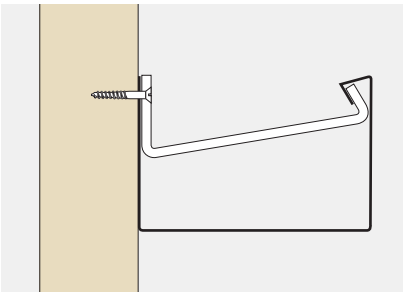
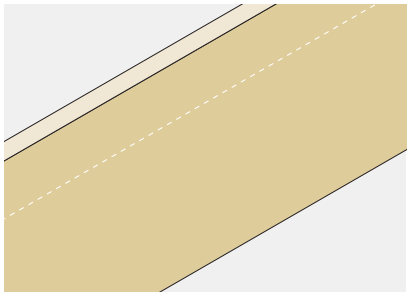
Installation – GX Joggle Gutter

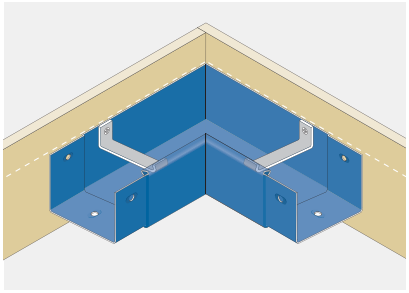
GX Joggle gutters are a press formed eaves drainage system with sharply defined box profile. Gutters are supported by internal top straps and directly fixed to the fascia board. The Joggle method of gutter jointing uses an integral internal union or formed spigot which is wet sealed using silicone sealant.



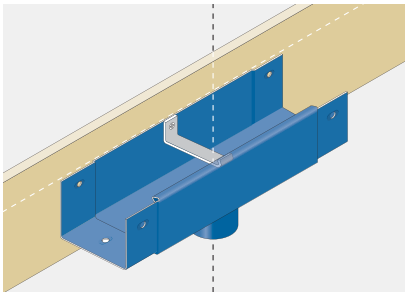
GX Joggle fixes to fascia using a heavy gauge top strap.



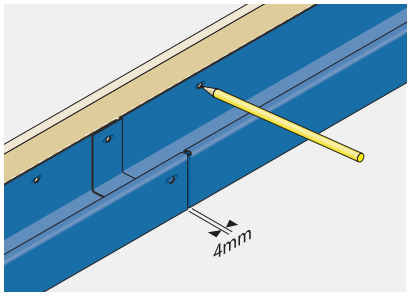
1. Use a string line or laser to set out gutter lines. (GX Joggle must be laid level).



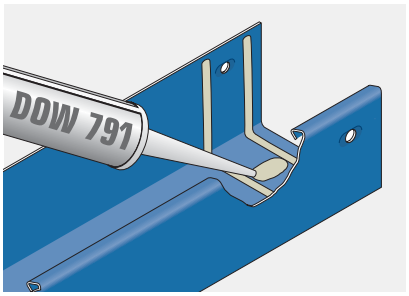
2. Position angles, mark fixing positions and pilot 3.5mm diameter holes, fit top strap and loosely fix using No12 x 38mm roundhead screws.



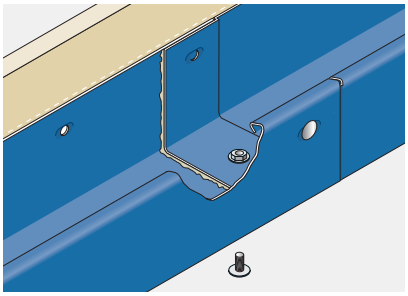
3. Plumb line outlet position with gullies at ground level, pilot 3.5mm diameter holes, fit top strap and loosely fix using No12 x 38mm roundhead screws.



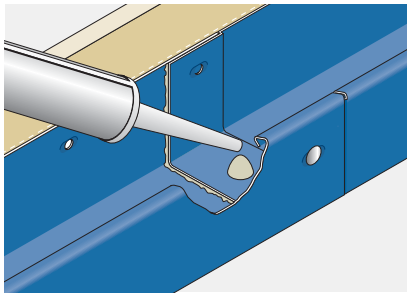
4. Position gutter lengths allowing for 4mm expansion joints. Mark fixing positions and pilot 3.5mm diameter holes.



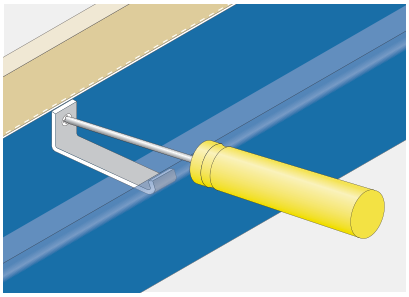
5. Thoroughly degrease all jointing surfaces and apply two 6mm beads of DOW 791 silicone sealant either side of and around the slotted fixing holes.



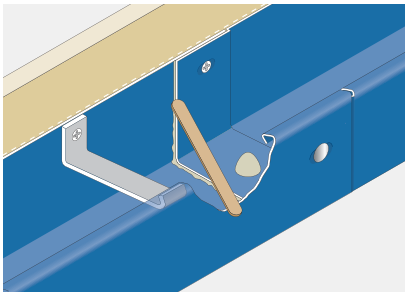
6. Secure joints with aluminium M6 x 12mm nuts, bolts and washers provided taking care not to over tighten or displace sealant from within the joint.



7. Cone-off the exposed bolts, studs and nuts inside the gutter with a generous application of silicone sealant.



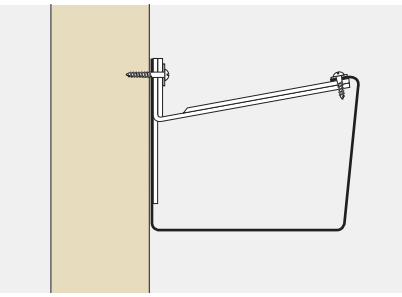
8. Align gutter lengths correctly for final positioning. Engage top straps and fix back securely to fascia.



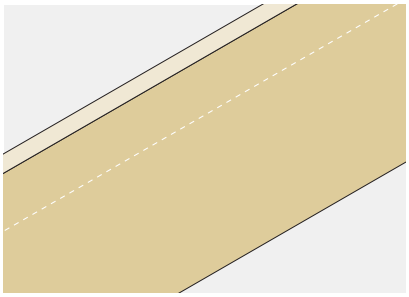
9. Tool off excess silicone around the union joint and from visible external surfaces.

Installation – GX Smooth Gutter

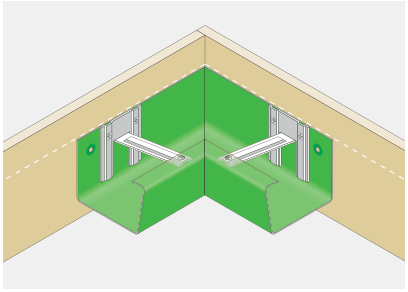
GX Smooth is a press formed rectangular profile with inclined front face. Gutters are supported using a one piece top strap combined with a back strap to accommodate increased weight load. Gutters and fittings are butt jointed with an overlapping union which is wet sealed using silicone sealant and back fixed to the fascia.



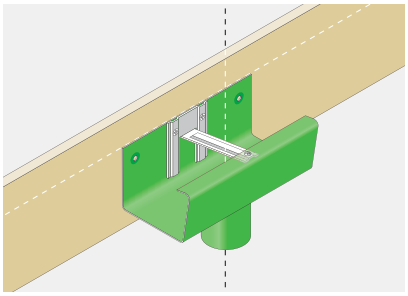
GX Smooth fixes using a one piece combined top and back strap.



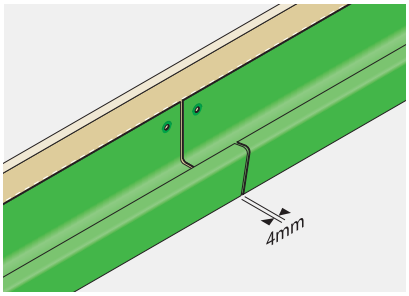
1. Use a string line or laser to set out gutter lines. (GX Smooth must be laid level).



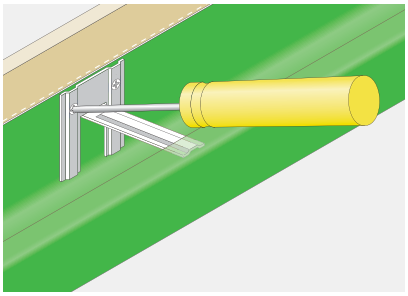
2. Position angles, mark fixing positions and pilot 3.5mm diameter holes. Loosely fit using No12 x 38mm round head wood screws and washers provided.



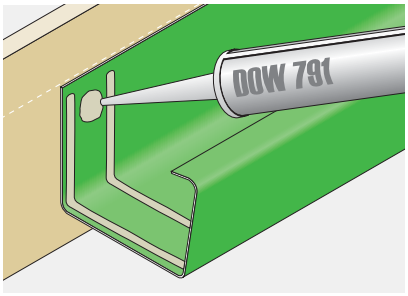
3. Plumb line outlet positions with gullies at ground level and mark fixing positions. Pilot 3.5mm diameter holes and loosely fit using No12 x 38mm round head wood screws and washers.



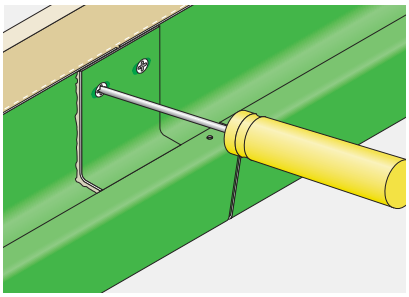
4. Line and level gutter lengths allowing 4mm expansion gap at joints.



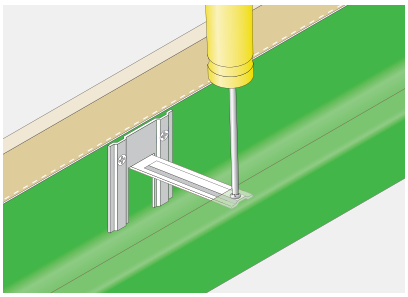
5. Fix gutters to fascia using combined top/back straps and No12 x 38mm round head wood screws and washers provided.



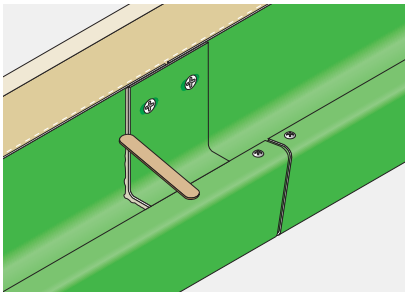
6. Thoroughly degrease all jointing surfaces and apply two 6mm beads of DOW 791 silicone sealant across back/sole/front surfaces.



7. Slide in union joints and back fix to fascia board using No12 x 38mm round head wood screws and washers. Slide in next gutter and repeat process.



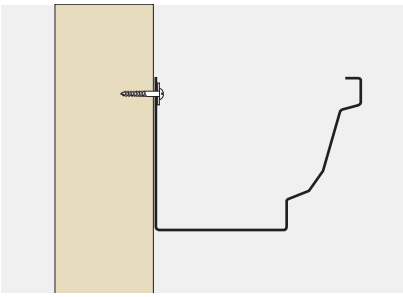
8. Screw the front end of the top straps to the preformed holes in the top lip of the gutter. Use the pan head fixing screw provided.



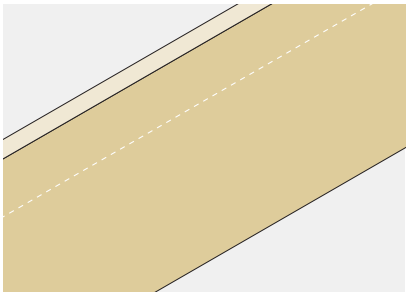
9. Tool off excess silicone around the union joint and from visible external surfaces.

Installation – GX Moulded Gutter

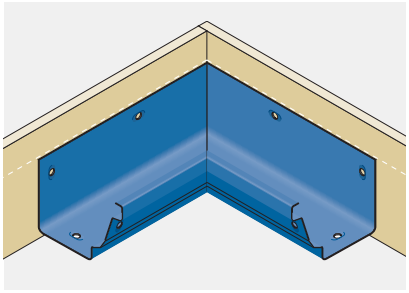
GX Moulded gutters are press formed to provide a seamless moulded profile. GX Moulded gutter systems are generally back fixed directly to the building fascia although the largest profiles also employ top straps. Gutter lengths and fittings are butt jointed with bolted overlapping unions which are wet sealed using silicone sealant.



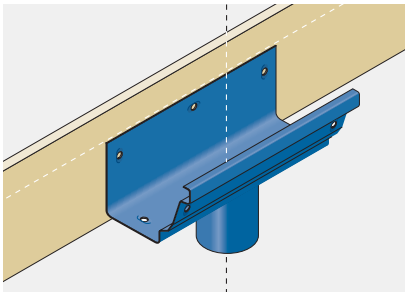
GX Moulded direct fixes to fascia. Top strap options are available where large sizes and heavy loads are anticipated.



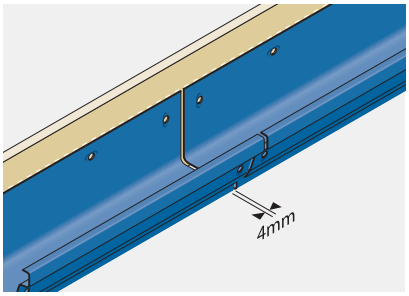
1. Use a string line or laser to set out gutter lines. (GX Moulded must be laid level).



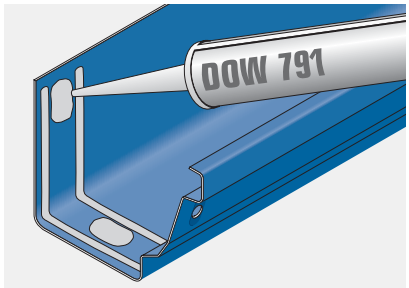
2. Position angles, mark fixing positions and pilot 3.5mm diameter holes and loosely fit using No12 x 38mm round head wood screws and washers provided.



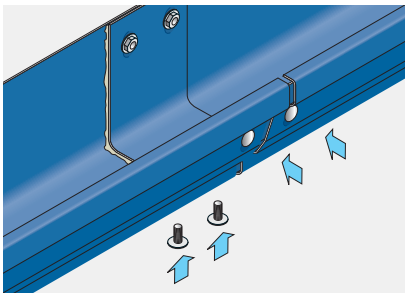
3. Plumb line outlet positions with gullies at ground level and mark fixing positions. Pilot 3.5mm diameter holes and loosely fit using No12 x 38mm round head wood screws and washers provided.



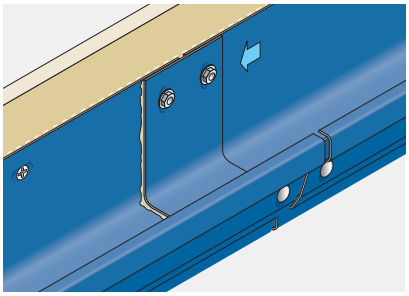
4. Line and level gutter lengths allowing for 4mm expansion gaps at joints.



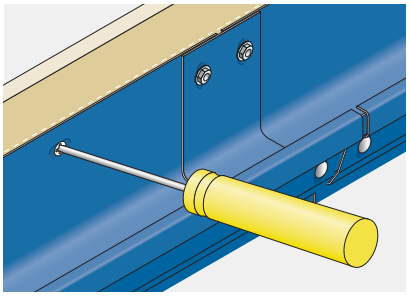
5. Thoroughly degrease all jointing surfaces and apply two 6mm beads of DOW 791 silicone sealant either side of and around the slotted fixing holes to inside back/sole/front surfaces.



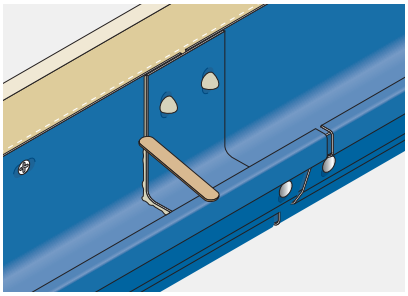
6. Slide in union joint and insert gutter bolts (heads outside). Secure joint with nuts and washers taking care not over tighten or displace sealant from within the joint.



7. Slide in next gutter length and repeat process.



8. Tighten all fascia fixing screws and fit top straps if required otherwise screw back securely to the fascia using No12 x 38mm round head wood screws and washers provided.

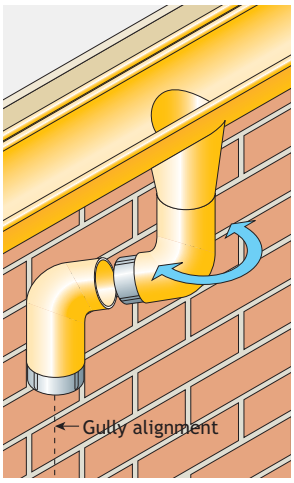


9. Tool off excess silicone and cone-off the exposed washers and nuts inside the gutter with a generous application of silicone sealant.

Installation – Flushjoint Rainwater Pipe

Flushjoint rainwater pipes consist of circular, square and rectangular pipes with factory fitted internal spigot joints between pipes and fittings. Pipes are bracket fixed and generally assembled from the eaves downward. Loose-fit pipe clips are used to secure Flushjoint pipes and can be positioned to allow pipe joints to be completely concealed.

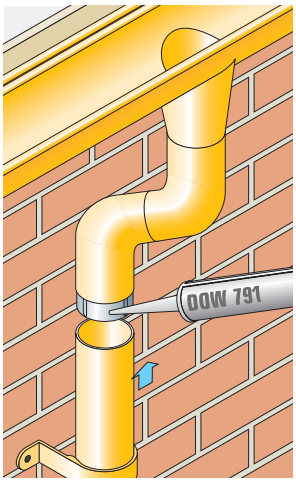
Pipe Alignment



Check alignment of gutter outlet to gully. Where square or rectangular pipes are being installed and offsets are required, alignment between the gutter outlet and gully must be exact.

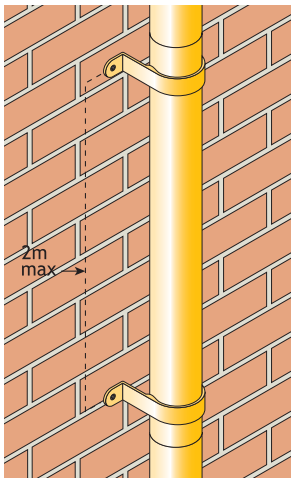
Round pipe systems are more flexible to install as offsets can be adjusted and "swung" into alignment with the gully position.

Outlets and Offsets



Commence installation from the gutter outlet by fitting and adjusting the two part offsets. Check vertical plumb line and assemble internal spigot joints using DOW 791 silicone sealant then fit first pipe clip.

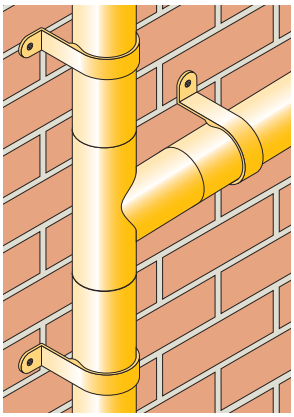
Pipe Clips



Pipe clips support and hold the rainwater pipe to the structure. All three types of pipe clip, Standard, Small Base and Extended Base can be used to conceal the pipe joints.

Fix to wall using No12 x 50mm screws provided. Allow two pipe clips per pipe length (maximum 2m centres) and fix with screws, placing a washer beneath the screw head.

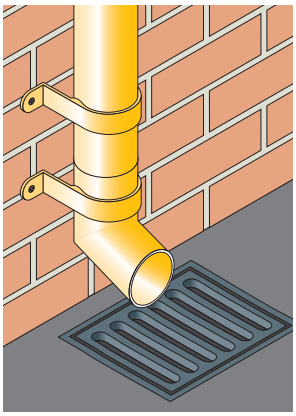
Pipes, Bends and Branches



Continue to assemble the stack taking care not to scratch the pipe coating whilst sliding pipe clips into position.

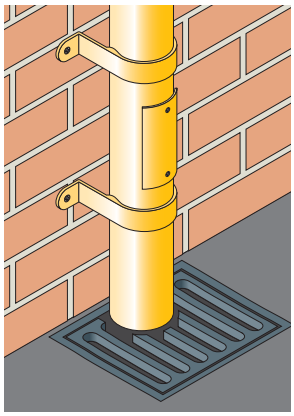
Bends and branches are normally secured between pipe ends. Where additional fixing is required e.g a change of direction at a bend, use additional pipe clips.

Shoes



At ground level if the rainwater pipe does not connect directly to the gully, pipes can terminate with a shoe fitting for free discharge over the gully.

Access Pipes



Where rainwater pipes directly connect to the gully it is recommended that an access pipe is fitted no more than 750mm above ground level.

Tools Required for Flushjoint and Guardian

- String or plumb line
- Tape measure
- Drill
- File
- Masonry bit
- Wall fixing (e.g raw plug)
- Cleaning rags
- Marker pen
- Solvent cleaner
- Posi and plain screwdriver
- Paintbrush
- Hacksaw
- Masking tape
- Mastic gun
- Spirit level
- Protective gloves
- Adjustable spanner

General Installation Sequence

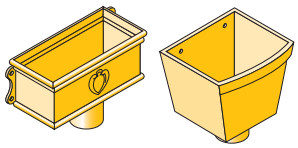
- Complete installation of gutters; alternatively, locate rainwater heads
- Locate
- Position offsets, bends and branches
- Fit pipes and brackets
- Fit plinth offsets
- Fit access doors and shoes

Sealant

For durable all weather seals and best results, Alumasc recommend the use of DOW 791 silicone sealant.

Rainwater Heads

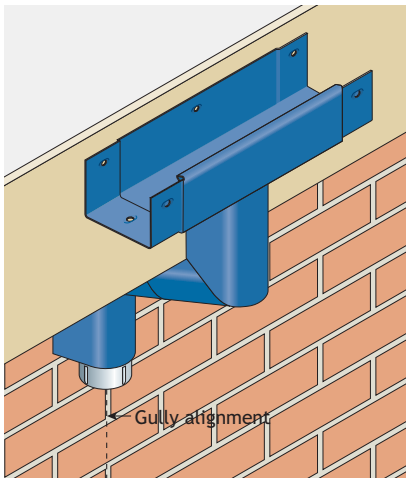
Fix to masonry through external lugs or preformed holes in back.



Installation – Guardian Rainwater Pipe

Guardian is a range of flush fitting architectural feature pipes in round, square and rectangular pipe section with factory fitted internal spigots and fully concealed bracketry. Pipe systems are assembled from ground upwards and are designed to be ungrippable, providing a high level of security.

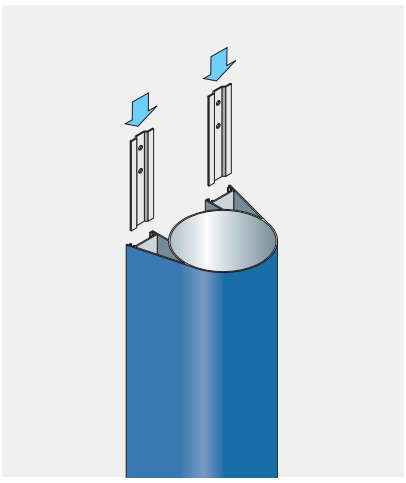
Pipe Alignment



Guardian pipes are assembled from ground upwards.

Use a plumb line to ensure correct alignment between gully at ground level and the gutter outlet.

Pipe Fixing Plates

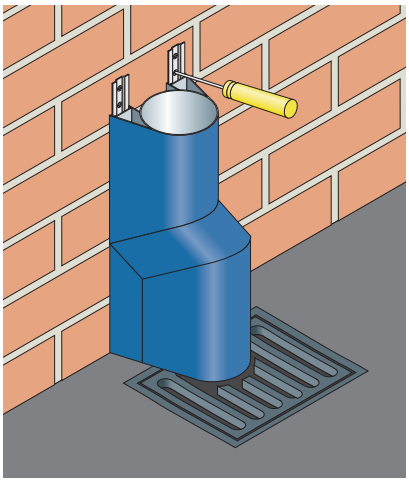


When joining pipe lengths tap two fixing plates per pipe connection into the pipe receiver rails using a block of wood to prevent damage.

The fixing plates have “stops” to limit insertion.

Fix to the wall using No12 x 38mm pan head screws.

Gully Connection

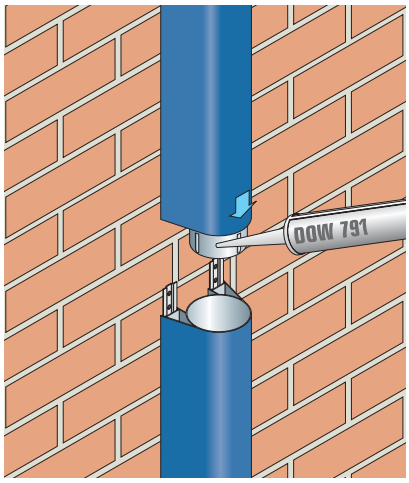


Commence installation by fitting fixing plates to the drain connector component and then fixing to the wall.

This component may be either a plain pipe section or include a rodding access.

Where the gully position is away from the wall, a shroud is available to order to eliminate gap. (Full site dimensions required).

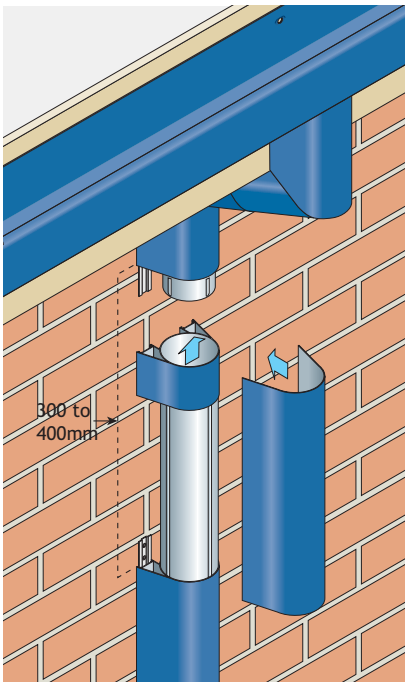
Pipe Assembly



Pipe lengths are connected by sliding new pipe sections down over the fixing plates of the pipe below.

Seal spigot joints by applying DOW 791 silicone sealant to spigot and receiving pipe end.

Make Up Piece, Offsets and Gutter Connections



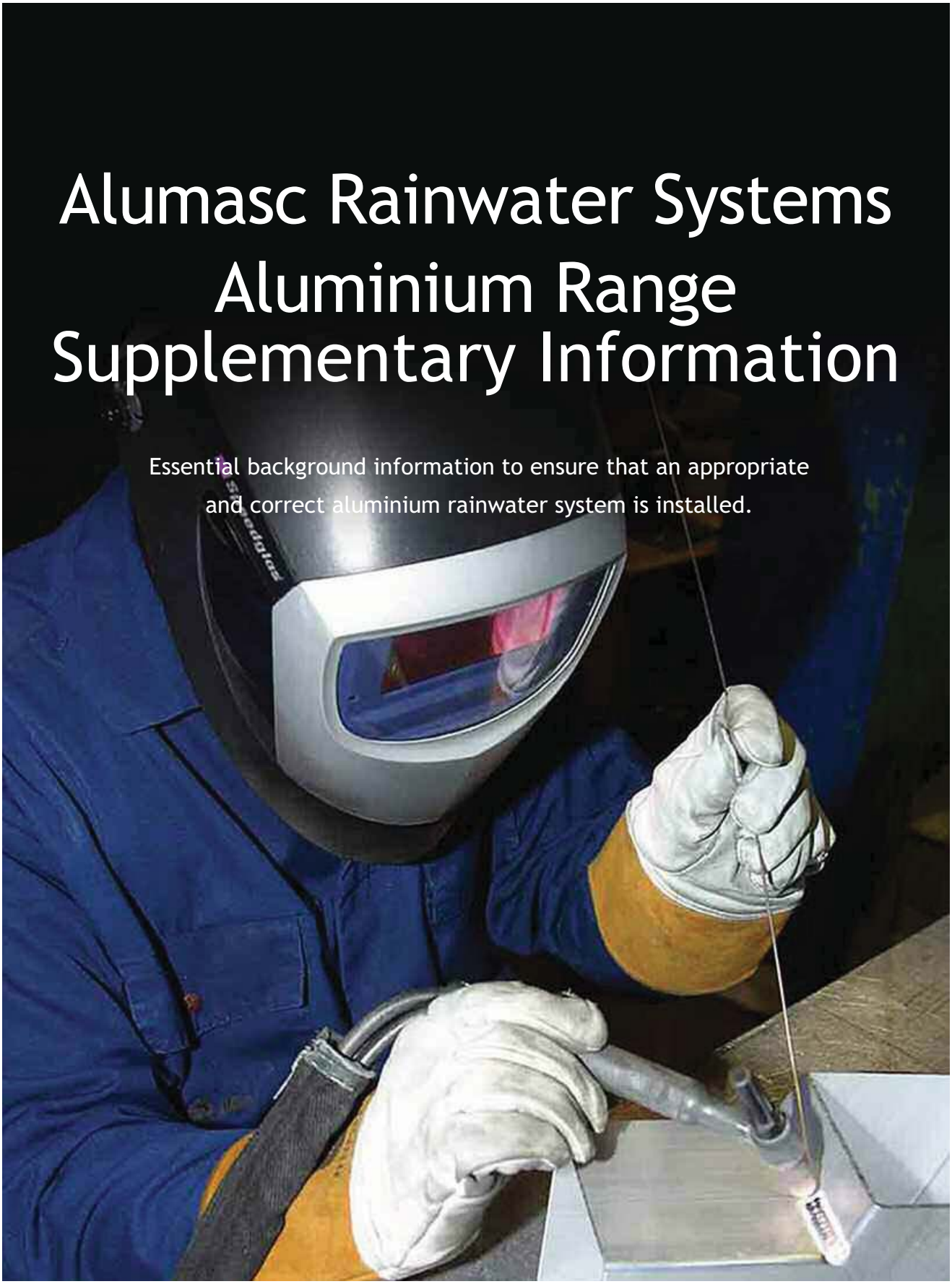
Build up and trim stack to within 300/400mm of underside of gutter and secure with fixing plates.

Insert telescopic section into stack below offset position, (if there is no offset use a straight make-up piece of equal length).

Fit the offset into the make up piece then lift up offset and make up piece to test the fit to the gutter spigot.

Cut a cover piece to fit gap created by the make up piece.

Apply DOW 791 silicone sealant to gutter spigot and adhere cover piece into position.



Alumasc Rainwater Systems Aluminium Range Supplementary Information

Essential background information to ensure that an appropriate and correct aluminium rainwater system is installed.

Non-Standard Items

Alumasc can tailor designs to meet individual project requirements, whether it is exact matching of rainwater products on restoration projects or stylish design solutions for new, contemporary buildings.

Alternative Gutter Profiles

Alumasc design and supply engineered rainwater systems and have the ability to develop patterns that are tailored to individual buildings' specific needs.

Whether the aim is to match an existing profile or simply to differentiate a building's appearance, Alumasc can offer bespoke gutter profiles to suit.

Radiused Gutter Sections

Where gutters are required to follow a particular roof radius, patterns can be engineered from detailed dimensions or existing gutter installations to yield a fully cast gutter that can be installed to suit the roof parameters. These are generally supplied in 1m lengths.

As an alternative to fully cast sections, Heritage and Aqualine profiles can be fabricated by cutting, mitring and welding to create a segmented radii gutter. GX profiles can be fabricated by mitring and seam-welding sections to create a segmented radii gutter. This often provides a cost effective solution for such architectural detailing.

Fabricated Gutter Sections

Standard gutter profiles can be fabricated into non-standard plan angles that can suit a host of different building geometries. Transition pieces for jointing mismatch gutter shapes, back outlets for drainage through parapet walls can all be expertly manufactured by Alumasc.

Rainwater Heads (Hoppers)

Ornate rainwater heads can be supplied to match existing design or one-off, personalised designs that will add enduring character and value to the building.

Rainwater heads can be manufactured from new patterns by the casting process. Alternatively, due to the flexibility afforded by the use of pressed aluminium sheet, fabricated items can be supplied to suit a whole range of requirements and applications.

Alumasc rainwater heads can also be enhanced by adding ornate enrichments or detailing, such as place names or initials onto the rainwater heads.

Bespoke Bracketry

Alumasc can design and manufacture a variety of bracketry solutions for gutters and pipes to create an integrated system. Such detailing can often be used to support fascia and soffit configurations.

Ornate holderbats and earbelts can be detailed to provide a unique, distinguished appearance to a rainwater stack.

Where standard fitting dimensions do not suit the project's requirements, Alumasc can fabricate pipe systems to accommodate building design.

Ornate pipes can be supplied to match existing designs or one-off, personalised designs. Special enrichments can be added to create enduring character and value to the building.

Accessories

Touch Up Paint

	RAL Code	Description	Size	Product Code
	RAL 1011m	Brown Beige	125ml	TUP/RAL1011M/125
	RAL 1013m	Pearl White	125ml	TUP/RAL1013M/125
	RAL 1021m	Cadmium Yellow	125ml	TUP/RAL1021M/125
	RAL 2002m	Vermilion	125ml	TUP/RAL2002M/125
	RAL 3003m	Ruby Red	125ml	TUP/RAL3003M/125
	RAL 3005m	Wine Red	125ml	TUP/RAL3005M/125
	RAL 5003m	Sapphire Blue	125ml	TUP/RAL5003M/125
	RAL 5010m	Flower Blue	125ml	TUP/RAL5010M/125
	RAL 6005m	Moss Green	125ml	TUP/RAL6005M/125
	RAL 6018m	Yellow Green	125ml	TUP/RAL6018M/125
	RAL 7005m	Mouse Grey	125ml	TUP/RAL7005M/125
	RAL 7006m	Beige Grey	125ml	TUP/RAL7006M/125
	RAL 7012m	Basalt Grey	125ml	TUP/RAL7012M/125
	RAL 7015m	Slate Grey	125ml	TUP/RAL7015M/125
	RAL 7016m	Anthracite Grey	125ml	TUP/RAL7016M/125
	RAL 7024m	Graphite Grey	125ml	TUP/RAL7024M/125
	RAL 7036m	Platinum Grey	125ml	TUP/RAL7036M/125
	RAL 7037m	Dusty Grey	125ml	TUP/RAL7037M/125
	RAL 7038m	Agate Grey	125ml	TUP/RAL7038M/125
	RAL 8017m	Chocolate Brown	125ml	TUP/RAL8017M/125
	RAL 8019m	Grey Brown	125ml	TUP/RAL8019M/125
	RAL 9006m	Metallic Silver	125ml	TUP/RAL9006M/125
*	RAL 9006g	Metallic Silver	125ml	TUP/RAL9006G/125
	RAL 9016m	White	125ml	TUP/RAL9016M/125
	RAL 9017m	Black	125ml	TUP/RAL9017M/125
		Black (Spray can)	400ml	TUP/BLACK/TXT

Note: The colours reproduced on this page are for general guidance only.

* 80% gloss

Lightning Link

Flexible Type

Rigid Type

Type	Product Code
Flexible Flat Braid Assembly	LL635007
Rigid Type Assembly	LL632914
Oxide Inhibitor Compound (50 joints per tube)	LL991972

Note: Provides an earth continuity bond intended for connection across joints on-site thereby providing electrical continuity throughout the entire metal gutter system.

Extra pre-drilled fixing holes in gutter and fittings can be provided.

Backing Foam

Type	Product Code
10m Roll x 6mm dia Backing Foam	BF991408

Solvent Cleaner

Type	Product Code
Fast Drying Solvent Cleaner	SC991281

Silicone Sealant

Type	Colour	Size	Product Code
Dow Corning 791	White	310ml Cartridge	SS991558
Dow Corning 791	Grey	310ml Cartridge	SS991559
Dow Corning 791	Bronze	310ml Cartridge	SS991560
Dow Corning 791	Black	310ml Cartridge	SS991561
Dow Corning 791	Limestone	310ml Cartridge	SS991562

Gutter Bolts (Nut, Bolt & Washer)

Type	Size	Notes	Product Code
Aluminium Nut/Bolt/Washer	M6 x 12mm	For use with the GX Gutter Range	NBW 630308
Aluminium Nut/Bolt/Washer	M6 x 20mm	For use with the Heritage Gutter Range	NBW 630307

Woodscrew

Type	Size	Notes	Product Code
Countersunk	No.12 x 1.5”	To fix rafter arms to GX Brackets	ZNBW969041
Roundhead	No.12 x 1.5” With Washer	To fix Heritage Fascia Brackets or for ‘direct fix’ Gutter range	NBW 630362
Roundhead	No.12 x 2” With Washer	To fix pipe sockets with ears or pipe clips	NBW 630361

Rainwater System Design

Alumasc Technical Services is a fully experienced team of Rainwater specialists who use the latest CAD technology and calculation tools to provide an unrivalled support service to Architects, Designers and Contractors.

The Alumasc Rainwater Drainage Design Service

Alumasc Technical Services use dedicated design software in conjunction with the requirements of *BS EN 12056:2000: Gravity drainage systems inside buildings - Part 3* to calculate the most appropriate Alumasc rainwater system to suit project requirements.

The gutter flow software automatically checks the capacity of downpipes used and suggests the minimum size to which downpipes can be sized. Contact Alumasc for further information.

Calculation Criteria

Calculation of the most efficient drainage solution takes into consideration the following criteria:

- Catchment area
- Local rainfall intensity
- Building life and safety factor
- Size and flow rate of gutters
- Frequency and size of outlets and downpipes

Sizing of Gutters and Downpipes

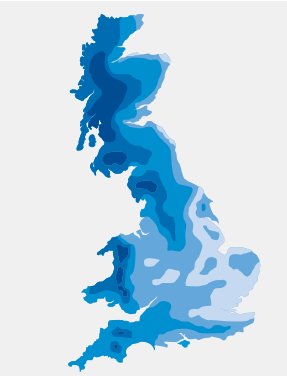
The level of rainfall a given roof drainage system should cope with is based on the position of the gutter, the potential use of the building and its projected lifespan. All true eaves gutters (external) are designed using a 1 year storm event. This is generally accepted because overflow from an external eaves gutter will fall clear of the building, which is not normally a problem. Any gutter which is classed internal, even if it is at the eaves, should be designed for an intensity based on the building life and a suitable factor of safety.

This factor will vary from 1.5 for conventional buildings to 4.5 for very important structures. For most buildings a 60 year life and safety factor of 1.5 would be the most suitable (90 year protection life).

All the parameters of flow calculations cannot be captured using a single formula. The guide below provides a basic method for calculating flow requirements. For accurate project specific specification advice on rainwater flow calculations contact Alumasc Technical Services.

Step 1

Geographical Location and Rainfall Intensity Maps

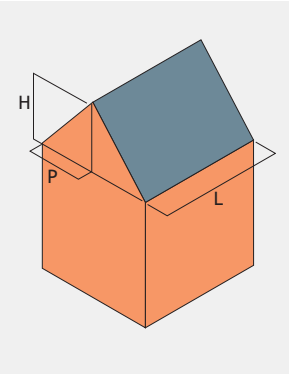


BS EN 12056-3: 2000 contains maps showing rainfall intensity in litres/second per m^2 for 1, 5, 50 and 500 year storms of 2 minute duration.

(All external gutters designed for 1 year event).

Step 2

Calculating Catchment Area



CA = (P+H/2) x L

CA = Catchment area in square metres

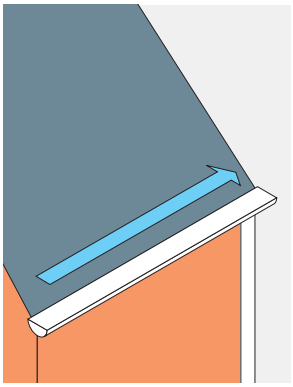
P = Horizontal distance between eaves and ridge

H = Height of roof

L = Length of eaves

Step 3

Frequency and Positioning of Outlets/Downpipes



Calculate the number of outlets per run.

Step 4

Calculate Flow Requirements

Overall Rainfall

Catchment area (CA) x Rainfall intensity (RI) = Overall Rainfall (OR)

Flow Rate Per Outlet

Overall Rainfall (OR) ÷ Number of Outlets = Flow Rate Per Outlet

Choose Gutter/Outlets according to published Flow Rate capacities.

Note:

Depending on building type, a safety factor should be allowed for the sizing of internal gutters. Contact Alumasc Technical Services for further information.

alumasc

Available on the iPad App Store

Technical Support

Alumasc's new Drainage Design Calculators are available as a download from the Alumasc Rainwater website. www.alumascrainwater.co.uk

Gutter Flow Rates

All Flow Rates quoted on this page are shown in litres per second. Gutter capacities are based on BS EN 12056-3:2000, assuming a maximum distance of 50 x gutter depth, from high point to outlet. Longer gutters or gutters with corners exceeding 10° will have a reduced capacity. For further information contact Alumasc Technical Services.

Rainwater Gutter Flow Rates (l/s)

			Pipe/Outlet Diameter (mm)			Pipe outlet size (mm)		
Gutter Range	Profile	Size (mm)	63	75	100	75x75	100x75	100x100
Heritage	Half Round	100	1.14	1.24	-	1.24	1.24	-
		113	1.14	1.62	-	1.62	1.62	-
		125	1.24	2.08	-	2.08	2.08	-
	Beaded Half Round	113	1.62	1.62	-	1.62	1.62	-
		125	1.77	1.90	-	2.08	2.08	-
	Beaded Deep Run	113x75	1.77	1.90	-	2.10	3.06	-
	Victorian Ogee	100	1.32	1.32	-	1.32	1.32	-
		113	1.35	1.82	-	1.82	1.82	-
		125	1.35	2.12	-	2.10	2.34	-
	Moulded	100x75	1.40	1.64	-	2.10	2.44	-
		125x100	1.52	1.97	3.81	2.10	4.62	4.62
		150x100	2.42	2.84	3.81	2.10	4.65	5.12
Aqualine	Half Round	100x50	0.99	1.12	-	1.12	1.12	-
		120x60	0.99	1.71	-	1.86	1.86	-
		150x75	0.99	1.71	3.44	2.10	3.44	3.44
	Deep Run	110x85	0.99	1.71	2.88	2.10	2.88	2.88
	Modern	100x85	0.99	1.71	-	2.10	2.38	-
		150x120	0.99	1.71	3.81	2.10	3.63	5.41
	Moulded	140x100	0.99	1.71	-	2.10	3.52	-
		160x100	0.99	1.71	3.81	2.10	3.63	4.38
	Box	120x80	1.39	2.08	2.72	2.38	3.32	3.72
		140x100	1.55	2.32	4.21	2.66	4.02	5.32
		160x100	1.55	2.33	4.26	2.67	4.04	5.39
GX	Joggle	100x75	1.32	1.95	-	2.28	-	-
		125x100	1.52	2.31	4.14	2.64	3.99	5.23
		150x100	1.52	2.31	4.14	2.64	3.99	5.23
		150x150	1.89	2.83	5.16	3.24	4.89	6.59
		200x150	1.89	2.83	5.16	3.24	4.89	6.59
	Smooth	120x75	1.32	1.93	-	2.27	2.87	-
		140x100	1.52	2.28	3.99	2.61	3.95	5.04
		170x125	1.73	2.59	4.73	2.97	4.48	6.04
		175x150	1.90	2.84	5.20	3.26	4.92	6.63
		225x150	1.88	2.82	5.15	3.23	4.88	6.57
	Moulded	113x75	0.99	1.71	-	2.10	-	-
		140x100	0.99	1.71	3.81	2.10	3.63	5.41
		160x100	0.99	1.71	3.81	2.10	3.63	5.41
		175x150	0.99	1.71	3.81	2.10	3.63	5.41
		200x150	0.99	1.71	3.81	2.10	3.63	5.41

Rainwater Pipe Flow Rates

Note: The capacity of a rainwater system is usually dependent upon the capacity of the gutter outlet or flat roof outlet rather than the rainwater pipe. Please refer to BS EN 12056-3:2000, Section 6, Table 8 for capacities of vertical rainwater pipes.

NBS Specification

A typical NBS Specification for Alumasc aluminium gutters and downpipes is provided below. A full range of NBS specifications are available via Alumasc's online NBS Specification Builder at www.alumascrainwater.co.uk.
For project specific specification advice, contact Alumasc Technical Services.

R10 Rainwater Drainage Systems

GENERAL

- Gravity Rainwater Drainage System.
- Rainwater outlets, gutters, pipework and accessories as per detail sections below.

SYSTEM PERFORMANCE

- Design Standard: To BS EN 12056-3:2000, clauses 3-7 and National Annexes.
- Collection and Distribution of Rainwater: Complete, and without leakage or noise nuisance.
- Design Parameters: Design rate of rainfall as per BS EN 12056-3:2000, National Annex NB.2 - Category 1

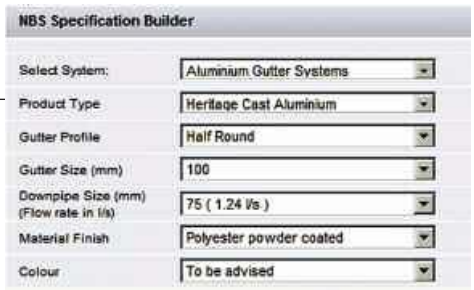
PRODUCTS (TYPICAL SPECIFICATION)

HERITAGE ALUMINIUM HALF ROUND GUTTER (100mm)

311 HERITAGE ALUMINIUM GUTTERS

Gutters and fittings to: BS 8530 (formerly BS 2997)
Manufacturer: Alumasc Exterior Building Products Ltd
White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG.
Tel: 01744 648400, Fax: 01744 648401, Email: info@alumasc-exteriors.co.uk

Reference:	Heritage cast aluminium rainwater system
Profile:	Half Round
Size:	100mm
Outlet Size:	75mm
Type/grade:	Made from LM2 and LM6 grades of Aluminium alloy to BSEN1559:1997, BSEN 1676:1997 and BSEN 1706:1998
Finish:	Polyester powder coated to BS EN 12206-1:2004
Colour:	To be advised
Jointing:	Gutter lengths or fittings are overlapped at the joint with a spigot and socket. Slots are provided for fixing using M6 mushroom head aluminium screws with nuts and washers. Seal evenly across the joints with Dow Corning 791.
Fixing:	Fascia bracket fixed at 915mm centres and at each fitting using number 12x38mm round head twin thread screws and washers bright zinc plated.



Create Alumasc Rainwater System NBS specifications by selecting the required product range, profile, size and finish by visiting:

www.alumascrainwater.co.uk

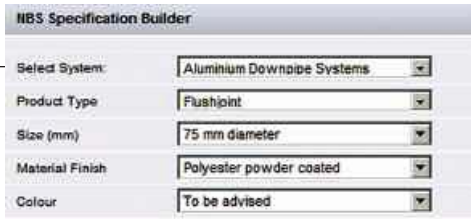
PRODUCTS (TYPICAL SPECIFICATION)

FLUSHJOINT ALUMINIUM DOWNPIPE (75mm diameter)

370 FLUSHJOINT ALUMINIUM PIPEWORK FOR EXTERNAL USE:

Pipes, fittings and accessories to: BS 2997
Manufacturer: As above

Reference:	Flushjoint aluminium downpipe system
Size:	75mm diameter
Type/grade:	6063 TF alloy
Finish:	Polyester powder coated to BS EN 12206-1:2004
Colour:	To be advised
Fixing:	Pipe clip fixed at maximum 2.0m centres. Plug and screw to wall with number 12 x 50mm round head twin thread screws and washers bright zinc plated to BS 1706:1960 Class ZN3. Seal internal spigot joints with Dow corning 791 silicone sealant allowing for a 3-4 mm vertical thermal movement gap.
Accessories:	Bends, Branches, Access Pipes, Offsets, Shoes, Rainwater Heads, Pipe Clips



General Specification Advice

General specification clauses for aluminium rainwater systems are provided below.
For project specific specification advice, contact Alumasc Technical Services.

EXECUTION CLAUSES

600 PREPARATION, ENSURE:

- Below ground drainage is ready to receive rainwater or that the discharge can be dispersed by approved means to prevent damage or disfigurement of the building fabric.
- Any specified painting of surfaces which will be concealed or inaccessible is completed.

605 INSTALLATION GENERALLY:

- Install pipework/gutters to ensure the complete discharge of rainwater from the building without leaking.
- Obtain all components for each type of pipework/guttering from the same manufacturer unless specified otherwise.
- Provide access fittings and rodding eyes as necessary in convenient locations to permit adequate cleaning and testing of pipework.
- Avoid contact between dissimilar metals and other materials which would result in electrolytic corrosion.
- Do not bend plastics or galvanized steel pipes.
- Adequately protect pipework/gutters from damage and distortion during construction. Fit purpose made temporary caps to prevent ingress of debris. Fit all access covers, cleaning eyes and blanking plates as the work proceeds.
- Where not specified otherwise use plated, sherardized, galvanized or nonferrous fastenings, suitable for the purpose and background, and compatible with the material being fixed.

610 FIXING AND JOINTING GUTTERS:

- Fix securely at specified centres and at all joints in gutters, with additional brackets near angles and outlets.
- Provide for thermal and building movement when fixing and jointing, and ensure that clearances are not reduced as fixing proceeds.
- Seal as specified to make watertight.
- Spread jointing compound evenly over jointing face of socket.
- For gutters with bolted joints, tighten joints in the gutter sole before any other bolts. Fit suitable washers, and spacers to prevent overtightening, unless specified otherwise.
- Tighten fixing to squeeze out some compound.
- Remove surplus, squeezed out compound and neatly clean off.
- Ensure that roofing underlay is dressed into gutter.

615 SETTING OUT EAVES GUTTERS - TO FALLS

- Set out to a true line and even gradient to ensure no ponding or backfall. Position high points of gutters as close as practical to the roof and low points not more than 50 mm below the roof.
- Position outlets to align with connections to below ground drainage, unless shown otherwise on drawings.

630 RAINWATER OUTLETS, ENSURE THAT:

- Outlets are securely fixed before connecting pipework.
- Junctions between outlets and pipework can accommodate all movement in the structure and pipework.

435 FIXING PIPEWORK:

- Fix securely at specified centres plumb and/or true to line.
- Make changes in direction of pipe runs only where shown on drawings unless otherwise approved.
- Fix branches and low gradient sections with uniform and adequate falls to drain efficiently.
- Fix externally socketed pipes/fittings with sockets facing upstream.
- Provide additional supports as necessary to support junctions and changes in direction.
- Fix every length of pipe at or close below the socket collar or coupling.
- Provide a load bearing support for vertical pipes at not less than every storey level. Tighten fixings as the work proceeds so that every storey is self supporting and undue weight is not imposed on fixings at the base of the pipe.
- Isolate from structure where passing through walls or floors and sleeve pipes as specified in Section P31.
- Provide for thermal and building movement when fixing and jointing, and ensure that clearances are not reduced as fixing proceeds.
- Fix expansion joint pipe sockets rigidly to the building and elsewhere use fixings that allow the pipe to slide.

650 JOINTING PIPEWORK/GUTTERS:

- Joint using materials, fittings and techniques which will make effective and durable connections.
- Joint differing pipework/gutter systems with adaptors recommended by manufacturer(s).
- Cut ends of pipes to be clean and square with burrs and swarf removed. Chamfer pipe ends before inserting into ring seal sockets.
- Ensure that jointing or mating surfaces are clean, and where necessary lubricated, immediately before assembly.
- Form junctions using fittings intended for the purpose ensuring that jointing material does not project into bore of pipes, fittings and appliances.
- Remove surplus flux/solvent/cement/sealant from joints.

675 COATED PIPEWORK/GUTTERS:

- Make good to coatings after cutting and any other damage or recoat, as recommended by the manufacturer.

685 IDENTIFICATION OF INTERNAL RAINWATER PIPEWORK:

- To BS 1710 using self-adhesive bands or identification clips located at junctions, at both sides of each slab, bulkhead and wall penetration, and elsewhere as directed.

690 ELECTRICAL CONTINUITY:

- Use clips or suitable standard couplings supplied for the purpose by pipework manufacturer to ensure electrical continuity at all joints in metal pipes with flexible couplings and which are to be earth bonded.

700 ACCESS FOR TESTING AND MAINTENANCE:

- Install pipework and gutters with adequate clearance to permit testing, cleaning and maintenance.
- Position access fittings and rodding eyes so that they are not obstructed by other pipework, framing, etc.

COMPLETION CLAUSES

900 TESTING GENERALLY:

- Inform the Contractor Administrator sufficiently in advance to give him a reasonable opportunity to observe tests.
- Check that all sections of installation are free from obstruction and debris before testing.
- Provide clean water, assistance and apparatus for testing as required.
- Carry out tests as specified. After testing, locate and remedy all defects without delay and retest as instructed.
- Keep a record of all tests and provide a copy of each to the Contractor Administrator.

905 INTERNAL PIPEWORK TEST - ENGLAND, WALES AND NORTHERN IRELAND:

- Temporarily seal open ends of pipework with plugs.
- Connect a 'U' tube water gauge and air pump to the pipework via a plug.
- Pump air into pipework until gauge registers 38 mm.
- Allow a period for temperature stabilization, after which the pressure of 38 mm is to be maintained without loss for not less than 3 minutes.

906 INTERNAL PIPEWORK TEST- SCOTLAND

- Standard - To BSEN12056-3:2000, National Annex NG

910 GUTTER TEST:

- Block all outlets, fill gutters to overflow level and after 5 minutes closely inspect for leakage.

915 MAINTENANCE INSTRUCTIONS

- At completion, submit printed instructions recommending procedures for maintenance of the rainwater installation including full details of the recommended inspection, cleaning and repair procedures.

920 IMMEDIATELY BEFORE HANDOVER:

- Remove construction rubbish and debris from all roofs and gutters. Where possible, sweep and remove fine dust which may enter rainwater systems. Do not sweep or flush dust or debris into the rainwater system.
- Remove swarf, debris and temporary caps from the entire rainwater installation.
- Ensure that all access covers, rodding eyes, outlet gratings, etc. are secured complete with all fixings.

Skyline System – Introduction

The interface between walls and roof at the building eaves is one of the most crucial facets of design - both functionally and aesthetically. The sharpness and vibrancy of Alumasc's Skyline range of Fascias, Soffits and Copings provides dramatic engineered solutions over a wide range of buildings for both public and commercial sectors.

The Skyline Range

Skyline is a stylish and functional aluminium fascia, soffit and coping range offering solutions for use at roofing and gutter interfaces. Standard and fully bespoke designs from the Skyline range are available in high quality, in-house powder coated aluminium.

Skyline fascia and soffit components are designed to be used in conjunction with Alumasc's aluminium rainwater systems, in particular the GX range of folded aluminium gutters, providing a complete eaves and roof drainage solution.

Alumasc Technical Services can assist in the design of a fixing and support framework to suit individual project requirements. A design and fabrication service is also available for bespoke fascia profiles to suit special project requirements.

Skyline is not a rigid set of standard components, but a product rationale, developed to exploit the potential of Alumasc's wide ranging production capability in pressed and folded aluminium.

Skyline Fascias and Soffits

Skyline's range of four generic fascia profiles in aluminium, complemented by interlocking soffit planks, provides a wide choice of building eaves solutions.

Fascia profiles combine with soffit panels to create a range of fascia configurations which may be projected direct from the elevation or they may be combined with Alumasc soffit planks to produce varying eaves overhangs. (See page 104)

Skyline Coping System

Skyline Copings provide an economical and easily installed capping to upstanding parapets, in conjunction with flat or pitched roofs. The strap fixing method avoids penetration of the capping, whilst allowing ventilation over the top of the wall. Skyline Copings are maintenance free, available in a wide range of colours and are equally suited to retrofit and new build projects. (See page 105)

Skyline Anti-Climb

Skyline Anti-Climb is designed with security in mind, preventing unauthorised access to the building roofscape. Skyline Anti-Climb barriers comprise support brackets and preformed curved barrier sections. They can be fitted in front of virtually any gutter profile, resulting in a bold architectural feature.

Skyline Fascias and Soffits

Alumasc's Skyline Fascia and Soffit configurations offer top of the range roof edge details to suit all designs and budgets.

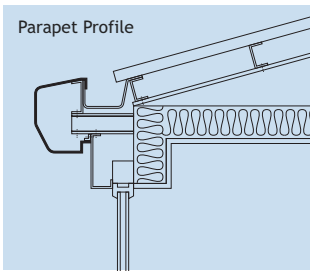
Standard Skyline Profiles

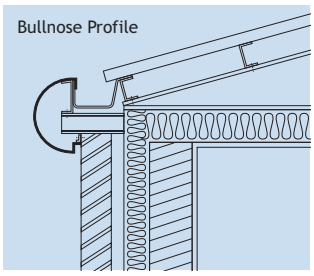
Skyline Fascias and Soffits are manufactured from high quality, polyester powder coated aluminium and are available in four bold generic shapes with bespoke designs available to order. Skyline can be fully integrated with Alumasc's aluminium rainwater systems.

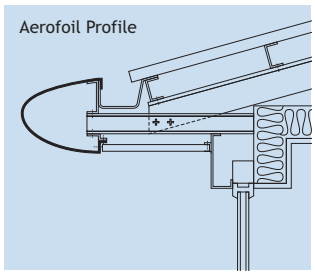
Skyline Designer

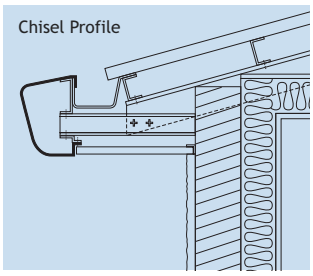
Skyline Designer is not a defined product range, but a collection of ideas which provide the architect with an opportunity to create highly distinctive fascias, soffit panels and cassettes that can be detailed and fabricated in a multitude of shapes and sizes to suit project requirements. If it can be made, we can make it.

Alumasc Technical Services can offer advice from the first pencil sketches right up to site installation. Once the architectural details are agreed, full working drawings are produced with client approval requested prior to fabrication.









Skyline Coping System

The Skyline Coping system provides an economical and easily installed capping to upstand parapets, in conjunction with flat or pitched roofs. The strap fixing method avoids penetration of the capping, whilst allowing ventilation over the top of the wall. Skyline Copings are equally suited to retrofit and new build projects.

Applications

- Provides a totally weatherproof covering to upstand parapets as fixing method does not penetrate the Skyline Coping
- Suitable for new buildings and retrofit

Performance

- Attractive, clean lines are maintained as fixings are not visible on the surface of the Skyline Coping
- The fixing strap profile allows ventilation over the top of the wall whilst remaining weatherproof
- Material thickness and fixing mechanism gives excellent rigidity
- Lightweight, durable and non-corrodible
- Coefficient of linear thermal expansion is 23 x 10-6mm/m/°C
- A gap of 3-4mm should be left between Skyline Coping sections to accommodate thermal expansion
- Life expectancy of aluminium: 40 years (rural/suburban areas); up to 25 years (industrial/marine areas)
- Aluminium is 100% recyclable

Components and Manufacture

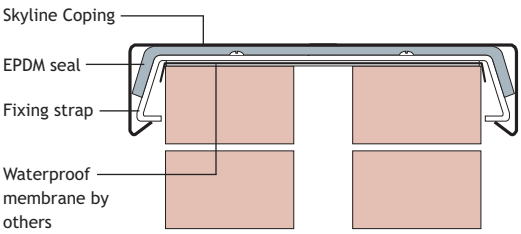
- UK manufactured
- Skyline Coping are fabricated from 2mm or 3mm thick aluminium alloy sheet, depending on width
- Fixing straps are pressed 3mm aluminium with extruded EPDM seals bonded to the top surface
- All fabricated fittings (90° corners, irregular corners, stop ends, closed ends, upstands, 90° tee junctions) are mitred, welded and have a smooth finish on the front face
- A waterproof membrane will be required beneath the Skyline Coping to provide an effective seal

Colours & Finishes

- In-house polyester powder coating facility with 16 BBA approved standard colours
- Additional BS or RAL colours available to special order; also available in plain mill finish for on-site painting

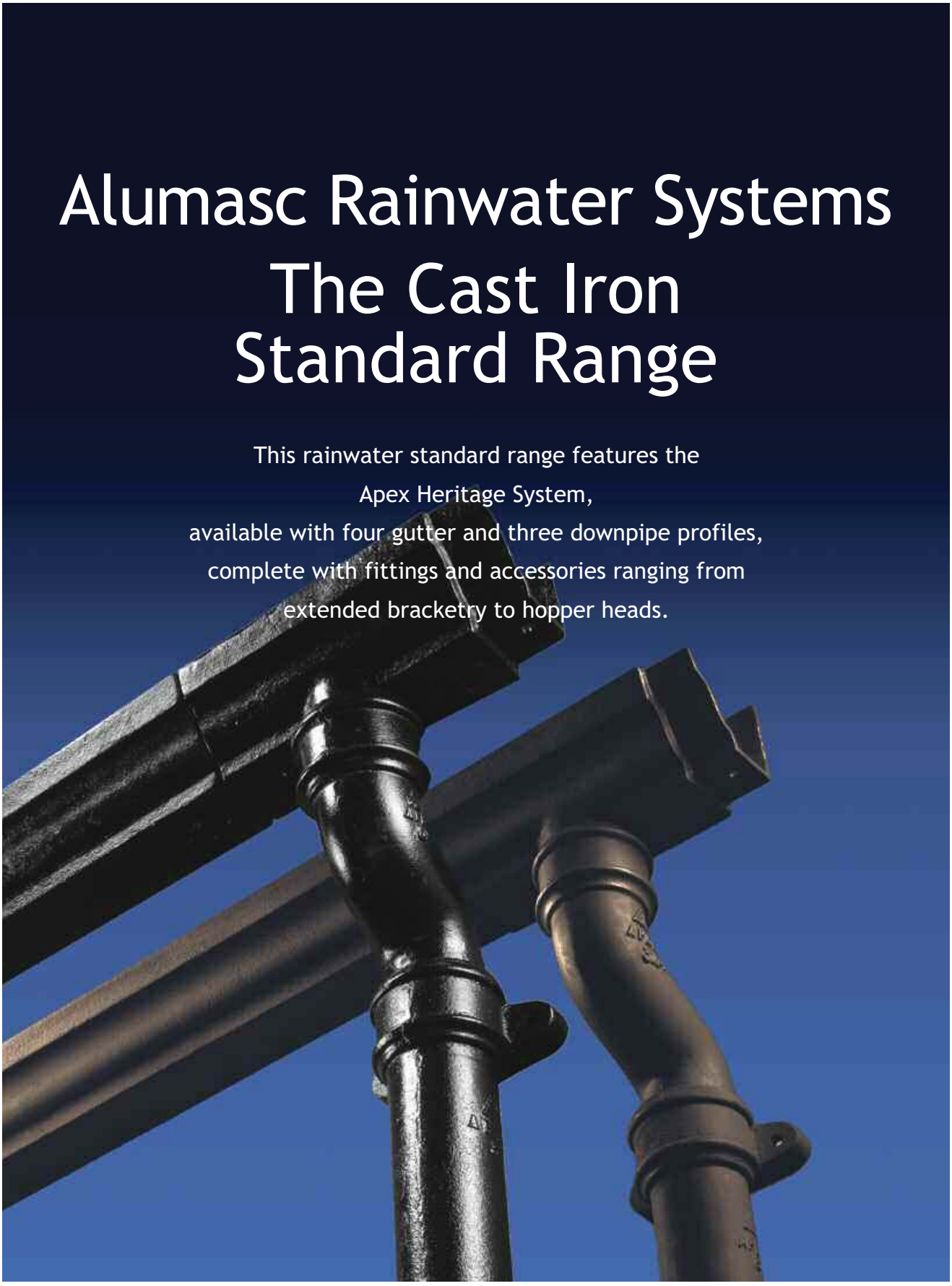
Installation & Fixing

- Simple and quick to install
- In most cases fixing can be carried out from the roof so no external access is required making it particularly suitable for renovation work
- Minimal maintenance requirements



Alumasc Rainwater Systems
The Cast Iron Standard Range

This rainwater standard range features the Apex Heritage System, available with four gutter and three downpipe profiles, complete with fittings and accessories ranging from extended bracketry to hopper heads.



Standard Cast Iron Rainwater Range – Introduction

Apex Heritage Cast Iron is a complete range of traditional sand cast gutters, downpipes and fittings combined with a made to order capability to suit any new, refurbished or restored building projects.

Apex Heritage Rainwater Systems - Standard Range Product Summary

Apex Heritage - Half Round Gutter

Apex Heritage - Beaded Half Round Gutter

Apex Heritage - Circular Pipe

Apex Heritage - Victorian Ogee Gutter

Apex Heritage - Moulded Gutter

Apex Heritage - Square Pipe

Apex Heritage - Rectangular Pipe

Apex Heritage Rainwater Systems - Standard Range Product Summary

Apex Heritage is a comprehensive range of traditional gutter profiles, round, square and rectangular pipes and all associated fittings and accessories. Designed to provide all the essential architectural features appropriate to traditionally designed buildings, the Apex Heritage range is also fully in tune with modern fast track building contracts.

Applications

- Suited to traditional craft based contracts
- Closely replicates historic styles
- For both flush and projecting eaves applications

Features & Performance

- 4 gutter profiles and 3 downpipe profiles available in a choice of sizes
- Downpipes available in 0.9m (3ft) and 1.83m (6ft) lengths
- Extremely strong, durable and vandal resistant
- Dimensionally accurate and stable
- Life expectancy in excess of 40 years
- Cast iron is 100% recyclable

Colours & Finishes

- A high quality two-pack epoxy primer and top coat painted finish
- Now available in a range of 8 standard RAL colour options with other RAL colours available to special order
- 'Factory Certified' Paint finish
- Also available in a factory primed one coat of protective oxide primer

Manufacture

- Authentic sand castings combining traditional manufacture with modern quality control standards
- A comprehensive standard range complemented with master patterns for a wide range of gutter profiles, downpipes and accessories, which can be manufactured to order.
- Complies with BS 460:2002 Cast Iron Rainwater Goods

Installation & Fixing

- Gutters are wet sealed with bolted joints, with a range of fixing options
- For Half Round gutters the Hydrostrip EDPM rubber seal is recommend for faster and cleaner solution to gutter jointing
- Gutters should be supported at 900mm centres either on brackets or for ogee, moulded and box types, by direct screw fixing through the back of the gutter
- Downpipes should be fixed back to the wall at 1.83 (6ft) centres through eared sockets or via separate earbelt and holderbats
- Minimal maintenance requirements

Gutter Profiles & Sizes

Half Round

100mm (4")
113mm (4.5")
125mm (5")
150mm (6")

Beaded Half Round

113mm (4.5)
125mm (5")

Victorian Ogee

113mm (4.5")
125mm (5")

Moulded

100 x 75mm (4 x 3")
125 x 100mm (5 x 4")
150 x 100mm (6 x 4")

Pipe Profiles & Sizes

Circular Pipe

63mm (2.5")
75mm (3")
100mm (4")
Length
1.83m (6')
0.9mm (3')

Square Pipe

75 x 75mm (3 x 3")
100 x 100mm (4 x 4")
Length
1.83m (6')
0.9mm (3')

Rectangular Pipe

100 x 75mm (4 x 3")
125 x 100mm (5 x 4")
150 x 100 mm (6 x 4")
Length
1.83m (6')
0.9mm (3')

Factory-applied oxide primer

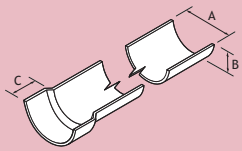
Pre-finished painted black

Apex Heritage – Half Round Gutters and Fittings

Apex Heritage Half Round socketed cast iron gutters are available in 4 sizes. A traditional profile with the unmistakable character and appearance of sand cast iron. There is a range of fittings and fixings as illustrated.

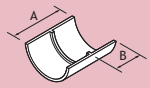
Note: All dimensions shown are in mm unless shown otherwise.
Gutter sizes shown are nominal.

Gutters



Gutter Size	Gutter Length	A	B	C	T	Weight (kg)	Product Code
100 (4”)	1830mm	102	51	44	4	8.0	HG40/6FT
113 (4.5”)	1830mm	114	57	44	4	10.5	HG45/6FT
125 (5”)	1830mm	127	63	44	4	11.5	HG50/6FT
150 (6”)	1830mm	150	75	44	4	13.5	HG60/6FT
Note: T = Thickness (nominal +/- 1mm)							

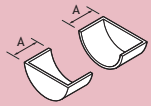
Union Clips



Gutter Size	A	B	Product Code
100	98	44	HG40/UC
113	98	44	HG45/UC
125	98	44	HG50/UC
150	95	44	HG60/UC

Stop Ends

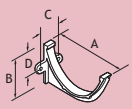
External Gutter



Internal Socket

Gutter Size	Type	A	Product Code
100	External	51	HG40/SE/E
113	"	51	HG45/SE/E
125	"	51	HG50/SE/E
150	"	51	HG60/SE/E
100	Internal	45	HG40/SE/I
113	"	45	HG45/SE/I
125	"	45	HG50/SE/I
150	"	45	HG60/SE/I

Fascia Brackets

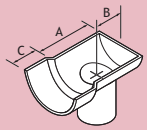


Gutter Size	A	B	C	D	Product Code
100	127	65	38	35	HG40/FB/CI
113	140	70	38	40	HG45/FB/CI
125	155	85	38	45	HG50/FB/CI
150	190	120	30	90	HG60/FB/CI

Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

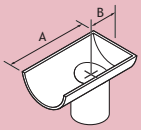
Apex Heritage – Half Round Gutters and Fittings

Drop End Outlet - with Socket



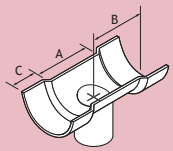
Gutter Size	Pipe Size	A	B	C	Product Code
100	63 dia	125	64	44	HG40/DE/25/E
113	63 dia	125	64	44	HG45/DE/25/E
125	63 dia	125	64	44	HG50/DE/25/E
100	76 dia	125	64	44	HG40/DE/30/E
113	76 dia	125	64	44	HG45/DE/30/E
125	76 dia	125	64	44	HG50/DE/30/E

Drop End Outlet - with Spigot



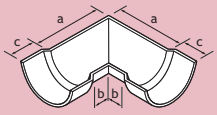
Gutter Size	Pipe Size	A	B	Product Code
100	63 dia	172	64	HG40/DE/25/I
113	63 dia	172	64	HG45/DE/25/I
125	63 dia	172	64	HG50/DE/25/I
100	76 dia	172	64	HG40/DE/30/I
113	76 dia	172	64	HG45/DE/30/I
125	76 dia	172	64	HG50/DE/30/I

Running Outlet - with Double Spigot Socket



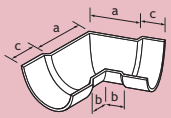
Gutter Size	Pipe Size	A	B	C	Product Code
100	63 dia	156	121	44	HG40/RO/25
113	63 dia	156	121	44	HG45/RO/25
125	63 dia	156	121	44	HG50/RO/25
100	75 dia	156	121	44	HG40/RO/30
113	75 dia	156	121	44	HG45/RO/30
125	75 dia	156	121	44	HG50/RO/30
150	75 dia	156	121	44	HG60/RO/30
125	100 dia	156	121	44	HG50/RO/40
150	100 dia	156	121	44	HG60/RO/40

90° Angles Combined



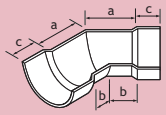
Gutter Size	Type	A	B	C	Product Code
100	Internal/External	190	79	44	HG40/A/90
113	Internal/External	200	79	44	HG45/A/90
125	Internal/External	209	79	44	HG50/A/90
150	Internal/External	235	79	44	HG60/A/90

120° Angles Combined



Gutter Size	Type	A	B	C	Product Code
100	Internal/External	124	79	44	HG40/A/120
113	Internal/External	124	76	44	HG45/A/120
125	Internal/External	136	79	44	HG50/A/120
150	Internal/External	140	75	44	HG60/A/120

135° Angles Combined



Gutter Size	Type	A	B	C	Product Code
100	Internal/External	124	79	44	HG40/A/135
113	Internal/External	124	76	44	HG45/A/135
125	Internal/External	137	79	44	HG50/A/135
150	Internal/External	128	75	44	HG60/A/135

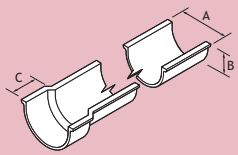
Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

Apex Heritage – Beaded Half Round Gutters and Fittings

Apex Heritage Beaded Half Round socketed cast iron gutters, in 2 sizes, incorporate a pronounced feature bead on both lips. This adds character and definition to the gutter edge in a true sand cast product. Fittings and fixings are also available as illustrated.

Note: All dimensions shown are in mm unless shown otherwise.
Gutter sizes shown are nominal.

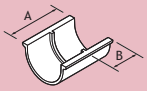
Gutters



Gutter Size	Gutter Length	A	B	C	T	Weight (kg)	Product Code
113 (4.5”)	1830mm	114	57	44	4	11	BG45/6FT
125 (5”)	1830mm	127	63	44	4	12.5	BG50/6FT

Note: T = Thickness (nominal +/- 1mm)

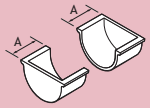
Union Clips



Gutter Size	A	B	Product Code
113	78	44	BG45/UC
125	78	44	BG50/UC

Stop Ends

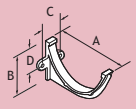
External Gutter



Internal Socket

Gutter Size	Type	A	Product Code
113	External	51	BG45/SE/E
125	"	51	BG50/SE/E
113	Internal	45	BG45/SE/I
125	"	45	BG50/SE/I

Fascia Brackets

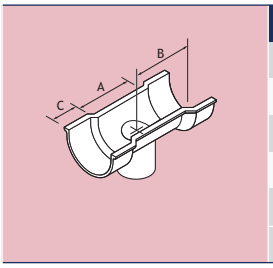


Gutter Size	A	B	C	D	Product Code
113	155	97	25	75	BG45/FB/CI
125	160	115	32	87	BG50/FB/CI

Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

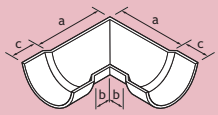
Apex Heritage – Beaded Half Round Gutters and Fittings

Running Outlet - with Double Spigot Socket



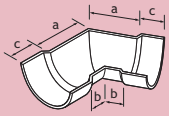
Gutter Size	Pipe Size	A	B	C	Product Code
113	63 dia	156	121	44	BG45/RO/25
125	63 dia	156	121	44	BG50/RO/25
113	75 dia	156	121	44	BG45/RO/30
125	75 dia	156	121	44	BG50/RO/30
125	100 dia	156	121	44	BG50/RO/40

90° Angles Combined



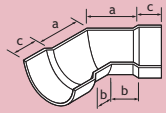
Gutter Size	Type	A	B	C	Product Code
113	Internal/External	206	70	44	BG45/A/90
125	Internal/External	116	70	44	BG50/A/90

120° Angles Combined



Gutter Size	Type	A	B	C	Product Code
113	Internal/External	130	76	44	BG45/A/120
125	Internal/External	140	79	44	BG50/A/120

135° Angles Combined



Gutter Size	Type	A	B	C	Product Code
113	Internal/External	130	76	44	BG45/A/135
125	Internal/External	140	79	44	BG50/A/135

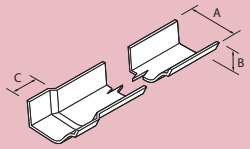
Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

Apex Heritage – Victorian Ogee Gutters and Fittings

Apex Heritage Ogee cast iron socketed gutters are available in 2 sizes.
An elegant Victorian ogee profile combined with the robust visual quality of sand cast iron. There is a range of fittings and fixings as illustrated.

Note: All dimensions shown are in mm unless shown otherwise.
Gutter sizes shown are nominal.
Victorian Ogee is a left hand socket system.

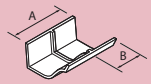
Gutters



Gutter Size	Gutter Length	A	B	C	T	Weight (kg)	Product Code
113 (4.5”)	1830mm	114	54	44	4	11.5	OG45/6FT
125 (5”)	1830mm	127	63	44	4	12.5	OG50/6FT

Note: T = Thickness (nominal +/- 1mm)

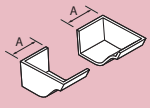
Union Clips



Gutter Size	A	B	Product Code
113	78	44	OG45/UC
125	78	44	BG50/UC

Stop Ends

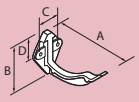
Right Hand External



Left Hand Internal

Gutter Size	Type	A	Product Code
113	External Right Hand	54	OG45/SE/RE
125	"	54	OG50/SE/RE
113	External Left Hand	54	OG45/SE/LE
125	"	54	OG50/SE/LE
113	Internal Left Hand	44	OG45/SE/LI
125	"	44	OG50/SE/LI

Fascia Brackets

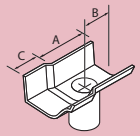


Gutter Size	A	B	C	D	Product Code
113	137	85	38	38	OG45/FB/CI
125	150	92	38	38	OG50/FB/CI

Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

Apex Heritage – Victorian Ogee Gutters and Fittings

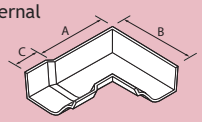
Running Outlet - with Single Socket



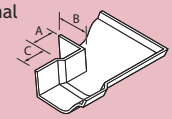
Gutter Size	Pipe Size	A	B	C	Product Code
113	63 dia	200	121	44	OG45/RO/25
125	63 dia	200	121	44	OG50/RO/25
113	75 dia	200	121	44	OG45/RO/30
125	75 dia	200	121	44	OG50/RO/30
125	100 dia	200	121	44	OG50/RO/40

90° Angles

External



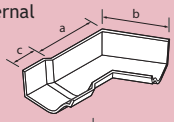
Internal



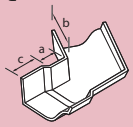
Gutter Size	Type	A	B	C	Product Code
113	External	28	76	44	OG45/EA/90
125	"	28	76	44	OG50/EA/90
113	Internal	156	206	44	OG45/IA/90
125	"	159	216	44	OG50/IA/90

120° Angles

External



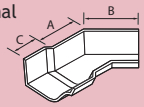
Internal



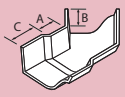
Gutter Size	Type	A	B	C	Product Code
113	External	28	76	44	OG45/EA/120
125	"	28	76	44	OG50/EA/120
113	Internal	98	149	44	OG45/IA/120
125	"	105	159	44	OG50/IA/120

135° Angles

External



Internal



Gutter Size	Type	A	B	C	Product Code
113	External	28	76	44	OG45/EA/135
125	"	28	76	44	OG50/EA/135
113	Internal	86	130	44	OG45/IA/135
125	"	86	130	44	OG50/IA/135

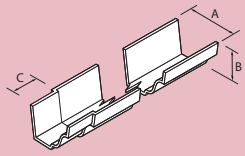
Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

Apex Heritage – Moulded Gutters and Fittings

Available in 3 sizes, Apex Heritage Moulded socketed cast iron gutters have a sharply featured decorative profile. A range of fittings and fixings as illustrated completes the system.

Note: All dimensions shown are in mm unless shown otherwise.
Gutter sizes shown are nominal.

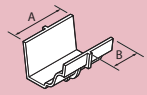
Gutters



Gutter Size	Gutter Length	A	B	C	T	Weight (kg)	Product Code
100 x 75	1830mm	108	76	50	4	11	MG43/6FT
125 x 100	1830mm	140	102	50	4	18	MG54/6FT
150 x 100	1830mm	162	102	50	4	19	MG64/6FT

Note: T = Thickness (nominal +/- 1mm)

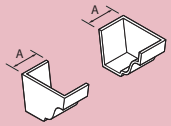
Union Clips



Gutter Size	A	B	Product Code
100 x 75	78	44	MG43/UC
125 x 100	78	44	MG54/UC
150 x 100	78	44	MG64/UC

Stop Ends

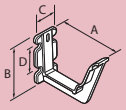
Right Hand External



Left Hand Internal

Gutter Size	Type	A	Product Code
100 x 75	External Right Hand	54	MG43/SE/RE
125 x 100	"	54	MG54/SE/RE
150 x 100	"	54	MG64/SE/RE
100 x 75	Internal Left Hand	51	MG43/SE/LI
125 x 100	"	51	MG54/SE/LI
150 x 100	"	51	MG64/SE/LI
100 x 75	Internal Right Hand	51	MG43/SE/RI
125 x 100	"	51	MG54/SE/RI
150 x 100	"	51	MG64/SE/RI

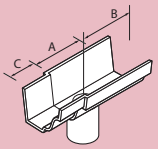
Fascia Brackets



Gutter Size	A	B	C	D	Product Code
100 x 75	135	125	30	85	MG45/FB/CI
125 x 100	170	150	35	110	MG50/FB/CI
150 x 100	190	150	35	118	MG50/FB/CI

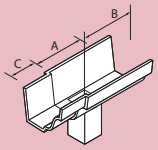
Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

Running Outlet - Single Spigot/Socket - Round Pipe



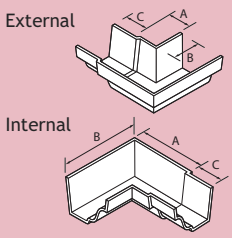
Gutter Size	Round Pipe Size	A	B	C	Product Code
100 x 75	63 dia	251	124	50	MG43/RO/25
125 x 100	63 dia	251	124	50	MG54/RO/25
150 x 100	63 dia	251	124	50	MG64/RO/25
100 x 75	75 dia	251	124	50	MG43/RO/30
125 x 100	75 dia	251	124	50	MG54/RO/30
150 x 100	75 dia	251	124	50	MG64/RO/30
100 x 75	100 dia	251	124	50	MG43/RO/40
125 x 100	100 dia	251	124	50	MG54/RO/40
150 x 100	100 dia	251	124	50	MG64/RO/40

Running Outlet with Single Spigot/Socket - Square Pipe



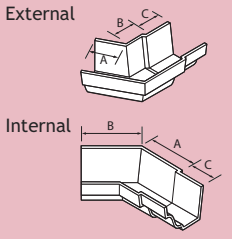
Gutter Size	Square Pipe Size	A	B	C	Product Code
100 x 75	75 x 75	251	124	50	MG43/RO/33
125 x 100	75 x 75	251	124	50	MG54/RO/33
150 x 100	75 x 75	251	124	50	MG64/RO/33
100 x 75	100 x 75	251	124	50	MG43/RO/43
125 x 100	100 x 75	251	124	50	MG54/RO/43
150 x 100	100 x 75	251	124	50	MG64/RO/43
150 x 100	100 x 100	251	124	50	MG64/RO/44
150 x 100	125 x 100	251	124	50	MG64/RO/54

90° Angles



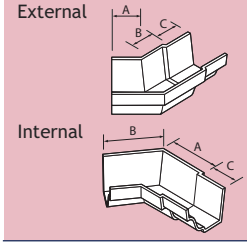
Gutter Size	Type	A	B	C	Product Code
100 x 75	External	28	79	50	MG43/EA/90
125 x 100	"	28	79	50	MG54/EA/90
150 x 100	"	25	70	50	MG64/EA/90
100 x 75	Internal	137	187	50	MG43/IA/90
125 x 100	"	168	216	50	MG54/IA/90
150 x 100	"	181	229	50	MG64/IA/90

120° Angles



Gutter Size	Type	A	B	C	Product Code
100 x 75	External	35	79	50	MG43/EA/120
125 x 100	"	35	79	50	MG54/EA/120
150 x 100	"	35	79	50	MG64/EA/120
100 x 75	Internal	60	111	50	MG43/IA/120
125 x 100	"	111	156	50	MG54/IA/120
150 x 100	"	50	168	50	MG64/IA/120

135° Angles



Gutter Size	Type	A	B	C	Product Code
100 x 75	External	28	79	50	MG43/EA/135
125 x 100	"	35	79	50	MG54/EA/135
150 x 100	"	41	89	50	MG64/EA/135
100 x 75	Internal	73	124	50	MG43/IA/135
125 x 100	"	89	137	50	MG54/IA/135
150 x 100	"	98	140	50	MG64/IA/135

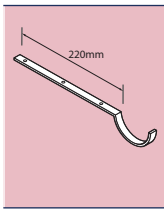
Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

Apex Heritage – Cast Iron Bracketry

Alumasc can provide traditional style Bracketry for all its standard Apex Heritage gutter profiles. Where building detailing dictates, Alumasc can provide bespoke Bracketry to meet individual project requirements.

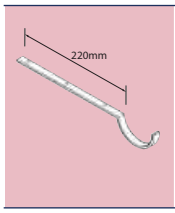
Traditional 'Old' Style Gutter Brackets

Top Fix Rafter Arm - Half Round



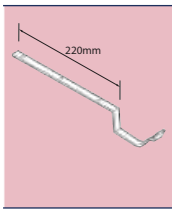
Gutter Size	Product Code
100	HG40/RB/TF
113	HG45/RB/TF
125	HG50/RB/TF
150	HG60/RB/TF

Top Fix Rafter Arm - Beaded Half Round



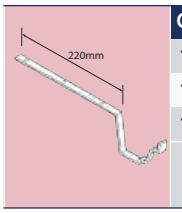
Gutter Size	Product Code
113	BG45/RB/TF
125	BG50/RB/TF

Top Fix Rafter Arm - Victorian Ogee



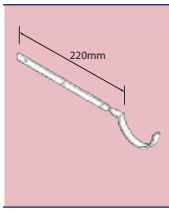
Gutter Size	Product Code
113	OG45/RB/TF
125	OG50/RB/TF

Top Fix Rafter Arm - Moulded



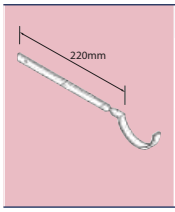
Gutter Size	Product Code
100 x 75	MG43/RB/TF
125 x 100	MG54/RB/TF
150 x 100	MG64/RB/TF

Side Fix Rafter Arm - Half Round



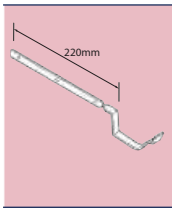
Gutter Size	Product Code
100	HG40/RB/SF
113	HG45/RB/SF
125	HG50/RB/SF
152	HG60/RB/SF

Side Fix Rafter Arm - Beaded Half Round/Deep Run



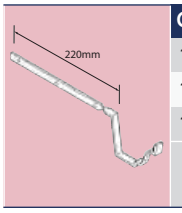
Gutter Size	Product Code
113	BG45/RB/SF
125	BG50/RB/SF

Side Fix Rafter Arm - Victorian Ogee



Gutter Size	Product Code
113	OG45/RB/SF
125	OG50/RB/SF

Side Fix Rafter Arm - Moulded

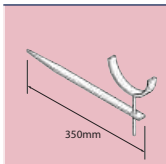


Gutter Size	Product Code
100 x 75	MG43/RB/SF
125 x 100	MG54/RB/SF
150 x 100	MG64/RB/SF

Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

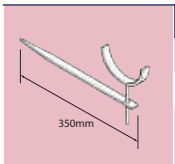
Apex Heritage – Cast Iron Bracketry

Drive in Rise & Fall - Half Round



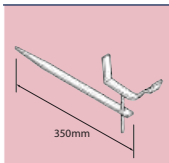
Gutter Size	Product Code
100	HG40/R&F/GS
113	HG45/R&F/GS
125	HG50/R&F/GS
150	HG60/R&F/GS

Drive in Rise & Fall - Beaded Half Round



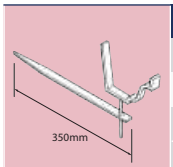
Gutter Size	Product Code
113	BG45/R&F/GS
125	BG50/R&F/GS

Drive in Rise & Fall - Victorian Ogee



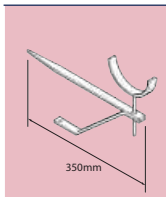
Gutter Size	Product Code
113	OG45/R&F/GS
125	OG50/R&F/GS

Drive in Rise & Fall - Moulded



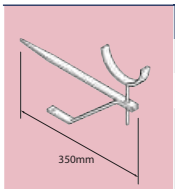
Gutter Size	Product Code
100 x 75	MG43/R&F/GS
125 x 100	MG54/R&F/GS
150 x 100	MG64/R&F/GS

Drive in Rise & Fall with 330mm Stay - Half Round



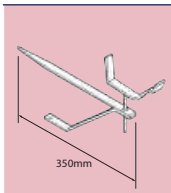
Gutter Size	Product Code
100	HG40/R&F/WS
113	HG45/R&F/WS
125	HG50/R&F/WS
150	HG60/R&F/WS

Drive in Rise & Fall with 330mm Stay - Beaded Half Round



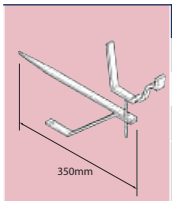
Gutter Size	Product Code
113	BG45/R&F/WS
125	BG50/R&F/WS

Drive in Rise & Fall with 330mm Stay - Victorian Ogee



Gutter Size	Product Code
113	OG45/R&F/WS
125	OG50/R&F/WS

Drive in Rise & Fall with 330mm Stay - Moulded



Gutter Size	Product Code
100 x 75	MG43/R&F/WS
125 x 100	MG54/R&F/WS
150 x 100	MG64/R&F/WS

Bespoke Bracketry

Alumasc can design and manufacture a variety of Bracketry solutions for gutters and pipes to create an integrated system solution. Such detailing can often be used to support fascia and soffit configurations.

Ornate holderbats and earbelts can be detailed to provide a unique, distinguished appearance to a rainwater stack.

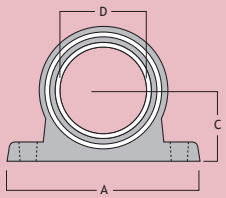
Where standard fitting dimensions do not suit the project's requirements, Alumasc can fabricate its gutter and pipe Bracketry systems to accommodate building design.

Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

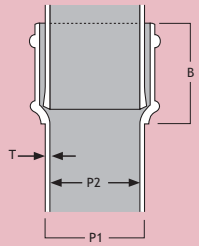
Apex Heritage – Circular Pipes and Fittings

A range of traditional cast iron socketed round rainwater pipes in a choice of 3 pipe diameters and 2 pipe lengths. There is a comprehensive range of cast iron fittings, and traditional holderbat and earbelt fixings. Cast iron rainwater hopper heads are also available to suit.

Note: All dimensions shown are in mm unless shown otherwise.
Pipe sizes shown are nominal.



Sockets (Nominal)	63	75	100
A Width of flange	146	162	191
B Depth of socket	63.5	63.5	63.5
C Distance of centre to wall	48	54	67
D Internal dia	73	90	111



Pipes (Nominal)	63	75	100
P1 External dia	63.5	82.5	108
P2 Internal dia	57	70	95
T Thickness	3	3	3

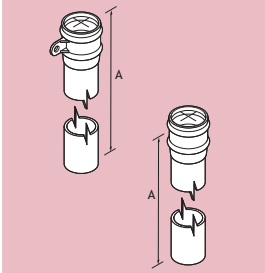
Notes:

1 If bends with ears are required, add one of the following suffixes to the Product Code according to its intended use:
   - front bend /FE
   - back bend /BE
   - lefthand bend /LE
   - righthand bend /RE
2 If plinth offsets with ears are required, add suffix PE to the Product Code.
3 Swan-necks can also be used as side offsets. If side offsets with ears are required, add one of the following suffixes to the Product Code according to its intended use:
   - lefthand side offset /LE
   - righthand side offset /RE
4 Shoes can also be used as side shoes. If side shoes with ears are required, add one of the following suffixes to the Product Code according to its intended use:
   - lefthand side shoe /LE
   - righthand side shoe /RE
5 If shoes with ears are required, add suffix E to the Product Code.
6 If ears are required on single branches or diminishing pieces, please contact Alumasc Technical Services department for further details.
7 Should projections other than those shown be required for plinth offsets or swan-necks, please contact Alumasc Technical Services for further details.

Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

Apex Heritage – Circular Pipes and Fittings

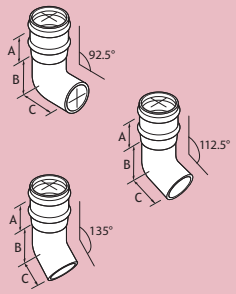
Pipes - With and Without Ears



Pipe Size	A	Product Code
63 dia	915	P25/3FT
75 dia	915	P30/3FT
100 dia	915	P40/3FT
63 dia	1830	P25/6FT
75 dia	1830	P30/6FT
100 dia	1830	P40/6FT

Note: The codes given above are for pipes with ears. For pipes without ears suffix codes with /NE

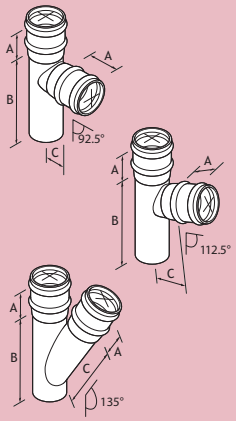
Bends



Pipe Size	Bend	A	B	C	Product Code
63 dia	92.5 Degree	63	76	140	P25/B/92
75 dia	"	63	83	146	P30/B/92
100 dia	"	63	95	159	P40/B/92
63 dia	112.5 Degree	63	57	121	P25/B/112
75 dia	"	63	60	124	P30/B/112
100 dia	"	63	70	133	P40/B/112
63 dia	135 Degree	63	44	108	P25/B/135
75 dia	"	63	48	111	P30/B/135
100 dia	"	63	51	114	P40/B/135

Note: If bends with ears are required, add one of the following suffixes to the Product Code:
Front Bend /FE Back Bend /BE Left Hand Bend /LE Right Hand Bend /RE.

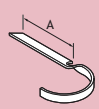
Branches



Pipe Size	Branches	A	B	C	Product Code
63 dia	92.5 Degree	63	210	79	P25/BR/92
75 dia	"	63	229	79	P30/BR/92
100 dia	"	63	267	98	P40/BR/92
63 dia	112.5 Degree	63	210	79	P25/BR/112
75 dia	"	63	229	89	P30/BR/112
100 dia	"	63	267	108	P40/BR/112
63 dia	135 Degree	63	210	108	P25/BR/135
75 dia	"	63	229	124	P30/BR/135
100 dia	"	63	267	152	P40/BR/135

Note: If ears are required on single branches contact Alumasc Technical Services.

Drive in Pipe Support

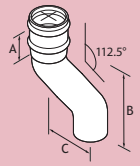


Pipe Size	A	Product Code
63 dia	300	P25/HF
75 dia	300	P30/HF
100 dia	300	P40/HF

Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

Apex Heritage – Circular Pipes and Fittings

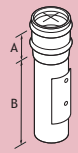
Side Offsets, Plinth Offsets and Swan Necks



Pipe Size	Branches	A	B	C	Product Code
63 dia	112.5 Degree	63	190	76	P25/OF/03
63 dia	"	63	210	114	P25/OF/04
63 dia	"	63	225	152	P25/OF/06
63 dia	"	63	257	229	P25/OF/09
63 dia	"	63	289	306	P25/OF/12
63 dia	"	63	321	381	P25/OF/15
63 dia	"	63	352	457	P25/OF/18
75 dia	112.5 Degree	63	200	76	P30/OF/03
75 dia	"	63	216	114	P30/OF/04
75 dia	"	63	232	152	P30/OF/06
75 dia	"	63	264	229	P30/OF/09
75 dia	"	63	295	306	P30/OF/12
75 dia	"	63	327	381	P30/OF/15
75 dia	"	63	359	457	P30/OF/18
100 dia	112.5 Degree	63	219	76	P40/OF/03
100 dia	"	63	235	114	P40/OF/04
100 dia	"	63	248	152	P40/OF/06
100 dia	"	63	279	229	P40/OF/09
100 dia	"	63	311	306	P40/OF/12
100 dia	"	63	343	381	P40/OF/15
100 dia	"	63	375	457	P40/OF/18

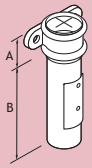
Note: If offsets with ears are required, add one of the following suffixes to the Product Code:
Left Hand Side Offset /LE Right Hand Side Offset /RE.
Other sizes are available on request.

Access Pipes - Without Ears



Pipe Size	A	B	Product Code
63 dia	63	343	P25/AP/NE
75 dia	63	343	P30/AP/NE
100 dia	63	343	P40/AP/NE

Access Pipes - With Ears

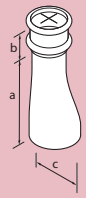


Pipe Size	A	B	Product Code
63 dia	63	343	P25/AP
75 dia	63	343	P30/AP
100 dia	63	343	P40/AP

Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

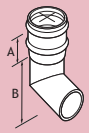
Apex Heritage – Circular Pipes and Fittings

Diminishing Pieces



Pipe Size	A	B	C	Product Code
100 dia	140	63	63	P40/DIM/25
100 dia	140	63	76	P40/DIM/30

Shoes

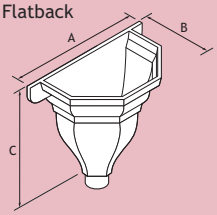


Pipe Size	Type	A	B	C	Product Code
63 dia	Regular	63	102	-	P25/SH
75 dia	"	63	114	-	P35/SH
100 dia	"	63	143	-	P40/SH
63 dia	Anti-splash	63	159	149	P25/SH/A
75 dia	"	63	175	171	P35/SH/A
100 dia	"	63	197	206	P40/SH/A

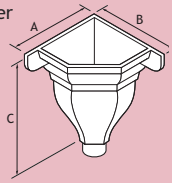
Note: If shoes are required add /E to the Product Code.
Shoes used as side shoes for a left hand side shoe with ears add /LE. For a right hand side shoe add/RE.

Rainwater Heads

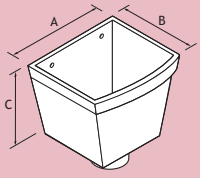
Flatback



Corner



Rectangular



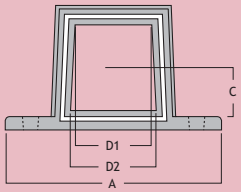
Pipe Size	Type	A	B	C	Product Code
63 dia	Flatback	298	190	210	HH/001/25F
75 dia	"	298	190	210	HH/001/30F
100 dia	"	337	229	241	HH/001/40F
63 dia	Corner	210	210	210	HH/001/25C
75 dia	"	210	210	210	HH/001/30C
100 dia	"	235	235	241	HH/001/40C
63 dia	Small Rectangular	254	178	178	HH/002/25
75 dia	"	254	178	178	HH/002/30
100 dia	"	254	178	178	HH/002/40
63 dia	Large Rectangular	305	250	250	HH/003/25
75 dia	"	305	250	250	HH/003/30
100 dia	"	305	254	203	HH/003/40

Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

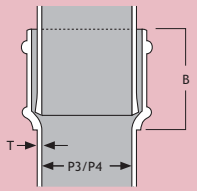
Apex Heritage – Square and Rectangular Pipes and Fittings

A range of traditional cast iron socketed square and rectangular rainwater pipes in a choice of 5 pipe sizes and 2 pipe lengths. There is a comprehensive range of cast iron fittings and traditional earbelt fixings. Cast iron rainwater hopper heads are also available to suit.

Note: All dimensions shown are in mm unless shown otherwise.
Pipe sizes shown are nominal.



Sockets (Nominal)	75 x 75	100 x 75	100 x 100	125 x 100	150 x 100
A Width of flange	180	205	205	230	250
B Depth of socket	83	83	108	108	108
C Distance of centre to wall	50	50	65	65	65
D1 Internal dimension front	86	111	111	136.5	162
D2 Internal dimension front	89	114	114	140	165



Pipes (Nominal)	75 x 75	100 x 75	100 x 100	125 x 100	150 x 100
P1 External dimension front	82.5	108	108	133.5	159
P2 External dimension back	86	111	111	136.5	162
P3 Internal dimension front	70	95.5	95.5	121	146
P4 Internal dimension back	73	98.5	98.5	124	149
T Thickness	6.5	6.5	6.5	6.5	6.5

Notes:

1 Dimensions of rectangular pipes are given with the width as viewed from the front first, followed by the depth, front to back- eg, 150 wide x 100 depth.

2 If ears are required, add suffix /E to the Product Code.

3 If ears are required on single branches or swan-necks, please contact our Customer Services department for further details.

4 Shoes can also be used as side shoes. If side shoes with ears are required, add one of the following suffixes to the Product Code according to its intended use:

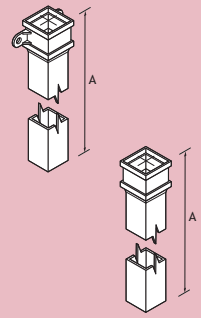
- lefthand side shoe /LE
- righthand side shoe /RE

5 Should projections other than those shown be required for swan-necks, plinth offsets or side offsets, please contact Alumasc Technical Services department for further details.

6 The majority of fittings illustrated in this section are available 'From stock'. However, extended lead times might be required for some items.

Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

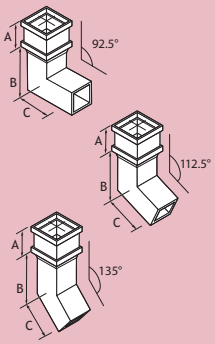
Pipes - With and Without Ears



Pipe Size	A	Product Code
75 x 75	915	P33/3FT
75 x 100	915	P43/3FT
100 x 100	915	P44/3FT
125 x 100	915	P54/3FT
150 x 100	915	P64/3FT
75 x 75	1830	P33/6FT
75 x 100	1830	P43/6FT
100 x 100	1830	P44/6FT
125 x 100	1830	P54/6FT
150 x 100	1830	P64/6FT

Note: The codes given above are for pipes with ears. For pipes without ears suffix codes with /NE

Bends - Front/Back

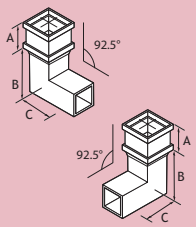


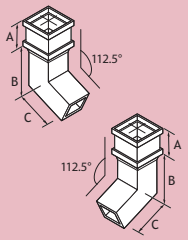
Pipe Size	Bend	A	B	C	Product Code
75 x 75	92.5 Degree	82	83	165	P33/B/92B/F
75 x 100	"	82	83	165	P43/B/92B/F
100 x 100	"	82	95	178	P44/B/92B/F
125 x 100	"	82	95	178	P54/B/92B/F
150 x 100	"	82	95	178	P64/B/92B/F
75 x 75	112.5 Degree	82	60	143	P33/B/112B/F
75 x 100	"	82	60	143	P43/B/112B/F
100 x 100	"	82	70	152	P44/B/112B/F
125 x 100	"	82	70	152	P54/B/112B/F
150 x 100	"	82	70	152	P64/B/112B/F
75 x 75	135 Degree	82	48	130	P33/B/135B/F
75 x 100	"	82	48	130	P43/B/135B/F
100 x 100	"	82	51	133	P44/B/135B/F
125 x 100	"	82	51	133	P54/B/135B/F
150 x 100	"	82	51	133	P64/B/135B/F

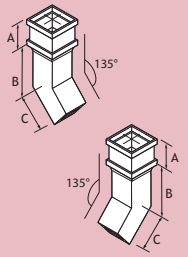
Note: If bends with ears are required, add suffix /E to the Product Code.
The Product Code for Apex Cast Iron Front/Back bends should be suffixed F for Front or B for Back bends as appropriate.

Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

Bends - Left/Right





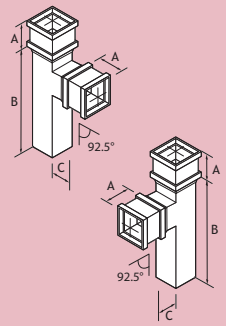


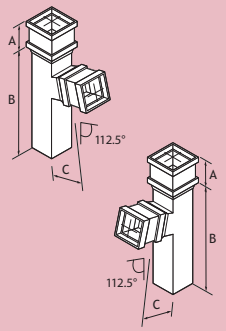
Pipe Size	Type	Angle	A	B	C	Product Code
75 x 75	Left	92.5 Degree	82	108	190	P33/B/92L
75 x 100	Left	"	82	121	203	P43/B/92L
100 x 100	Left	"	82	121	203	P44/B/92L
125 x 100	Left	"	82	133	216	P54/B/92L
150 x 100	Left	"	82	146	229	P64/B/92L
75 x 75	Right	"	82	108	190	P33/B/92R
75 x 100	Right	"	82	121	203	P43/B/92R
100 x 100	Right	"	82	121	203	P44/B/92R
125 x 100	Right	"	82	133	216	P54/B/92R
150 x 100	Right	"	82	146	229	P64/B/92R
75 x 75	Left	112.5 Degree	82	86	168	P33/B/112L
75 x 100	Left	"	82	95	178	P43/B/112L
100 x 100	Left	"	82	95	178	P44/B/112L
125 x 100	Left	"	82	105	187	P54/B/112L
150 x 100	Left	"	82	114	197	P64/B/112L
75 x 75	Right	"	82	86	168	P33/B/112R
75 x 100	Right	"	82	95	178	P43/B/112R
100 x 100	Right	"	82	95	178	P44/B/112R
125 x 100	Right	"	82	105	187	P54/B/112R
150 x 100	Right	"	82	114	197	P64/B/112R
75 x 75	Left	135 Degree	82	73	156	P33/B/135L
75 x 100	Left	"	82	76	158	P43/B/135L
100 x 100	Left	"	82	76	158	P44/B/135L
125 x 100	Left	"	82	83	165	P54/B/135L
150 x 100	Left	"	82	89	171	P64/B/135L
75 x 75	Right	"	82	73	156	P33/B/135R
75 x 100	Right	"	82	76	158	P43/B/135R
100 x 100	Right	"	82	76	158	P44/B/135R
125 x 100	Right	"	82	83	165	P54/B/135R
150 x 100	Right	"	82	89	171	P64/B/135R

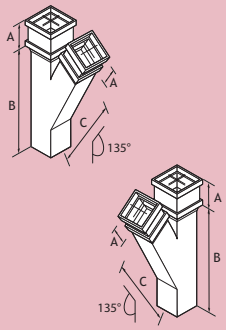
Note: If bends with ears are required, add suffix /E to the Product Code.

Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

Branches





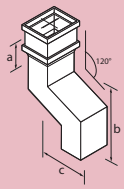


Pipe Size	Type	Angle	A	B	C	Product Code
75 x 75	Left	92.5 Degree	82	273	83	P33/BR/92L
75 x 100	Left	"	82	298	98	P43/BR/92L
100 x 100	Left	"	82	298	98	P44/BR/92L
125 x 100	Left	"	82	324	111	P54/BR/92L
150 x 100	Left	"	82	349	124	P64/BR/92L
75 x 75	Right	"	82	273	83	P33/BR/92R
75 x 100	Right	"	82	298	98	P43/BR/92R
100 x 100	Right	"	82	298	98	P44/BR/92R
125 x 100	Right	"	82	324	111	P54/BR/92R
150 x 100	Right	"	82	349	124	P64/BR/92R
75 x 75	Left	112.5 Degree	82	273	102	P33/BR/112L
75 x 100	Left	"	82	298	121	P43/BR/112L
100 x 100	Left	"	82	298	121	P44/BR/112L
125 x 100	Left	"	82	324	146	P54/BR/112L
150 x 100	Left	"	82	349	159	P64/BR/112L
75 x 75	Right	"	82	273	102	P33/BR/112R
75 x 100	Right	"	82	298	121	P43/BR/112R
100 x 100	Right	"	82	298	121	P44/BR/112R
125 x 100	Right	"	82	324	146	P54/BR/112R
150 x 100	Right	"	82	349	159	P64/BR/112R
75 x 75	Left	135 Degree	82	340	146	P33/BR/135L
75 x 100	Left	"	82	375	175	P43/BR/135L
100 x 100	Left	"	82	375	175	P44/BR/135L
125 x 100	Left	"	82	416	203	P54/BR/135L
150 x 100	Left	"	82	451	235	P64/BR/135L
75 x 75	Right	"	82	340	146	P33/BR/135R
75 x 100	Right	"	82	375	175	P43/BR/135R
100 x 100	Right	"	82	375	175	P44/BR/135R
125 x 100	Right	"	82	416	203	P54/BR/135R
150 x 100	Right	"	82	451	235	P64/BR/135R

Note: If branches with ears are required, add suffix /E to the Product Code.

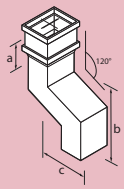
Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

Offsets - Left/Right 75 x 75



Pipe Size	Type	Angle	A	B	C	Product Code
75 x 75	Left	112.5 Degree	82	286	76	P33/OF/03L
75 x 75	Left	"	82	302	114	P33/OF/04L
75 x 75	Left	"	82	317	152	P33/OF/06L
75 x 75	Left	"	82	349	228	P33/OF/09L
75 x 75	Left	"	82	381	305	P33/OF/12L
75 x 75	Left	"	82	413	381	P33/OF/15L
75 x 75	Left	"	82	444	457	P33/OF/18L
75 x 75	Right	"	82	286	76	P33/OF/03R
75 x 75	Right	"	82	302	114	P33/OF/04R
75 x 75	Right	"	82	317	152	P33/OF/06R
75 x 75	Right	"	82	349	228	P33/OF/09R
75 x 75	Right	"	82	381	305	P33/OF/12R
75 x 75	Right	"	82	413	381	P33/OF/15R
75 x 75	Right	"	82	444	457	P33/OF/18R
75 x 75	Swan Neck	120 Degree	82	286	76	P33/OF/03
75 x 75	Swan Neck	"	82	302	114	P33/OF/04
75 x 75	Swan Neck	"	82	317	152	P33/OF/06
75 x 75	Swan Neck	"	82	349	228	P33/OF/09
75 x 75	Swan Neck	"	82	381	305	P33/OF/12
75 x 75	Swan Neck	"	82	413	381	P33/OF/15
75 x 75	Swan Neck	"	82	444	457	P33/OF/18
75 x 75	Plinth Offset	135 Degree	82	317	63	P33/OF/02P
75 x 75	Plinth Offset	"	82	330	76	P33/OF/03P
75 x 75	Plinth Offset	"	82	368	114	P33/OF/04P
75 x 75	Plinth Offset	"	82	-	152	P33/OF/06P

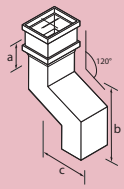
Offsets - Left/Right 100 x 75



Pipe Size	Type	Angle	A	B	C	Product Code
100 x 75	Left	112.5 Degree	82	302	76	P43/OF/03L
100 x 75	Left	"	82	317	114	P43/OF/04L
100 x 75	Left	"	82	333	152	P43/OF/06L
100 x 75	Left	"	82	365	228	P43/OF/09L
100 x 75	Left	"	82	397	305	P43/OF/12L
100 x 75	Left	"	82	429	381	P43/OF/15L
100 x 75	Left	"	82	460	457	P43/OF/18L
100 x 75	Right	"	82	302	76	P43/OF/03R
100 x 75	Right	"	82	317	114	P43/OF/04R
100 x 75	Right	"	82	333	152	P43/OF/06R
100 x 75	Right	"	82	365	228	P43/OF/09R
100 x 75	Right	"	82	379	305	P43/OF/12R
100 x 75	Right	"	82	429	381	P43/OF/15R
100 x 75	Right	"	82	460	457	P43/OF/18R
100 x 75	Swan Neck	120 Degree	82	302	76	P43/OF/03
100 x 75	Swan Neck	"	82	317	114	P43/OF/04
100 x 75	Swan Neck	"	82	333	152	P43/OF/06
100 x 75	Swan Neck	"	82	365	228	P43/OF/09
100 x 75	Swan Neck	"	82	397	305	P43/OF/12
100 x 75	Swan Neck	"	82	429	381	P43/OF/15
100 x 75	Swan Neck	"	82	460	457	P43/OF/18
100 x 75	Plinth Offset	135 Degree	82	317	63	P43/OF/02P
100 x 75	Plinth Offset	"	82	330	76	P43/OF/03P
100 x 75	Plinth Offset	"	82	368	114	P43/OF/04P
100 x 75	Plinth Offset	"	82	406	152	P43/OF/06P

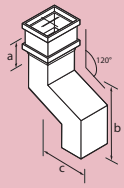
Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

Offsets - Left/Right 100 x 100



Pipe Size	Type	Angle	A	B	C	Product Code
100 x 100	Left	112.5 Degree	82	302	76	P44/OF/03L
100 x 100	Left	"	82	317	114	P44/OF/04L
100 x 100	Left	"	82	333	152	P44/OF/06L
100 x 100	Left	"	82	365	228	P44/OF/09L
100 x 100	Left	"	82	397	305	P44/OF/12L
100 x 100	Left	"	82	429	381	P44/OF/15L
100 x 100	Left	"	82	460	457	P44/OF/18L
100 x 100	Right	"	82	302	76	P44/OF/03R
100 x 100	Right	"	82	317	114	P44/OF/04R
100 x 100	Right	"	82	333	152	P44/OF/06R
100 x 100	Right	"	82	365	228	P44/OF/09R
100 x 100	Right	"	82	397	305	P44/OF/12R
100 x 100	Right	"	82	429	381	P44/OF/15R
100 x 100	Right	"	82	460	457	P44/OF/18R
100 x 100	Swan Neck	120 Degree	82	302	76	P44/OF/03
100 x 100	Swan Neck	"	82	317	114	P44/OF/04
100 x 100	Swan Neck	"	82	333	152	P44/OF/06
100 x 100	Swan Neck	"	82	365	228	P44/OF/09
100 x 100	Swan Neck	"	82	397	305	P44/OF/12
100 x 100	Swan Neck	"	82	429	381	P44/OF/15
100 x 100	Swan Neck	"	82	460	457	P44/OF/18
100 x 100	Plinth Offset	135 Degree	82	324	63	P44/OF/02P
100 x 100	Plinth Offset	"	82	340	76	P44/OF/03P
100 x 100	Plinth Offset	"	82	375	114	P44/OF/04P
100 x 100	Plinth Offset	"	82	416	152	P44/OF/06P

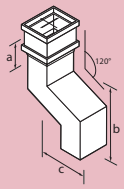
Offsets - Left/Right 125 x 100



Pipe Size	Type	Angle	A	B	C	Product Code
125 x 100	Left	112.5 Degree	82	317	76	P54/OF/03L
125 x 100	Left	"	82	333	114	P54/OF/04L
125 x 100	Left	"	82	349	152	P54/OF/06L
125 x 100	Left	"	82	381	228	P54/OF/09L
125 x 100	Left	"	82	413	305	P54/OF/12L
125 x 100	Left	"	82	444	381	P54/OF/15L
125 x 100	Left	"	82	476	457	P54/OF/18L
125 x 100	Right	"	82	317	76	P54/OF/03R
125 x 100	Right	"	82	333	114	P54/OF/04R
125 x 100	Right	"	82	349	152	P54/OF/06R
125 x 100	Right	"	82	381	228	P54/OF/09R
125 x 100	Right	"	82	413	305	P54/OF/12R
125 x 100	Right	"	82	444	381	P54/OF/15R
125 x 100	Right	"	82	476	457	P54/OF/18R
125 x 100	Swan Neck	120 Degree	82	317	76	P54/OF/03
125 x 100	Swan Neck	"	82	333	114	P54/OF/04
125 x 100	Swan Neck	"	82	349	152	P54/OF/06
125 x 100	Swan Neck	"	82	381	228	P54/OF/09
125 x 100	Swan Neck	"	82	413	305	P54/OF/12
125 x 100	Swan Neck	"	82	444	381	P54/OF/15
125 x 100	Swan Neck	"	82	476	457	P54/OF/18
125 x 100	Plinth Offset	135 Degree	82	324	63	P54/OF/02P
125 x 100	Plinth Offset	"	82	340	76	P54/OF/03P
125 x 100	Plinth Offset	"	82	375	114	P54/OF/04P
125 x 100	Plinth Offset	"	82	416	152	P54/OF/06P

Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

Offsets - Left/Right 150 x 100



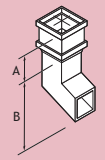
Pipe Size	Type	Angle	A	B	C	Product Code
150 x 100	Left	112.5 Degree	82	337	76	P64/OF/03L
150 x 100	Left	"	82	352	114	P64/OF/04L
150 x 100	Left	"	82	368	152	P64/OF/06L
150 x 100	Left	"	82	400	228	P64/OF/09L
150 x 100	Left	"	82	432	305	P64/OF/12L
150 x 100	Left	"	82	464	381	P64/OF/15L
150 x 100	Left	"	82	495	457	P64/OF/18L
150 x 100	Right	"	82	337	76	P64/OF/03R
150 x 100	Right	"	82	352	114	P64/OF/04R
150 x 100	Right	"	82	368	152	P64/OF/06R
150 x 100	Right	"	82	400	228	P64/OF/09R
150 x 100	Right	"	82	432	305	P64/OF/12R
150 x 100	Right	"	82	464	381	P64/OF/15R
150 x 100	Right	"	82	495	457	P64/OF/18R
150 x 100	Swan Neck	120 Degree	82	337	76	P64/OF/03
150 x 100	Swan Neck	"	82	352	114	P64/OF/04
150 x 100	Swan Neck	"	82	368	152	P64/OF/06
150 x 100	Swan Neck	"	82	400	228	P64/OF/09
150 x 100	Swan Neck	"	82	432	305	P64/OF/12
150 x 100	Swan Neck	"	82	464	381	P64/OF/15
150 x 100	Swan Neck	"	82	495	457	P64/OF/18
150 x 100	Plinth Offset	135 Degree	82	324	63	P64/OF/02P
150 x 100	Plinth Offset	"	82	340	76	P64/OF/03P
150 x 100	Plinth Offset	"	82	375	114	P64/OF/04P
150 x 100	Plinth Offset	"	82	416	152	P64/OF/06P

Note: If ears are required on 112.5° and 135° offsets, add suffix /E to the Product Code.

Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.

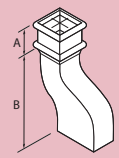
Apex Heritage – Square and Rectangular Pipes and Fittings

Shoes



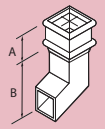
Pipe Size	A	B	Product Code
75 x 75	82	159	P33/SH
100 x 75	82	159	P43/SH
100 x 100	82	184	P44/SH
125 x 100	82	184	P54/SH
150 x 100	82	184	P64/SH

Anti Splash Shoes



Pipe Size	A	B	Product Code
75 x 75	82	171	P33/SH/A
100 x 75	82	171	P43/SH/A
100 x 100	82	197	P44/SH/A
125 x 100	82	197	P54/SH/A
150 x 100	82	197	P64/SH/A

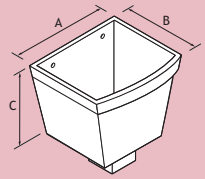
Corner Shoes



Pipe Size	A	B	Product Code
75 x 75	82	187	P33/SH/C
100 x 100	82	229	P44/SH/C

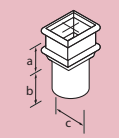
Note: Shoes can also be used as side shoes.
Add one of the following suffixes to the Product Code according to its intended use:
left hand side shoe /L right hand side shoe /R. If ears are required, add suffix /E to the Product Code.

Rainwater Heads



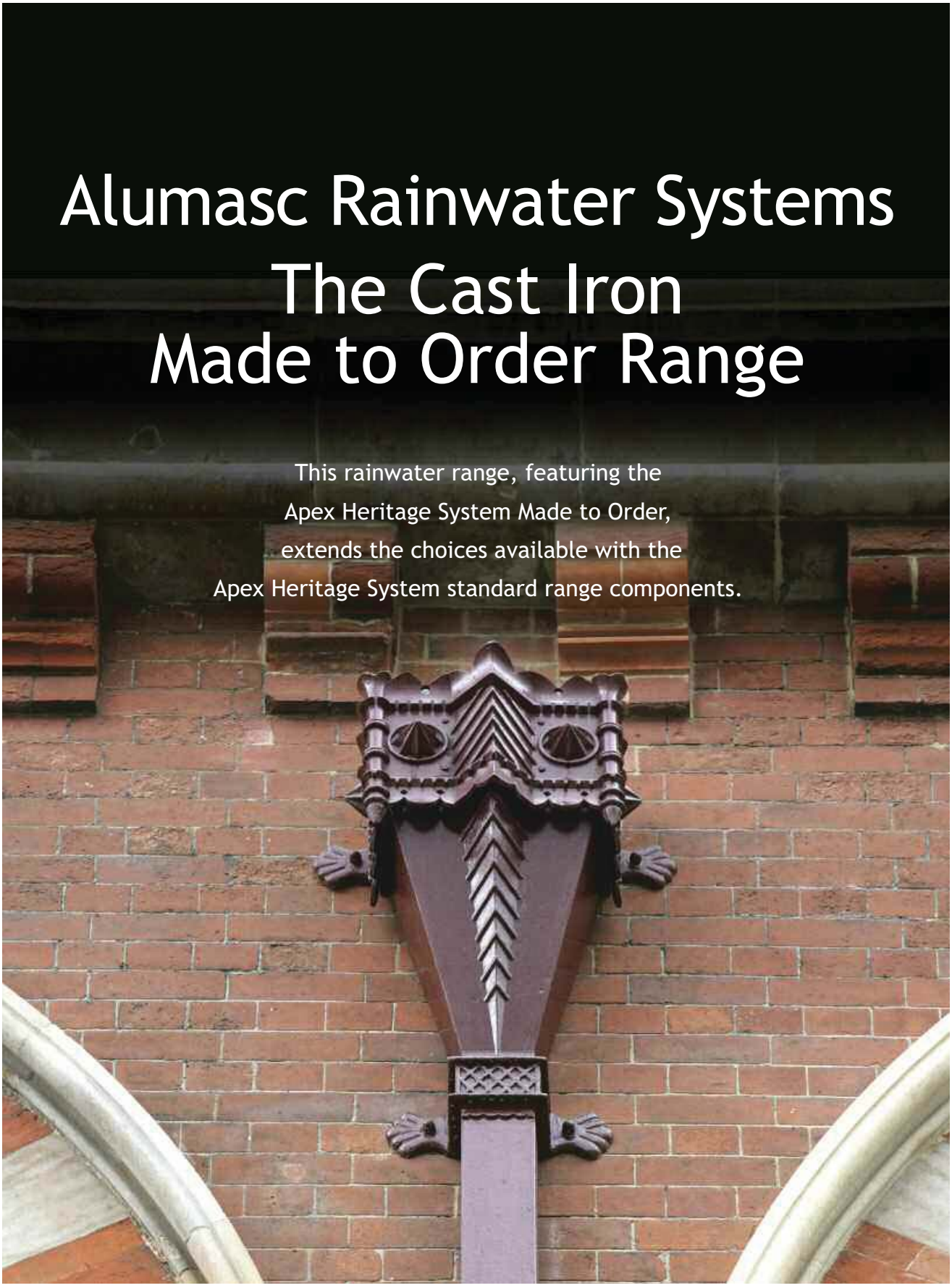
Pipe Size	Type	A	B	C	Product Code
75 x 75	Small Rectangular	254	178	178	HH/002/33
100 x 75	"	254	178	178	HH/002/43
100 x 100	"	254	178	178	HH/002/44
75 x 75	Large Rectangular	305	250	250	HH/003/33
100 x 75	"	305	254	302	HH/003/43
100 x 100	"	305	254	302	HH/003/44
125 x 100	"	305	254	302	HH/003/54

Square to Circular Connectors



Pipe Size	A	B	C	Product Code
75 x 75	82	95	108	P33/C
100 x 75	82	95	108	P43/C
100 x 100	82	95	108	P44/C
125 x 100	82	95	108	P54/C
150 x 100	82	95	108	P64/C

Note: Products are available with an oxide primed coating or with a certified factory painted finish.
Product Codes in the tables refer to primed products. For Painted products add the suffix /PA to the Product Code reference.


Alumasc Rainwater Systems
The Cast Iron
Made to Order Range
This rainwater range, featuring the
Apex Heritage System Made to Order,
extends the choices available with the
Apex Heritage System standard range components.

Made to Order Cast Iron Rainwater Range – Introduction

Alumasc Rainwater's Made-to-Order Cast Iron range is specifically designed to yield all of the benefits associated with the standard Apex Heritage range, satisfying all the style options for new buildings whilst addressing the challenges of exact replacement for refurbishment and restoration.

Gutters

Hoppers

Downpipes

Accessories

Design Flexibility

Alumasc's history of designing and supplying engineered rainwater systems is a sign of its ability to develop patterns for the sand casting of products that are tailored to individual buildings' specific needs.

The Apex Heritage Made-to-Order range offers the specifier a considerable choice of readily available plain and ornamental pipes, rainwater heads and gutter profiles, including radius gutters in traditional sand cast iron.

A variety of different designs are possible for decorative earbelts and additional enrichments that can be added onto rainwater heads.

Where an existing installation has to be replaced, in particular on listed building, Alumasc can provide new castings to match the existing design. Where gutters are required to follow a particular roof radius, patterns can be engineered from dimensions or existing gutter installations to yield a gutter that can be installed to suit the roof parameters. Alumasc is happy to offer technical advice and quotations for additional designs where these might be required.

Cast Iron Specialist

To further support Alumasc Rainwater product offer and technical support service we now have a Cast Iron Specialist in the technical team who is concentrating closely on bespoke Cast Iron rainwater solutions, providing design advice and technical support to Architects, Specifiers and Contractors.

To discuss you project requirements please contact the

Cast Iron Specialist

on

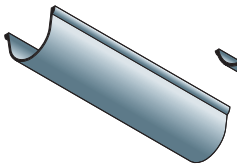
Tel: 01536 720 523

Apex Heritage – Made to Order Gutters

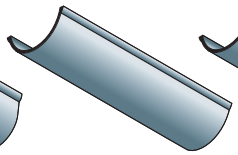
Half Round Gutters

Gutter Size	Type	Product Code
127 x 140	Deep, beaded, collar	SG22/6FT
152 x 70	Beaded, collar	SG25/6FT
200 x 81	Deep	SG77/6FT

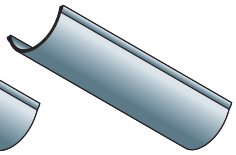
SG22/6FT



SG25/6FT



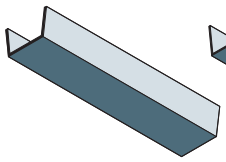
SG77/6FT



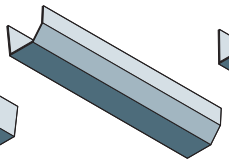
Box Gutters

Gutter Size	Type	Product Code
114 x 76	Collar	SG31/6FT
114 x 89	Right hand spigot	SG20/6FT
140 x 102	Right hand collar	SG26/6FT
140 x 102	Right hand spigot	SG08/6FT
152 x 140	Right hand spigot	SG09/6FT

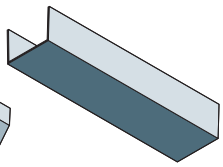
SG31/6FT



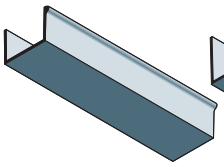
SG20/6FT



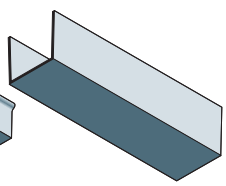
SG26/6FT



SG08/6FT



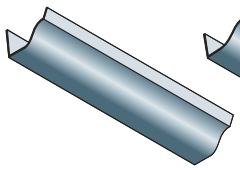
SG09/6FT



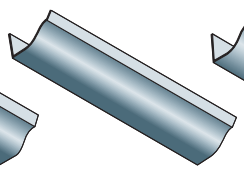
Ogee Gutters

Gutter Size	Type	Product Code
114 x 76	Right hand spigot	SG17/6FT
127 x 70	Left hand collar	SG29/6FT
127 x 76	Left hand collar	SG13/6FT
127 x 102	Right hand spigot	SG18/6FT
152 x 102	Right hand spigot	SG19/6FT

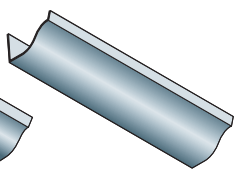
SG17/6FT



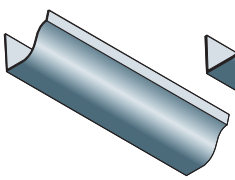
SG29/6FT



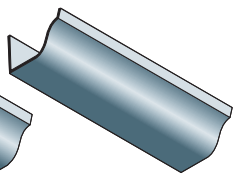
SG13/6FT



SG18/6FT



SG19/6FT

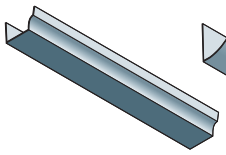


Gutters can be made to order in any shape — half round, box, ogee or moulded. Radiused gutters can also be produced. All are available with fittings to accommodate any situation: 90° external or internal angle, running outlet, union clip or LH stopend (inside gutter).

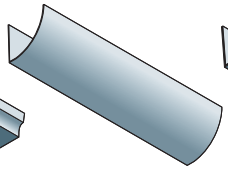
Moulded Gutters

Gutter Size	Type	Product Code
133 x 82	Right hand spigot	SG39/6FT
165 x 152	Left hand spigot	SG37/6FT
178 x 152	Right hand spigot	SG05/6FT
190 x 89	Right hand spigot	SG07/6FT
203 x 127	Right hand collar	SG10/6FT
203 x 127	Right hand spigot	SG30/6FT
203 x 152	Right hand spigot	SG12/6FT
229 x 152	Right hand spigot	SG03/6FT
260 x 146	Right hand spigot	SG14/6FT
305 x 152	Left hand spigot	SG15/6FT

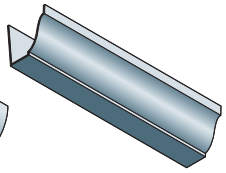
SG39/6FT



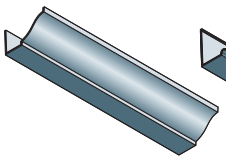
SG37/6FT



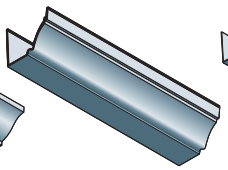
SG05/6FT



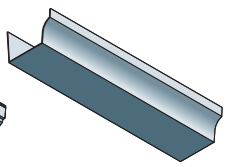
SG07/6FT



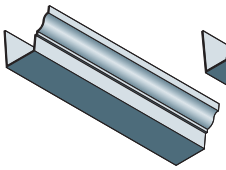
SG10/6FT



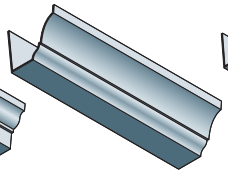
SG30/6FT



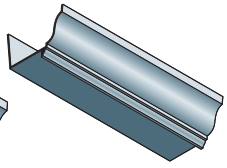
SG12/6FT



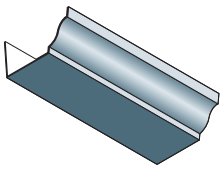
SG03/6FT



SG14/6FT



SG15/6FT



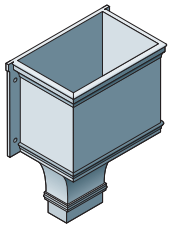
Please contact us for more information on made-to-order gutters.

Apex Heritage – Made to Order Rainwater Heads

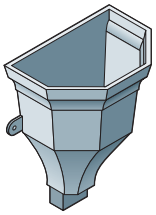
This page shows the Apex Heritage made to order range of decorative rainwater heads. These products are readily available because Alumasc holds the patterns and can produce the items to order.

Made To Order Rainwater Heads

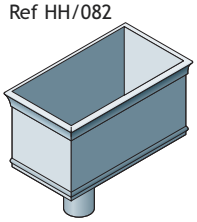
Ref HH/011



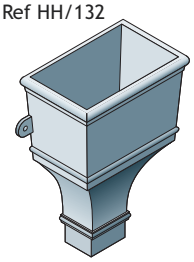
Ref HH/040



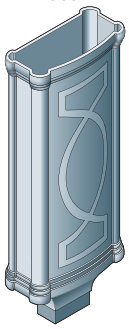
Ref HH/082



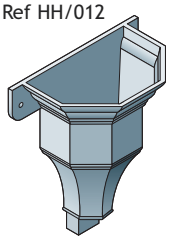
Ref HH/132



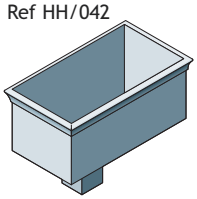
Ref HH/303



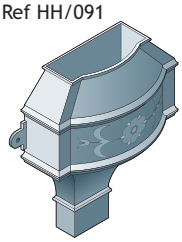
Ref HH/012



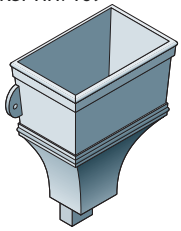
Ref HH/042



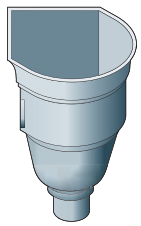
Ref HH/091



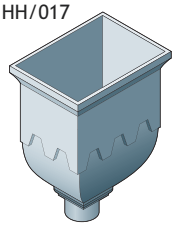
Ref HH/169



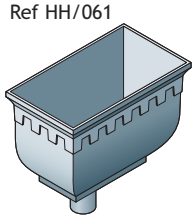
Ref HH/304



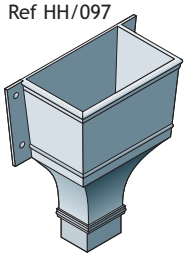
HH/017



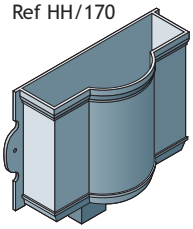
Ref HH/061



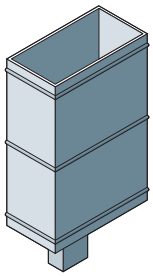
Ref HH/097



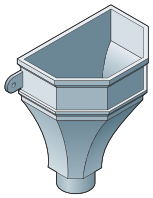
Ref HH/170



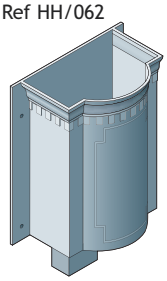
Ref HH/305 and 306



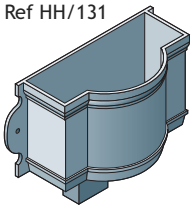
Ref HH/034



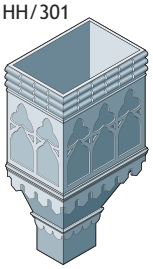
Ref HH/062



Ref HH/131



Ref HH/301



Apex Heritage – Made to Order Rainwater Heads

The number of available made-to-order designs increases as additional patterns are created for new commissions.

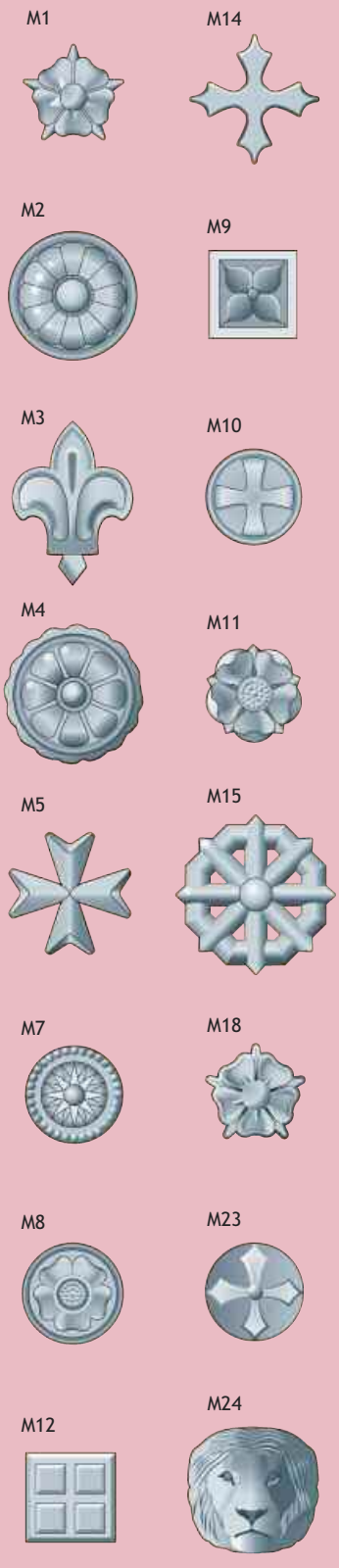
A variety of different designs is possible for decorative earbelts.

Additional enrichments can be incorporated into the rainwater heads shown.

Table Notes:
1 Overall width of rainwater head
2 Height of rainwater head excluding spigot

Made To Order Rainwater Heads

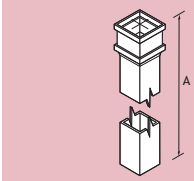
Outlet Sizes (mm) - up to		Width[1]	Height[2]	Product Code
Circular	Square & Rectangular			
102 dia	127 x 102	444	368	HH/011
102 dia	102 x 102	356	305	HH/012
76 dia	N/A	267	260	HH/017
152 dia	152 x 102	451	380	HH/034
102 dia	102 x 102	2 shapes	305	HH/040
152 dia	152 x 102	3 sizes	152	HH/042
102 dia	127 x 102	457	165	HH/061
102 dia	127 x 102	476	610	HH/062
152 dia	152 x 102	3 sizes	229	HH/082
76 dia	76 x 76	356	343	HH/091
102 dia	102 x 102	2 shapes	292	HH/097
127 dia	127 x 102	476	210	HH/131
127 dia	127 x 102	381	406	HH/132
N/A	102 x 102	298	210	HH/169
102 dia	102 x 2	419	152	HH/170
N/A	76 x 76	250	381	HH/301
N/A	102 x 76	202	330	HH/303
102 dia	N/A	368	-	HH/304
N/A	102 x 76	317	451	HH/305
N/A	102 x 76	762	451	HH/306



Rainwater Head Enrichments

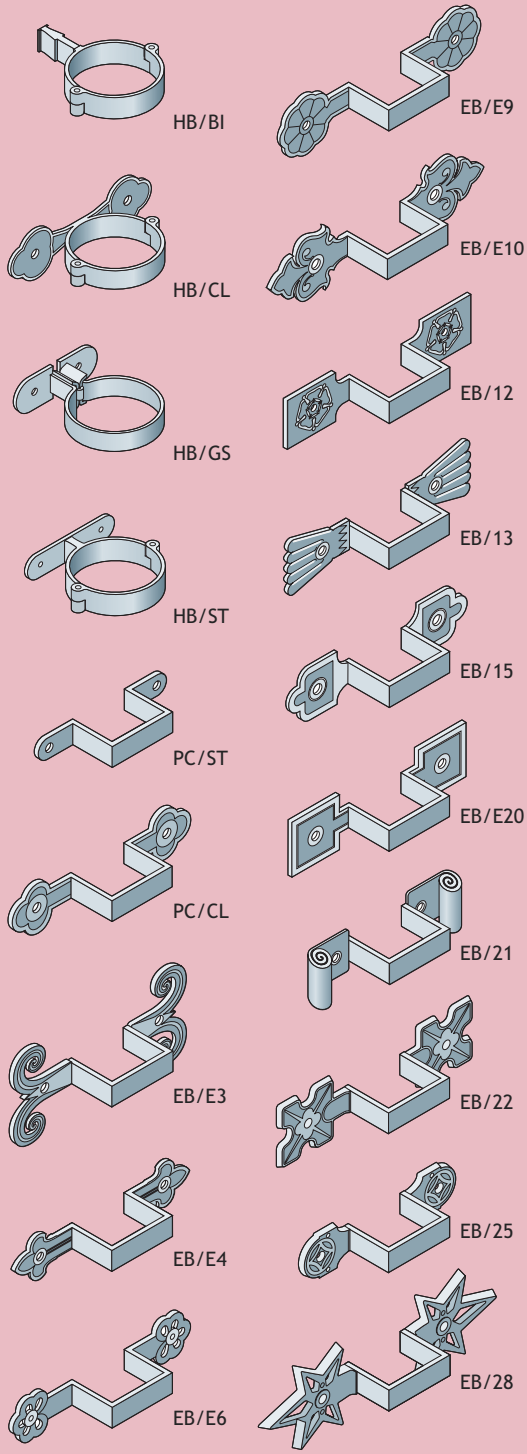
Apex Heritage – Made to Order Pipes and Holderbats

Made to Order Downpipes



Pipe Size	A	Product Code
102 x 76	1830	SP10
102 x 76	1830	SP13

Note: All dimensions shown are in mm.



Note

Bracketry is available for all pipe sizes.
Order codes should be prefixed by one of the following pipe types/sizes:
Round Pipes: P25, P30, P40
Square/Rectangular Pipes: P33, P43, P44, P54, P64
For example, P33/EB/E6 –
For the relevant pipe tables, see pages 121-123 (Round Pipes) and 125-131 (Square/Rectangular Pipes).
Contact Alumasc for further information.

Alumasc Rainwater Systems Cast Iron Range Installation Procedures

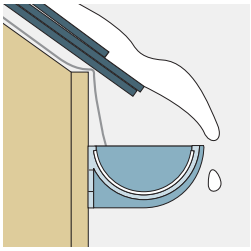
Preparatory requirements and installation methods for the Apex Heritage gutter and pipe system.

Cast Iron Rainwater Installation – Introduction

For safe and satisfactory installation of Alumasc rainwater systems, the following good practice guidelines should be reviewed before installation commences. Where unusual or special conditions arise contact Alumasc Technical Services for assistance.

General Preparation and Good Practice

Securely fixed fascia boards must be painted and capable of supporting a fully loaded gutter. Check fascia for straightness and whether shims will be necessary to align brackets without creating stress at gutter joints. Where fascia boards are not being used Alumasc provide top and side fix rafter arm brackets as well as masonry drive-in brackets.

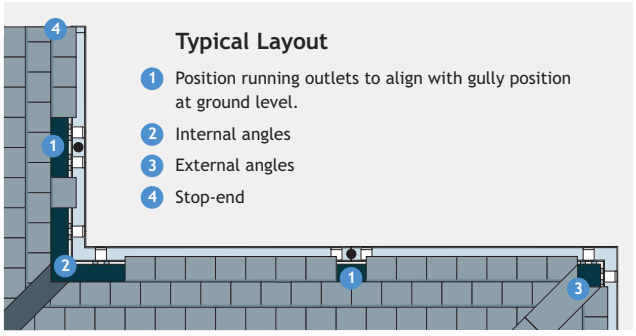


Fix brackets so as to position the gutter centrally and as close below the roof edge as possible, taking into consideration locality and roof slope finish.
If there is a risk of sliding snow, adjust the bracket positions to prevent snow hitting the front of the gutter. Extra fixings, brackets and snowboards should be considered where appropriate.

Were high winds are expected, a small bead of sealant must be applied between gutter and brackets a flexible adhesive. An occasional screw, fixed through a slot in the back of the gutter and into the fascia may be preferred, at a minimum of two per length.

Alumasc advise that the designer and contractor satisfy themselves that the application is suitable.

Setting Out



After setting out angles and outlets, fit gutters and brackets according to installation procedures for the specific rainwater system being used, as detailed in this brochure.

Cutting and Drilling

Cast iron can be cut and drilled on site with regular metalworking tools. Pencil cut lines and apply masking tape either side of cut line to protect against accidental saw damage.

Health and Safety

Always refer to current Health and Safety legislation, safe systems of work and the relevant material safety data sheets.

Storage and Handling

Pre-finished coated rainwater gutters and pipes must be handled with care to prevent scratches and dents. Materials should be stored on a level surface or racking, preferably under secure cover. Uneven fading or water marks on coated and mill finish surfaces may occur if water enters protective packing or goods are stored exposed to sunlight.

Primed goods will have manufacturing blemishes such as grinding and fettling marks, welding will be visible on fabricated items. It is recommended primed material is painted on-site.

Store seals and sealants under cover and make secure and separate provision for solvents. Dispose of packing materials responsibly.

Testing

Allow sufficient time for sealant joints to fully cure. Check all bracket and gutter fixings are secure and plug outlets. Fill up to overflow level (but not beyond). Allow 5 minutes before inspecting all joints for leaks.

Care and Maintenance

Routine inspection

Regularly clean out rainwater heads and gutters and ensure that downpipes are clear at all times. Check that joints and fixings are secure by periodic inspection, not less than twice a year, and preferably at the beginning of Autumn and again at the end of Winter. Sand-cast iron is an inherently durable material, and with a reasonable standard of maintenance, an installation should have a life of at least 40 years.

Ladders

Even with a well fixed installation, ladders should not be rested against the gutters.

Repainting

The final paint finish on factory-primed cast iron must be maintained to give the longest service life. A well applied paint system might be expected to last from 5 to 7 years on cast iron without further attention. Regular inspection is recommended.

It is recommended that pre-finished cast iron is maintained as above. It is important that any installation damage to the coating is repaired with the appropriate touch-up paint. Any cut pieces exposing bare metal must be coated with primer and top coat.

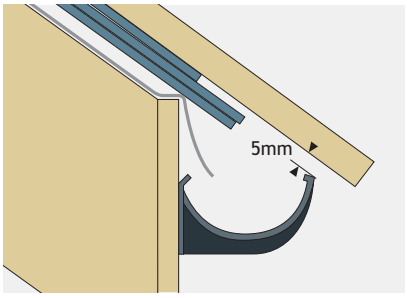
Other maintenance operations

When cleaning adjacent surfaces, cast iron should be protected against all acids and concentrated alkalis.

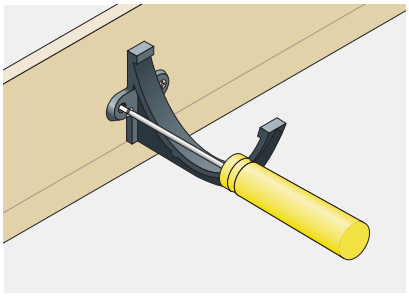
Please contact Alumasc Technical Services for further information.

Installation – Apex Heritage Gutters

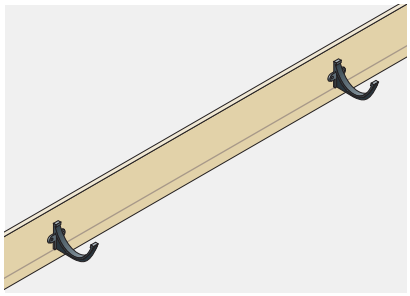
Apex Heritage gutters are available in a choice of four profiles with a range of brackets to accommodate all types of eaves condition. Each profile range can be connected to cast iron pipework systems in either round, square or rectangular. Assembly and installation of each profile range must be considered individually, although general aspects of preparation are common to them all as shown below.



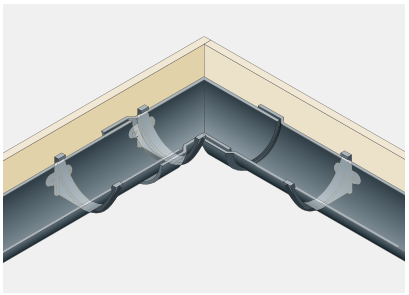
1. Using a straight edge or ruler, shim gutter brackets with 5mm clearance so that the last roof tile or slate will align with the mid point of the gutter.



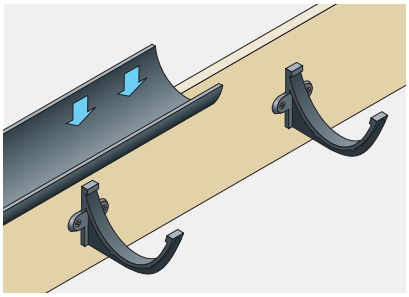
2. Generally, position brackets at 915mm centres allowing additional brackets on either side of where gutter joints will occur.



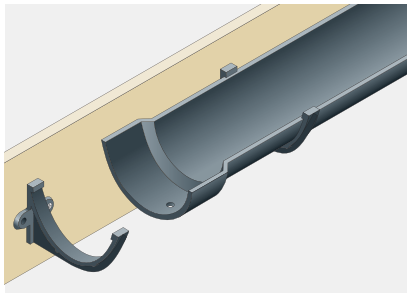
3. Use a string line to set out brackets to a fall of 1:600 to 1:350 (max) or if not possible, level.



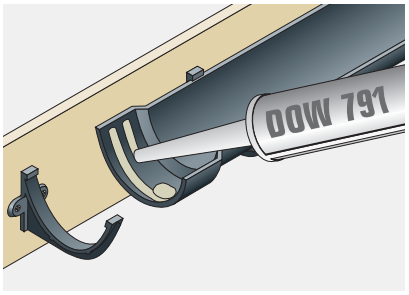
4. Plumb line outlets with gullies at ground level. Position angles, allowing an additional bracket adjacent to the joint with the gutter length.



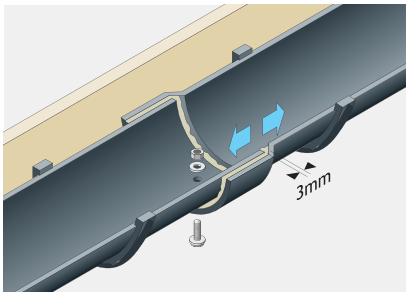
5. Lower the gutter onto the brackets ensuring sufficient clearance for the gutter joint. Clip gutter into bracket.



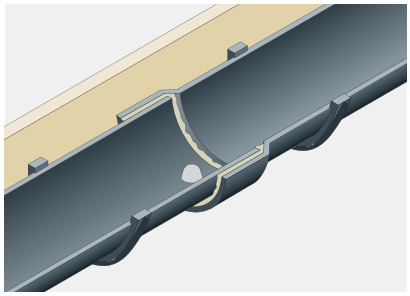
6. Cast gutters overlap at the joint with a spigot and socket. Thoroughly clean and degrease the ends that must be jointed.



7. Apply two 6mm beads of DOW 791 silicone sealant either side of, and around the fixing hole.



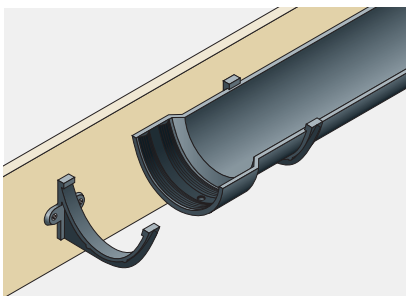
8. Insert the spigot end of the gutter allowing a 3mm expansion gap. Secure joint using bright zinc plated, mild steel M6 x 25mm nut, bolt and washer provided. (Bolt head preferably to underside).

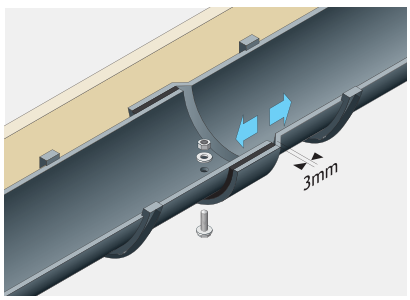


9. Finally, cone-off the exposed bolt stud and nut inside the gutter with a generous application of silicone sealant. Tool off excess silicone around the joint and from external surfaces.

Hydrostrip Alternative Sealing Method

For half round gutters **only** (nominal sizes 100, 115 and 125mm – 150mm), the unique Alumasc Hydrostrip system is recommended. The Hydrostrip system comprises preformed rubber seals that are quick and easy to install, and totally reliable. Hydrostrip offers a faster and cleaner solution to gutter jointing than traditional mastic jointing sealants.



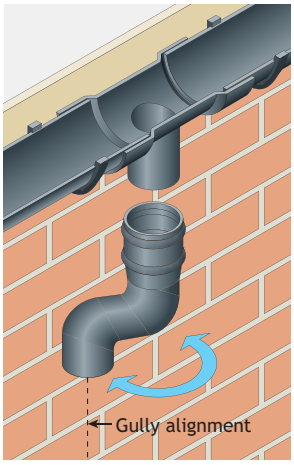


Installation – Apex Heritage Rainwater Pipes

Apex Heritage traditional rainwater pipes have cast pipe sockets either with ears for wall fixing or without for use with holderbats. Installation is generally from the eaves downward.

Saw cuts must be square and free from dents and burrs. A light application of silicone sealant must be applied to both surfaces to ensure a waterproof seal.

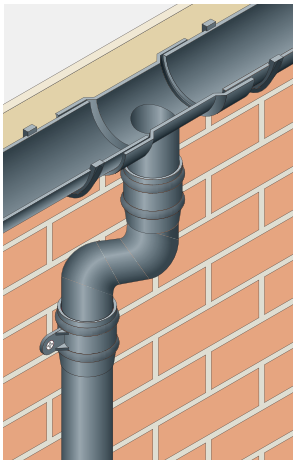
Pipe Alignment



Where square or rectangular pipes are being installed and offsets are required, alignment between the gutter outlet and gully must be exact.

Round pipe systems are more flexible to install and offsets can be adjusted and “swung” into alignment with the gully position.

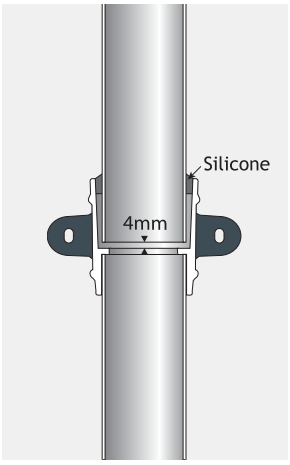
Outlets and Offsets



Commence installation from the gutter outlet by fitting offsets.

Check vertical plumb line positioning and seal spigot and socket joints using DOW 791 silicone sealant.

Pipe Jointing and Fixing



Seal with DOW 791 silicone sealant.

Fix to wall at 2m centres using No12 x 50mm screws. Eared sockets have elongated fixing holes to permit the use of pipe nails.

Tools Required

- String or plumb line
- Tape measure
- Drill
- File
- Masonry bit
- Wall fixing (e.g raw plug)
- Cleaning rags
- Marker pen
- Solvent cleaner
- Posi and plain screwdriver
- Paintbrush
- Hacksaw
- Masking tape
- Mastic gun
- Spirit level
- Protective gloves
- Adjustable spanner

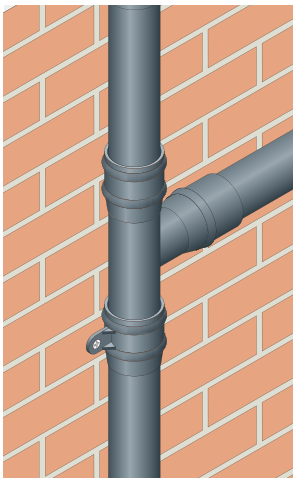
General Installation Sequence

- Complete installation of gutters; alternatively, locate rainwater heads
- Position offsets, bends and branches
- Fit pipes and brackets
- Fit plinth offsets
- Fit access doors and shoes

Sealant

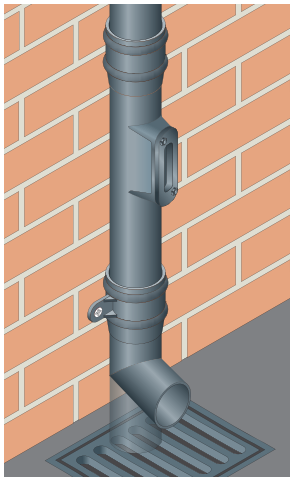
For durable all weather seals and best results, Alumasc recommend the use of DOW 791 silicone sealant.

Bends and Branches



Bends and branches are secured into the pipe socket.

Shoes and Access Pipes

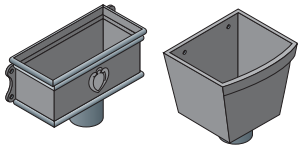


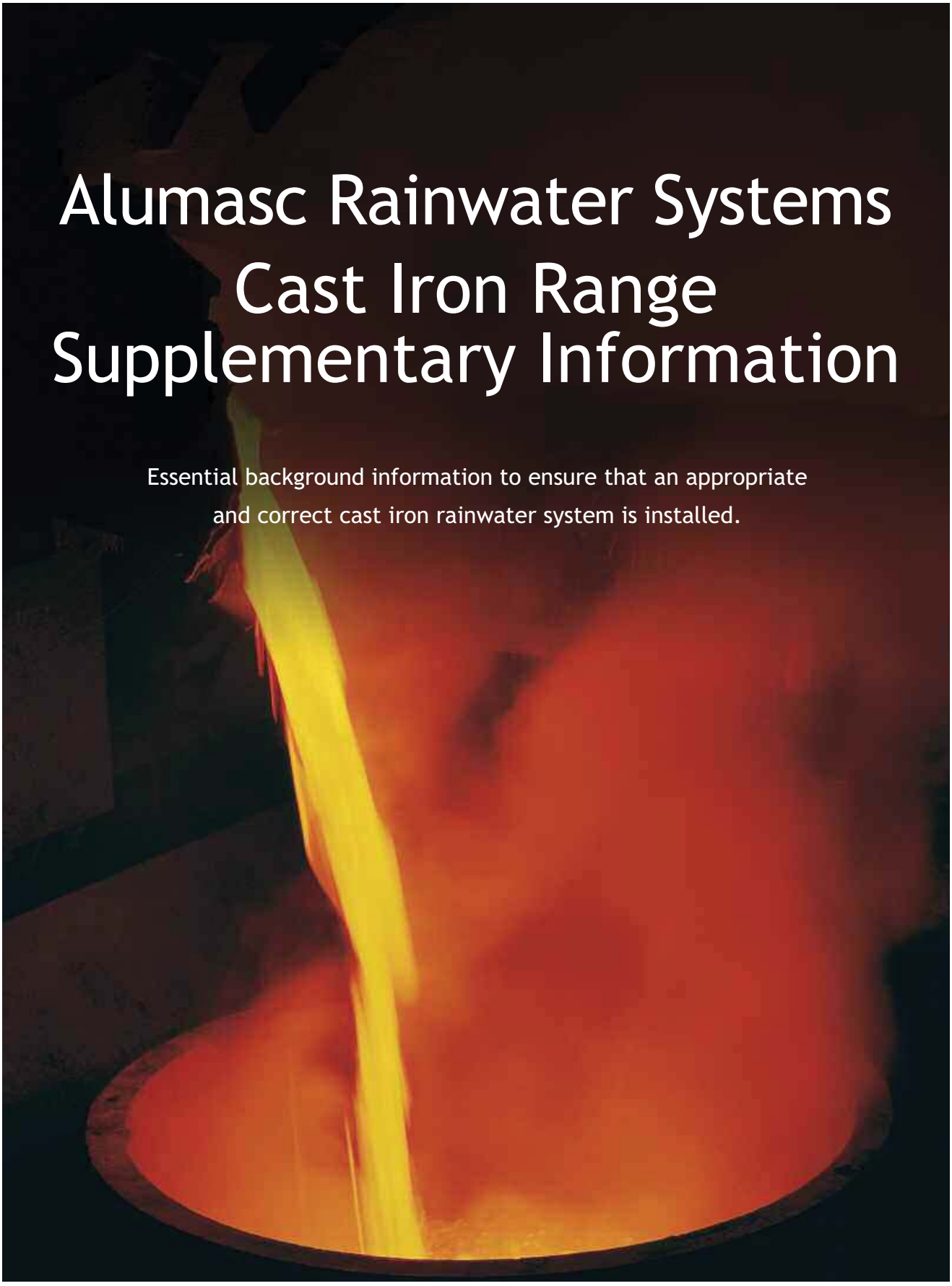
At ground level rainwater pipes can terminate with a shoe for free discharge over a gully or be directly connected into the gully.

In the case of direct connections it is recommended that an access pipe fitting is included within 750mm of ground level.

Rainwater Heads

Fix to masonry through external lugs or preformed holes in back.





Alumasc Rainwater Systems Cast Iron Range Supplementary Information

Essential background information to ensure that an appropriate and correct cast iron rainwater system is installed.

Accessories

Touch Up Paint

RAL Code	Description	Size	Product Code
RAL 3009	Oxide Red	125ml	TUPCI/RAL3009/125
RAL 3020	Traffic Red	125ml	TUPCI/RAL3020/125
RAL 5010	Flower Blue	125ml	TUPCI/RAL5010/125
RAL 6005	Moss Green	125ml	TUPCI/RAL6005/125
RAL 7016	Anthracite Grey	125ml	TUPCI/RAL7016/125
RAL 8015	Chestnut Brown	125ml	TUPCI/RAL8015/125
RAL 9005	Black	125ml	TUPCI/RAL9005/125
RAL 9016	White	125ml	TUPCI/RAL9016/125

Note: The colours reproduced on this page are for general guidance only.

Hydrostrip Sealing System

The Hydrostrip system comprises preformed rubber sealing strips that are quick and easy to install.

Hydrostrip is supplied complete with screws, nuts and installation instructions in kits containing 20 jointing sets. Hydrostrip is not suited for use with Beaded Half Round gutters.

With Hydrostrip, joints can be made in damp conditions and can be overpainted immediately.

For half round gutters **only**.

Silicone Sealant

Type	Colour	Size	Product Code
Dow Corning 797	White	310ml Cartridge	SS991558
Dow Corning 797	Grey	310ml Cartridge	SS991559
Dow Corning 797	Bronze	310ml Cartridge	SS991560
Dow Corning 797	Black	310ml Cartridge	SS991561
Dow Corning 797	Limestone	310ml Cartridge	SS991562

Fixings

Type	Size	Notes	Product Code
Nut/Bolt/Washer	M6 x 25mm	Bright zinc plated mild steel	NBW 630310
3” Pipe Nail	M8 x 75mm	Bright zinc plated mild steel	NAIL30
4” Pipe Nail	M8 x 100mm	Bright zinc plated mild steel	NAIL40
3” Coach Screw	M8 x 75mm	Hardened steel zinc plated	COACH30
4” Coach Screw	M8 x 100mm	Hardened steel zinc plated	COACH40
Coach Screw Cap	M8 dia	Black plastic	COACHCAP
Countersunk woodscrew	No.12 x 1.5”	To fix rafter arms to GX Brackets	ZNBW969041
Roundhead woodscrew	No.12 x 1.5” with Washer	To fix Apex Heritage Fascia Brackets or for ‘direct fix’ Gutter range	NBW 630362
Roundhead woodscrew	No.12 x 2” with Washer	To fix pipe sockets with ears or pipe clips	NBW 630361

Rainwater System Design

Alumasc Technical Services is a fully experienced team of Rainwater specialists who use the latest CAD technology and calculation tools to provide an unrivalled support service to Architects, Designers and Contractors.

The Alumasc Rainwater Drainage Design Service

Alumasc Technical Services use dedicated design software in conjunction with the requirements of *BS EN 12056:2000: Gravity drainage systems inside buildings - Part 3* to calculate the most appropriate Alumasc rainwater system to suit project requirements.

The gutter flow software automatically checks the capacity of downpipes used and suggests the minimum size to which downpipes can be sized. Contact Alumasc for further information.

Calculation Criteria

Calculation of the most efficient drainage solution takes into consideration the following criteria:

- Catchment area
- Local rainfall intensity
- Building life and safety factor
- Size and flow rate of gutters
- Frequency and size of outlets and downpipes

Sizing of Gutters and Downpipes

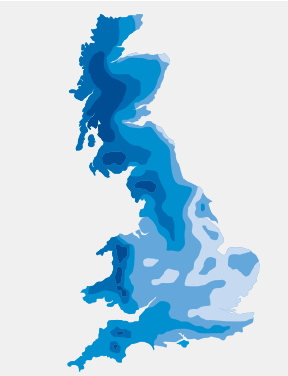
The level of rainfall a given roof drainage system should cope with is based on the position of the gutter, the potential use of the building and its projected lifespan. All true eaves gutters (external) are designed using a 1 year storm event. This is generally accepted because overflow from an external eaves gutter will fall clear of the building, which is not normally a problem. Any gutter which is classed internal, even if it is at the eaves, should be designed for an intensity based on the building life and a suitable factor of safety.

This factor will vary from 1.5 for conventional buildings to 4.5 for very important structures. For most buildings a 60 year life and safety factor of 1.5 would be the most suitable (90 year protection life).

All the parameters of flow calculations cannot be captured using a single formula. The guide below provides a basic method for calculating flow requirements. For accurate project specific specification advice on rainwater flow calculations contact Alumasc Technical Services.

Step 1

Geographical Location and Rainfall Intensity Maps

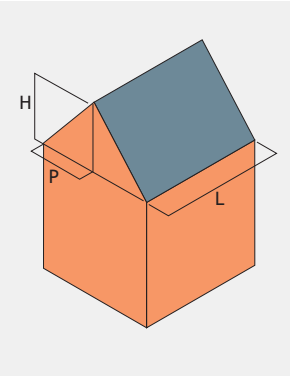


BS EN 12056-3: 2000 contains maps showing rainfall intensity in litres/second per m^2 for 1, 5, 50 and 500 year storms of 2 minute duration.

(All external gutters designed for 1 year event).

Step 2

Calculating Catchment Area



CA = (P+H/2) x L

CA = Catchment area in square metres

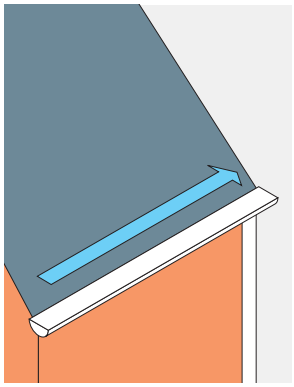
P = Horizontal distance between eaves and ridge

H = Height of roof

L = Length of eaves

Step 3

Frequency and Positioning of Outlets/Downpipes



Calculate the number of outlets per run.

Step 4

Calculate Flow Requirements

Overall Rainfall

Catchment Area (CA) x Rainfall Intensity (RI) = Overall Rainfall (OR)

Flow Rate Per Outlet

Overall Rainfall (OR) ÷ Number of Outlets = Flow Rate Per Outlet

Choose Gutter/Outlets according to published Flow Rate capacities.

Note:

Depending on building type, a safety factor should be allowed for the sizing of internal gutters. Contact Alumasc Technical Services for further information.

alumasc

Available on the iPad App Store

Technical Support

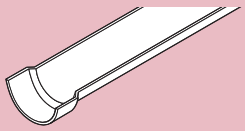
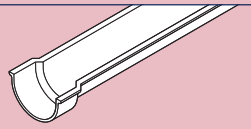
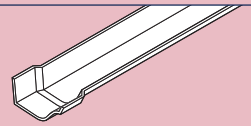
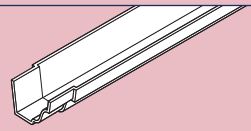
Alumasc's new Drainage Design Calculators are available as a download from the Alumasc Rainwater website. www.alumascrainwater.co.uk

Gutter Flow Rates

All Flow Rates quoted on this page are shown in litres per second. Gutter capacities are based on BS EN 12056-3:2000, assuming a maximum distance of 50 x gutter depth, from high point to outlet. Longer gutters or gutters with corners exceeding 10° will have a reduced capacity.

For further information contact Alumasc Technical Services.

Rainwater Gutter Flow Rates (l/s)

			Pipe outlet Diameter (mm)			Pipe outlet size (mm)		
	Profile	Size (mm)	63	75	100	75 x 75	100 x 75	100 x 100
	Half Round	100	1.19	1.22	-	-	-	-
		113	1.19	1.62	-	-	-	-
		125	1.19	1.62	2.06	-	-	-
		152	1.19	1.64	3.14	-	-	-
	Beaded Half Round	113	1.19	1.62	-	-	-	-
		125	1.19	1.97	2.06	-	-	-
	Victorian Ogee	113	1.24	1.80	-	-	-	-
		125	1.24	1.97	2.32	-	-	-
	Moulded	100 x 75	1.09	1.64	-	2.24	2.24	-
		125 x 100	1.09	1.64	3.21	2.17	3.17	-
		150 x 100	1.09	1.64	3.21	2.17	3.17	4.43

Rainwater Pipe Flow Rates

Note: The capacity of a rainwater system is usually dependent upon the capacity of the gutter outlet or flat roof outlet rather than the rainwater pipe. Please refer to BS EN 12056-3:2000, Section 6, Table 8 for capacities of vertical rainwater pipes.

NBS Specification

A typical NBS Specification for Alumasc cast iron gutters and downpipes is provided below. A full range of NBS specifications are available via Alumasc's online NBS Specification Builder at www.alumascrainwater.co.uk.
For project specific specification advice, contact Alumasc Technical Services.

R10 Rainwater Drainage Systems

GENERAL

- Gravity Rainwater Drainage System.
- Rainwater outlets, gutters, pipework and accessories as per detail sections below.

SYSTEM PERFORMANCE

- Design Standard: To BS EN 12056-3:2000, clauses 3-7 and National Annexes.
- Collection and Distribution of Rainwater: Complete, and without leakage or noise nuisance.
- Design Parameters: Design rate of rainfall as per BS EN 12056-3:2000, National Annex NB.2 - Category 1

PRODUCTS (TYPICAL SPECIFICATION)

APEX HERITAGE CAST IRON HALF ROUND BEADED GUTTER (113mm)

315 APEX HERITAGE CAST IRON GUTTERS

Gutters and fittings to: BS 8530 (formerly BS 2997)
Manufacturer: Alumasc Exterior Building Products Ltd
White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG.
Tel: 01744 648400, Fax: 01744 648401, Email: info@alumasc-exteriors.co.uk

Reference:	Apex Heritage cast iron rainwater system
Profile:	Half Round Beaded
Size:	113mm
Outlet Size:	75mm
Type/grade:	Made from LM2 and LM6 grades of Aluminium alloy to BSEN1559:1997, BSEN 1676:1997 and BSEN 1706:1998
Finish:	Painted Finish
Colour:	RAL 3020 233 Traffic Red
Jointing:	Gutter lengths or fittings are overlapped at the joint with a spigot and socket. Slots are provided for fixing using M6 mushroom head aluminium screws with nuts and washers. Seal evenly across the joints with Dow Corning 791.
Fixing:	Fascia bracket fixed at 915mm centres and at each fitting using number 12x38mm round head twin thread screws and washers bright zinc plated.

Create Alumasc Rainwater System NBS specifications by selecting the required product range, profile, size and finish by visiting:

www.alumascrainwater.co.uk

PRODUCTS (TYPICAL SPECIFICATION)

APEX HERITAGE CAST IRON DOWNPIPE (75mm diameter)

380 APEX HERITAGE CAST IRON PIPEWORK FOR EXTERNAL USE:

Pipes, fittings and accessories to: BS 2997
Manufacturer: As above

Reference:	Apex Heritage cast iron downpipe system
Size:	75mm diameter
Type/grade:	6063 TF alloy
Finish:	Painted Finish
Colour:	RAL 3020 233 Traffic Red
Fixing:	Pipe clip fixed at maximum 2.0m centres. Plug and screw to wall with number 12 x 50mm round head twin thread screws and washers bright zinc plated to BS 1706:1960 Class ZN3. Seal internal spigot joints with Dow corning 791 silicone sealant allowing for a 3-4 mm vertical thermal movement gap.
Accessories:	Bends, Branches, Access Pipes, Offsets, Shoes, Rainwater Heads, Pipe Clips

General Specification Advice

General specification clauses for aluminium rainwater systems are provided below.
For project specific specification advice, contact Alumasc Technical Services.

EXECUTION CLAUSES

600 PREPARATION, ENSURE:

- Below ground drainage is ready to receive rainwater or that the discharge can be dispersed by approved means to prevent damage or disfigurement of the building fabric.
- Any specified painting of surfaces which will be concealed or inaccessible is completed.

605 INSTALLATION GENERALLY:

- Install pipework/gutters to ensure the complete discharge of rainwater from the building without leaking.
- Obtain all components for each type of pipework/guttering from the same manufacturer unless specified otherwise.
- Provide access fittings and rodding eyes as necessary in convenient locations to permit adequate cleaning and testing of pipework.
- Avoid contact between dissimilar metals and other materials which would result in electrolytic corrosion.
- Do not bend plastics or galvanized steel pipes.
- Adequately protect pipework/gutters from damage and distortion during construction. Fit purpose made temporary caps to prevent ingress of debris. Fit all access covers, cleaning eyes and blanking plates as the work proceeds.
- Where not specified otherwise use plated, sherardized, galvanized or nonferrous fastenings, suitable for the purpose and background, and compatible with the material being fixed.

610 FIXING AND JOINTING GUTTERS:

- Fix securely at specified centres and at all joints in gutters, with additional brackets near angles and outlets.
- Provide for thermal and building movement when fixing and jointing, and ensure that clearances are not reduced as fixing proceeds.
- Seal as specified to make watertight.
- Spread jointing compound evenly over jointing face of socket.
- For gutters with bolted joints, tighten joints in the gutter sole before any other bolts. Fit suitable washers, and spacers to prevent overtightening, unless specified otherwise.
- Tighten fixing to squeeze out some compound.
- Remove surplus, squeezed out compound and neatly clean off.
- Ensure that roofing underlay is dressed into gutter.

615 SETTING OUT EAVES GUTTERS - TO FALLS

- Set out to a true line and even gradient to ensure no ponding or backfall. Position high points of gutters as close as practical to the roof and low points not more than 50 mm below the roof.
- Position outlets to align with connections to below ground drainage, unless shown otherwise on drawings.

630 RAINWATER OUTLETS, ENSURE THAT:

- Outlets are securely fixed before connecting pipework.
- Junctions between outlets and pipework can accommodate all movement in the structure and pipework.

435 FIXING PIPEWORK:

- Fix securely at specified centres plumb and/or true to line.
- Make changes in direction of pipe runs only where shown on drawings unless otherwise approved.
- Fix branches and low gradient sections with uniform and adequate falls to drain efficiently.
- Fix externally socketed pipes/fittings with sockets facing upstream.
- Provide additional supports as necessary to support junctions and changes in direction.
- Fix every length of pipe at or close below the socket collar or coupling.
- Provide a load bearing support for vertical pipes at not less than every storey level. Tighten fixings as the work proceeds so that every storey is self supporting and undue weight is not imposed on fixings at the base of the pipe.
- Isolate from structure where passing through walls or floors and sleeve pipes as specified in Section P31.
- Provide for thermal and building movement when fixing and jointing, and ensure that clearances are not reduced as fixing proceeds.
- Fix expansion joint pipe sockets rigidly to the building and elsewhere use fixings that allow the pipe to slide.

650 JOINTING PIPEWORK/GUTTERS:

- Joint using materials, fittings and techniques which will make effective and durable connections.
- Joint differing pipework/gutter systems with adaptors recommended by manufacturer(s).
- Cut ends of pipes to be clean and square with burrs and swarf removed. Chamfer pipe ends before inserting into ring seal sockets.
- Ensure that jointing or mating surfaces are clean, and where necessary lubricated, immediately before assembly.
- Form junctions using fittings intended for the purpose ensuring that jointing material does not project into bore of pipes, fittings and appliances.
- Remove surplus flux/solvent/cement/sealant from joints.

675 COATED PIPEWORK/GUTTERS:

- Make good to coatings after cutting and any other damage or recoat, as recommended by the manufacturer.

685 IDENTIFICATION OF INTERNAL RAINWATER PIPEWORK:

- To BS 1710 using self-adhesive bands or identification clips located at junctions, at both sides of each slab, bulkhead and wall penetration, and elsewhere as directed.

690 ELECTRICAL CONTINUITY:

- Use clips or suitable standard couplings supplied for the purpose by pipework manufacturer to ensure electrical continuity at all joints in metal pipes with flexible couplings and which are to be earth bonded.

700 ACCESS FOR TESTING AND MAINTENANCE:

- Install pipework and gutters with adequate clearance to permit testing, cleaning and maintenance.
- Position access fittings and rodding eyes so that they are not obstructed by other pipework, framing, etc.

COMPLETION CLAUSES

900 TESTING GENERALLY:

- Inform the Contractor Administrator sufficiently in advance to give him a reasonable opportunity to observe tests.
- Check that all sections of installation are free from obstruction and debris before testing.
- Provide clean water, assistance and apparatus for testing as required.
- Carry out tests as specified. After testing, locate and remedy all defects without delay and retest as instructed.
- Keep a record of all tests and provide a copy of each to the Contractor Administrator.

905 INTERNAL PIPEWORK TEST - ENGLAND, WALES AND NORTHERN IRELAND:

- Temporarily seal open ends of pipework with plugs.
- Connect a 'U' tube water gauge and air pump to the pipework via a plug.
- Pump air into pipework until gauge registers 38 mm.
- Allow a period for temperature stabilization, after which the pressure of 38 mm is to be maintained without loss for not less than 3 minutes.

906 INTERNAL PIPEWORK TEST- SCOTLAND

- Standard - To BSEN12056-3:2000, National Annex NG

910 GUTTER TEST:

- Block all outlets, fill gutters to overflow level and after 5 minutes closely inspect for leakage.

915 MAINTENANCE INSTRUCTIONS

- At completion, submit printed instructions recommending procedures for maintenance of the rainwater installation including full details of the recommended inspection, cleaning and repair procedures.

920 IMMEDIATELY BEFORE HANDOVER:

- Remove construction rubbish and debris from all roofs and gutters. Where possible, sweep and remove fine dust which may enter rainwater systems. Do not sweep or flush dust or debris into the rainwater system.
- Remove swarf, debris and temporary caps from the entire rainwater installation.
- Ensure that all access covers, rodding eyes, outlet gratings, etc. are secured complete with all fixings.

Harmer LCC Cast Iron Soil & Waste Systems

A traditional cast iron system of socketed pipes, fittings and accessories, manufactured to imperial dimensions and created to faithfully reproduce period detail.

Harmer LCC Traditional Cast Iron Soil & Waste Systems – Product Summary

Harmer - LCC Pipes

Harmer - LCC Couplings

Harmer - LCC Double Branches

Harmer - LCC Holderbats

Harmer - LCC Single Branches

Harmer - LCC Bends

Pipes and Fittings

The pipes, branches and bends illustrated above are available in various sizes and configurations, including options for access.

Other fittings include Blank Ends, Socket Reducers, Diminishing Pieces, Swan Necks, Boss Pipes, Shoes and P Traps.

Harmer LCC Traditional Cast Iron Soil & Waste Systems Product Summary

Alumasc has taken the original processes for the casting of iron, and combined them with modern manufacturing techniques to produce a product fully attuned to today's refurbishment requirements.

Features

Harmer LCC incorporates all the inherent characteristics of cast iron, plus dimensional accuracy and a consistent standard of finish for the final site installation.

An extensive range of fittings and accessories provides great flexibility in installation, while special detailing requirements can be catered for through Alumasc's fabrication and pattern making workshops.

Alumasc has also perfected the welding of cast iron, so that fittings or offsets to suit a particular situation can be specially fabricated where the alternative of making a pattern would not be economic.

Key Benefits

- Ideal for itemised replacement of existing LCC systems
- Manufactured to original imperial dimensions
- Supplied ready painted
- Comprehensive range of fittings
- Unique specials manufacture and fabrication

General Description

Finishes

Harmer LCC soil and waste pipes and fittings are factory-dipped in bitumen in accordance with BS 416. Where gloss painting is required, it is advisable to contact Alumasc Technical Services on 01744 648400.

Standards

Harmer LCC waste pipes and fittings comply with the requirements of BS 416: Discharge, ventilating pipes and fittings, sand cast or spun in cast iron, Part 1, 1990. Harmer LCC systems also comply with the relevant sections of the Building Regulations throughout the United Kingdom.

Installation

BS 8000: Workmanship on building sites, Part 13, Code of practice for above ground drainage and sanitary appliances, 1989 is applicable.

Suitability

Cast iron should not be used for conveying acid wastes or laid unprotected in any soil conditions where corrosion could occur.

On-site Storage

To avoid accidental damage to collars or pipe ends, pipes should be stored horizontally, blocked up clear of the ground and preferably under cover.

Imperial Dimensions

All products are made to the original imperial dimensions. This ensures a compatible interchange between old and new pipes and fittings and makes it more likely that, where an existing installation is being repaired or replaced, the original fixing holes can be re-used.

Pipe Fixing and Support

Holderbats for plugging and screwing to walls are available. Bobbins should be used to pack out the holderbat to give a 32mm painting gap for pipes up to 75mm (3") diameter, and 38mm for the 88mm ($3^1/_2$") and 100mm (4") diameter pipes. For fixing centres reference should be made to BS 8000: Maximum distance between sanitary pipe supports, Table 1.

Pipe Joints

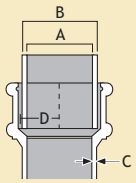
Pipe joints should be made using a caulking of 6mm diameter yarn, now available only in glass fibre instead of the traditional tarred yarn, with a minimum 38mm thickness of lead wool, well compacted.

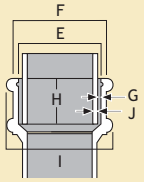
Testing

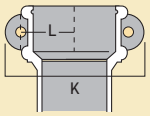
The Building Regulations 1991, Requirement H1, Approved Document paragraph 1.7(a) requires that all the pipes, fittings and joints should be capable of withstanding an air or smoke test of at least 38mm gauge, for 3 minutes.

Pipe Diamaters, Lengths and Weights: Manufacturing Dimensions

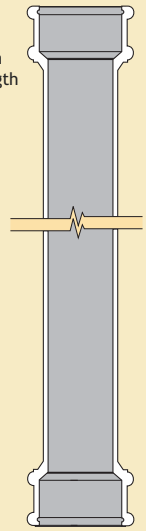
Single Socket







Double Socket (1830mm pipe length only)



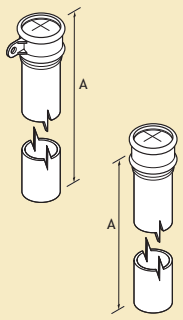
Pipe diameter	100	88	76	63	50
A Internal diameter	100	85	76	60	50
B External diameter	114	100	88	76	63
C Thickness	6	6	6	6	6
D Diameter over spigot bead	104	111	98	85	69
Socket					
E Internal diameter	127	114	100	88	73
F External diameter	136	130	117	104	88
G Thickness	6	6	6	6	6
H Internal depth	76	76	69	69	63
I External diameter over spigot bead	133	146	139	114	100
J Caulking clearance	6	6	6	6	6
Ears					
K Length of flange overall	212	193	177	161	146
L Centre to centre of holes	180	161	146	130	114

Pipe length and weight	100	88	76	63	50
1830 (6') overall length of pipe	1830	1830	1830	1830	1830
Effective length of pipe	1725	1725	1730	1730	1737
Weight of 6' pipe without ears	21.7 kg	19.0 kg	16.7 kg	14.0 kg	11.0 kg
Weight of 6' pipe with ears	22.2 kg	19.5 kg	17.2 kg	14.5 kg	12.0 kg
1219 (4') overall length of pipe	1219	1219	1219	1219	1219
Effective length of pipe	1125	1125	1130	1130	1137
Weight of 6' pipe without ears	14.5 kg	12.7 kg	11.2 kg	9.5 kg	8 kg
Weight of 6' pipe with ears	14.8 kg	13 kg	11.5 kg	10 kg	8.5 kg
914 (3') overall length of pipe	914	914	914	914	914
Effective length of pipe	725	725	730	730	737
Weight of 6' pipe without ears	10.8 kg	9.5 kg	8.3 kg	7 kg	5.7 kg
Weight of 6' pipe with ears	11.3 kg	10 kg	8.8 kg	7.5 kg	6.2 kg
610 (2') overall length of pipe	610	610	610	610	610
Effective length of pipe	525	525	530	530	537
Weight of 6' pipe without ears	7.3 kg	6.8 kg	5.5 kg	4.7 kg	4 kg
Weight of 6' pipe with ears	7.8 kg	6.8 kg	6 kg	5.2 kg	4.5 kg
Double socket pipe, 1830 (6') overall pipe length only					
Effective length of pipe	1650	1650	1663	1663	1669
Weight of 6' pipe without ears	23.7 kg	20.5 kg	18.2 kg	15.3 kg	12.5 kg
Weight of 6' pipe with ears	24.2 kg	21 kg	18.7 kg	15.8 kg	13 kg
Note: Double socket pipes are subject to availability					

Note: All dimensions are given in millimetres. An imperial to metric conversion table is given on page 165.

Harmer LCC Pipes

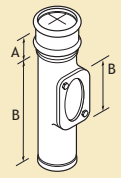
Pipes - With and Without Ears



Pipe Size	A	Product Code
50 dia	610mm	L20/2FT
50 dia	914mm	L20/3FT
50 dia	1219mm	L20/4FT
50 dia	1830mm	L20/6FT
63 dia	610mm	L25/2FT
63 dia	914mm	L25/3FT
63 dia	1219mm	L25/4FT
63 dia	1830mm	L25/6FT
75 dia	610mm	L30/2FT
75 dia	914mm	L30/3FT
75 dia	1219mm	L30/4FT
75 dia	1830mm	L30/6FT
87 dia	610mm	L35/2FT
87 dia	914mm	L35/3FT
87 dia	1219mm	L35/4FT
87 dia	1830mm	L35/6FT
100 dia	610mm	L40/2FT
100 dia	914mm	L40/3FT
100 dia	1219mm	L40/4FT
100 dia	1830mm	L40/6FT

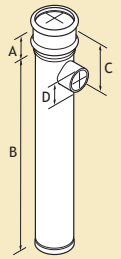
Notes:
1. Pipes without Ears. If pipes without ears are required, add suffix NE to the order code.
2. Double Collared Pipes. If double collared pipes are required with ears, add suffix DCE to the order code. Add suffix DC if no ears required. Only available in 6ft lengths.
3. Pipe nails are available to order.
4. When specifying loose couplings, slip couplings and access pipes with ears, quote the full product code suffixed with /E.

Access Pipes



Pipe Size	A	B	C	Product Code
50 dia	63	234	63	L20/AP
63 dia	69	245	76	L25/AP
75 dia	69	266	88	L30/AP
87 dia	76	273	95	L35/AP
100 dia	76	285	100	L40/AP

Boss Pipes



Pipe Size	A	B	C	Inlet Pipe Size (D)	Product Code
75 dia	76	381	139	38	L30/BP/150
87 dia	76	381	139	38	L35/BP/150
100 dia	76	381	139	31	L40/BP/125
100 dia	76	381	139	38	L40/BP/150
100 dia	76	381	139	50	L40/BP/200

Note: All dimensions are given in millimetres. An imperial to metric conversion table is given on page 165.

Harmer LCC Fittings

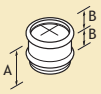
Screw To Wall Cast Iron Holderbats

Pipe Size	Product Code
50 dia	L20/HB/ST
63 dia	L25/HB/ST
75 dia	L30/HB/ST
88 dia	L35/HB/ST
100 dia	L40/HB/ST
Note: Cast iron bobbins are available spacing from 13mm to 50mm in 6mm increments.	

Built-in Holderbats

Pipe Size	Product Code
50 dia	L20/HB/BI
63 dia	L25/HB/BI
75 dia	L30/HB/BI
88 dia	L35/HB/BI
100 dia	L40/HB/BI
Note: Cast bins are available spacing from 13mm to 50mm in 6mm increments.	

Loose Couplings



Pipe Size	A	B	Product Code
50 dia	45	95	L20/SOC
63 dia	45	95	L25/SOC
75 dia	38	90	L30/SOC
87 dia	38	86	L35/SOC
100 dia	35	80	L40/SOC

Slip Couplings

Pipe Size	A	Product Code
50 dia	95	L20/SOC/S
63 dia	95	L25/SOC/S
75 dia	89	L30/SOC/S
87 dia	95	L35/SOC/S
100 dia	79	L40/SOC/S

Note: When specifying fittings with ears, quote the full product code suffixed with /E.

Harmer LCC Fittings

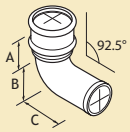
Blank End

Pipe Size	A	Product Code
75 dia	76	L30/BE
87 dia	76	L35/BE
100 dia	70	L40/BE

Socket Reducer

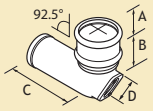
Pipe Size	A	B	Product Code
75 dia	51	76	L30/SR/20
87 dia	76	76	L40/SR/20
100 dia	51	70	L40/SR/30

92.5° Bends



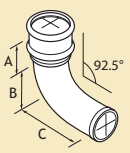
Pipe Size	A	B	C	Product Code
50 dia	152	139	88	L20/B/92
63 dia	165	155	95	L25/B/92
75 dia	174	161	104	L30/B/92
87 dia	187	177	111	L35/B/92
100 dia	193	180	117	L40/B/92

92.5° Bends with heel access



Pipe Size	A	B	C	D	Product Code
50 dia	152	139	88	63	L20/B/92
63 dia	165	155	95	76	L25/B/92
75 dia	174	161	104	88	L30/B/92
87 dia	187	177	111	95	L35/B/92
100 dia	193	180	117	100	L40/B/92

92.5° Long Radius Bends

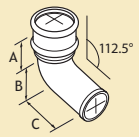


Pipe Size	A	B	C	Product Code
100 dia	298	304	222	L40/BLR

Note: If bends with ears are required, add LE to the order code for left hand side and RE for right hand side bend.

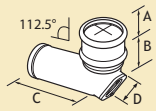
Harmer LCC Fittings

112.5° Bends



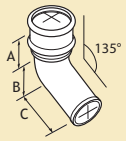
Pipe Size	A	B	C	Product Code
50 dia	152	139	88	L20/B/112
63 dia	165	155	95	L25/B/112
75 dia	174	161	104	L30/B/112
87 dia	184	177	111	L35/B/112
100 dia	193	180	120	L40/B/112

112.5° Bends with heel access



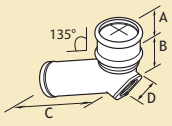
Pipe Size	A	B	C	D	Product Code
50 dia	152	139	88	63	L20/B/112H
63 dia	165	155	95	66	L25/B/112H
75 dia	174	161	104	73	L30/B/112H
87 dia	184	177	111	95	L35/B/112H
100 dia	193	180	120	100	L40/B/112H

135° Bends



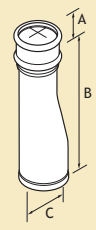
Pipe Size	A	B	C	Product Code
50 dia	127	142	88	L20/B/135
63 dia	136	158	95	L25/B/135
75 dia	142	161	104	L30/B/135
87 dia	171	161	111	L35/B/135
100 dia	177	165	120	L40/B/135

135° Bends with heel access



Pipe Size	A	B	C	D	Product Code
50 dia	127	142	88	63	L20/B/135H
63 dia	136	158	95	66	L25/B/135H
75 dia	142	161	104	73	L30/B/135H
87 dia	171	161	111	95	L35/B/135H
100 dia	177	165	120	100	L40/B/135H

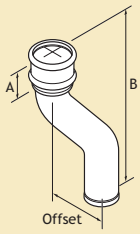
Diminishing Pieces



Pipe Size	A	B	C	Product Code
75 dia	69	304	50	L25/B/92AR
100 dia	76	304	50	L25/B/92AL
100 dia	76	304	75	L35/B/92AL

Note: If bends with ears are required, add LE to the order code for left hand side and RE for right hand side bend.

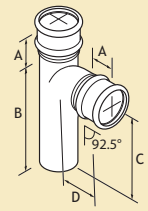
112.5° Swan Necks



Pipe Size	A	B	Offset	Product Code
50 dia	63	241	75	L20/OF/03
50 dia	63	257	112	L20/OF/04
50 dia	63	273	150	L20/OF/06
50 dia	63	304	237	L20/OF/09
50 dia	63	336	300	L20/OF/12
50 dia	63	361	375	L20/OF/15
50 dia	63	400	475	L20/OF/18
50 dia	63	431	554	L20/OF/21
50 dia	63	463	600	L20/OF/24
63 dia	69	257	75	L25/OF/03
63 dia	69	273	112	L25/OF/04
63 dia	69	288	150	L25/OF/06
63 dia	69	320	237	L25/OF/09
63 dia	69	352	300	L25/OF/12
63 dia	69	384	375	L25/OF/15
63 dia	69	415	475	L25/OF/18
63 dia	69	447	554	L25/OF/21
63 dia	69	479	600	L25/OF/24
75 dia	69	266	75	L30/OF/03
75 dia	69	282	112	L30/OF/04
75 dia	69	298	150	L30/OF/06
75 dia	69	330	237	L30/OF/09
75 dia	69	361	300	L30/OF/12
75 dia	69	393	375	L30/OF/15
75 dia	69	425	475	L30/OF/18
75 dia	69	457	554	L30/OF/21
75 dia	69	488	600	L30/OF/24
87 dia	76	282	75	L35/OF/03
87 dia	76	298	112	L35/OF/04
87 dia	76	314	150	L35/OF/06
87 dia	76	346	237	L35/OF/09
87 dia	76	377	300	L35/OF/12
87 dia	76	409	375	L35/OF/15
87 dia	76	441	475	L35/OF/18
87 dia	76	473	554	L35/OF/21
87 dia	76	504	600	L35/OF/24
100 dia	76	288	75	L40/OF/03
100 dia	76	307	112	L40/OF/04
100 dia	76	323	150	L40/OF/06
100 dia	76	355	237	L40/OF/09
100 dia	76	387	300	L40/OF/12
100 dia	76	419	375	L40/OF/15
100 dia	76	450	475	L40/OF/18
100 dia	76	482	554	L40/OF/21
100 dia	76	514	600	L40/OF/24

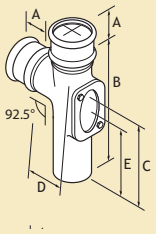
Note: If swan necks with ears are required, add LE to the order code for left hand side and RE for right hand side bend.

92.5° Equal Single Branches



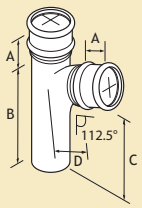
Pipe Size	A	B	C	D	Product Code
50 dia	63	234	177	88	L20/BR/9
63 dia	69	260	196	95	L25/BR/9
75 dia	69	285	212	111	L30/BR/9
87 dia	76	304	225	117	L35/BR/9
100 dia	76	330	214	130	L40/BR/9

92.5° Equal Single Branches with access



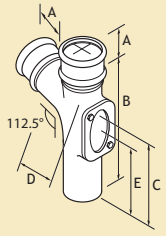
Pipe Size	A	B	C	D	E	Product Code
50 dia	63	234	177	88	146	L20/BRA/9
63 dia	69	260	196	95	161	L25/BRA/9
75 dia	69	285	212	111	177	L30/BRA/9
87 dia	76	304	225	117	190	L35/BRA/9
100 dia	76	330	214	130	206	L40/BRA/9

112.5° Equal Single Branches



Pipe Size	A	B	C	D	Product Code
50 dia	63	234	155	79	L20/BR/11
63 dia	69	260	174	85	L25/BR/11
75 dia	69	285	184	100	L30/BR/11
87 dia	76	304	120	107	L35/BR/11
100 dia	76	330	184	146	L40/BR/11

112.5° Equal Single Branches with access

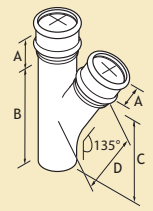


Pipe Size	A	B	C	D	E	Product Code
50 dia	63	234	155	88	146	L20/BRA/9
63 dia	69	260	174	95	161	L25/BRA/9
75 dia	69	285	184	111	177	L30/BRA/9
87 dia	76	304	120	117	190	L35/BRA/9
100 dia	76	330	184	130	206	L40/BRA/9

Note: When specifying fittings with ears, quote the full product code suffixed with /E.

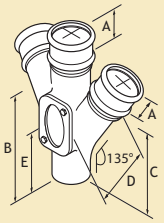
Harmer LCC Fittings

135° Equal Single Branches



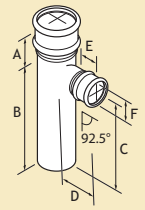
Pipe Size	A	B	C	D	Product Code
50 dia	63	234	120	114	L20/BR/13
63 dia	69	260	130	130	L25/BR/13
75 dia	69	285	133	152	L30/BR/13
87 dia	76	304	146	158	L35/BR/13
100 dia	76	330	146	184	L40/BR/13

135° Equal Single Branches with Access



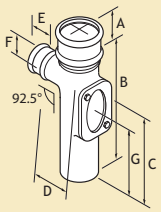
Pipe Size	A	B	C	D	E	Product Code
50 dia	63	234	120	114	146	L20/BRA/9
63 dia	69	260	130	130	161	L25/BRA/9
75 dia	69	285	133	152	177	L30/BRA/9
87 dia	76	304	146	158	190	L35/BRA/9
100 dia	76	330	146	184	206	L40/BRA/9

92.5° Unequal Single Branches



Pipe Size	A	B	C	D	E	F	Product Code
63 dia	69	260	196	95	63	50	L25/BRU/95
75 dia	69	260	196	100	63	50	L30/BRU/95
75 dia	69	273	206	104	69	63	L30/BRU/96
87 dia	76	266	206	107	63	50	L35/BRU/95
87 dia	76	285	209	111	69	63	L35/BRU/96
87 dia	76	292	215	117	69	75	L35/BRU/97
100 dia	76	279	219	114	63	50	L40/BRU/95
100 dia	76	285	209	117	69	63	L40/BRU/96
100 dia	76	292	215	123	69	75	L40/BRU/97
100 dia	76	304	209	123	76	88	L40/BRU/98

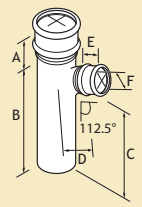
92.5° Unequal Single Branches with Access



Pipe Size	A	B	C	D	E	F	G	Product Code
63 dia	69	260	196	95	63	50	165	L25/BRU/95
75 dia	69	260	196	100	63	50	165	L30/BRU/95
75 dia	69	273	206	104	69	63	170	L30/BRU/96
87 dia	76	266	206	107	63	50	165	L35/BRU/95
87 dia	76	285	209	111	69	63	176	L35/BRU/96
87 dia	76	292	215	117	69	75	187	L35/BRU/97
100 dia	76	279	219	114	63	50	177	L40/BRU/95
100 dia	76	285	209	117	69	63	180	L40/BRU/96
100 dia	76	292	215	123	69	75	182	L40/BRU/97
100 dia	76	304	209	123	76	88	178	L40/BRU/98

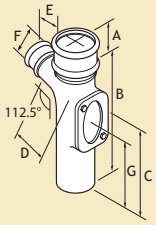
Note: When specifying fittings with ears, quote the full product code suffixed with /E.

112.5° Unequal Single Branches



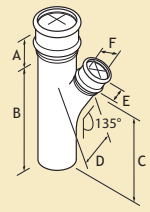
Pipe Size	A	B	C	D	E	F	Product Code
63 dia	69	276	187	104	63	50	L25/BRU/115
75 dia	69	260	174	92	63	50	L30/BRU/115
75 dia	69	276	187	104	69	63	L30/BRU/116
87 dia	76	263	180	98	63	50	L35/BRU/115
87 dia	76	288	184	111	69	76	L35/BRU/117
100 dia	76	279	190	104	63	50	L35/BRU/115
100 dia	76	288	184	114	69	76	L40/BRU/117
100 dia	76	304	193	111	76	88	L40/BRU/118

112.5° Unequal Single Branches with Access



Pipe Size	A	B	C	D	E	F	G	Product Code
63 dia	69	276	187	104	63	50	165	L25/BRUA/115
75 dia	69	260	174	92	63	50	165	L30/BRUA/115
75 dia	69	276	187	104	69	63	165	L30/BRUA/116
87 dia	76	263	180	98	63	50	165	L35/BRUA/115
87 dia	76	288	184	111	69	75	184	L35/BRUA/117
100 dia	76	279	190	104	63	50	174	L35/BRUA/115
100 dia	76	288	184	114	69	75	180	L40/BRUA/117
100 dia	76	304	193	111	76	88	177	L40/BRUA/118

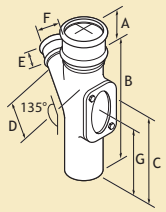
135° Unequal Single Branches



Pipe Size	A	B	C	D	E	F	Product Code
63 dia	69	260	130	133	63	50	L25/BRU/135
75 dia	69	260	130	133	63	50	L30/BRU/135
75 dia	69	280	130	133	69	63	L30/BRU/136
87 dia	76	266	133	146	63	50	L35/BRU/135
87 dia	76	292	133	161	69	75	L35/BRU/137
100 dia	76	279	139	152	63	50	L35/BRU/135
100 dia	76	292	127	171	69	75	L40/BRU/137
100 dia	76	304	127	177	76	88	L40/BRU/138

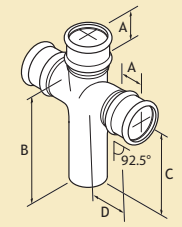
Note: When specifying fittings with ears, quote the full product code suffixed with /E.

135° Unequal Single Branches with Access



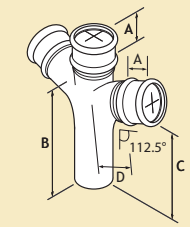
Pipe Size	A	B	C	D	E	F	G	Product Code
63 dia	69	260	130	133	63	50	165	L25/BRUA/135
75 dia	69	260	130	133	63	50	165	L30/BRUA/135
75 dia	69	280	130	133	69	63	165	L30/BRUA/136
87 dia	76	266	133	146	63	50	165	L35/BRUA/135
87 dia	76	292	133	161	69	75	184	L35/BRUA/137
100 dia	76	279	139	152	63	50	174	L35/BRUA/135
100 dia	76	292	127	171	69	75	180	L40/BRUA/137
100 dia	76	304	127	177	76	88	177	L40/BRUA/138

92.5° Equal Double Branches



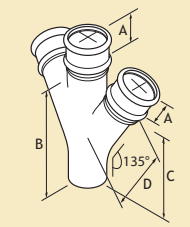
Pipe Size	A	B	C	D	Product Code
50 dia	63	234	177	88	L20/BRD/9
63 dia	69	260	196	95	L25/BRD/9
75 dia	69	285	212	111	L30/BRD/9
87 dia	76	304	225	117	L35/BRD/9
100 dia	76	330	241	130	L40/BRD/9

112.5° Equal Double Branches



Pipe Size	A	B	C	D	Product Code
50 dia	63	234	155	79	L20/BRD/11
63 dia	69	260	174	85	L25/BRD/11
75 dia	69	285	184	98	L30/BRD/11
87 dia	76	304	193	111	L35/BRD/11
100 dia	76	330	209	120	L40/BRD/11

135° Equal Double Branches

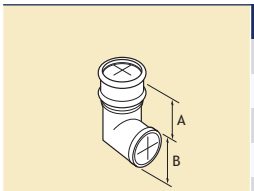


Pipe Size	A	B	C	D	Product Code
50 dia	63	234	120	114	L20/BRD/13
63 dia	69	260	130	130	L25/BRD/13
75 dia	69	285	136	149	L30/BRD/13
87 dia	76	304	146	158	L35/BRD/13
100 dia	76	330	146	184	L40/BRD/13

Note: When specifying fittings with ears, quote the full product code suffixed with /E.

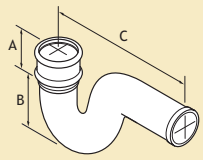
Harmer LCC Fittings

Shoes



Pipe Size	A	B	Product Code
50 dia	63	127	L20/SH
63 dia	69	149	L25/SH
75 dia	69	177	L30/SH
87 dia	76	200	L35/SH
100 dia	76	228	L40/SH

P Traps

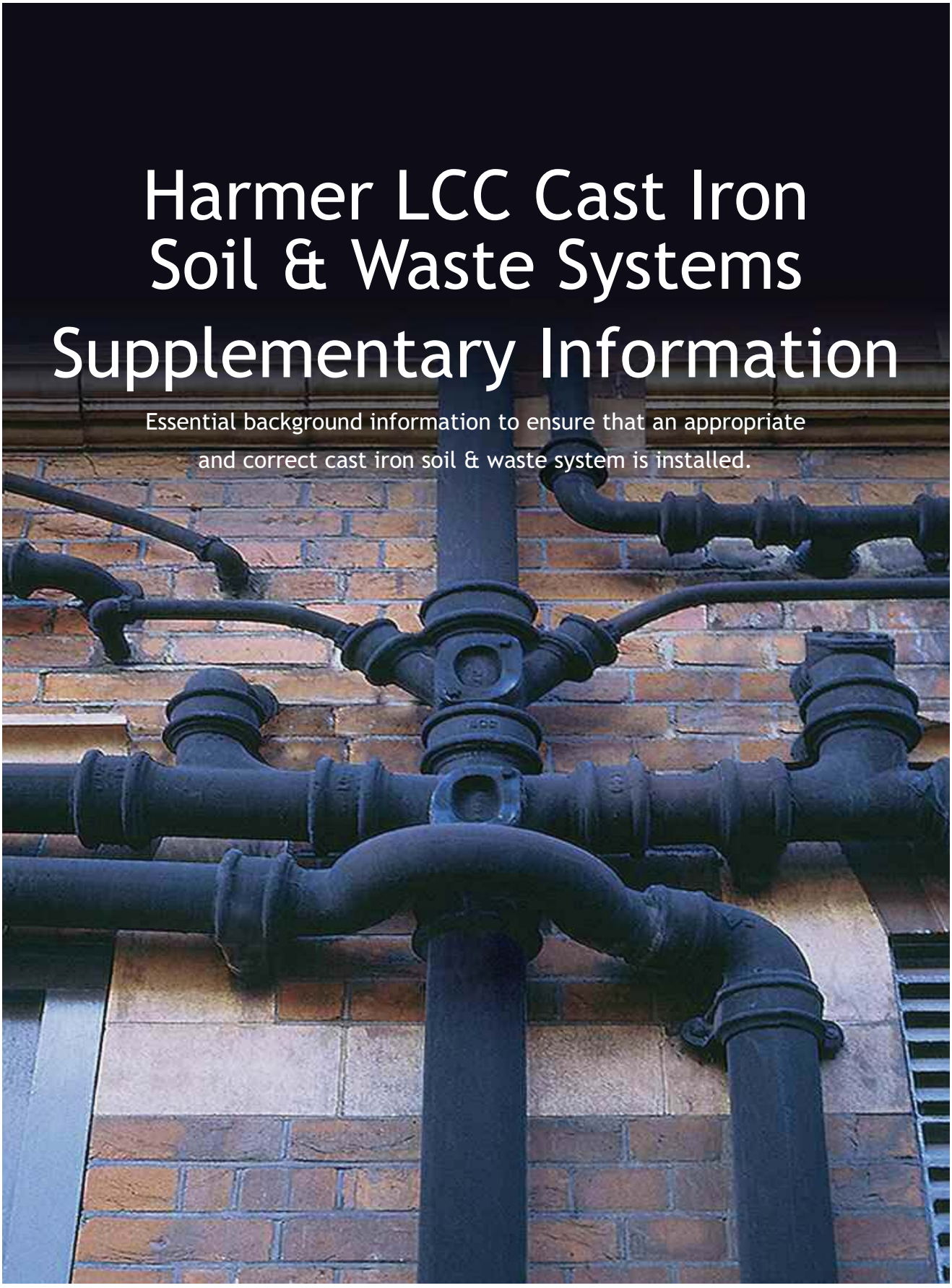


Pipe Size	A	B	C	Product Code
50 dia	76	136	343	L40/PT

Pipe Fixings

Type	Size	Notes	Product Code
3” Pipe Nail	M8 x 75mm	Bright zinc plated mild steel	NAIL30
4” Pipe Nail	M8 x 100mm	Bright zinc plated mild steel	NAIL40
3” Coach Screw	M8 x 75mm	Hardened steel zinc plated	COACH30
4” Coach Screw	M8 x 100mm	Hardened steel zinc plated	COACH40
Coach Screw Cap	M8 dia	Black plastic	COACHCAP
Marine Sealant	310ml Cartridge	Geocel black silicone rubber	MS991563
Caulking Foam 13mm	M13 dia x 10 metre	Polyethylene backer rod	BF991413

Note: When specifying fittings with ears, quote the full product code suffixed with /E.



Harmer LCC Cast Iron Soil & Waste Systems Supplementary Information

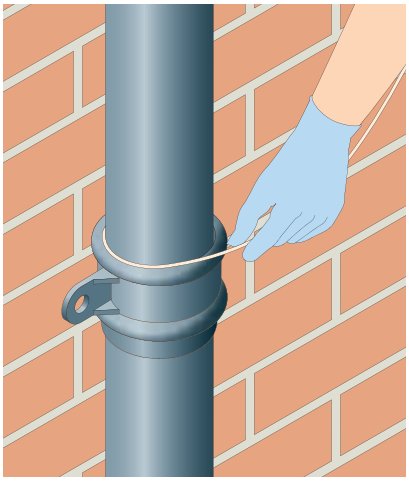
Essential background information to ensure that an appropriate and correct cast iron soil & waste system is installed.

Harmer LCC – Installation

Harmer LCC Traditional Cast Iron Soil & Waste Drainage system has an extensive range of fittings and accessories to provide great flexibility in installation.

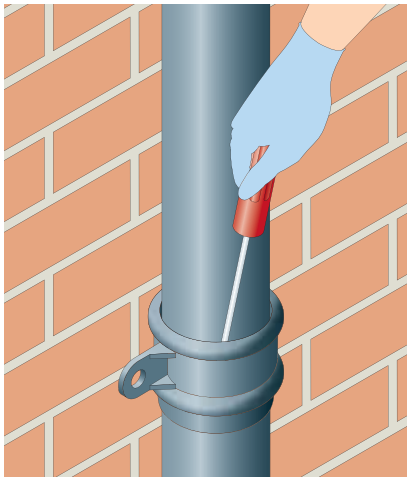
The LCC system can be installed using the traditional lead caulking method with the use of a naked flame. Alternatively, Harmer recommends a cold caulking method as described below.

Cold Jointing Method for Harmer LCC Pipes

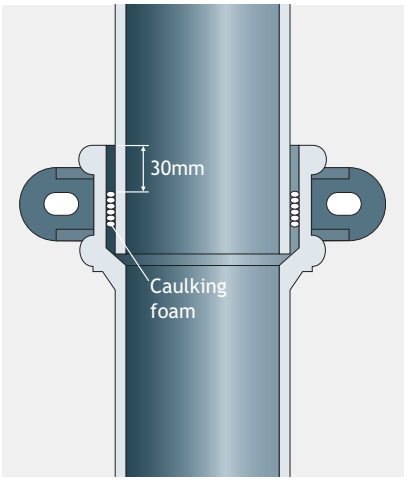


1. Centre the pipe spigot within the socket and insert the caulking foam.

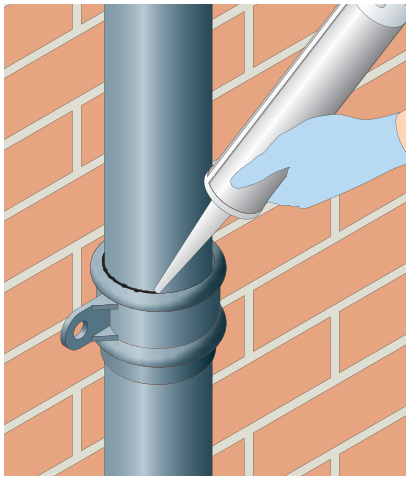
Note: Each joint of a 4" pipe will require approximately 4 metres of caulking foam and a quarter of a tube of black silicone sealant. Estimate usage for smaller or larger diameters on a pro rata basis.



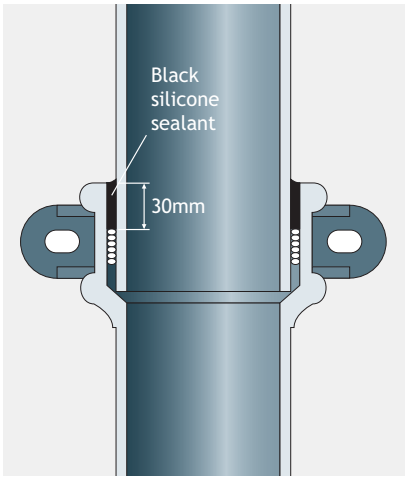
2. Caulk the foam into the socket up to 30mm from the top using a screwdriver. This will centralise the pipes and provide a backing for the sealant.



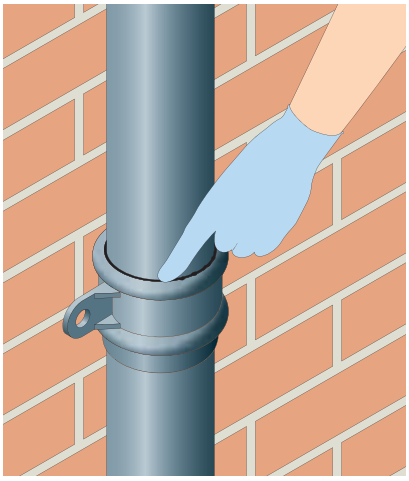
2a. A profile image showing the installed caulking foam in the socket, leaving a 30mm space for the silicone sealant.



3. Fill the top 30mm with black silicone sealant.



3a. A profile image showing the silicone sealant filling the 30mm gap to the top of the socket.



4. When filled, smooth off level with the top of the socket to provide a sealed and neat appearance. No further painting is required if the pipes are black.

Fixing Methods for Harmer LCC Pipes

For eared soil pipes: Use 100mm large head pipe nails, coach screws or other proprietary fixing.

For uneared soil pipes: Use drive-in spikes - alternatively, use holderbats or earbands for a more decorative effect.

All of these types of fixings are available from stock. (See the Price List, sundry items, page 124)

NBS Specification

A typical NBS Specification for Harmer LCC Traditional soil and waste pipes is provided below. A full range of NBS specifications are available via Alumasc's online NBS Specification Builder at www.harmerdrainage.co.uk.
For project specific specification advice, contact Alumasc Technical Services.

R11 Above Ground Foul Drainage Systems

GENERAL

- Gravity Foul Drainage System.
- Sanitary and waste pipework, ventilating pipework.

SYSTEM PERFORMANCE

- Design Standard: To BS EN 12056-1:2000, BS EN 12056-2:2000 and National Annexes NA-NG.
- Collection and Distribution of Foul Water: Complete, and without leakage or noise nuisance.
- Design Parameters: Self-cleansing, and without blockage, crossflow, backfall, leakage, odours or noise nuisance. Pipework pressure fluctuations: ±38mm (max). Trap water seal: 25mm (min).

PRODUCTS (TYPICAL SPECIFICATION)

HARMER LCC TRADITIONAL CAST IRON

335 HARMER LCC PIPES

Gutters and fittings to: BS 8530 (formerly BS 2997)
Manufacturer: Alumasc Exterior Building Products Ltd
White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG.
Tel: 01744 648400, Fax: 01744 648401, Email: info@alumasc-exteriors.co.uk

Reference:	Harmer LCC cast iron soil and waste system
Size:	76mm (3") diameter
Colour:	Black Gloss
Joint Type:	Spigot and Socket
Fixing:	Fixed to the wall at approximately 1.83m centres through the ears integral to the pipe or via separate galvanised steel holderbats. It is recommended that the fixings be round or dome head galvanised plugged screws with washers.
Accessories:	Bends, Branches, Access Pipes, Swan Necks, Plinth Offsets.

Create Alumasc Rainwater System NBS specifications by selecting the required product range, profile, size and finish by visiting:

www.harmerdrainage.co.uk

Imperial/Metric Conversion Chart

in	mm
1/8	3.2
1/4	6.4
3/8	9.5
1/2	12.7
5/8	15.9
3/4	19.1
7/8	22.2
1	**25.4**
1 1/8	28.6
1 1/4	31.8
1 3/8	34.9
1 1/2	38.1
1 5/8	41.3
1 3/4	44.5
1 7/8	47.6
2	**50.8**
2 1/8	54.0
2 1/4	57.2
2 3/8	60.3
2 1/2	63.5
2 5/8	66.7
2 3/4	69.9
2 7/8	73.0
3	**76.2**
3 1/8	79.4
3 1/4	82.6
3 3/8	85.7
3 1/2	88.9
3 5/8	92.1
3 3/4	95.3
3 7/8	98.4
4	**101.6**
4 1/8	104.8
4 1/4	108.0
4 3/8	111.1
4 1/2	114.3
4 5/8	117.5
4 3/4	120.7
4 7/8	123.8
5	**127.0**
5 1/8	130.2
5 1/4	133.4
5 3/8	136.5
5 1/2	139.7
5 5/8	142.9
5 3/4	146.1
5 7/8	149.2

in	mm
6	**152.4**
6 1/8	155.6
6 1/4	158.8
6 3/8	161.9
6 1/2	165.1
6 5/8	168.3
6 3/4	171.5
6 7/8	174.6
7	**177.8**
7 1/8	181.0
7 1/4	184.2
7 3/8	187.3
7 1/2	190.5
7 5/8	193.7
7 3/4	196.9
7 7/8	200.0
8	**203.2**
8 1/8	206.4
8 1/4	209.6
8 3/8	212.7
8 1/2	215.9
8 5/8	219.1
8 3/4	222.3
8 7/8	225.4
9	**228.6**
9 1/8	231.8
9 1/4	235.0
9 3/8	238.1
9 1/2	241.3
9 5/8	244.5
9 3/4	247.7
9 7/8	250.8
10	**254.0**
10 1/8	257.2
10 1/4	260.4
10 3/8	263.5
10 1/2	266.7
10 5/8	269.9
10 3/4	273.1
10 7/8	276.2
11	**279.4**
11 1/8	282.6
11 1/4	285.8
11 3/8	288.9
11 1/2	292.1
11 5/8	295.3
11 3/4	298.5
11 7/8	301.6

in	ft	in	mm
12	**1**	**0**	**304.8**
12 1/8	1	0 1/8	308.0
12 1/4	1	0 1/4	311.2
12 3/8	1	0 3/8	314.3
12 1/2	1	0 1/2	317.5
12 5/8	1	0 5/8	320.7
12 3/4	1	0 3/4	323.9
12 7/8	1	0 7/8	327.0
13	**1**	**0**	**330.2**
13 1/8	1	1 1/8	333.4
13 1/4	1	1 1/4	336.6
13 3/8	1	1 3/8	339.7
13 1/2	1	1 1/2	342.9
13 5/8	1	1 5/8	346.1
13 3/4	1	1 3/4	349.3
13 7/8	1	1 7/8	352.4
14	**1**	**0**	**355.6**
14 1/8	1	2 1/8	358.8
14 1/4	1	2 1/4	362.0
14 3/8	1	2 3/8	365.1
14 1/2	1	2 1/2	368.3
14 5/8	1	2 5/8	371.5
14 3/4	1	2 3/4	374.7
14 7/8	1	2 7/8	377.8
15	**1**	**0**	**381.0**
15 1/8	1	3 1/8	384.2
15 1/4	1	3 1/4	387.4
15 3/8	1	3 3/8	390.5
15 1/2	1	3 1/2	393.7
15 5/8	1	3 5/8	396.9
15 3/4	1	3 3/4	400.1
15 7/8	1	3 7/8	403.2
16	**1**	**0**	**406.4**
16 1/8	1	4 1/8	409.6
16 1/4	1	4 1/4	412.8
16 3/8	1	4 3/8	415.9
16 1/2	1	4 1/2	419.1
16 5/8	1	4 5/8	423.3
16 3/4	1	4 3/4	425.5
16 7/8	1	4 7/8	428.6
17	**1**	**0**	**431.8**
17 1/8	1	5 1/8	435.0
17 1/4	1	5 1/4	438.2
17 3/8	1	5 3/8	441.3
17 1/2	1	5 1/2	444.5
17 5/8	1	5 5/8	448.7
17 3/4	1	5 3/4	450.9
17 7/8	1	5 7/8	454.0

Alumasc Rainwater Systems The Steel Range

The NEW lightweight Steel rainwater range provides a contemporary, eco-friendly and cost effective alternative to uPVC gutters.

Steel Rainwater Range – Product Summary

Circular Pipe

Half Round Gutter

Wrap-Around Gutter Outlet

Steel Rainwater System – Product Summary

Alumasc Steel is a lightweight range of contemporary, eco-friendly and cost effective alternative to plastic gutters, without the risk of shrinking, leaking or colour fading. The gutter is available in a choice of four widths in the popular Half Round profile along with a connecting round downpipe system.

Applications

- Ideal for traditional and modern buildings in both new build and refurbishment applications
- A competitive alternative to uPVC systems, with increased flow rates and longevity

Features & Performance

- All gutter widths are deep half round providing maximum flow rates
- Higher flow capacity on outlets due to larger inlet funnels
- Gutter angle is 'deep drawn' and one piece giving greater flow capacity
- Lightweight, durable and non-corrodible
- Quick and easy installation
- Fascia bracket has a larger back plate for installation ease and 6 fixing points compared to 2 on other systems
- Internally seamed downpipe gives a smooth and modern finish
- Downpipe brackets have two concealed vertical fixing points
- Low maintenance

Manufacture

- Manufactured to ISO 9001: 2008
- Manufactured to ISO 14001: 2004

Colours & Finishes

- Available in steel in either a Galvanised or a Black Pre-coated Finish
- Also available to order in 6 other galvanised pre-coated colour finishes upon request
- The system is also available to order in plain zinc or copper
- All colour coated lengths are protected with an adhesive film to prevent damage on-site

Installation & Fixing

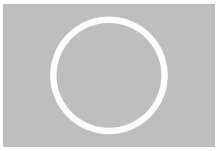
- Dry Joint system without the need for additional silicone sealants
- Gutter lengths and angles are jointed with 'EPDM rubber sealed' connectors for fast and watertight installation
- Downpipes and offsets are push fit with 'Swaged' ends, again for fast and watertight installation
- Stop ends are push-fit with 'EPDM rubber sealed' inserts
- Fascia brackets have wide back plates and are multi holed for fast and ultra-secure fascia fixing

Gutter Profile & Sizes

Half Round

100 x 70mm
125 x 80mm
150 x 90mm
190 x 90mm

Pipe Profile & Sizes

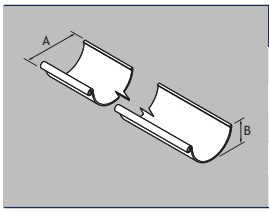


Half Round

100 x 70mm
125 x 80mm
150 x 90mm
190 x 90mm

Steel Gutters and Fittings

Gutters



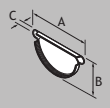
Gutter Size	Gutter Length	A	B	T	Weight (kg)	Product Code
100 (4”)	3000mm	100	75	0.6	3.24	HRS40/3M
125 (5”)	"	125	80	0.6	3.63	HRS50/3M
150 (6”)	"	150	90	0.6	4.32	HRS60/3M
190 (7.5”)	"	190	100	0.6	5.19	HRS75/3M

Note: T = Gutter Thickness (nominal +/- 0.1mm)

Union Connector

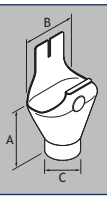
Gutter Size	A	Product Code
100	45	HRS40/UC
125	45	HRS50/UC
150	45	HRS60/UC
190	45	HRS75/UC

Push-Fit Stop-Ends



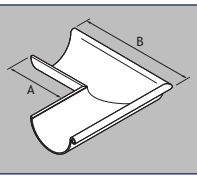
Gutter Size	A	B	C	Product Code
100	140	75	10	HRS40/SE
125	165	85	10	HRS50/SE
150	190	100	10	HRS60/SE
190	230	120	10	HRS75/SE

Wrap-Around Gutter Outlet



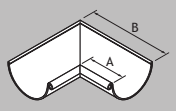
Gutter Size	Pipe Size	A	B	C	Product Code
100	80 dia	170	145	75	HRS40/RO80
125	80 dia	190	160	75	HRS50/RO80
150	100 dia	200	190	95	HRS60/RO100
190	100 dia	240	230	95	HRS75/RO100

90° External Angle



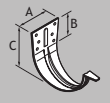
Gutter Size	A	B	Product Code
100	160	295	HRS40/EA90
125	145	300	HRS50/EA90
150	110	295	HRS60/EA90
190	125	345	HRS75/EA90

90° Internal Angle



Gutter Size	A	B	Product Code
100	160	290	HRS40/IA90
125	150	300	HRS50/IA90
150	120	300	HRS60/IA90
190	120	340	HRS75/IA90

Fascia Bracket

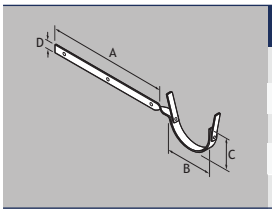


Gutter Size	A	B	C	Product Code
100	80	70	135	HRS40/FB
125	80	70	145	HRS50/FB
150	80	70	160	HRS60/FB
190	80	70	210	HRS75/FB

Note: The Steel range is available in a galvanised finish or in a polyester powder coated black finish. Product codes in the tables refer to the galvanised finish. For black painted please add the suffix /BLK.

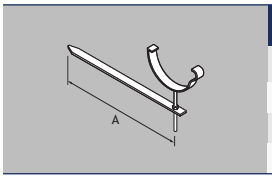
Steel Pipes and Fittings

Gutter Rafter Arm



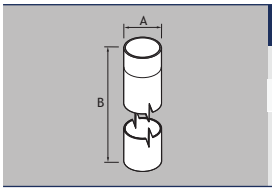
Gutter Size	A	B	C	Product Code
100	300	130	205	HRS40/RB/SF
125	300	130	225	HRS50/RB/SF
150	300	130	240	HRS60/RB/SF
190	300	130	255	HRS75/RB/SF

Rise & Fall Bracket



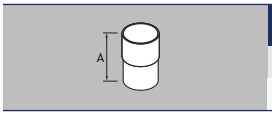
Gutter Size	A	Product Code
100	300	HRS40/R&F
125	300	HRS50/R&F
150	300	HRS60/R&F
190	300	HRS75/R&F

Pipes



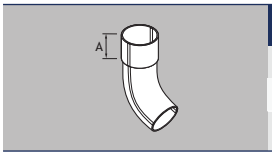
Pipe Size (A)	Pipe Length (B)	Product Code
80 dia	3000mm	SRW1/3M
100 dia	3000mm	SRW2/3M

Downpipe Connector



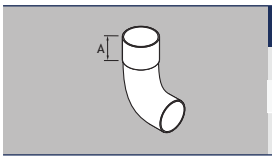
Pipe Size	A	Product Code
80 dia	118	SRW1/DC
100 dia	117	SRW2/DC

Offset Bend 70°



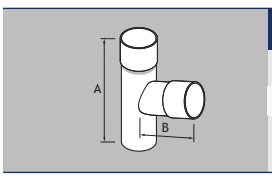
Pipe Size	A	Product Code
80 dia	34	SRW1/OSB/70
100 dia	30	SRW2/OSB/70

Offset Bend 90°



Pipe Size	A	Product Code
80 dia	43	SRW1/OSB/90
100 dia	34	SRW2/OSB/90

Branch 72°

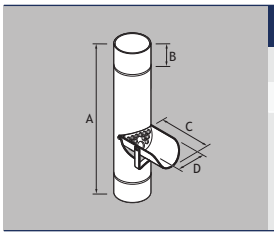


Pipe Size	A	B	Product Code
80 dia	280	72	SRW1/BR/72
100 dia	285	55	SRW1/BR/72

Note: The Steel range is available in a galvanised finish or in a polyester powder coated black finish. Product codes in the tables refer to the galvanised finish. For black painted please add the suffix /BLK.

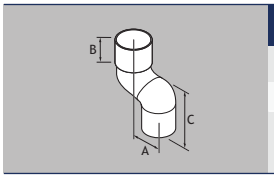
Steel Pipes and Fittings

Rainwater Diverter



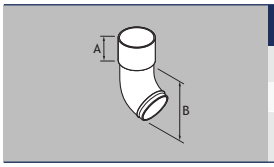
Pipe Size	A	B	C	D	Product Code
80 dia	400	57	135	78	SRW1/RDIV
100 dia	400	53	155	98	SRW2/RDIV

Fixed Offset



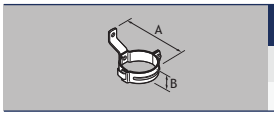
Pipe Size	A	B	C	Product Code
80 dia	64	60	160	SRW1/FOS/60
100 dia	68	60	195	SRW2/FOS/60

Shoe



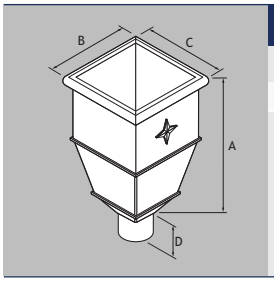
Pipe Size	A	B	Product Code
80 dia	36	127	SRW1/SH
100 dia	29	155	SRW1/SH

Pipe Clip



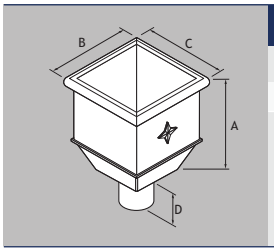
Pipe Size	A	B	Product Code
80 dia	120	25	SRW1/PC
100 dia	135	25	SRW1/PC

Hopper Head (Galvanised)



Pipe Size	A	B	C	D	Product Code
80 dia	385	220	220	80	SRW1/HH/GS
100 dia	385	220	220	80	SRW2/HH/GS

Hopper Head (Black Coated)



Pipe Size	A	B	C	D	Product Code
80 dia	300	230	230	60	SRW1/HH/BCS/BLK
100 dia	300	230	230	60	SRW2/HH/BCS/BLK

Note: The Steel range is available in a galvanised finish or in a polyester powder coated black finish. Product codes in the tables refer to the galvanised finish. For black painted please add the suffix /BLK.

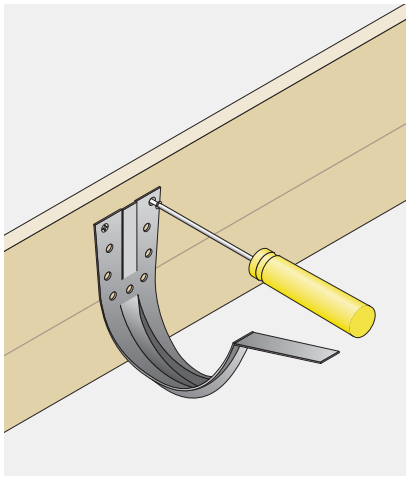
Alumasc Rainwater Systems Steel Range Supplementary Information

Essential background information to ensure that an appropriate and correct steel rainwater system is installed.

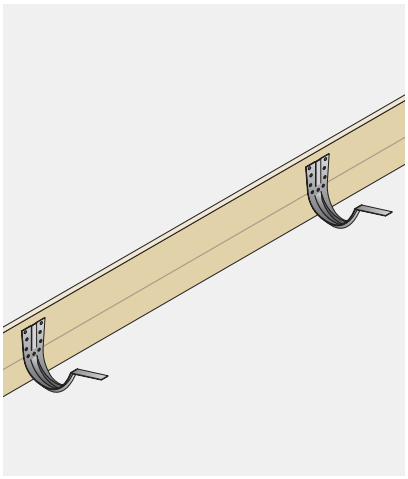
Installation – Gutters

Alumasc steel gutters are available in the half round profile in four sizes with a range of brackets to accommodate all types of eaves. The system is dry jointed without the need for additional silicone sealant.

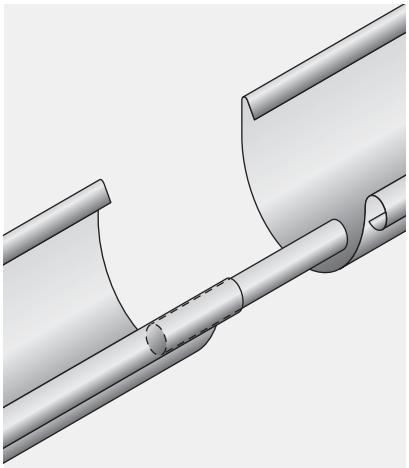
The gutter range can be connected to the steel pipework system and secured by standard pipe clips. The assembly and installation must be considered individually depending on the project, although general aspects of preparation are common to all as shown below.



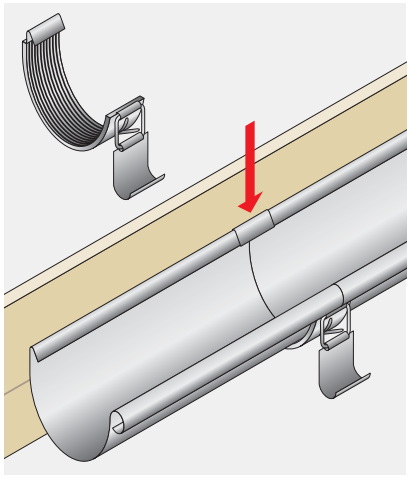
1. Generally position the fascia brackets at 915mm centres, using at least 3 brackets per gutter length. Use 2 screws on both the left and right fixing options and 1/no underneath the gutter securing tab.



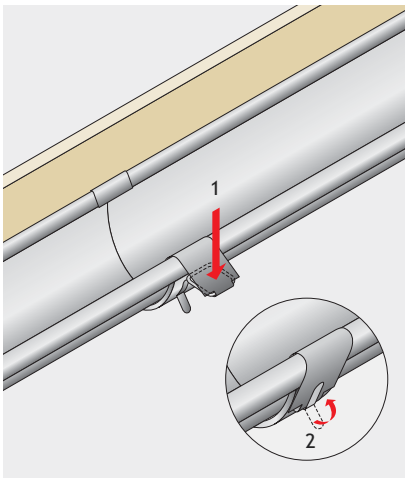
2. Use a string line to set out your fascia brackets along the gutter run allowing for a fall of 1:600 to 1:350 (max).



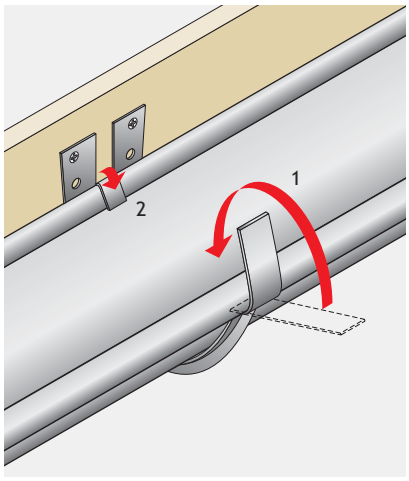
3. A bead connector is used to join two lengths of gutter. Insert the connector into the front roll of each gutter length. Allow for a 4mm expansion gap.



4. An EDPM rubber sealed union connector is used to connect the gutter lengths and angles together. Locate the union connector over the rear edge of the gutter.



5. Locate the clasp over the front roll edge of the gutter. Push down on top of the clasp and squeeze the clasp shut. Fold the locking tab over to fully secure.



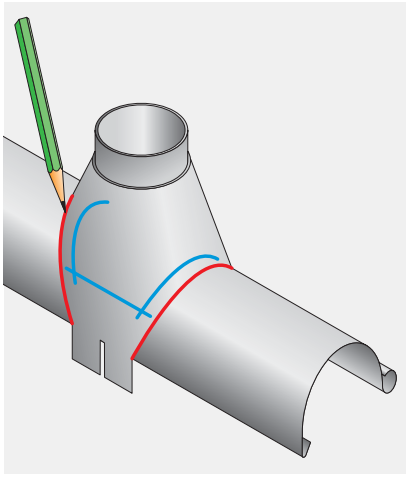
6. Locate the gutter into the fascia bracket and seat level, then fold the front tab of the fascia bracket around the front roll and into the gutter. Fold the rear tab of the fascia bracket down and over the rear edge of the gutter.

For further information or assistance please contact The Rainwater Technical Team on Tel 01744 648400

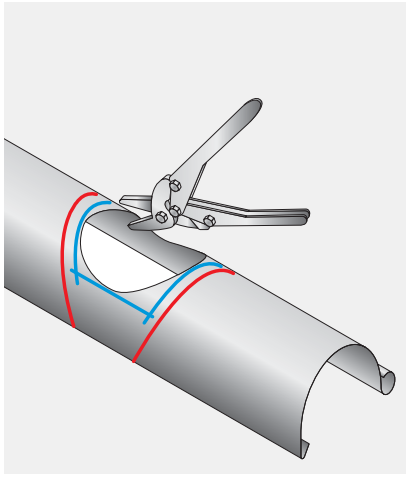
Installation – Rainwater Pipes

Alumasc steel downpipes are available as a circular profile in 2 sizes with a range of pipe clips and fittings to accommodate all types of installation situations. The downpipes and offsets are push-fit with 'swaged' ends, again for fast and watertight installation.

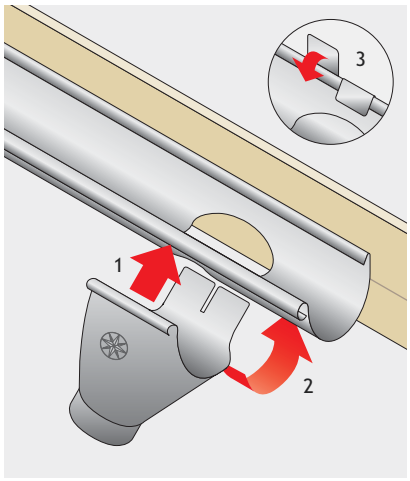
The assembly and installation must be considered individually depending on the project, although general aspects of preparation are common to all as shown below.



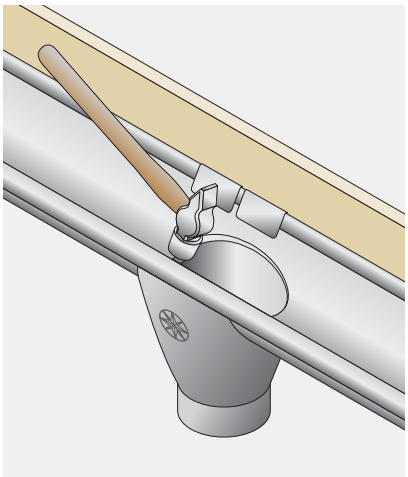
1. When installing a 'wrap around outlet' mark the desired location of the outlet by drawing a line either side of the outlet along its edge. Draw a further line 20mm inside of the outer lines and join these inner lines together in an oval pattern. This becomes the marking for the cut out hole.



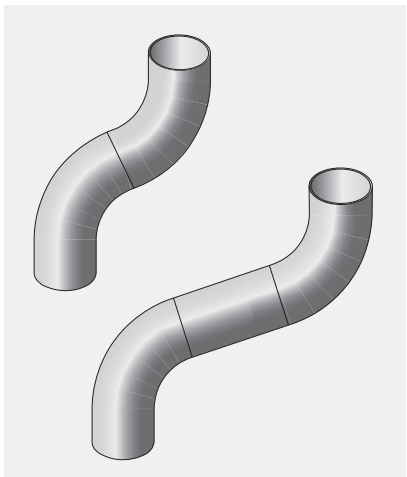
2. Use a hacksaw to make an initial hole in the gutter, and then use a set of tin snips to cut out the inner hole that you have marked out.



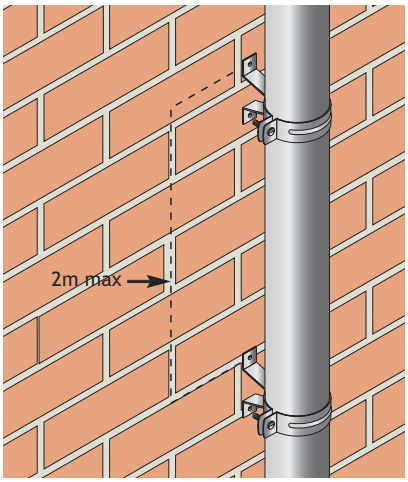
3. Attach the outlet to the gutter and fold the rear tabs of the outlet over the rear edge of the gutter, making sure the outlet is aligned correctly to accept the downpipe.



4. Tap the inner rough edges of the hole that was cut in the gutter, down into the outlet, to ensure a smooth flow of water.



5. Offsets are achieved using 2/no 70° bends, with larger offsets being made by inserting a pipe length between the two bends.



6. Downpipes should be installed using at least 2/no pipe clips per length. Mark out the clips locations and level with a sprit level or plumb line. Open the tightening screw to allow the pipe to be inserted, close the clip and re-tighten, making sure not to over tighten and damage the downpipe.

For further information or assistance please contact The Rainwater Technical Team on Tel 01744 648400

Rainwater System Design

Alumasc Technical Services is a fully experienced team of Rainwater specialists who use the latest CAD technology and calculation tools to provide an unrivalled support service to Architects, Designers and Contractors.

The Alumasc Rainwater Drainage Design Service

Alumasc Technical Services use dedicated design software in conjunction with the requirements of *BS EN 12056:2000: Gravity drainage systems inside buildings - Part 3* to calculate the most appropriate Alumasc rainwater system to suit project requirements.

The gutter flow software automatically checks the capacity of downpipes used and suggests the minimum size to which downpipes can be sized. Contact Alumasc for further information.

Calculation Criteria

Calculation of the most efficient drainage solution takes into consideration the following criteria:

- Catchment area
- Local rainfall intensity
- Building life and safety factor
- Size and flow rate of gutters
- Frequency and size of outlets and downpipes

Sizing of Gutters and Downpipes

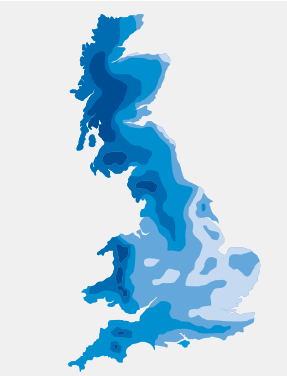
The level of rainfall a given roof drainage system should cope with is based on the position of the gutter, the potential use of the building and its projected lifespan. All true eaves gutters (external) are designed using a 1 year storm event. This is generally accepted because overflow from an external eaves gutter will fall clear of the building, which is not normally a problem. Any gutter which is classed internal, even if it is at the eaves, should be designed for an intensity based on the building life and a suitable factor of safety.

This factor will vary from 1.5 for conventional buildings to 4.5 for very important structures. For most buildings a 60 year life and safety factor of 1.5 would be the most suitable (90 year protection life).

All the parameters of flow calculations cannot be captured using a single formula. The guide below provides a basic method for calculating flow requirements. For accurate project specific specification advice on rainwater flow calculations contact Alumasc Technical Services.

Step 1

Geographical Location and Rainfall Intensity Maps

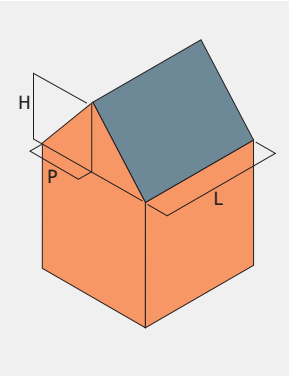


BS EN 12056-3: 2000 contains maps showing rainfall intensity in litres/second per m^2 for 1, 5, 50 and 500 year storms of 2 minute duration.

(All external gutters designed for 1 year event).

Step 2

Calculating Catchment Area



CA = (P+H/2) x L

CA = Catchment area in square metres

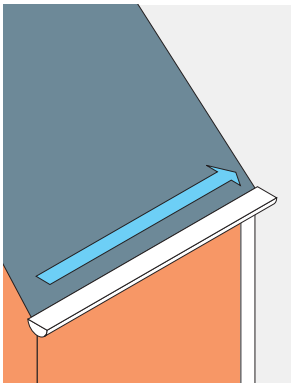
P = Horizontal distance between eaves and ridge

H = Height of roof

L = Length of eaves

Step 3

Frequency and Positioning of Outlets/Downpipes



Calculate the number of outlets per run.

Step 4

Calculate Flow Requirements

Overall Rainfall

Catchment Area (CA) x Rainfall Intensity (RI) = Overall Rainfall (OR)

Flow Rate Per Outlet

Overall Rainfall (OR) ÷ Number of Outlets = Flow Rate Per Outlet

Choose Gutter/Outlets according to published Flow Rate capacities.

Note:

Depending on building type, a safety factor should be allowed for the sizing of internal gutters. Contact Alumasc Technical Services for further information.

alumasc

Available on the iPad. App Store

Technical Support

Alumasc's new Drainage Design Calculators are available as a download from the Alumasc Rainwater website. www.alumascrainwater.co.uk

NBS Specification

A typical NBS Specification for Alumasc steel gutters and downpipes is provided below. A full range of NBS specifications are available via Alumasc's online NBS Specification Builder at www.alumascrainwater.co.uk.
For project specific specification advice, contact Alumasc Technical Services.

R10 Rainwater Drainage Systems

GENERAL

- Gravity Rainwater Drainage System.
- Rainwater outlets, gutters, pipework and accessories as per detail sections below.

SYSTEM PERFORMANCE

- Design Standard: To BS EN 12056-3:2000, clauses 3-7 and National Annexes.
- Collection and Distribution of Rainwater: Complete, and without leakage or noise nuisance.
- Design Parameters: Design rate of rainfall as per BS EN 12056-3:2000, National Annex NB.2 - Category 1

PRODUCTS (TYPICAL SPECIFICATION)

ALUMASC STEEL HALF ROUND GUTTER (100mm)

311 ALUMASC STEEL GUTTERS

Gutters and fittings to: BS EN 12056-3: 2000
Manufacturer: Alumasc Exterior Building Products Ltd
White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG.
Tel: 01744 648400, Fax: 01744 648401, Email: info@alumasc-exteriors.co.uk

Reference:	Alumasc steel rainwater system
Profile:	Half Round
Size:	100mm
Outlet Size:	80mm
Type/grade:	Made from Mild Steel
Finish:	Galvanised or polyester powder coated to BS EN 12206-1:2004
Colour:	To be advised
Jointing:	External union clips placed over each butt joint and locked with a clip to the front of the gutter.
Fixing:	The gutter fixed with bracket fixed at maximum 1000mm centres and at each fitting.

Create Alumasc Rainwater System NBS specifications by selecting the required product range, profile, size and finish by visiting:

www.alumascrainwater.co.uk

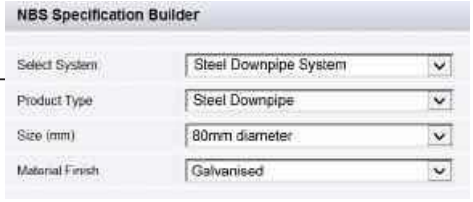
PRODUCTS (TYPICAL SPECIFICATION)

ALUMASC STEEL DOWNPIPE (80mm diameter)

370 ALUMASC STEEL PIPEWORK FOR EXTERNAL USE:

Pipes, fittings and accessories to: BS EN 12056-3: 2000
Manufacturer: As above

Reference:	Alumasc steel downpipe system
Size:	80mm diameter
Type/grade:	Mild Steel
Finish:	Galvanised or polyester powder coated to BS EN 12206-1:2004
Colour:	To be advised
Fixing:	Pipe clip fixed at maximum 2.0m centres. Plug and screw to wall with number 12 x 50mm round head twin thread screws and washers bright zinc plated to BS 1706:1960 Class.
Accessories:	Bends, Branches, Access Pipes, Offsets, Shoes, Rainwater Heads, Pipe Clips.



Other Alumasc & Harmer Rainwater Products

In addition to Aluminium, cast Iron and steel rainwater systems, and traditional soil and waste systems Alumasc Rainwater and Harmer Drainage offers the following products ranges, shown below. For detailed information on these systems, please contact Alumasc Technical services or visit www.alumascrainwater.co.uk / www.harmerdrainage.co.uk

Rainwater Harvesting

Stormsaver®
right as rain

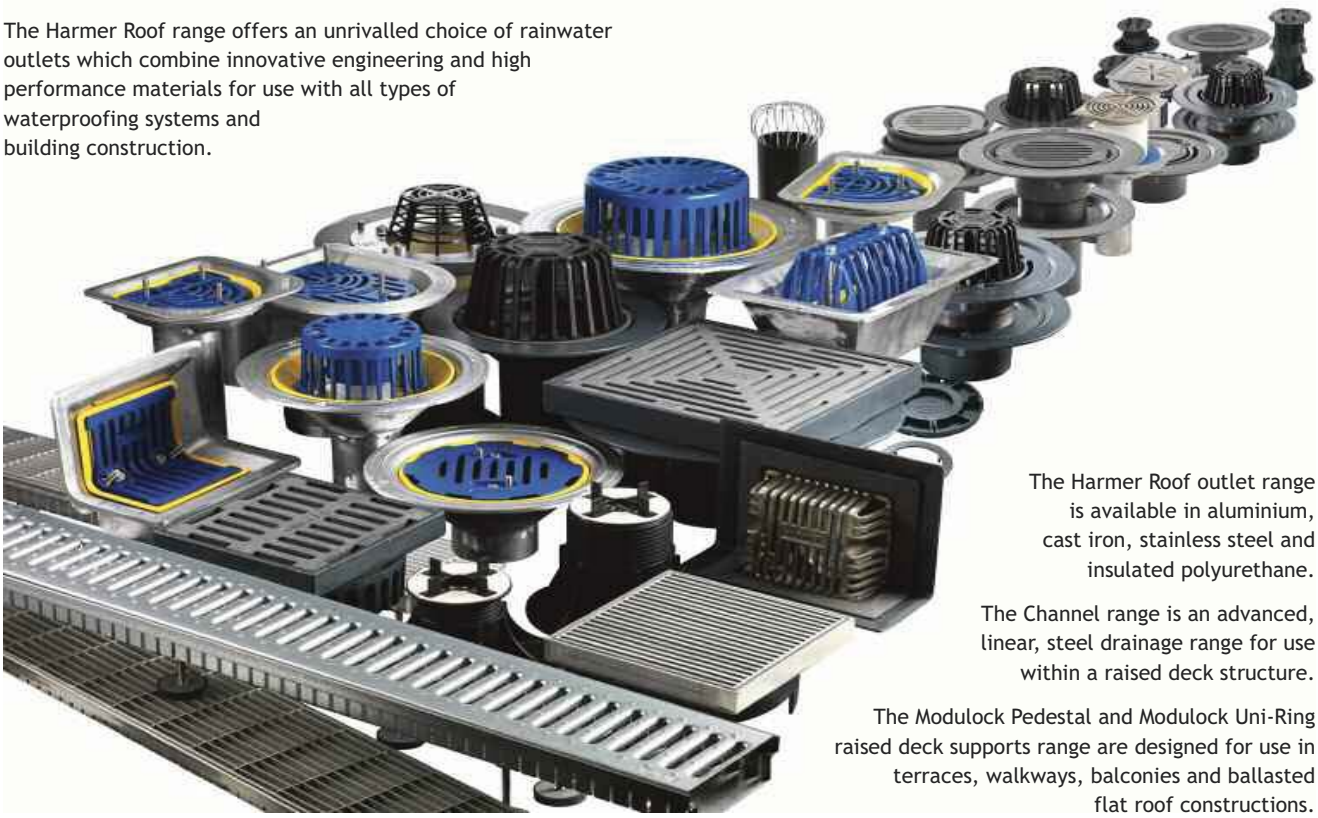
Stormsaver Rainwater Harvesting Systems

All Alumasc Stormsaver commercial rainwater harvesting systems are developed to meet the client's site-specific requirements. The individual requirements of the system will be based on supply and demand rates being calculated as part of the building design.

Whether you're building your own home, a property developer looking to harness the latest in environmentally-sensitive technology, a builder's merchant or even a Housing Association, **Monsoon®** from Stormsaver is the ideal domestic rainwater harvesting system.

Harmer Roof Outlets

The Harmer Roof range offers an unrivalled choice of rainwater outlets which combine innovative engineering and high performance materials for use with all types of waterproofing systems and building construction.



The Harmer Roof outlet range is available in aluminium, cast iron, stainless steel and insulated polyurethane.

The Channel range is an advanced, linear, steel drainage range for use within a raised deck structure.

The Modulock Pedestal and Modulock Uni-Ring raised deck supports range are designed for use in terraces, walkways, balconies and ballasted flat roof constructions.

To request a brochure for any of these systems please call Tel: 0808 1002008

Other Harmer Drainage Products

Harmer SML Soil and Waste System

Harmer SML is a lightweight, dry-jointed cast iron soil and waste system that is Agrément certified and fully compliant with BS EN 877.

This high performance pipework system combines an excellent fire classification with the latest acoustic performance requirements for building materials. Harmer SML has a proven track record of use over the lifetime of the building and is manufactured using 95% recycled material.

The Harmer SML system consists of coated, socketless cast iron pipes and fittings simply joined with either ductile iron or stainless steel rubber-lined couplings, allowing ease of installation. The range also includes bracketry for restraining the pipework vertically and supporting it horizontally, along with a choice of special connectors for linking with other materials.

Harmer SML Pipes

Harmer SML Access Fittings

Harmer SML Couplings

Harmer SML Branches

Harmer Floor Drains

Harmer Floor Drains are designed for use in interior drainage applications and all types of flooring. The versatile, fully engineered range is available rapped or untrapped with an extensive choice of stainless steel or nickel bronze.

Finely engineered manufacture and enhanced features bring many benefits, including corrosion resistance and durability, with smooth and attractive finishes that are tough and hygienic.

Harmer Shower Drains

Harmer Shower Drains offer and uncompromising blend of imaginative design, high performance materials and innovative engineering. A choice of high performance shower drains available in with Aluminium or ABS antimicrobial trapped shower drains.

The range includes a wide range of caps and grates available in stainless steel, nickel bronze, chromium plate and polyester coated aluminium to complement and enhance any shower or wet room design.

To request a brochure for any of these systems please call Tel: 0808 1002008

Alumasc Premium Products – All Brands

Alumasc provides an unrivalled range of premium products for building exteriors and drainage, along with high levels of technical expertise and project support. Our wealth of experience combined with networks of approved installers, merchant stockists and a choice of warranty options ensures we provide appropriate product and system solutions for all types of buildings.

Alumasc is the UK's leading manufacturer of aluminium rainwater systems and offers a complete range of gutters, downpipes and fascia/soffits for both contemporary and traditional architecture.

Alumasc's cast iron rainwater system is for historic and restoration sites, with bespoke designs available to match or replace existing installations.

ALUMASC
RAINWATER SYSTEMS

- Aluminium Rainwater Systems
- Aluminium Fascias/Soffits/Copings
- Cast Iron Rainwater Systems
- Steel Rainwater Systems

www.alumascrainwater.co.uk

Alumasc's Harmer brand provides market leading solutions for rainwater handling and building drainage.

Aluminium roof, floor and shower drains are complemented by specialist drainage ranges in plastic. A choice of cast iron pipework systems is available for internal and rainwater drainage. Specialist rainwater management systems and paving and deck supports are also available.

HARMER
DRAINAGE SYSTEMS

- Roof, Floor and Shower Drains
- Cast Iron Soil & Waste Systems
- Rainwater Management Systems
- Paving and Decking Supports

www.harmerdrainage.co.uk

Alumasc is a specialist provider of world class waterproofing and green roof systems.

The range includes Derbigum and Euroroof high performance flat roof membranes, Euroroof cold applied membranes, Firestone TPO and EPDM single ply membranes, Hydrotech structural waterproofing and ZinCo Extensive, Biodiverse, Semi-intensive and Intensive green roofs.

ALUMASC
ROOFING SYSTEMS

- Flat Roof Membranes
- Single Ply Membranes
- Structural Waterproofing
- Green Roof Systems

www.alumascwaterproofing.co.uk

Alumasc is a specialist in the design and development of thermally efficient insulated render systems. Alumasc's external wall insulation systems are available with a choice of insulating material and silicone, mineral or polymer-modified decorative render finishes.

ALUMASC
INSULATED RENDERS

- External Wall Insulation
- Render Only Systems
- Brick Slips & Specialist Systems
- Decorative Coatings

www.alumascfacades.co.uk

ALUMASC

RAINWATER SYSTEMS

Technical Support

+44 (0) 1744 648400

Literature Hotline

+44 (0) 808 100 2008

Website

www.alumascrainwater.co.uk

ALUMASC EXTERIOR BUILDING PRODUCTS LTD

White House Works, Bold Road, Sutton,

St Helens, Merseyside, WA9 4JG

United Kingdom

Telephone: +44 (0)1744 648400

Facsimile: +44 (0)1744 648401

Website: www.alumascrainwater.co.uk

E-mail: info@alumasc-exteriors.co.uk

0713/2K

A division of:

alumasc GROUP