m
SGH520 6m
Double-Flo
Gutter Extrusion



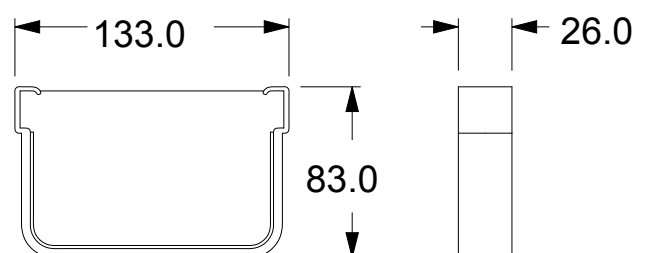
SK501
Double-Flo
Fascia Bracket



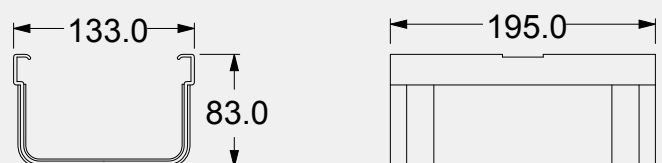
SO503
Double-Flo
Gutter Outlet



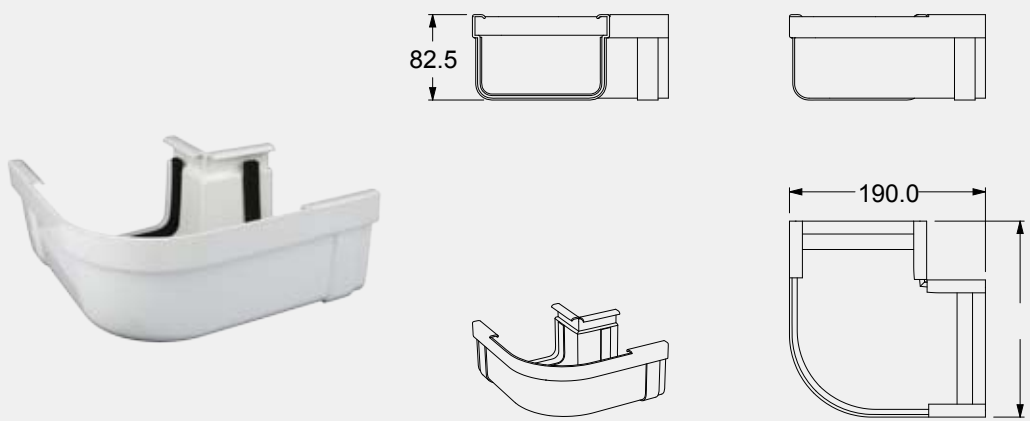
SE501
Double-Flo
Stopend



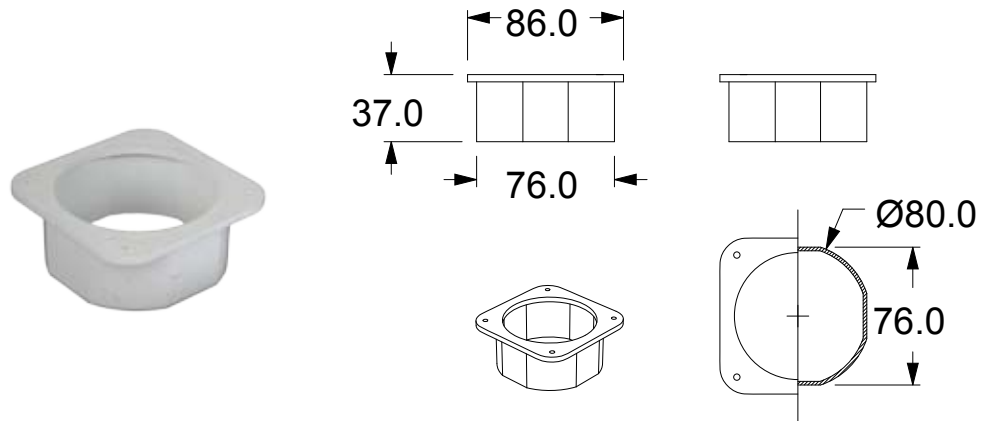
SU50
Double-Flo
Union Clip



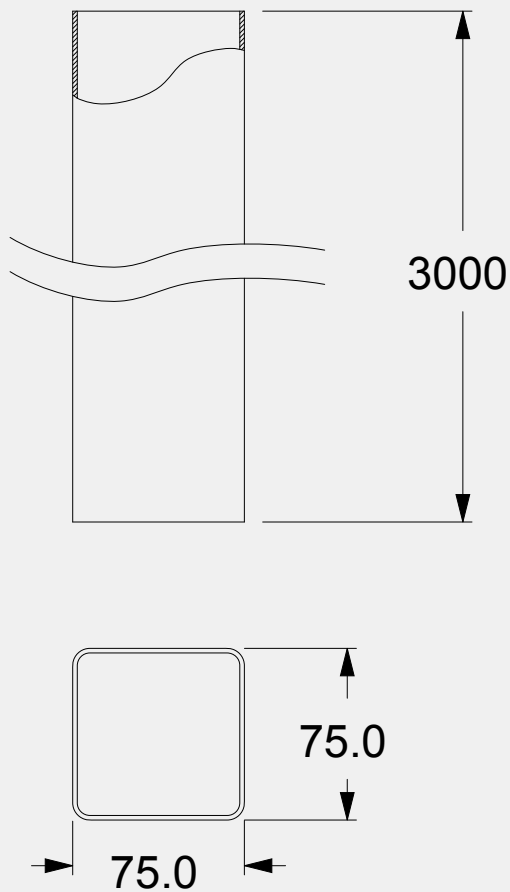
SA504
Double-Flo
Gutter Angle



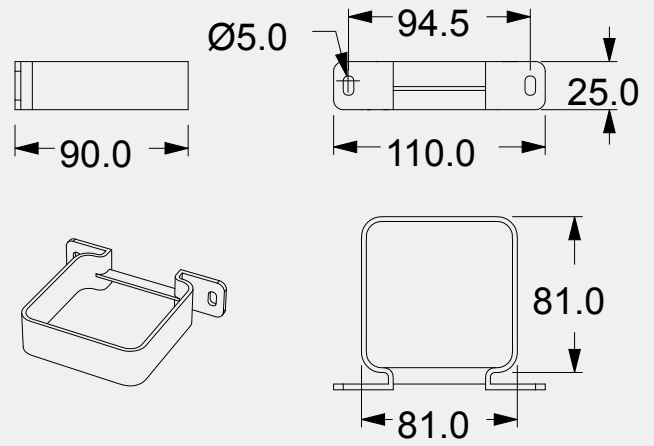
DO500
Downpipe Adaptor



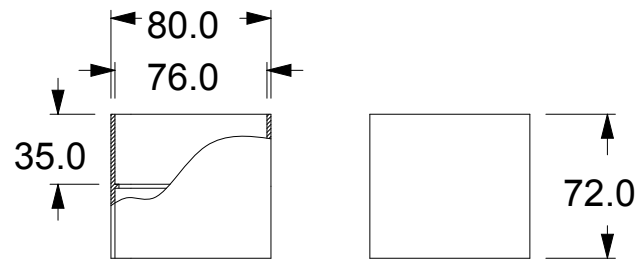
SPH310
Double-Flo
Downpipe Extrusion,
Plain ended,
3 metre



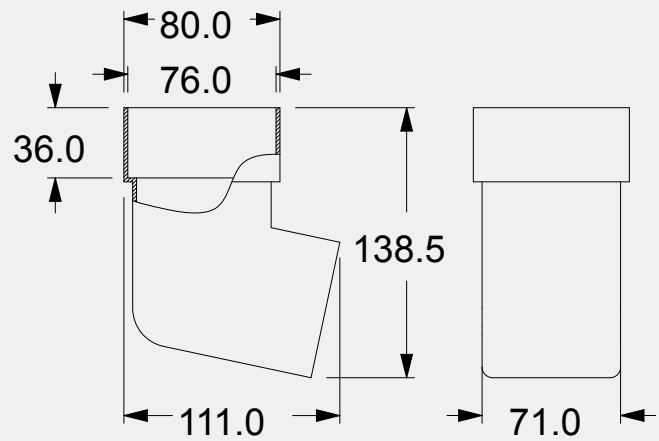
SC302
Square Downpipe
Clip



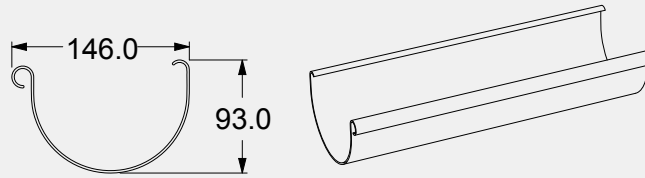
SPS300
Square Downpipe
Socket



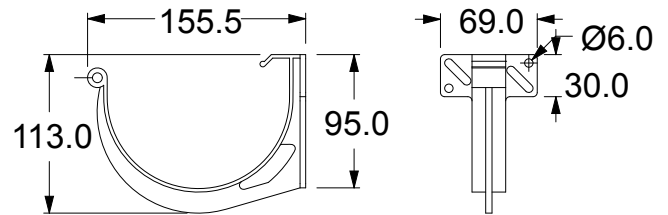
SNE300
Square Downpipe
Bend-Shoe



DCH510 (3m)
DCH515 (4.5m)
DCH520 (6m)
Vynadeep® Gutter
Extrusion

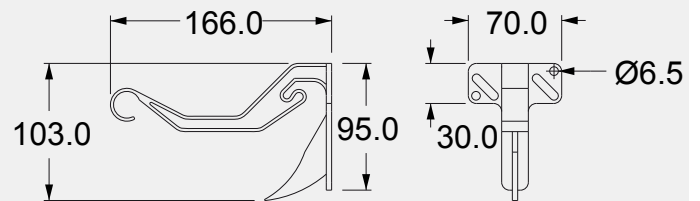


DK501
Fascia Bracket

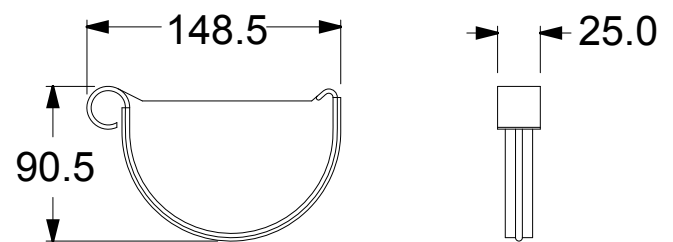


DK502
Fascia Bracket
Top-hung

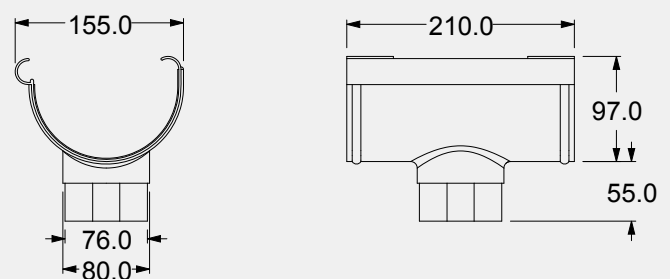
NEW



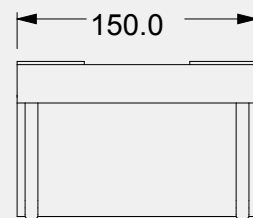
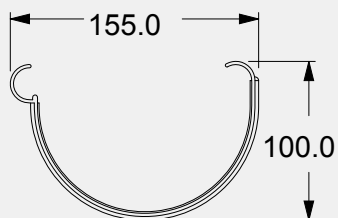
DE501
Stopend



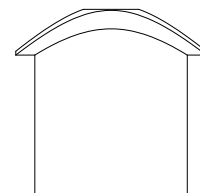
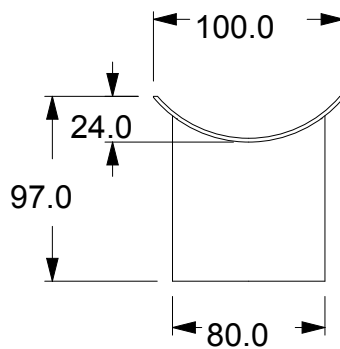
DO503
Outlet



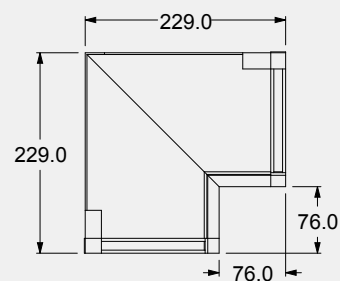
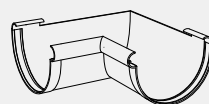
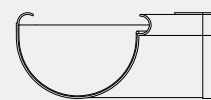
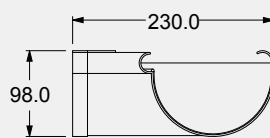
DU50
Union Clip



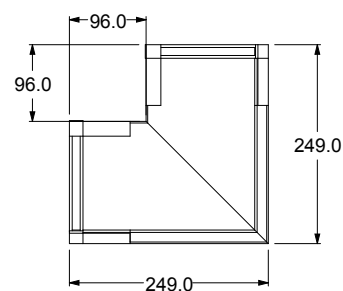
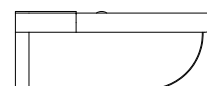
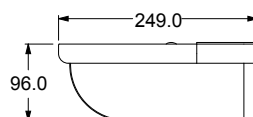
DO505
Downpipe Adaptor



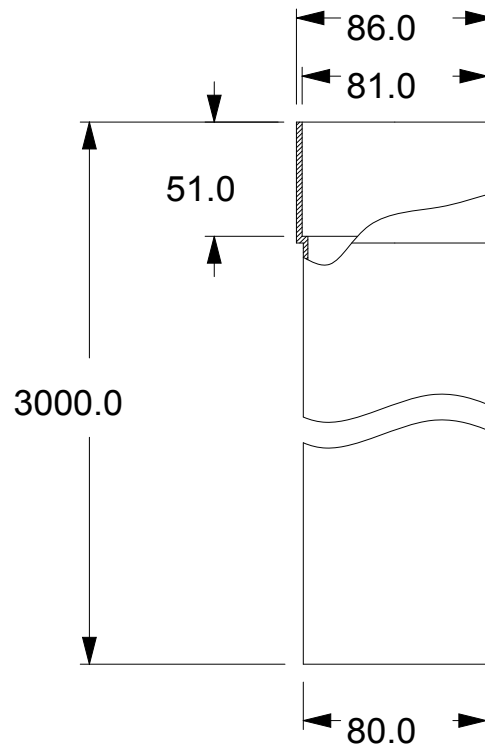
DA503
Internal 90°
Gutter Angle



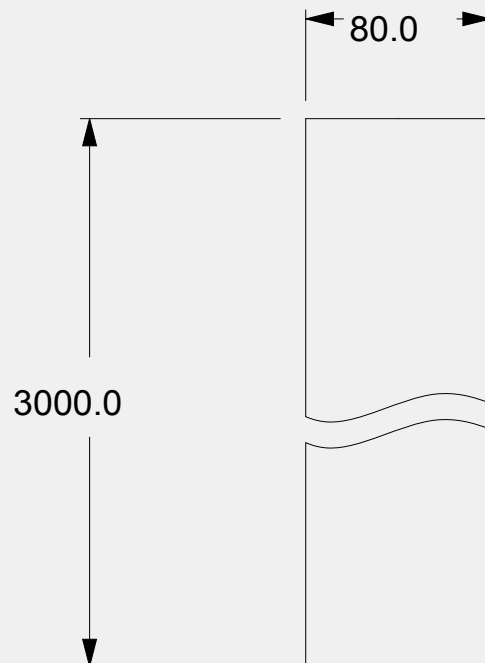
DA504
External 90°
Gutter Angle



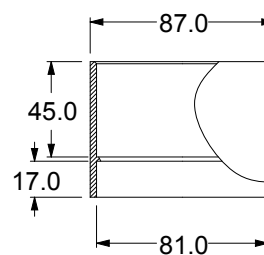
DPH310
Vynadeep®
Downpipe Extrusion,
Socketed, 3 metre



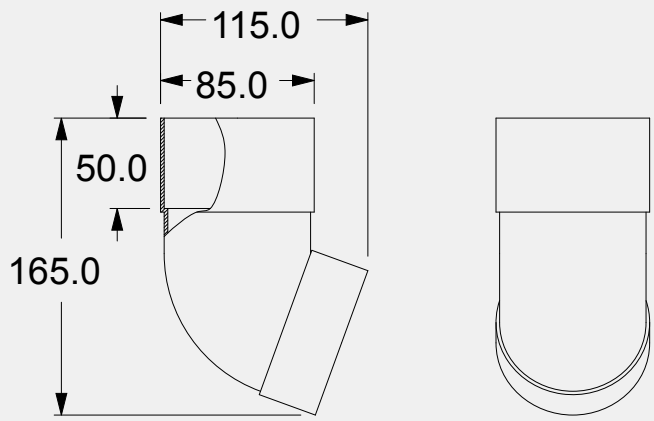
DPHP310
Vynadeep®
Downpipe Extrusion,
Plain ended, 3 metre



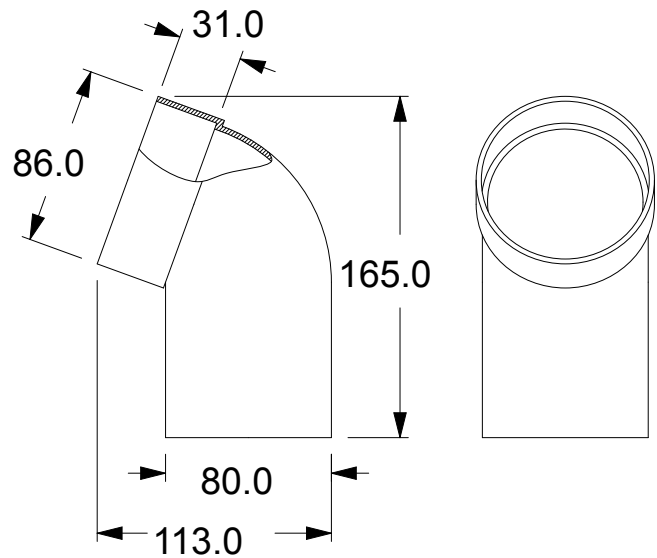
DPS300
Loose Pipe Socket



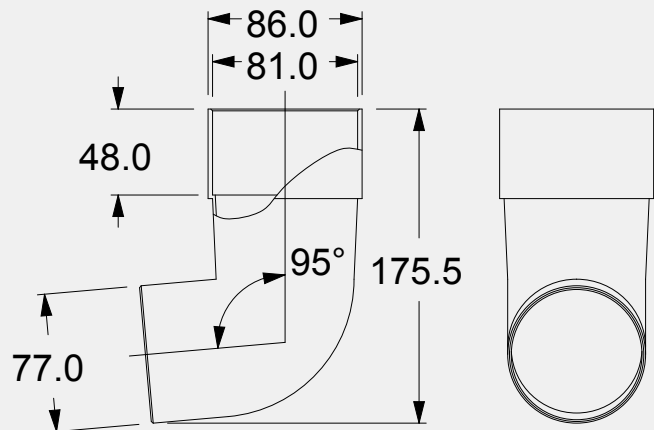
DNE300
Part 1 of pair
Svanneck Ends,
110°



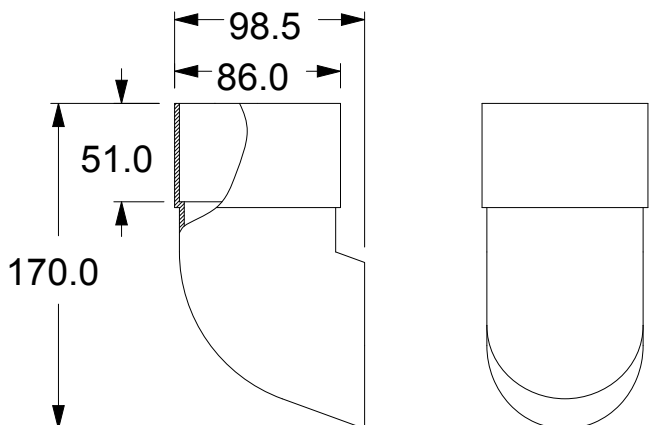
DNE300
Part 2 of pair
Svanneck Ends, 110°



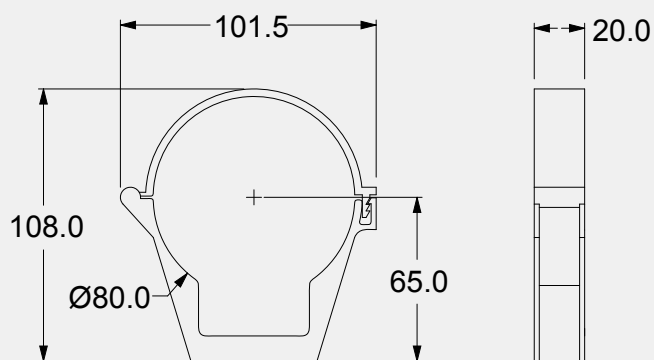
DNB30
Downpipe Bend 95°



DS30
Shoe

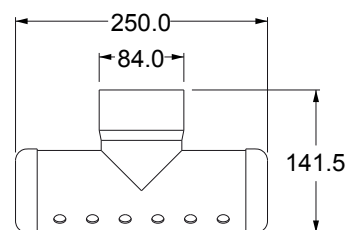
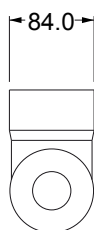


DC302
Pipe Clip



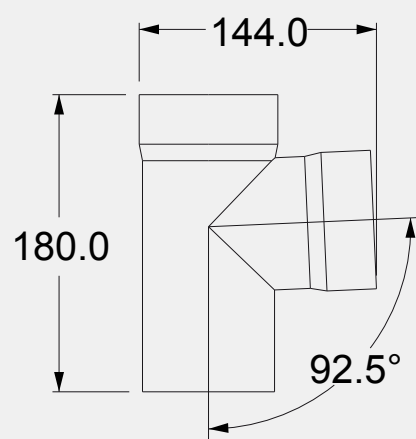
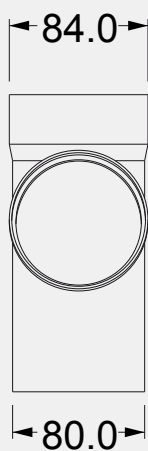
DS301
Spreader

FABRICATED



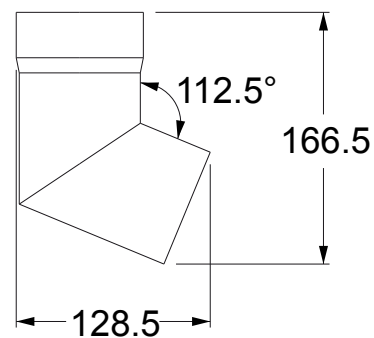
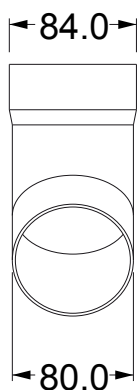
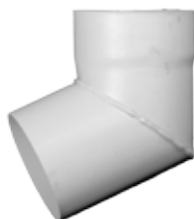
DY301
Pipe Junction 92.5°

FABRICATED



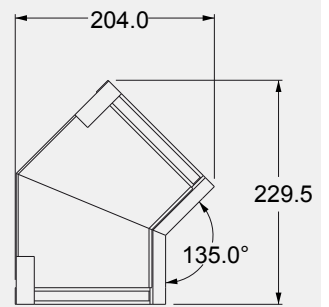
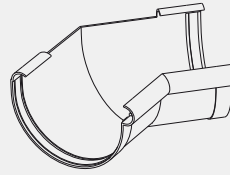
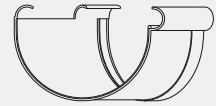
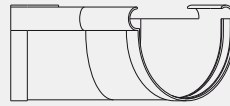
DB302
Pipe Bend 112°

FABRICATED



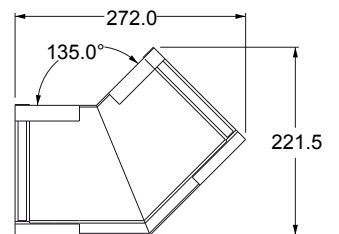
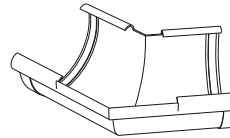
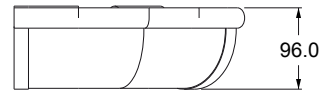
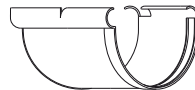
DAX1
Special Gutter Angle
135° Internal,

FABRICATED



DAX2
Special Gutter Angle
135° External,

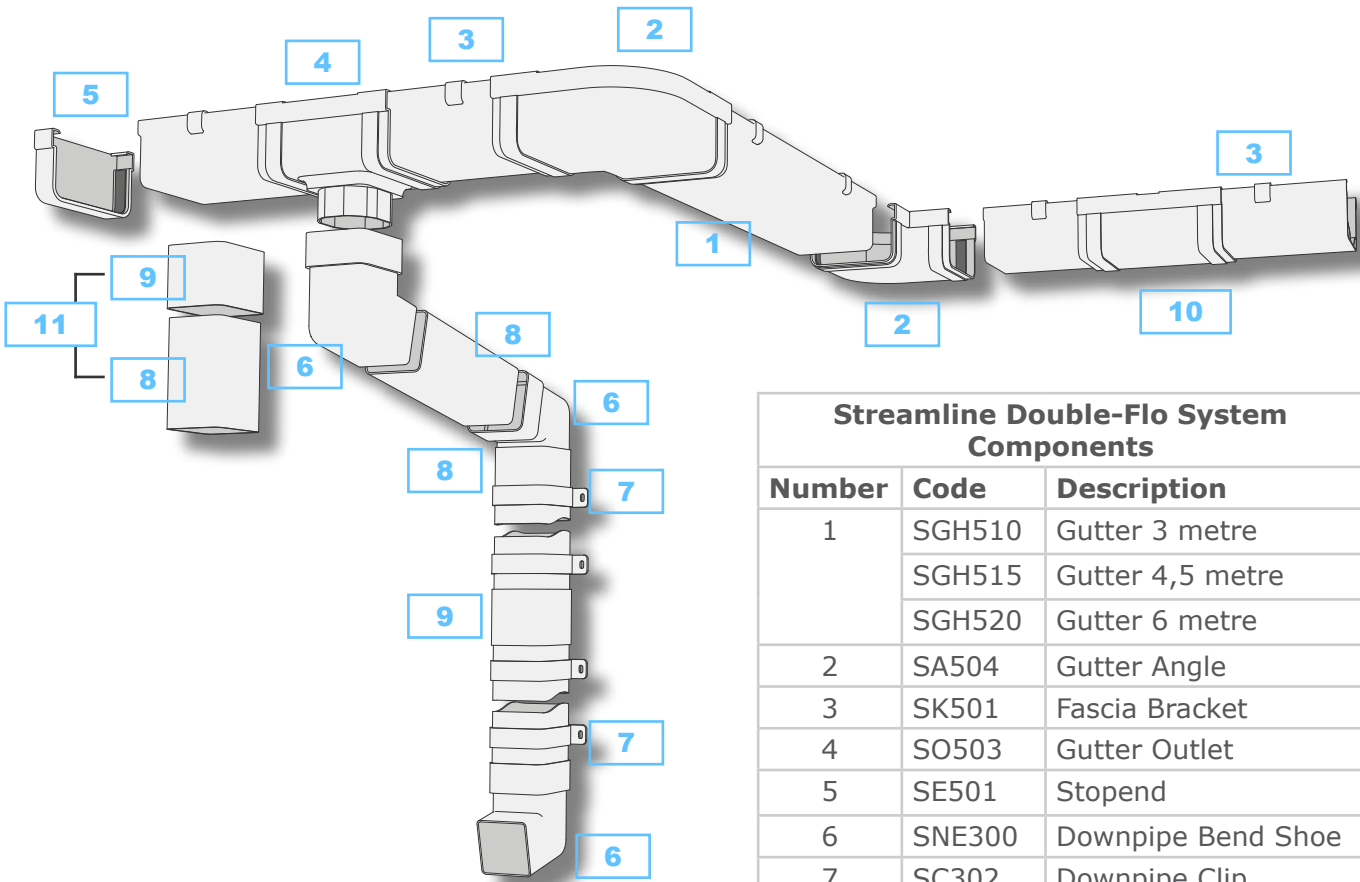
FABRICATED



Special angles may be fabricated to order.

Typical Installation

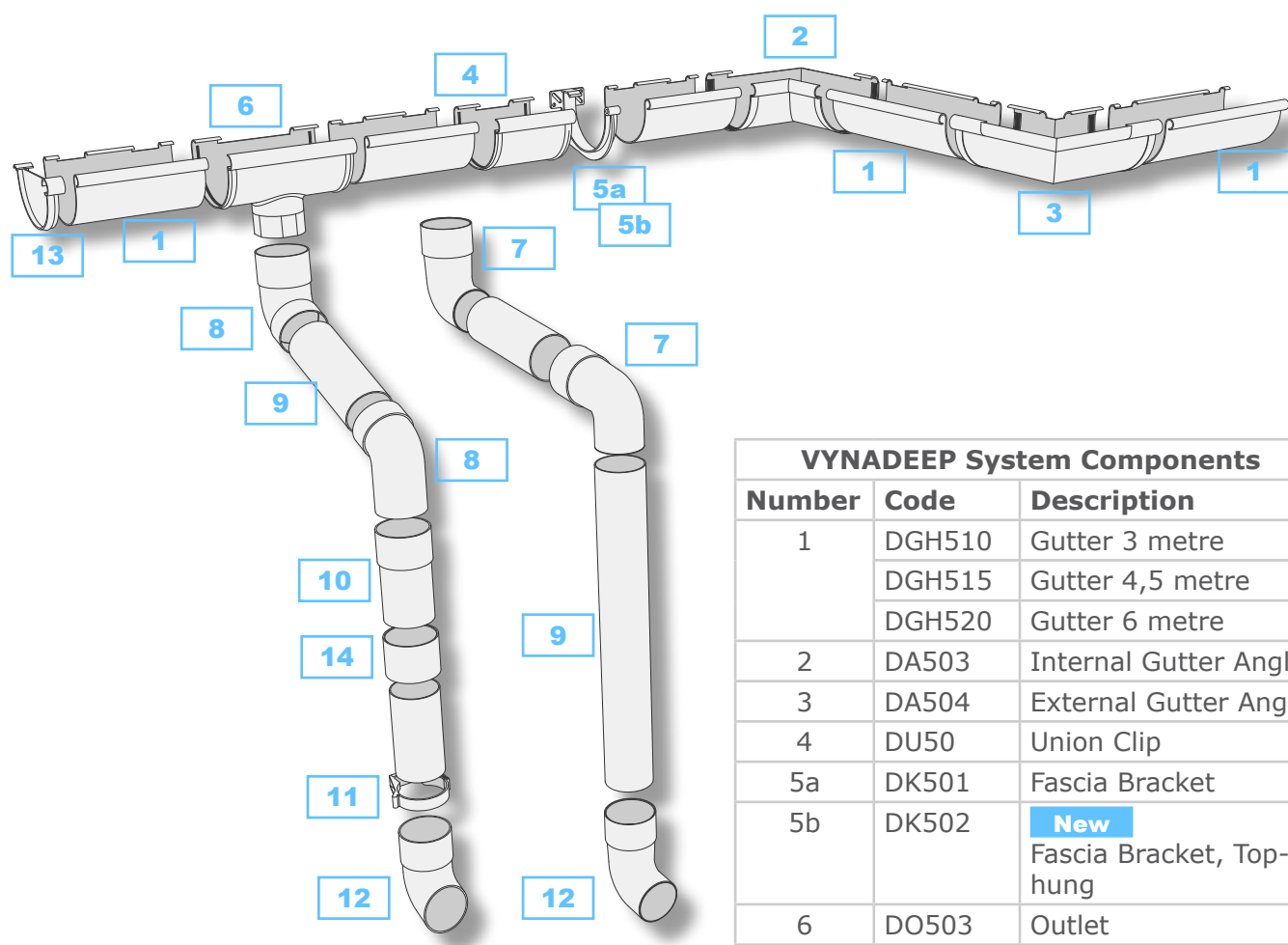
Streamline Double-Flo®



Streamline Double-Flo System Components		
Number	Code	Description
1	SGH510	Gutter 3 metre
	SGH515	Gutter 4,5 metre
	SGH520	Gutter 6 metre
2	SA504	Gutter Angle
3	SK501	Fascia Bracket
4	SO503	Gutter Outlet
5	SE501	Stopend
6	SNE300	Downpipe Bend Shoe
7	SC302	Downpipe Clip
8	SPH310	Downpipe 3 metre
9	SPS300	Downpipe Socket
10	SU50	Union Clip
11	See note below	



Parts 11 are optional to extend the downpipe bend where wide fascia boards are encountered.



VYNADEEP System Components		
Number	Code	Description
1	DGH510	Gutter 3 metre
	DGH515	Gutter 4,5 metre
	DGH520	Gutter 6 metre
2	DA503	Internal Gutter Angle
3	DA504	External Gutter Angle
4	DU50	Union Clip
5a	DK501	Fascia Bracket
5b	DK502	New Fascia Bracket, Top-hung
6	DO503	Outlet
7	DNB30	Downpipe Bend, 95°
8	DNE300	Swan-neck Ends (pair), 110°
9	DPHP310	Plain Pipe
10	DPH310	Socketed Pipe
11	DC302	Pipe Clip
12	DS30	Shoe
13	DE501	Stopend
14	DPS300	Loose Pipe Socket

Installation Instructions

Both of the systems are easily assembled and by following our instructions, a watertight joint is achieved.



Special care is recommended in the correct alignment of gutter brackets to ensure a neat and efficient installation.



uPVC undergoes thermal movement when subjected to changes in temperature. Installations done according to this instruction will compensate for thermal movement.



Please also consult the uPVC Materials Handling & Storage PDF for further guidelines (see Appendix A for all referenced standards, documentation and their availability).

The principle of push-fit assembly is utilised throughout the system. For downpipes, ease of installation is achieved using socket/spigot fittings and plain ended downpipes. Downpipe offsets (swan necks) are solvent welded together to form a unit.

Tools & adhesives required

- Builder's line
- Tape measure
- Spirit level
- Marker
- Fine tooth wood saw and suitable mitre box
- Medium file
- Front end nipper (for Vynadeep®)
- Electric drill, preferably cordless
- 80mm hole saw
- Suitable fasteners for fascias, masonry or other substrates unique to the installation
- Drill bits and fastening tools for the selected fasteners
- Marley Solvent Weld

Step by step guide (Streamline Double-Flo® and Vynadeep® combined)

1. Fix the first gutter bracket (DK501 or DK502) as high as possible at one end of the fascia. Fig. 1.



The new Vynadeep® Top-hung gutter bracket (DK502) allows gutter sections to be clipped in from below, resolving interference from some barge board profiles on gutter ends.

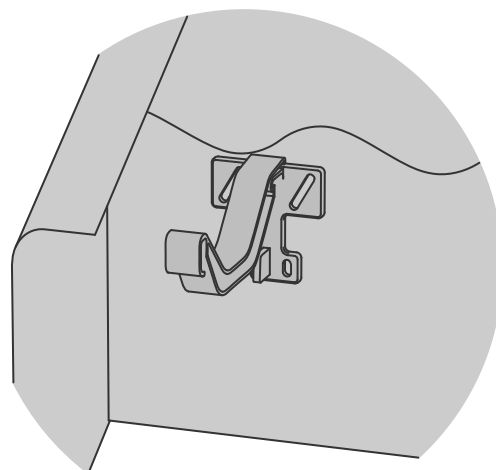


Fig. 1

2. Fit a second bracket at the opposite end of the fascia, using a builder's line and spirit level to ensure correct bracket alignment and an adequate fall to the outlet (1 in 600 fall). Fig. 2.



Gutter sections are joined by means of union clips, corner angles and outlets. Union clips, corner angles and outlets must be supported by gutter brackets, closely fixed on either side of the fitting; not more than 10cm away from the fitting (Fig. 3). There is an exception to this rule for outlets established in the manner described in steps 12 to 14.

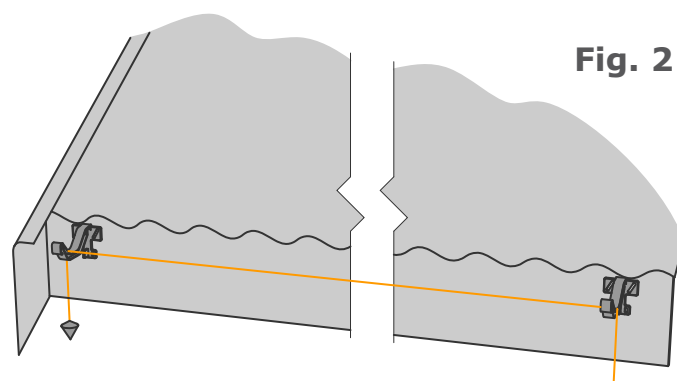


Fig. 2

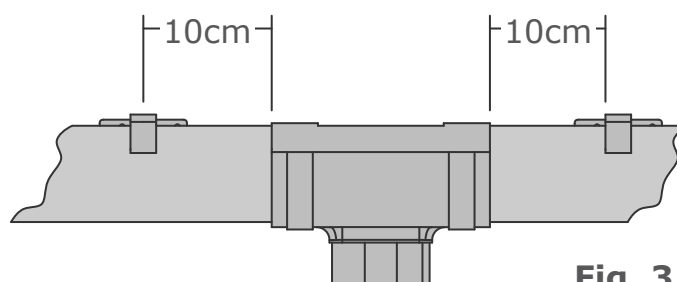


Fig. 3

3. The intermediate gutter brackets are now fitted up to the builders line at centers not exceeding 1 metre. Fig. 4.

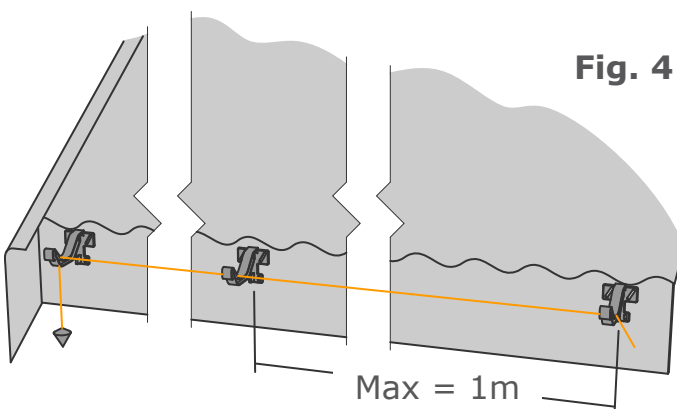


Fig. 4



Gutter sections may be assembled on the ground prior to installation.

The action of clipping the gutter into the fitting (union clips, corner angles, end caps and outlets) compresses the gasket creating a seal. The fittings also accommodate expansion and contraction.

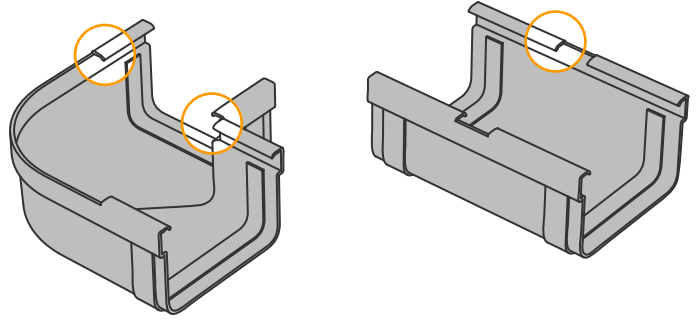


Fig. 5

4. Set out, measure and mark the gutter sections and fittings.

4.1. The tabs on Streamline Double-Flo® fittings indicate the positioning for gutter ends. See encircled areas in Fig. 5. Note that the outlet fitting is best installed over a continuous section of gutter length as described in steps 12 to 14.

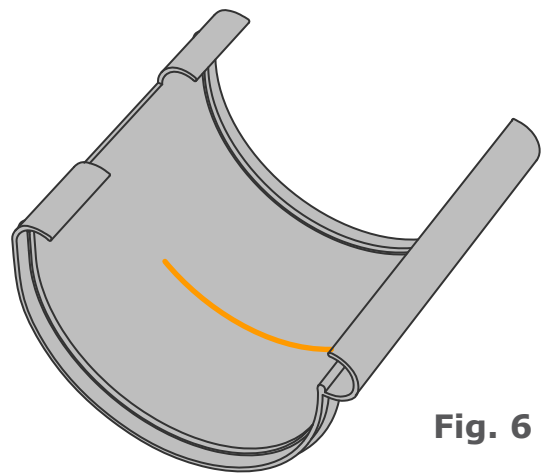


Fig. 6

4.2. On Vynadeep® fittings, gutter ends should stop 5mm short of the moulded marking. Fig. 6. Note that the outlet fitting is best installed over a continuous section of gutter length as described in steps 12 to 14.

5. Cut gutter lengths to size as required using a fine tooth saw and mitre box. Set the gutter, face down in the mitre box when cutting. Clean and de burr all cut ends. Fig. 7.

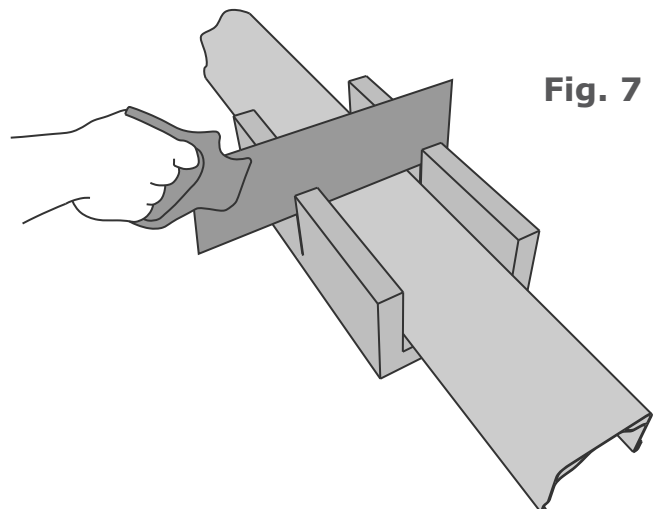


Fig. 7

Steps 6.1 to 6.3 are for the assembly of Streamline Double-Flo® gutter sections. Skip to step 7 for Vynadeep® gutter assembly.

6. Streamline Double-Flo® gutter connections are quick and easy.

6.1. Line the first gutter end up with the fitting tab (Fig. 8) and clip the fitting over the gutter profile from below (Fig. 9).

6.2. Repeat for the second gutter end (Fig. 10).

6.3 Union clips, corner angles, end caps and outlets are all fitted in the same manner.

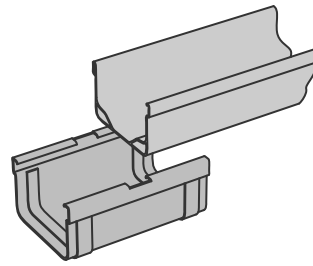


Fig. 8

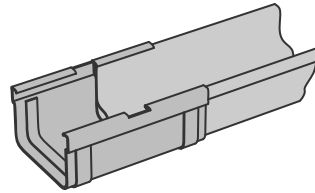


Fig. 9

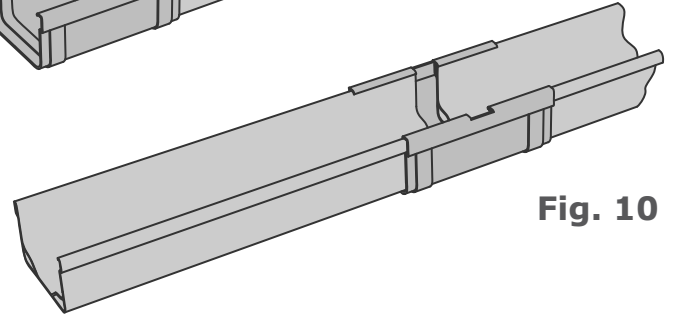


Fig. 10

Steps 7 to 11 are for the assembly of Vynadeep® gutter sections.

7. Vynadeep® gutter sections need to be notched on the ends along the rear facing bead prior to connection. 'Notch jointing' allows the gutter to expand and contract due to temperature change without gutter and fitting pulling apart. Fig 11.

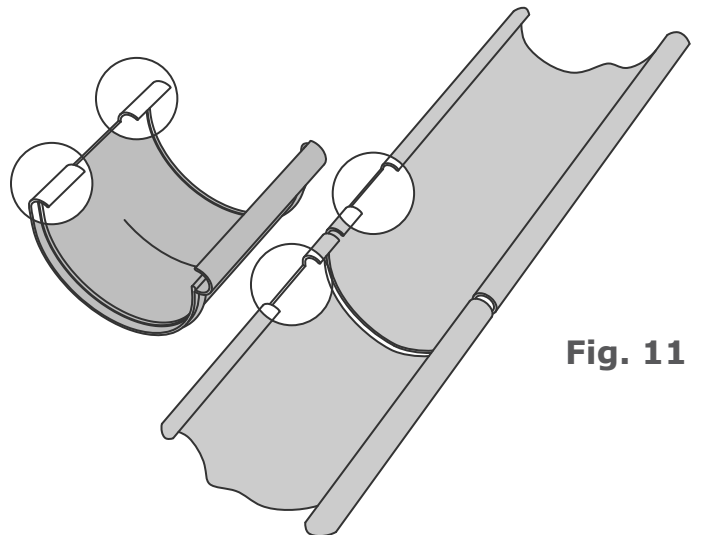


Fig. 11

8. Mark the notch positions on gutter ends as follows (Fig 12):

8.1. Clip the fitting over the gutter section's front facing bead.

8.2. Rotate the fitting into position, stopping just short of clipping over the rear facing bead.

8.3. Take care to align the gutter end and fitting as described in step 4.2.

8.4. Mark the notch positions, adding a 5mm allowance on either

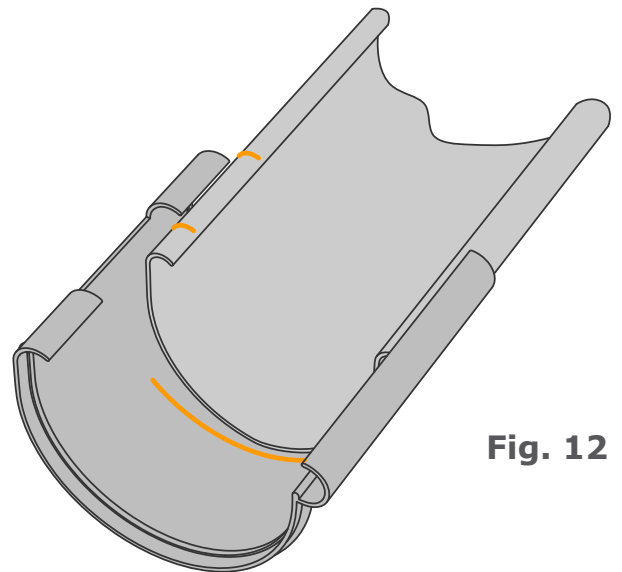


Fig. 12

side of the fitting tab.

8.5. Repeat the process for the adjacent gutter end.

9. Cut the notches as marked using a fine tooth saw (Fig. 13).

9.1. Take care not to exceed the notch depth (Fig. 14) and avoid cutting into the gutter's front facing bead.

9.2. Use a front end nipper to remove the plastic and create the notch. Fig. 15.

9.3. Repeat the process for the adjacent gutter end.

10. Vynadeep® gutter connections are quick and easy.

10.1. Clip the fitting over the gutter section's front facing bead. Fig. 16.

10.2. Rotate the fitting into position, clipping the fitting tab over the rear facing bead into the notched gutter end. Fig. 17.

10.3. Repeat the process for the adjacent gutter end.

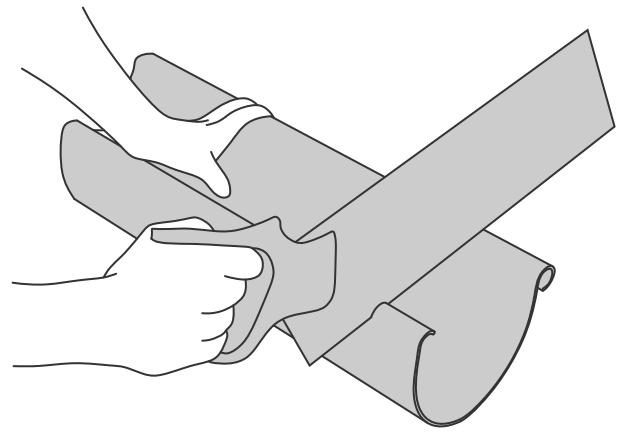


Fig. 13

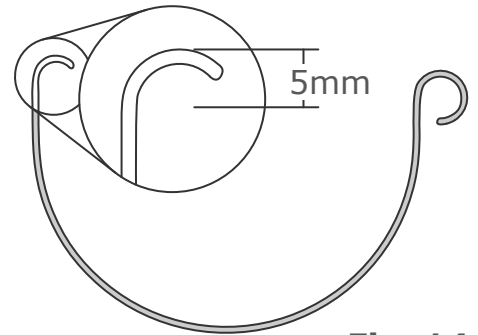


Fig. 14

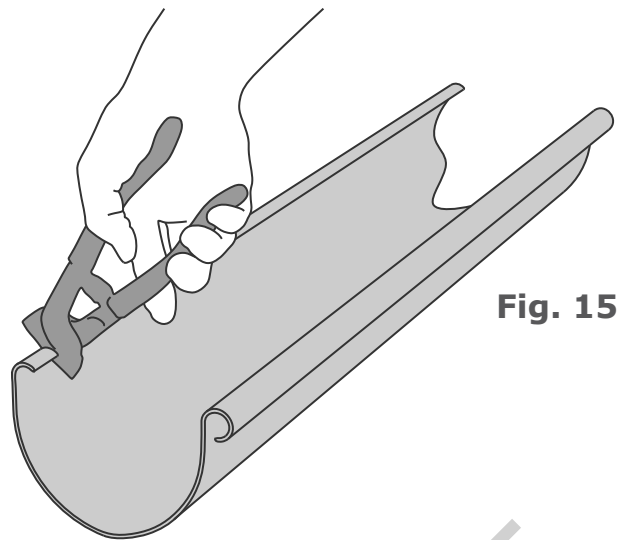


Fig. 15

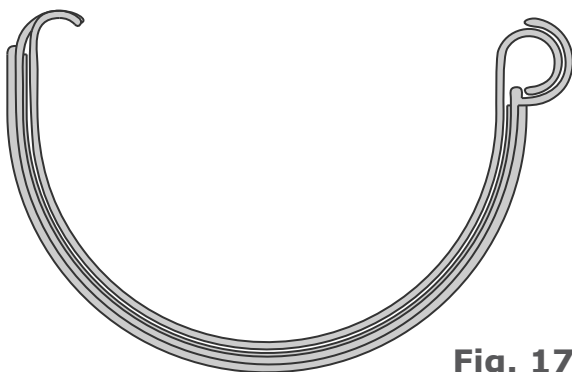


Fig. 17

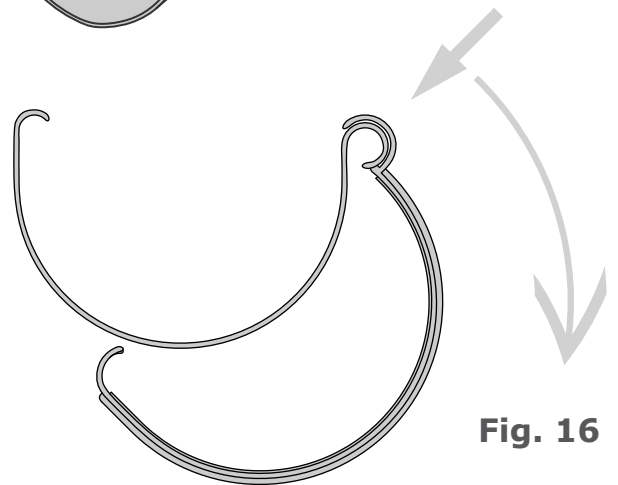


Fig. 16

11. Vynadeep® gutter end caps are quick and easy.

11.1 Hook the end cap over the gutter section's front facing bead, near the gutter end. Fig. 18.

11.2. Rotate the end cap and engage underneath the rear facing bead. Fig 19.

Steps 12 to 14 are applicable to Streamline Double-Flo® and Vynadeep®.

12. Having determined the downpipe position, use the outlet fitting as a template for marking the position of the outlet hole on the gutter. Fig. 20.

13. Use an 80mm hole saw to drill a hole in the base of the gutter as marked. Fig 21.

14. Thereafter snap the outlet into position. This provides a stronger assembly than when the outlet is used as a connection between two cut gutter lengths. Also note that outlets established in this manner do not require gutter brackets on either side provided the 1m bracket span is not exceeded.

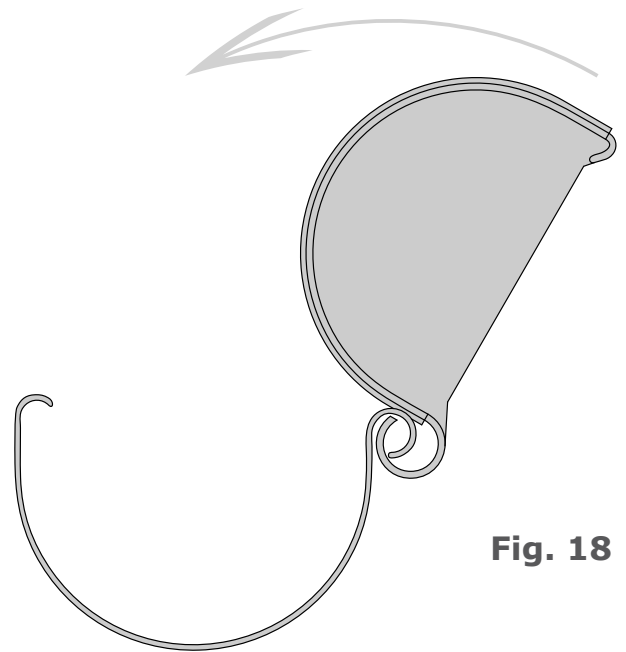


Fig. 18

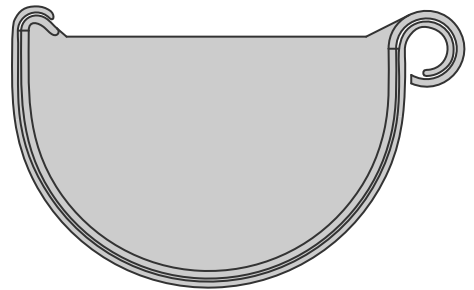


Fig. 19

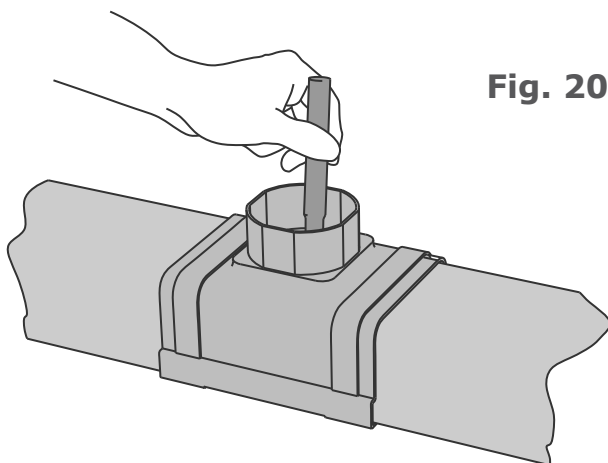


Fig. 20

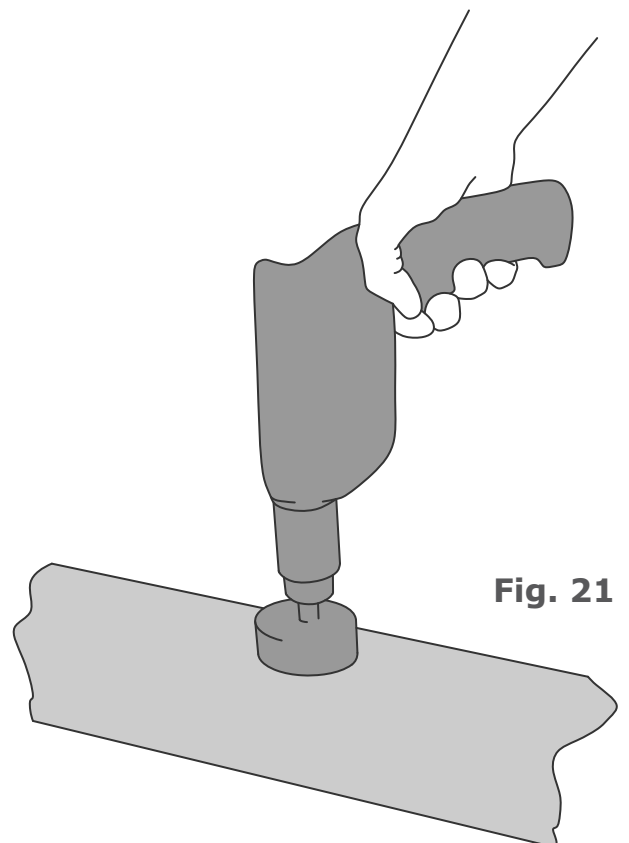


Fig. 21

15. Assembled gutter sections can now be clipped into the brackets.

15.1. Streamline Double-Flo® gutter sections clip into brackets from below. Fig. 22 and Fig. 23.

15.2. Vynadeep® gutter sections clip into brackets (DK501) from the top. Rest the gutter section on the brackets, taking care to position the rear facing bead as illustrated in Fig. 24a. Clip the front facing gutter bead over the brackets (Fig. 24b). You can use a tool to help lever the bead open when clipping into brackets.

15.3 Vynadeep® gutter sections may also be clipped into the new Top-hung bracket (DK502) from below. See Fig. 25a and 25b.

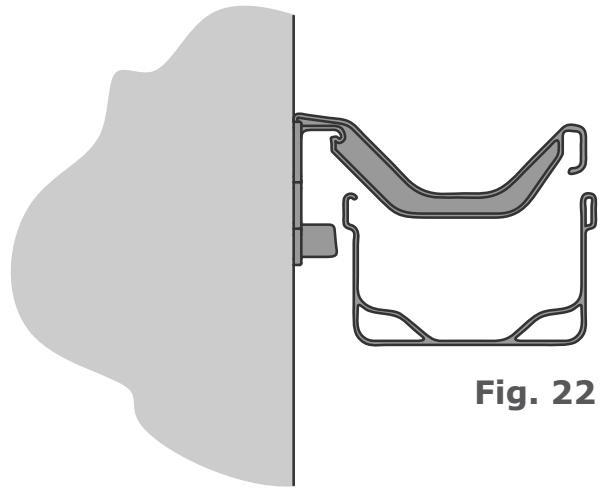


Fig. 22

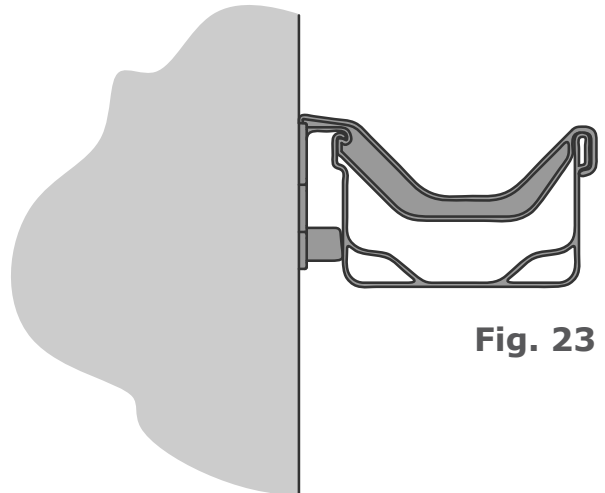


Fig. 23

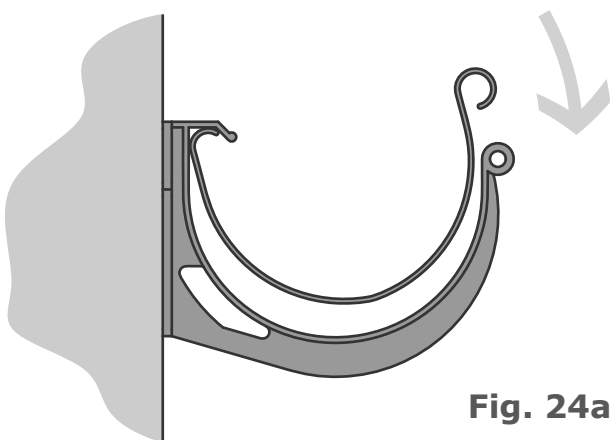


Fig. 24a

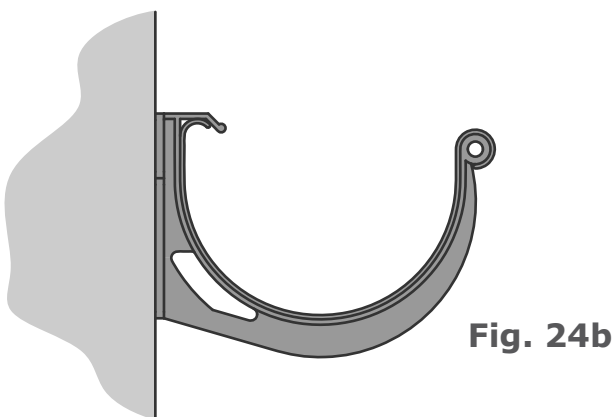


Fig. 24b

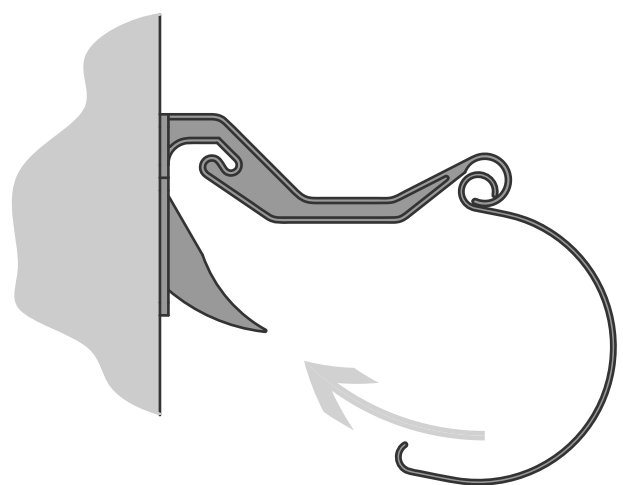


Fig. 25a

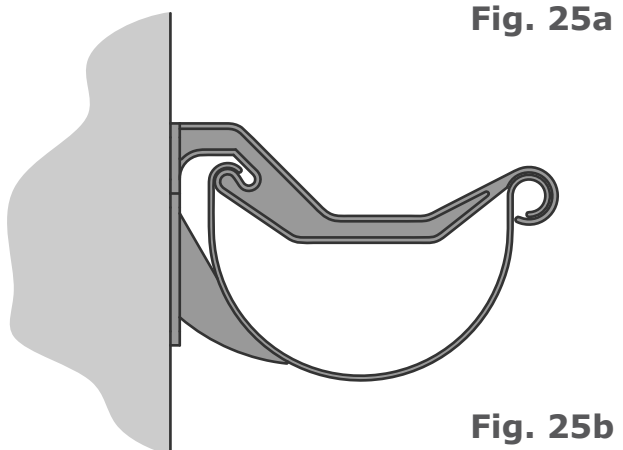


Fig. 25b



Downpipe assembly is done using a socket and spigot type assembly able to overcome many of the problems encountered due to various roof overhangs



Spigot ends on fittings are sized to fit inside plain ended downpipes. Socket ends must always face upstream. Fig. 26.

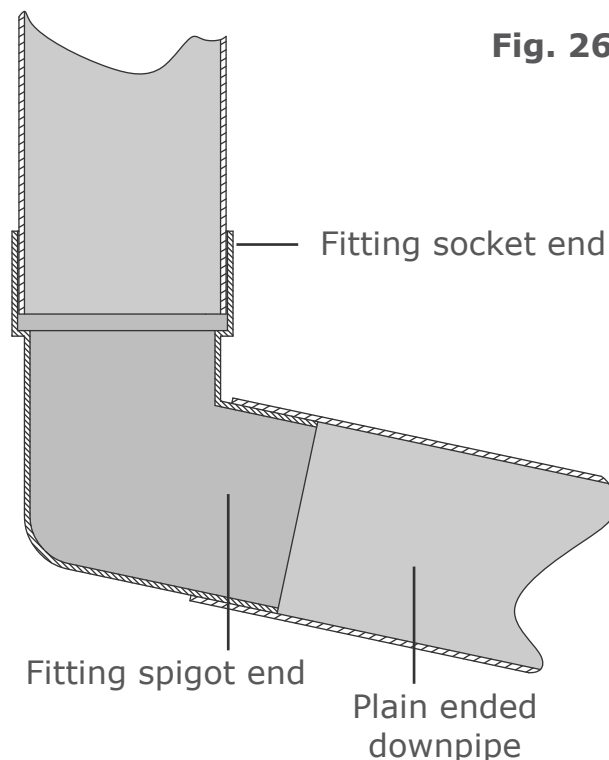


Fig. 26

16. Measure and make up downpipes. See Fig. 27 on page 27 for Streamline Double-Flo® options. See Fig 28 on page 28 for Vynadeep® options.



Cut exposed downpipe ends square and de burr for a neat appearance.

16.1 Offsets (swan necks) may be made from two downpipe bends and a short section of downpipe cut to the required length.

16.2 Carefully plan where downpipes will be secured to the wall, at top and bottom. Additional intermediate clips will be required to support longer downpipes at 2m maximum centres.

17 - Solvent weld the offsets (swan necks) made in 16.



Offsets (swan necks) are the only joints requiring solvent weld.

17.1 Before jointing, spigot ends and fittings should be assembled and checked for position and alignment.

17.2 Use a pencil to mark the insertion depth on spigot ends.

17.3 Disassemble the joint and ensure that all spigot ends and sockets are clean and free from swarf or grit.

17.4 Apply a uniform coat of Marley Solvent Weld to the joint surfaces (outside of the spigot ends up to the insertion depth

mark and inside of the fitting socket) and assemble without delay, taking care to push the spigot end firmly into the fitting to the full insertion depth.

17.6 Remove surplus solvent weld immediately with a clean, dry cloth.

18. Securely fix the downpipe to the wall with a pipe clip at the top, just below the offset. Fig. 27 & Fig. 28.

19. A downpipe bend or shoe is attached to the bottom of the downpipe. Secure the bend or shoe to the wall with a pipe clip, taking care to leave about 5mm clearance between the downpipe's end and the socket's insertion depth. Fig. 27 & Fig. 28.

20. Additional intermediate clips will be required to support longer downpipes at 2m maximum centres. Fig. 27 & Fig. 28.

21. The installation is complete.

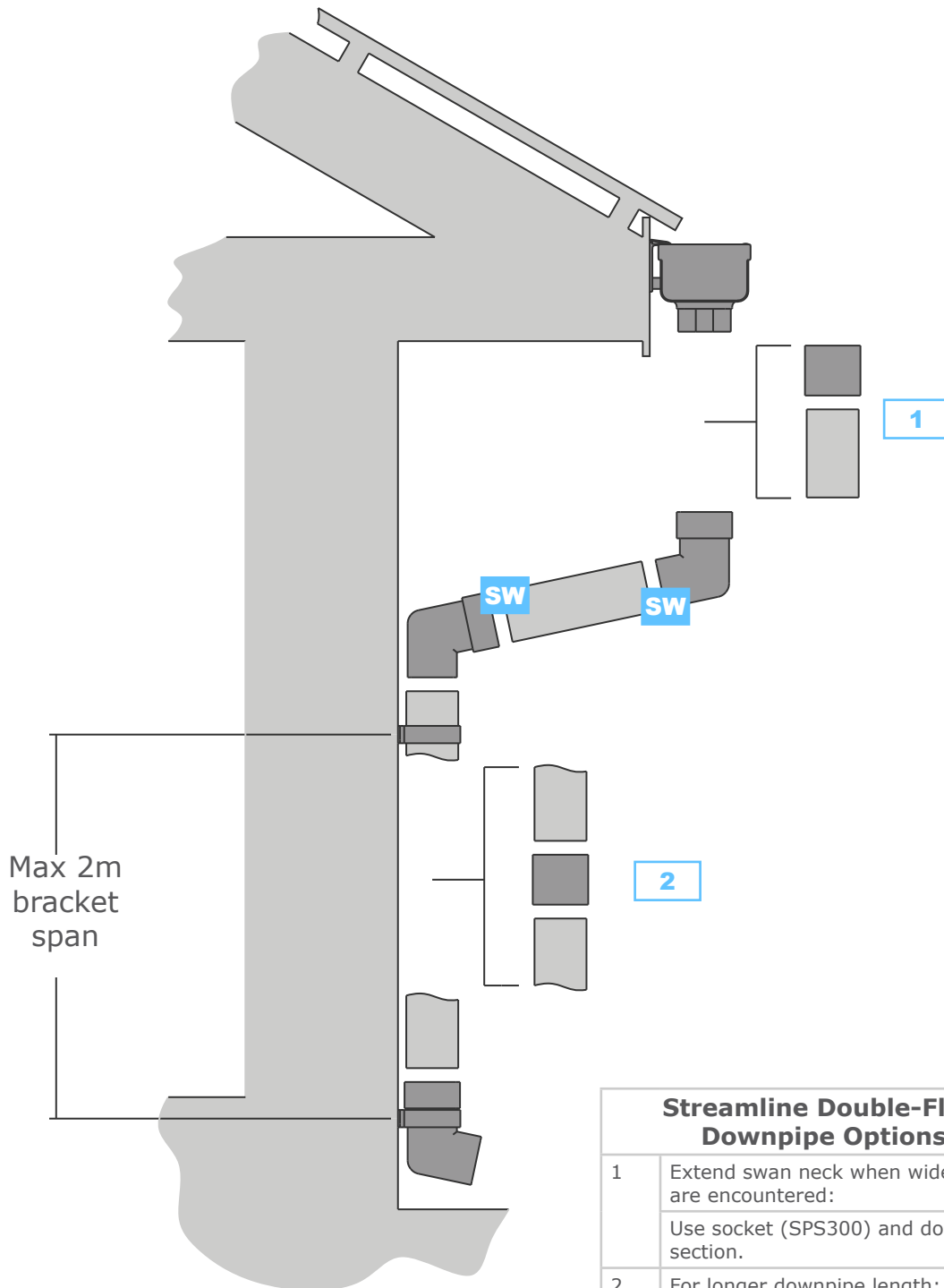


Streamline Double-Flo® gutters can alternatively be installed with 80mm round downpipes from the Marley Vynadeep® range.



Vynadeep® gutters can alternatively be installed with 80mm square downpipes from the Marley Streamline Double-Flo® range

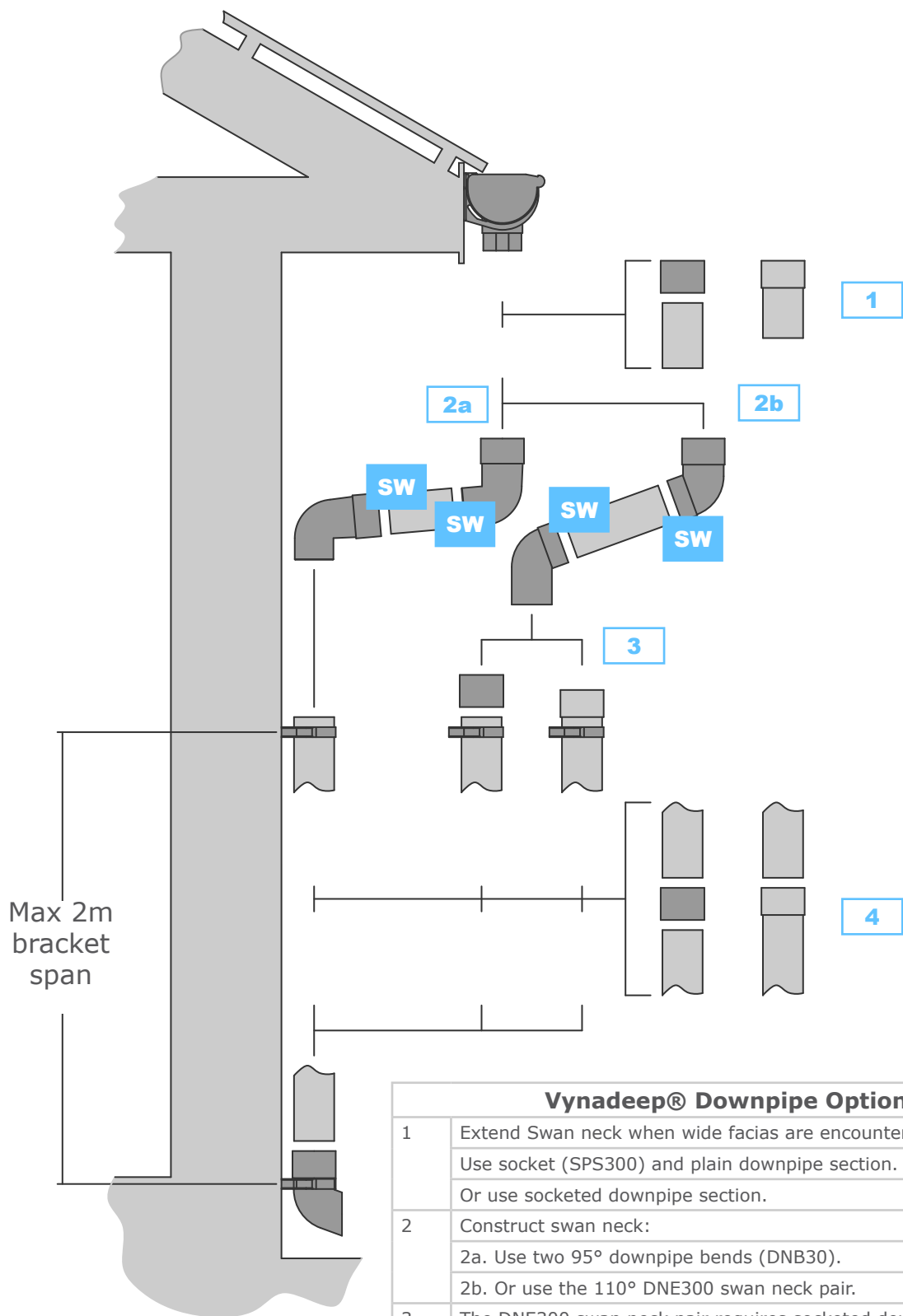
Fig. 27



**Streamline Double-Flo®
Downpipe Options**

1	Extend swan neck when wide facias are encountered: Use socket (SPS300) and downpipe section.
2	For longer downpipe length: Use socket (SPS300) and downpipe.
SW	Solvent weld joints

Fig. 28



Vynadeep® Downpipe Options	
1	Extend Swan neck when wide facias are encountered: Use socket (SPS300) and plain downpipe section. Or use socketed downpipe section.
2	Construct swan neck: 2a. Use two 95° downpipe bends (DNB30). 2b. Or use the 110° DNE300 swan neck pair.
3	The DNE300 swan neck pair requires socketed downpipe: Use socket DE501 and plain ended downpipe. Or use socketed downpipe.
4	For longer downpipe length: Use socket (SPS300) and plain downpipe. Or use socketed downpipe.
SW	Solvent weld joints

Disclaimer

Whilst every care has been taken in the preparation of this instruction manual, neither Marley Pipe Systems nor any of their agencies can be held liable for any errors in this publication. It should also be noted that this manual is intended for reference only. Due consultation is required when designing for particular applications, and no liability will be entertained in this regard.

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Appendix A: Referenced Documents

Document or Standard	Description
Standards	
SANS 967 (SABS 967)	Unplasticized poly(vinyl chloride) (PVC-U) soil, waste and vent pipes and pipe fittings
ISO9001 of 2000	Quality management systems
Marley Documentation	
uPVC Materials Handling & Storage	Generic handling and storage guidelines for uPVC extrusions, fittings and accessories.

The SABS standards library may be contacted for the purchase of SANS (South African National Standards) and other standards.

Visit their website at www.sabs.co.za or contact the head office on 012 428 7911 in Pretoria for your nearest branch.

Marley documentation may be downloaded from www.marleypipesystems.co.za in Adobe® PDF® format.