

C/Sfb (52.6) In6
ALUTEC EVOLVE

March 2011

ALUTEC
ALUMINIUM RAINWATER SYSTEMS



EVOLVE RAINWATER SYSTEMS

Product Guide



Alutec is a provider of total eaves solutions for every type of project.

Alutec offers three distinct ranges:

- Gutter and downpipe systems



- Soffit, fascia and coping systems
- Roof, floor and shower outlets

A bespoke service for the specifier, developer, contractor or self builder...

Roof drainage design

If your project is still at the concept stage, we can design the system for you, or simply advise if you wish. If your project is more advanced, we can provide a fully itemised estimate.

Standards

All Alutec products are manufactured in accordance with the appropriate British or European standards. See page 25 for a full list of standards.

A free technical design and advisory service

Fast and efficient help with your queries, either by telephone or email. Technical hotline: **01234 344108** or **technical@marleyalutec.co.uk**.

Continuous professional development

Accredited by RIBA, a seminar entitled 'Aluminium Rainwater Systems' is aimed at specifiers and designers. The course looks at the benefits of

aluminium verses other materials, correct installation practice, aesthetic finishes and product application. To date, it has been presented to over 5,000 construction industry professionals.

Further information is available by contacting **01234 359438** or by email: **cpd@marleyalutec.co.uk**.



The properties of aluminium – a sustainable material

- Low whole life costs – compared to other materials
- Infinitely recyclable – 75% of all the aluminium produced since 1888 is still in use today
- Green energy – hydro electric or geo-thermal power accounts for 60% of processing requirements

Lightweight, strong and long-lasting

Aluminium is a very light metal, about 65% lighter than steel or cast iron. It has a very high strength to weight ratio and excellent corrosion resistance. One of the oldest recorded uses of aluminium is the statue of Eros in London, cast in 1893.

Highly corrosion resistant

Aluminium naturally generates a protective oxide coating. Should the surface be damaged, the aluminium simply oxidises again to protect itself.

Infinitely recyclable

When the old Wembley Stadium (built in 1923) was demolished, 96% of the aluminium was recovered for recycling. Aluminium can be recycled again and again without loss of quality.

Responsible sourcing

Aluminium is the World's third most abundant element. 97% of all bauxite mines in the World operate rehabilitation projects and two thirds of the employees are from the local community.

Evolve compatibility chart

	GUTTER PROFILES		
	Half-round Page 8	Deepflow Page 10	Box Page 11
Evolve 63mm circular downpipe Page 9	✓		
76mm Flush-fit circular downpipe Page 13		✓	✓
76mm Traditional circular downpipe Page 12		✓	✓
72mm Traditional square downpipe Page 14			✓
72mm Flush-fit square downpipe Page 15			✓





An aluminium gutter range developed by Alutec to meet the needs of property developers in the private and public sector.



Evolve half-round in Heritage Black finish.

Features of the evolve range

- Evolve aluminium systems have a life expectancy of 50 years or more
- With the unique **JuraJoint**, making jointing quick, straightforward and secure
- Manufactured in an environmentally responsible way
- 21 standard colours
- Alutec uses the highest quality marine grade aluminium throughout all its systems. This combination of marine grade aluminium and the highest quality architectural grade paint finish ensures the ultimate durability
- Available at a lower price* in the popular Heritage Black finish, with a textured surface, emulating the appearance of cast iron
- Lightweight Evolve is over 75% lighter than an equivalent cast iron system, making it easier to handle on-site.



* Lower price for Heritage Black finish excludes 76mm traditional circular and 72mm traditional square downpipe systems



JuraJoint patent pending

Manufactured in aluminium, one of the few materials that can be infinitely recycled, whilst also being one of the most durable with a life expectancy of 50 years or more.

Evolve is one of the most sustainable and cost effective rainwater systems available in the UK today.

All Evolve systems have a high capacity outlet designed to maximise the flow rate performance.

JuraJoint

A new method of jointing aluminium gutter, combining the simplicity of a rubber seal with the security of Alutec sealant. Sealant is simply applied in one bead into the central channel of the rubber seal. When the joint is snapped together it 'bonds' the rubber seal to the gutter surface achieving a durable, thermally flexible and leak free joint.

Finish

Evolve is supplied in Heritage Black or in any one of the other 20 standard colours. All paints are architectural grade polyester powder, the most durable decorative finish available, offering excellent colour retention over many years without the need to repaint during the lifetime of the product.

RAL 7037 Steel Grey	RAL 7036 Platinum Grey	RAL 7035 Light Grey	RAL 9010 White	RAL 7021 Granite Grey	RAL 9005 Black	CAST 98 Heritage Black
RAL 7015 Slate Grey	RAL 5002 Ultramarine	RAL 5003 Sapphire Blue	RAL 5010 Flower Blue	RAL 6002 Leaf Green	RAL 6005 Moss Green	RAL 7016 Anthracite Grey
RAL 1013 Pearl White	RAL 1017 Saffron Yellow	RAL 3002 Signal Red	RAL 3003 Ruby Red	RAL 8016 Chestnut Brown	RAL 8014 Sepia Brown	RAL 8017 Chocolate

Colours are reproduced for general guidance only. Colour plates are available on request.



NEW Evolve Box gutter
NEW Square Flush-fit downpipe



Evolve Box

- High flow rate of up to 7.0 l/s

Evolve Box is a modern box profile with concealed top fixing brackets, with a maximum flow-rate of 7 l/s, reducing the number of downpipes required. It is the ideal solution for modern building designs or those where a very high flow-rate capacity is a pre-requisite.




Compatible with four downpipe options:

- 76mm Flush-fit circular
- 76mm Traditional circular
- 72mm Flush-fit square
- 72mm Traditional square

Gutter flow-rates

Gutter Profile	Downpipe system	End Outlet		Centre Outlet	
		Capacity l/s	Effective Roof Area m ²	Capacity l/s	Effective Roof Area m ²
Half round 	Evolve 63mm	0.85	41	1.8	87
Deepflow 	76mm Traditional	2.5	120	4.9	232
	76mm Flush-fit	2.5	120	4.9	232
Box 	76mm Traditional	3.0	142	6.0	286
	76mm Flush-fit	3.0	142	6.0	286
	72x72mm Traditional	3.5	167	7.0	333
	72x72mm Flush-fit	3.5	167	7.0	333

Hopper head flow-rates

	Outlet size mm	Capacity l/s	Effective Roof Area m ²
	63mm	3.0	115
76mm	4.5	214	
72x72mm	4.4	210	

Figures based on a design rainfall intensity of 0.021 l/s/m²

The Box gutter system is an addition to the Evolve range of Deepflow and Half-round profiles.

Deepflow is a 125mm beaded edge gutter with smooth, unobtrusive fittings and is compatible with the 76mm Flush-fit circular and 76mm Traditional downpipe systems.

The 120mm Half-round profile is in a traditional style and is compatible with the Evolve 63mm downpipe.

**Evolve Deepflow**

- High flow rate of up to 4.9 l/s
- Available with both 76mm Traditional or Flush-fit downpipe systems

Evolve Half Round

- 120mm half round gutter and 63mm downpipe system with choice of both eared and unearred sockets

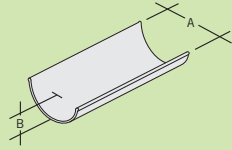


Evolve Half Round gutter

Compatible with Evolve 63mm downpipe (p9) only.

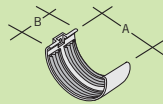
3m Gutter

Code	A	B
GT513	123	51



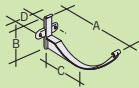
Union

Code	A	B
GT520	134	61



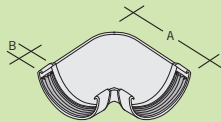
Fascia bracket

Code	A	B	C	D
GT580	135	65	67	38



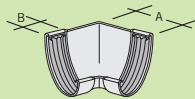
Angle 90°

Code	A	B
GT532	163	28



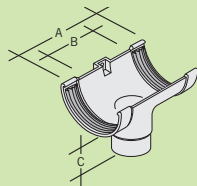
Angle 135°

Code	A	B
GT537	92	28



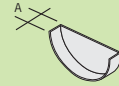
Running outlet

Code	A	B	C
GT522	200	140	62



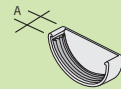
Stop end internal

Code	A
GT550	25



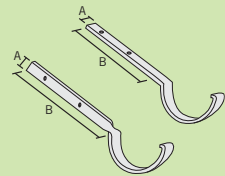
Stop end external

Code	A
GT555	31



Fixed rafter arm

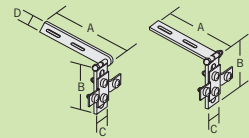
Code	A	B
Side AT73	20	245
Top AT76	20	250



Adjustable rafter arm

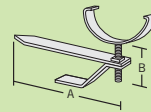
Code	A	B	C	D
Side AC78	200	120	23	23
Top AC77T	200	120	23	

Black Only



Rise & fall bracket

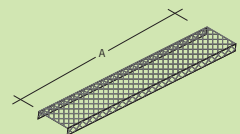
Code	A	B
AT93	360	125



Leaf guard

Code	A
SL70	1220

Mill Finish



Compatible fixing screws

Roundhead fascia bracket screw

Code	Description
SC201	32mm x No 10

Mill Finish

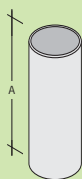


Evolve 63mm downpipe

For use with Evolve half round gutter (p8) only.

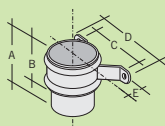
3m Downpipe

Code	A
RT213	3000



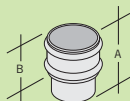
Pipe socket (eared)

Code	A	B	C	D	E
RT220	82	48	94	116	58.5



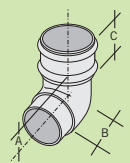
Pipe socket (uneared)

Code	A	B
RT220NE	82	48



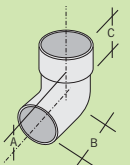
Top bend 112.5°

Code	A	B	C
RT232	37	27	48



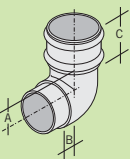
Bottom bend 112.5°

Code	A	B	C
RT292	40	64	42



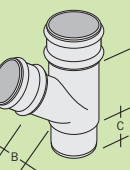
Bend 92.5°

Code	A	B	C
RT230	50	34	48



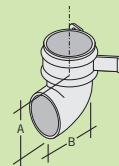
Branch 112.5°

Code	A	B	C
RT242	94	48	69



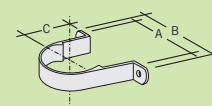
Shoe

Code	A	B
RT250	92	75



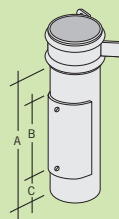
Pipe clip

Code	A	B	C
RT280	95	118	58.5



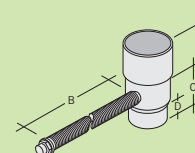
Access pipe

Code	A	B	C
RT260	300	140	105



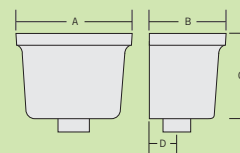
Rainwater diverter

Code	A	B	C	D
RTD25	147	500	60	21



Hopper

Code	A	B	C	D
RH110	250	180	180	58



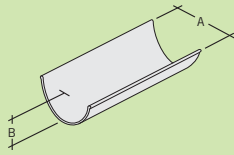
Compatible fixing screws

Code	Description
SC605	Domehead 50mm x No. 12 For use with downpipe
SC603	Domehead 50mm x No. 16 For use with hopper



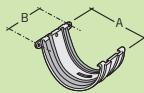
3m Gutter

Code	A	B
GE513	128	75



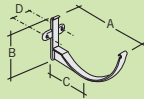
Union

Code	A	B
GE520	138	87



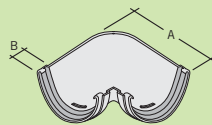
Fascia bracket

Code	A	B	C	D
GE580	140	88	75	38



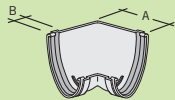
Angle 90°

Code	A	B
GE532	175	23



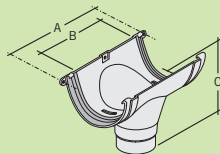
Angle 135°

Code	A	B
GE537	100	23



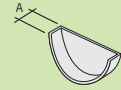
Running outlet

Code	A	B	C
GE523	213	147	90



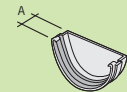
Stop end internal

Code	A
GE550	35



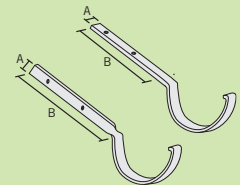
Stop end external

Code	A
GE555	39



Fixed rafter arm

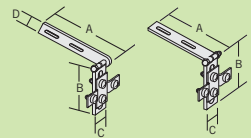
Code	A	B
Side AE73	20	245
Top AE76	20	250



Adjustable rafter arm

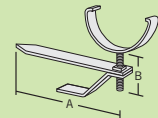
Code	A	B	C	D
Side AC78	200	120	23	23
Top AC77	200	120	23	

Black Only



Rise & fall bracket

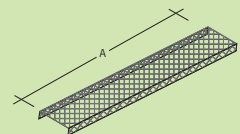
Code	A	B
AE93	360	125



Leaf guard

Code	A
SL75	1220

Mill Finish



Compatible fixing screws

Roundhead fascia bracket screw

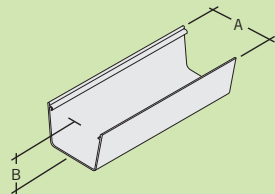
Code	Description
SC201	32mm x No 10



Evolve Box gutter

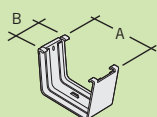
3m Gutter

Code	A	B
GB513	131	85



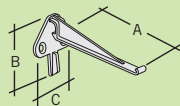
Union

Code	A	B
GB520	143	72



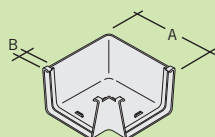
Fascia bracket

Code	A	B	C
GB580	140	83	57



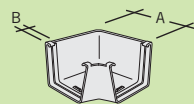
Angle 90°

Code	A	B
GB532	179	36



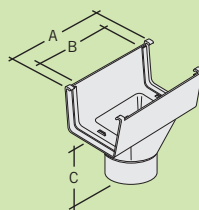
Angle 135°

Code	A	B
GB537	84	34



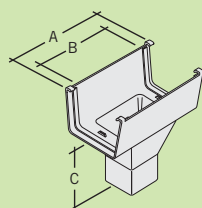
Running outlet (76mm circular)

Code	A	B	C
GB523	200	130	72



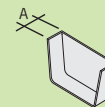
Running outlet (72mm square)

Code	A	B	C
GB525	190	120	80



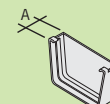
Stop end internal

Code	A
GB550	35



Stop end external

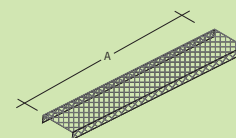
Code	A
GB555	37



Leafguard

Code	A
SL76	122

Mill Finish



Compatible fixing screws

Roundhead fascia bracket screw

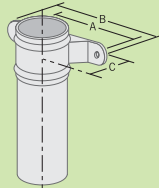
Code	Description
SC201	32mm x No 10

Mill finish



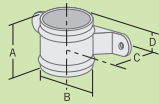
3m Downpipe

Code	A	B	C
RR313	128	160	70



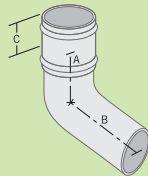
Loose pipe socket

Code	A	B	C	D
RR320	83	93	70	41.5



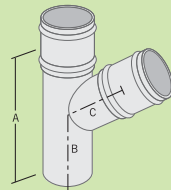
Bends

Code	A	B	C
92.5° RR330	120	220	41.5
112.5° RR332	110	230	41.5



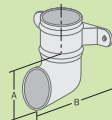
Branch 112.5°

Code	A	B	C
RR342	250	119	130



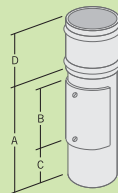
Shoe

Code	A	B
RR350	98	120



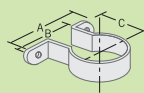
Access pipe

Code	A	B	C	D
RR360	250	180	180	70



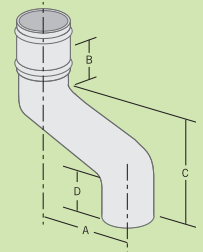
Pipe clip

Code	A	B	C
RR380	115	90	70



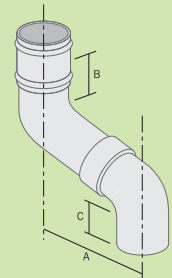
Fixed offsets

Code	A	B	C	D
RR3903	75	82	300	120
RR3904	100	80	321	133
RR3906	150	84	350	145



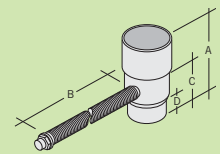
Adjustable offsets

Code	A	A	B	C
	(min)	(max)		
RR3945	200	450	48	62
RR3990	200	900	48	62



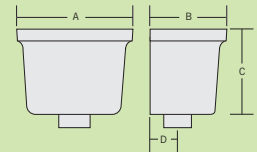
Rainwater diverter

Code	A	B	C	D
RRD35	150	500	79	25



Hopper

Code	A	B	C	D
RH102	250	180	180	70



Compatible fixing screws

Code	Description
SC603	Domehead 50mm x No. 16

For use with downpipe and hopper



Pipe socket filler

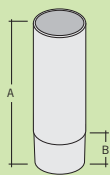
Code	Description
SC911	10m roll Foam



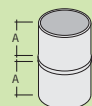
76mm Flush-fit circular downpipe

3m Downpipe

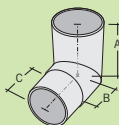
Code	A	B
RE313	3000	50

**Loose joint spigot**

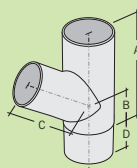
Code	A
RE320	50

**Bends**

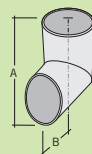
Code	A	B	C
92.5° RE330	98	48	50
112.5° RE332	90	40	50

**Branch 112.5°**

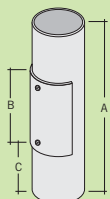
Code	A	B	C	D
RE342	160	40	120	50

**Shoe**

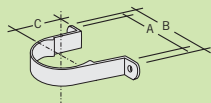
Code	A	B
RE350	172	62

**Access pipe**

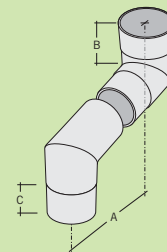
Code	A	B	C
RE360	345	110	117

**Pipe clip**

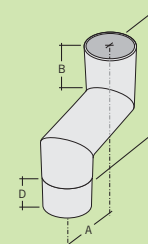
Code	A	B	C
RE380	111	136	70

**Adjustable eaves offsets**

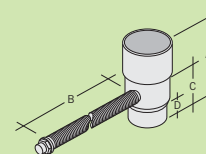
Code	A (min)	A (max)	B	C
RE3925	90	250	45	60
RE3950	90	500	45	60
RE39100	90	1000	45	60

**Fixed wall offsets**

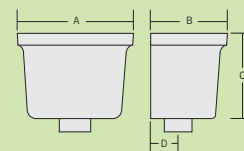
Fixed offsets are available to order*

**Rainwater diverter**

Code	A	B	C	D
RED35	150	500	79	25

**Hopper**

Code	A	B	C	D
RH111	250	180	180	70

**Compatible fixing screws**

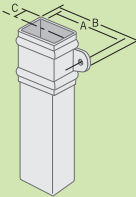
Code	Description
SC603	Domehead 50mm x No. 16 For use with hopper
SC605	Roundhead 50mm x No. 12 For use with downpipe



* Please contact 01234 359438 for quote.

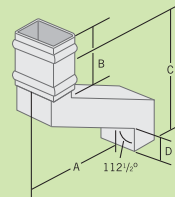
3m downpipe **

Code	A	B	C	D
RSR313	3	120	157	42



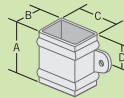
Fixed offsets

Code	A	B	C	D
RSR3903	75	75	233	60
RSR3904	100	75	244	60
RSR3906	150	75	265	60



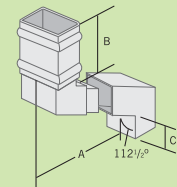
Loose pipe socket **

Code	A	B	C	D
RSR320	80	80	80	40



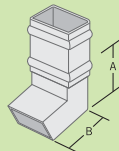
Adjustable offsets

Code	A	A	B	C
	(min)	(max)		
RSR3945	75	450	107	60
RSR3990	75	900	107	60



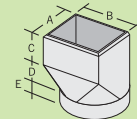
Bends

Code	A	B
92.5° RSR330	81	145
112.5° RSR332	60	125



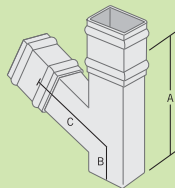
Drain connector (slip socket)

Code	A	B	C	D	E
RSR370	85	85	65	41	30



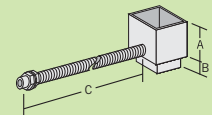
Branch

Code	A	B	C
RSR342	260	127	130



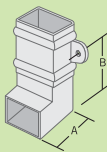
Rainwater diverter

Code	A	B	C
RSRD35	100	30	500



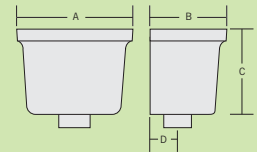
Shoe**

Code	A	B
RSR350	110	100



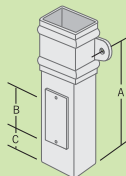
Hopper

Code	A	B	C	D
RH104	250	180	180	42



Access pipe**

Code	A	B	C
RSR360	300	140	105



Compatible fixing screws

Code	Description
SC603	Domehead 50mm x No. 16

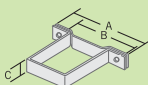
For use with downpipe and hopper



Pipe clip

Code	A	B	C
RSR380	128	96	25

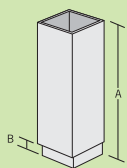
Two piece



72mm Flush-fit square downpipe

3m Downpipe

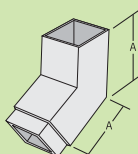
Code	A	B
RJ313	300	50

**Loose joint spigot**

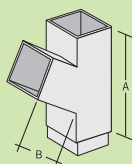
Code	A
RJ320	30

**Bends**

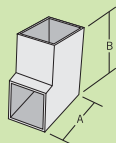
Code	A
92.5° RJ330	150
112.5° RJ332	128

**Branch 112.5°**

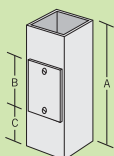
Code	A	B
RJ342	260	130

**Shoe**

Code	A	B
RJ350	110	100

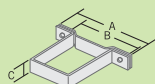
**Access pipe**

Code	A	B	C
RJ360	300	140	105

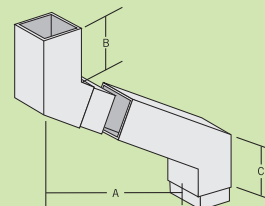
**Pipe clip**

Code	A	B	C
RJ380	128	105	25

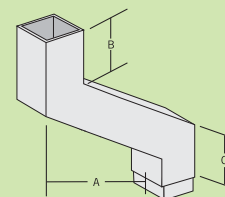
Two piece

**Adjustable eaves offsets**

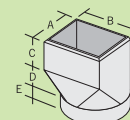
Code	A (min)	A (max)	B	C
RJ3925	75	250	107	60
RJ3950	75	500	107	60
RJ39100	75	1000	107	60

**Fixed wall offsets**

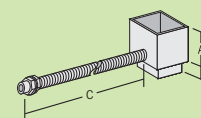
Fixed offsets are available to order*

**Drain connector (slip socket)**

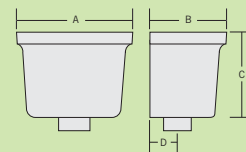
Code	A	B	C	D	E
RJ370	85	85	65	41	30

**Rainwater diverter**

Code	A	B	C
RJ375	100	30	500

**Hopper**

Code	A	B	C	D
RH112	250	180	180	42

**Compatible fixing screws**

Code	Description
SC605	Roundhead 50mm x No. 12 For use with downpipe
SC603	Domehead 50mm x No. 16 For use with hopper



* Please contact 01234 359438 for quote.

Design basis

Alutec gutter flow capacities shown on page 7 in the flow capacity table are calculated with the gutters being fixed nominally level. Most metal gutters are installed level for aesthetic purposes. However, if installed to a fall of 1:600 the flow capacity will be marginally improved.

Factors to be considered when designing an eaves drainage system.

1. Rainfall Intensity design rate (l/s/m²).
2. Effective Roof Area (ERA) to be drained (m²).
3. Gutter flow capacity (l/s).
4. Size, number and position of outlets.
5. Frictional resistances in long gutter runs and the number of corners.

Rainfall intensity (design rate)

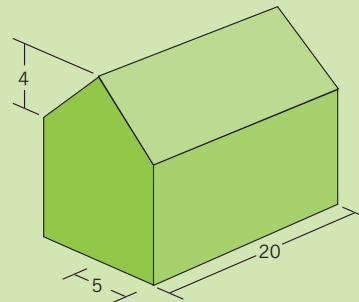
Building Regulations 2000 Document H3 recommend a general design rate of 0.021 l/s/m² (which is virtually the same as the traditional design rate of 75mm/hour) for eaves gutters where if overflowing occurs, water overspill will discharge clear of the building without risk of water ingress. If required, alternative rainfall intensity design rates can also be considered. Meteorological data published in the National Annex to EN12056 and Building Regulations 2000 Document H3, show varying rainfall intensities through out the U.K. depending on geographical location.

The Flow Capacity Table indicates maximum flow, the gutter being full to the brim, however EN12056 states the design rate run-off from the roof should not exceed 90% of the gutter capacity. Also shown are the differences between outlet capacities when positioned centrally or at the end of a gutter run.

Effective roof area

Effective roof area can be determined by calculation as set out in EN12056-3.

The following example shows a basic calculation method that can be used as a guide in establishing the effective roof area (ERA).



$$\text{ERA} = \left(\frac{4}{2} + 5 \right) \times 20 = 140\text{m}^2$$

Gutter capacity

Assuming the recommended rainfall intensity of 0.021 l/s/m² is acceptable, determine if the gutter outlet is to be positioned centrally, or end of the gutter run. Refer to the Flow Capacity Table and find the nearest roof area m² in either the 'central' or 'end outlet' options to determine the size/type of gutter/rainwater pipes required.

Should a different rainfall intensity design rate be required, multiply the alternative design rate by the ERA to establish the required gutter capacity (l/s). Then refer to the Gutter Flow Capacity Table and select the nearest gutter flow capacity (l/s). Ensure that appropriate proportional allowances for central or end of gutter outlets are made.

Example:

Alternative design rate 0.025 l/s/m² x 140m² = 3.5 l/s
 3.5 l/s into end outlet = Evolve Box with 72mm outlet

Frictional resistances

Gutter Angles: EN12056-3 recommends that the gutter capacity should be reduced by a factor of 0.85 if the gutter run includes one or more angles greater than 10 degrees and that positioning of outlets adjacent to angles should be avoided.

Long Gutters: Frictional resistance in very long gutter runs will effectively reduce the flow capacity hence reduction factors should be applied in accordance with recommendations detailed in EN12056-3.

Valley Discharges: Where a discharge from long valley occurs, it is prudent to consider a corner hopper or purpose made gutter angle with larger catchment area, to cope with the concentrated volume of rainwater during storm conditions.

Compatibility

To avoid bi-metallic corrosion, ensure electrolytically incompatible materials do not come in direct contact with un-insulated plain aluminium surfaces. In particular ensure that the recommended compatible screws and fixings are used. Polyester powder coated surfaces will give limited protection, but should not be solely relied upon. If in doubt, please ring the Technical hotline.

Durability

Under normal UK atmospheric conditions Alutec systems, if correctly installed, have a minimum life expectancy of 50 years. This may be marginally reduced in highly polluted or coastal areas.

Chemical

All products are naturally corrosion resistant under normal atmospheric conditions. Not to be used for chemical drainage or in conjunction with foul waste drainage.

Fire

In general Alutec rainwater products do not aid combustion and are rated as follows:

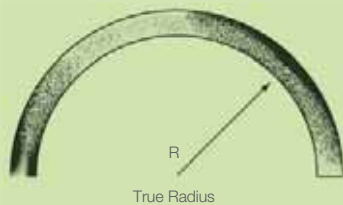
Finish rating	Test standard
Plain finish – non combustibility	BS 476: Part 4
PPC – 0.1 fire propagation index	BS 476: Part 6
PPC class 1, flame surface spread	BS 476: Part 7

Thermal

Coefficient for thermal expansion – 0.000026 deg C for cast aluminium and 0.000023 deg C for sheet and extruded aluminium. Melting point approximately 660 deg C.



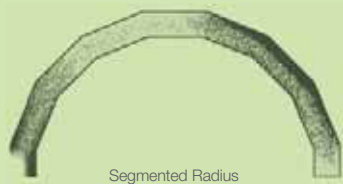
To accommodate unusual curves or angles, roofs which intersect at different levels or any other feature of an installation not covered by the standard ranges, Alutec offer a range of non-standard options which can be tailored to individual projects. A range of the most common non-standard items are detailed below, however other items may be possible. For further advice, contact the technical hotline: 01234 344108



True radiused gutters

True radiused gutters can be sand cast to simulate all profiles in the Alutec range. Sand casting involves making a wooden pattern of the gutter profile, to the given radius, from which the sand moulds are made. In view of the pattern cost, this method can be costly for small quantities.

Due to building and foundry tolerances, it is recommended that radiused gutters are made in approximately 1m lengths.



Segmented radiused gutters

Achieved by internally welding together segments of machine mitred gutter to achieve a given radius. Dependent on the radius, the more segments introduced the better the appearance.

This method is less expensive than sand casting and in general the segmentation is not noticeable on two storey buildings and above.

Site dimensions

As theoretical radius dimensions are often subject to extreme building tolerances, we recommend that a ridged 1m long radiused template be cut or marked on site. The template should be offered up to the fascia at 1m intervals to check the fascia has been constructed to a uniform radius. The template should be sent to Alutec Technical Services department for use as a master template.



Bespoke hoppers

Individually designed hoppers can be fabricated from sheet aluminium and a variety of decorative cast motifs and embellishments can be added to enhance the appearance, if required.

Rise and fall gutter angles

Any reasonable degree of angle can be fabricated. However, care must be taken in establishing accurate site dimensions and degrees of angle. Experience has proved that theoretical geometry may not be accurate, hence each angle should be site checked and location referenced.

Special adaptors

Adaptors between differing sizes and profiles of gutters, rainwater pipes or drain connections can be fabricated to customer requirements, subject to design criteria. Accurate dimensional details are required.

Special gutter outlets

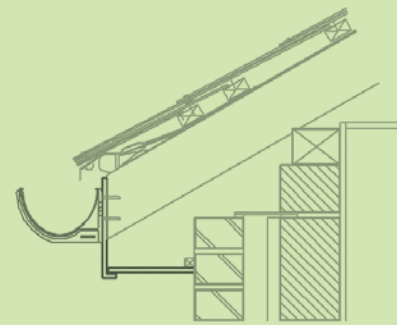
Standard gutter outlets can be modified to customer requirements subject to design criteria. However it should be noted that this may be detrimental to the flow performance of that outlet

Gutter / fascia / soffit assemblies

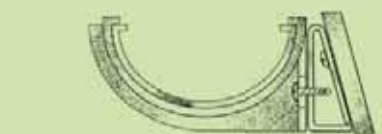
Non standard gutter profiles made from sheet aluminium are available to order. Fascia and soffit systems are made to a standard design concept which can be adapted to suit most applications; see the Alutec soffit and fascia brochure for further information. Customer designed systems will also be considered subject to design criteria.

Special pipe and gutter brackets

Special support brackets for use in conjunction with standard or bespoke products are available to order subject to design criteria.



Fascia and soffit systems



Special pipe and gutter brackets



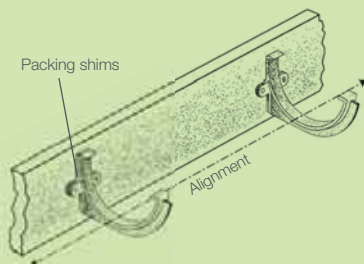
Installation

Detailed installation instructions are supplied with every consignment of goods and available separately on request.

Preparation

Fascia boards should be in good condition, level and in linear alignment. If required, packing shim plates should be fixed behind gutter brackets to achieve good alignment. Brackets which are misaligned will cause joint fatigue resulting in eventual joint failure. A range of packing shim plates are available. Where gutter is fixed to cellular fascia board, it is recommended that a timber backing board is installed behind the fascia to provide a straight and secure fixing surface.

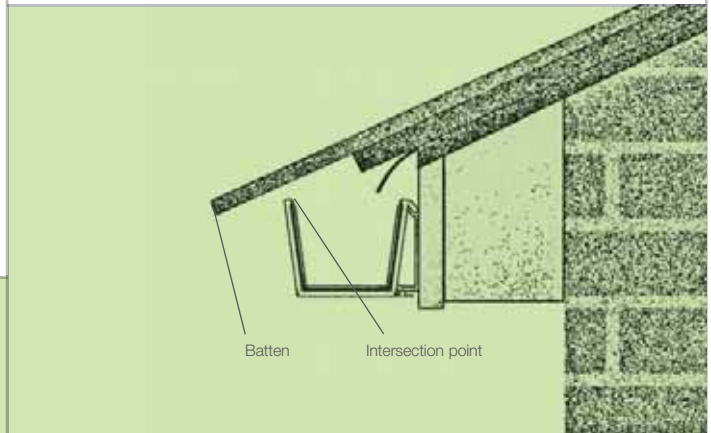
Use standard metal work tools to cut or drill aluminium gutters. Angle grinders are not recommended. Where gutter or fittings are polyester powder coated, cut edges should be deburred and repainted with touch up paint, SC880.



Gutter position

Gutters must be installed level or to a fall of 1:600. The gutter should not be positioned at a level which causes rainfall to overshoot the gutter, i.e. too low, or where it is damaged by the high velocity impact of sliding snow, i.e. too high.

To establish the recommended gutter position, place a straight batten on the lowest profile of the roof covering, overhanging the eaves. The gutter can then be offered up to the intersection point, (where the top front edge of the gutter and the batten meet).



JuraJoint

A new method of jointing aluminium gutter, combining the simplicity of a rubber seal with the security of Alutec sealant. Sealant is simply applied in one bead into the central channel of the rubber seal. When the joint is snapped together it 'bonds' the rubber seal to the gutter surface achieving a durable, thermally flexible and leak free joint.

Jointing

Joint sealing must not be carried out in wet weather or in temperatures below 5°C or above 40°C. Joint surfaces must be perfectly clean and dry. Use a clean cloth and solvent cleaner SC108 to remove all traces of dirt or grease, which may not be visible.

Only Alutec high performance low modulus sealant SC101 must be used. Use of other sealants may result in early joint failure. Sealant over nine months old must not be used.

Fixing

To ensure the long term durability of aluminium gutter systems, it is vitally important to ensure that the fixing components are equally durable and capable of providing the necessary support. They must therefore be non corrosive, of a compatible material to ensure no electrolytic corrosion occurs and of the appropriate size. Only the recommended austenitic stainless steel screws must be used to fix gutters, whether direct, fascia or rafter bracket fixed.

If fixing to fascia boards made of materials other than wood, please contact the Alutec technical hotline for advice: 01234 344108

Snow loading

Heavy snow fall coupled with highly insulated roofs is causing accumulation of snow on roofs. A sudden thaw will then cause the snow to slide down the roof and rest against the gutters if they are fixed too high. Greater care must be taken to make sure the gutters will not impede sliding snow. However, for the ultimate protection, snow guards should be installed.

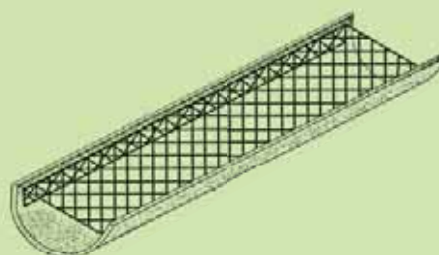
Sealant usage table

Approximate number of joints per tube of Alutec sealant.

System	Joints per tube of sealant
Evolve Half round, Deepflow & Box gutters	30
63mm pipe socket	25
76mm Traditional pipe socket	20
72x72mm Traditional pipe socket	17

Leaf guards

Aluminium leaf guard mesh is available for all profiles in 1.22m lengths. Supplied in mill finish, leaf guards either require brackets (supplied) or simply sit inside the gutter.





Alutec specification clauses

NBS Plus

NBS Plus is a library of building product manufacturer details linked to clause guidance in the National Building Specification (NBS) software - used by over 18,000 specifiers in over 5,000 subscribing offices. Alutec have a full list of clauses for rainwater gutter and downpipe systems.

Below is an example of a typical specification. More detailed specifications are also available on-line marleyalutec.co.uk.

To complete the clause select the appropriate wording from below.

R10 rainwater drainage systems

311 Aluminium gutters

Manufacturer: Marley Alutec, Unit 1 (G - H), Viking Industrial Park, Hudson Road, Elms Farm Industrial Estate, Bedford MK41 OLZ
Tel: 01234 359438. Fax: 01234 357199.
Email: enquiries@marleyalutec.co.uk
Web address: marleyalutec.co.uk

Product reference

Marley Alutec Aluminium Rainwater System

Type/Grade

Evolve Half Round / Evolve Deepflow / Evolve Box
Extruded

Profile

Evolve Half Round
Evolve Deepflow
Evolve Box

Nominal size

120mm for Evolve Half Round
125mm for Evolve Deepflow
130x85mm for Evolve Box

Finish

Polyester Powder Coated to BS6496

Colour

RAL 1013 Pearl White/ RAL 1017 Saffron Yellow/ RAL 3002 Signal Red/
RAL 3003 Ruby Red/ RAL 5002 Ultramarine/ RAL 5003 Sapphire Blue/ RAL
5010 Flower Blue/ RAL 6002 Leaf Green/ RAL 6005 Moss Green/ RAL 7015
Slate Grey/ RAL 7016 Anthracite grey/RAL 7021 Granite Grey/ RAL 7035 Light
Grey/ RAL 7036 Platinum grey/ RAL 7037 Steel Grey/ RAL 8014 Sepia Brown/
RAL 8016 Chestnut Brown/ RAL 8017 Chocolate/ RAL 9010 White/ RAL 9005
Black/ Cast 98 Heritage Black/

Jointing

Evolve JuraJoint seal with Alutec silicone sealant

Fixing

Evolve Half Round / Evolve Deepflow
Fascia brackets

Evolve Box
Concealed fascia brackets

370 Aluminium pipework

Manufacturer: Marley Alutec, Unit 1 (G - H), Viking Industrial Park,
Hudson Road, Elms Farm Industrial Estate, Bedford MK41 OLZ
Tel:01234 359438. Fax: 01234 357199.

Email: enquiries@marleyalutec.co.uk

Web address: marleyalutec.co.uk

Product reference

Marley Alutec Aluminium Rainwater System

Type/Thickness

Extruded / Cast

Section

Circular / Square / Circular Flush-fit / Square Flush-fit

Nominal size

Evolve Circular – 63mm

Circular – 76mm

Flush-fit Circular – 76mm

Square – 72x72mm

Flush-fit Square – 72x72mm

Please refer to the Evolve Compatibility Chart (page 3)

Finish

Polyester Powder Coated to BS6496

Colour

RAL 1013 Pearl White/ RAL 1017 Saffron Yellow/ RAL 3002 Signal Red/
RAL 3003 Ruby Red/ RAL 5002 Ultramarine/ RAL 5003 Sapphire Blue/ RAL
5010 Flower Blue/ RAL 6002 Leaf Green/ RAL 6005 Moss Green/ RAL 7015
Slate Grey/ RAL 7016 Anthracite grey/RAL 7021 Granite Grey/ RAL 7035 Light
Grey/ RAL 7036 Platinum grey/ RAL 7037 Steel Grey/ RAL 8014 Sepia Brown/
RAL 8016 Chestnut Brown/ RAL 8017 Chocolate/ RAL 9010 White/ RAL 9005
Black/ Cast 98 Heritage Black/

Fixings

Evolve Circular: Eared pipe sockets / Pipe clips

Circular: Eared pipe sockets / Pipe clips

Flush-fit Circular: Pipe clips

Square: Eared pipe sockets / Pipe clips

Flush-fit Square: Pipe clips

Accessories

Hopper Rectangular

Branch

Adjustable offset

Fixed offset

Shoe

Access pipe

Rainwater diverter

Site painting

Evolve is only supplied in polyester powder coat paint finishes and if over-painted, it is recommended that all components are individually painted prior to installation to ensure that all surfaces are painted.

If over-painting new or aged polyester powder coated surfaces, rub down surfaces with a light abrasive scotch wool (not steel wool) to achieve a good key. Clean surfaces using a clean cloth and solvent cleaner, SC108 and apply top coat directly onto the prepared surface. No undercoats or primers are required.

Two-part synthetic or polyurethane paints are recommended for durability. Ensure the paint is fully dry prior to contact with joint sealant. Partially dry paint may react with sealant, affecting reliability of gutter joint.

Handling & storage

Gutters and pipes should be handled with care and should preferably be stored under cover on racks to prevent scratching or denting. All gutter and pipe lengths are supplied in protective polythene sleeving and components packed in cardboard boxes.

If polyester powder coated products are stored outside, cover with a tarpaulin to guard against water ingress into the protective polythene tubing. If water becomes trapped within the polythene wrapping and left exposed to warm sunlight, it may leave permanent water stains on the paint finish.

Sealants should not be stored in temperatures below 0°C and kept away from any direct heat source. Solvent cleaners must be stored away from any direct heat or combustible source, preferably in an appropriate fire resistant storage cabinet.



Safety

The relevant safety regulations are outlined in the Health and Safety at Work Act 1974 and should be followed.

Refer to CDM regulations (Code of Practice and Designing for Health and Safety in Construction 1995).

Handling mill finished or polyester powder coated aluminium products does not pose any known health hazard, however it is recommended to wear protective gloves when handling mill finish aluminium.

Hazard instructions relating to sealant, solvent cleaner and touch up paint are printed on their respective containers and COSHH sheets are supplied with each consignment of goods and are available on request.

Maintenance

Gutters should be periodically cleaned out to maintain the design flow rate and to prevent build up of debris blocking downpipes. Check all fixings are secure and take any remedial action to rectify if necessary.

Leafguards are available as standard to fit each gutter system and are recommended for buildings close to trees, with restricted access, or areas susceptible to airborne debris.

Installed gutters and pipes with polyester powder coated finishes should be periodically washed down with water and non-toxic detergent, this will remove built up grime to reveal the true colour. Under no circumstances should abrasive cleaners be used.

Standards

All Alutec systems are manufactured in accordance with the appropriate British or European Standard, including:

BS EN ISO 9227

Corrosion tests in artificial atmospheres – Salt spray tests

BS EN 12056-3

Gravity drainage systems inside buildings, Part 3 Roof drainage layout and calculation.

BS EN 755

Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles.

BS EN 1706

Aluminium and aluminium alloys – Castings – Chemical composition and mechanical properties.

BS EN 1559

Founding – Technical conditions of delivery.

BS EN 1462:2004

Brackets for eaves gutters – Requirements and testing.

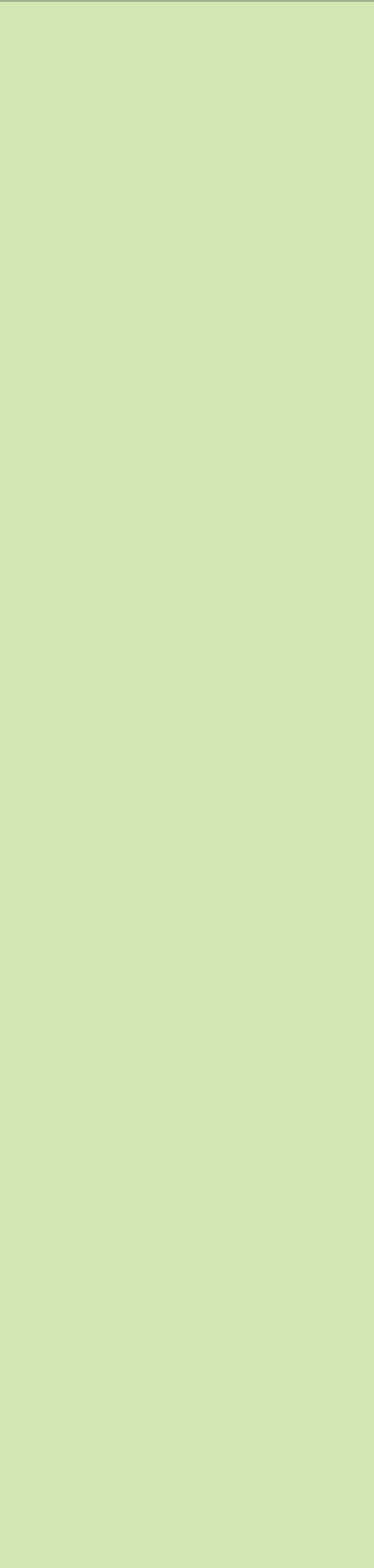
BS EN 12206-1:2004

Paints and varnishes – Coating of aluminium and aluminium alloys for architectural purposes.





Notes





Further information

For technical enquiries please call **01234 344108**
For general enquiries please call **01234 359438**
email: enquiries@marleyalutec.co.uk

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