

C/Sfb (52.6) In6
ALUTEC ALIGATOR

April 2018



ALUTEC
aligator® RAINWATER SYSTEMS

Product guide



Sanctuary Housing project,
Arbourthorne, Sheffield



Grove Springs, Belbroughton,
Worcestershire



Ardgarden Hotel,
Arrochar, Argyll & Bute

Chapel View, Goudhurst, Kent





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Alutec is part of Aliaxis, a multi-national plumbing & drainage products manufacturer. Aliaxis is present in over 46 countries and employs over 16,200 people.

Alutec is the UK leader in innovative aluminium rainwater drainage and eaves solutions. Alutec prides itself in setting industry leading standards in technical support, customer service and sustainable product design.

Products

Alutec offers solutions for three distinct areas:

- Eaves rainwater systems
- Fascia, soffit & coping
- Roof outlets

Eaves rainwater systems

evolve



traditional

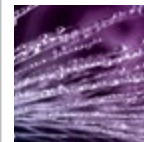


aligator



Fascia, soffit & coping

evoke



Outlets

roof



Life expectancy

The performance, quality and longevity of all product systems are backed by the knowledge that Alutec is a long established and financially sound company and part of a substantial international group ensuring complete peace of mind for specifiers and building owners.

Standards

All Alutec systems are manufactured to and in excess of the appropriate BS or EN Standards. For a full list, please see BS and EN Standards in the Design and Installation section.

ISO 14001: 2004

Alutec is committed to continually reducing its environmental impact across all its business activities and is accredited to ISO 14001: 2004.



Service

Alutec offers a fully integrated project advisory service from the initial design stages, right through to completion, ensuring deadlines and delivery dates are met.

Product availability

Alutec products are available through all major national or regional building, plumbing and roofing merchants and distributors. Call Alutec for your nearest merchant.



CPD Service

Alutec is a leading CPD provider for aluminium rainwater, fascia, soffit & coping systems. Alutec's RIBA accredited CPD covers all aspects of eaves design, selection and correct installation. To date, it has been presented to over 5,000 construction industry professionals.

Alutec Trained Installers

To ensure our products are correctly installed and therefore fulfil their design objectives, Alutec recommends the use of independent trained installers, accredited at Alutec's training centre. A nationwide network of Trained Installers is available on request.

Technical support

Alutec Technical Services team has many years' experience in helping specifiers with:

- Correct system choice
- Roof drainage design
- Flow rate calculations
- Installation advice

All Alutec technical or product specifications and brochures can be downloaded from the Alutec website marleyalutec.co.uk

For further technical queries, call the Technical Services Department: 01234 359438

Sales support

We offer a complete service from enquiry to order point and will deal with all types of enquiries, whether they are related to plans, bill of quantities, tenders or other material.

Sustainable product design

Alutec is committed to designing the most sustainable, durable and high performance rainwater systems possible.

Sustainable design creates products with a lower carbon footprint, longevity and low maintenance. Alutec eaves solutions lead the market, all have a life expectancy of 50 years or more and require little or no maintenance.



Aluminium, a sustainable material

For a material to be considered sustainable, it must be recyclable, have a long life expectancy and a low impact on the environment. Aluminium has all these qualities and more.

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 painted surface be damaged, the aluminium simply oxidises to protect itself. Furthermore, marine grade aluminium, used on all Alutec systems, is better still; used in combination with architectural grade polyester powder coating it provides an attractive, durable and maintenance free finish. This is in contrast to steel, where galvanising only offers limited protection and cast iron, which requires regular repainting.

Infinitely recyclable

Aluminium can be recycled again and again without loss of quality, in fact 75% of all aluminium ever produced is still in use today. The recycling of aluminium requires little energy. It saves up to 95% of the energy required for primary aluminium production.

Responsible sourcing

Aluminium is the world's third most abundant element. 97% of all bauxite mines in the world operate rehabilitation projects, returning the land to its original condition after mining is finished. The amount of electrical energy required to produce aluminium has dropped by 70% since the 1880's and 60% of that electricity is provided from renewable green energy.



Green production power

Hydro-electric or geo-thermal green energy accounts for 60% of global primary aluminium production, minimising aluminium's environmental impact.

For more information visit the European Aluminium Association:
www.eaa.net



Colour options

All Alutec eaves rainwater systems are available with a BS 6496 architectural grade polyester powder coat (PPC) paint finish carried out to BS EN 12206-1:2004.

Architectural grade PPC paint finishes are designed for exterior use and maintain their colour and gloss level for longer. The paint's life expectancy is enhanced further by Alutec's choice of aluminium. Alutec only uses the highest quality marine grade aluminium, which greatly increases its durability.

Alutec has 18 standard colours, including Heritage Black, with a textured surface, emulating the appearance of cast iron. For more bespoke projects an infinite number of non standard colours are available.



Colours are approximate and for general guidance only. For exact colour and finish reference, colour plates are available on request.

Hundreds of additional colours and finishes are available on request. For information on these and the gloss levels of the coating, please contact Alutec.



Aligator Classic



Aligator Deepflow



Aligator Ogee No 46



Aligator Giant



Aligator Boxer

Two distinctive design solutions:

Aligator Classic, a domestic size ogee style gutter system with external unions and brackets.

Deepflow, Ogee and Boxer profiles with internal joints and concealed brackets, offering a sleek and unobtrusive solution for modern building design.

Features of the Aligator range

Life expectancy of 50 years or more

Near-zero maintenance, only periodic aesthetic cleaning required

Marine grade aluminium – Alutec products will outlast other grade aluminium systems

Durable and strong, made from heavy grade extruded aluminium, making Aligator more resistant to damage than steel, roll-form or PVC systems

Patented **Aligator Snap-fit joint system**, proven to reduce installation times by up to 40% compared to traditional bolted systems



Fade resistant architectural grade polyester powder coat paint finish

Aligator Classic available at a **lower price** in the popular Heritage Black finish

18 standard colours

65% lighter than cast iron, making Aligator easier and safer to handle and install



Stockgrove, Leighton Buzzard,
Bedfordshire

Product Selector

Profile	Size	Compatible downpipes	Maximum flow rate ¹	Maximum roof area (per downpipe) m ²
 Classic	120x75mm	Classic 63mm Ø and 62x62mm Tudor 63mm Ø, Flush-fit 63mm Ø	See page 32 for complete flow rate performance	See page 32 for maximum roof area
 Deepflow	130x80mm	Tudor, Traditional, Flush-fit circular all sizes Traditional, Flush-fit, Vandal Resistant square and rectangular all sizes	See page 32 for complete flow rate performance	See page 32 for maximum roof area
 Ogee No.46	155x100mm	Tudor, Traditional, Flush-fit circular all sizes Traditional, Flush-fit, Vandal Resistant square and rectangular all sizes	See page 32 for complete flow rate performance	See page 32 for maximum roof area
 Boxer	120x80mm 135x100mm 160x100mm	Tudor, Traditional, Flush-fit circular all sizes Traditional, Flush-fit, Vandal Resistant square and rectangular all sizes	See page 32 for complete flow rate performance	See page 32 for maximum roof area
 Giant	200x150mm	Tudor, Traditional, Flush-fit circular 76mm Ø 102mm Ø Traditional, Flush-fit, Vandal Resistant square and rectangular all sizes	See page 32 for complete flow rate performance	See page 32 for maximum roof area

¹: Please refer to page 32 for more information or contact the Marley Alutec Technical Services department for a full roof drainage design



Cala Homes development,
East Lothian



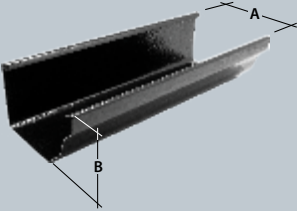
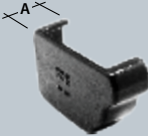
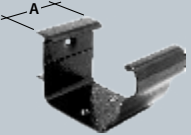
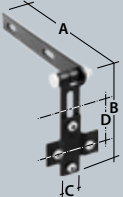
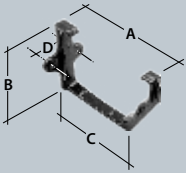
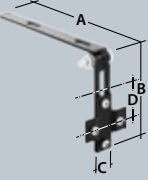
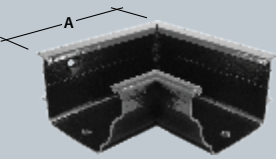
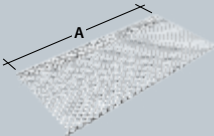
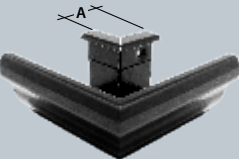

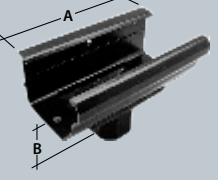

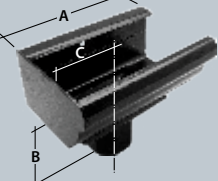
Retirement apartments,
Oxfordshire



Private house,
Bodmin, Cornwall

Aligator® Snap-fit Classic gutter

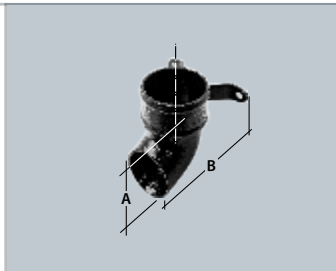
Compatible with Classic 63mm Ø and 62x62mm only (pages 12-13).

	<h3>Gutter</h3> <table border="1"> <thead> <tr> <th>Code</th> <th>Nominal Length(m)</th> <th>A</th> <th>B</th> </tr> </thead> <tbody> <tr> <td>GK 413</td> <td>3</td> <td>120</td> <td>75</td> </tr> </tbody> </table>	Code	Nominal Length(m)	A	B	GK 413	3	120	75		<h3>Stop end</h3> <table border="1"> <thead> <tr> <th>Code</th> <th></th> <th>A</th> </tr> </thead> <tbody> <tr> <td>GK 450</td> <td>Left hand</td> <td>35</td> </tr> <tr> <td>GK 455</td> <td>Right hand</td> <td>35</td> </tr> </tbody> </table>	Code		A	GK 450	Left hand	35	GK 455	Right hand	35			
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GK 428	Left hand 58mm	190	70	85																			
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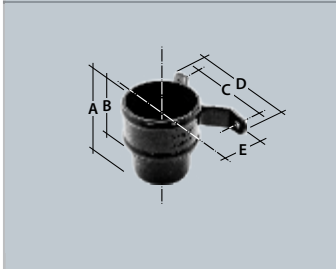
Downpipe 3m

Code	A
RK213	63



Shoe

Code	A	B
RK250	92	104



Pipe socket (eared)

Code	A	B	C	D	E
RK220	82	52	94	116	59



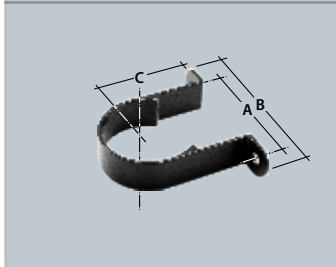
Access pipe

Code	A	B	C
RK260	300	140	105



Pipe socket (uneared)

Code	A	B
RK220NE	82	52



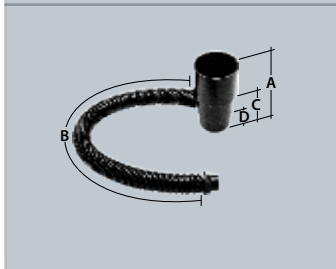
Pipe clip

Code	A	B	C
RK280	94	118	59



Top bend 112.5°

Code	A	B	C
RK232	50	35	46



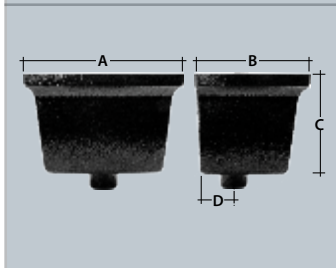
Rainwater diverter

Code	A	B	C	D
RKD25	134	500	74	30



Bottom bend 112.5°

Code	A	B	C
RK292	40	64	40



Hopper head (standard)

Code	A	B	C	D
RH110	250	180	180	59



Bend 92.5°

Code	A	B	C
RK230	37	27	46



Joint Sealant

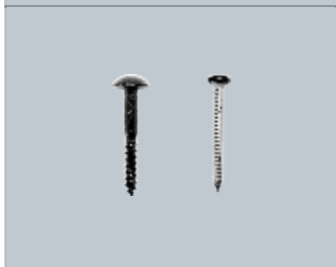
Code	Description
SC101	310ml clear

Please note sealant shelf life is 12 months. Refer to sealant usage table, page 35.



Branch 112.5°

Code	A	B	C
RK242	95	26	115



Compatible fixing screws

Code	Description
SC205	No. 12 x 50mm domehead For use with downpipe
SC208	No. 16 x 70mm hex insert domehead For use with hopper

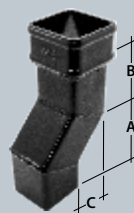
Aligator® Classic 62x62mm downpipe

Compatible with Aligator® Snap-fit Classic gutter only (page 11).



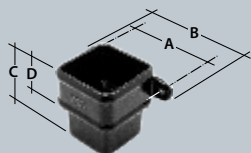
Downpipe 3m

Code	A
RK 313	62



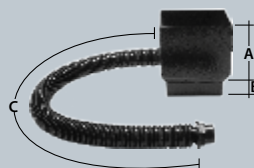
Wall offset

Code	Angle	A	B	C
RK 3902	135°	95	70	50



Pipe socket

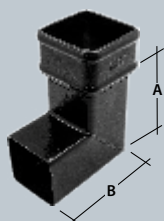
Code		A	B	C	D
RK 320	Eared	97	119	87	45
RK 320NE	Uneared	—	—	87	45



Rainwater diverter

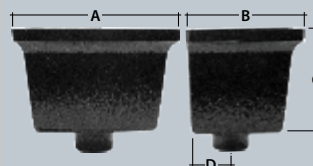
Code	A	B	C
RK25B	87	18	500
RK25W	87	18	500

Only available in PVCu



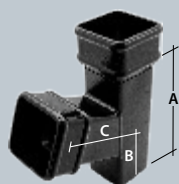
Bend

Code	Angle	A	B
RK 330	92.5°	105	115
RK 332	112.5°	54	45



Hopper head (standard)

Code	A	B	C	D
RH100	250	180	180	36



Branch

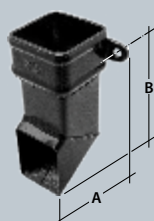
Code	Angle	A	B	C
RK 342	112.5°	165	80	95



Joint Sealant

Code	Description
SC101	310ml clear

Please note sealant shelf life is 12 months. Refer to sealant usage table, page 35.



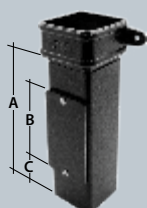
Shoe

Code	Angle	A	B
RK 350	120°	85	176



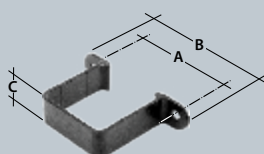
Compatible fixing screws

Code	Description
SC205	No. 12 x 50mm domehead For use with downpipe
SC208	No. 16 x 70mm hex insert domehead For use with hopper



Access pipe

Code	A	B	C
RK 360	210	120	55



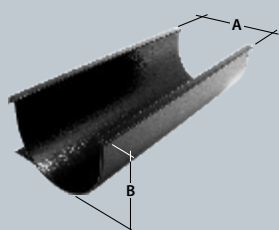
Pipe clip

Code	A	B	C
RK 380	105	129	25



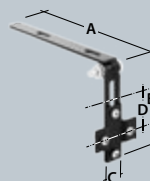
Aligator® Snap-fit Deepflow gutter

Compatible with Tudor circular and all Traditional, Flush-fit and Vandal Resistant downpipes (pages 20 – 26)



Gutter

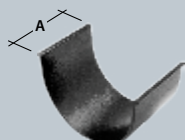
Code	Nominal Length(m)	A	B
GD 511	1	130	80
GD 512	2	130	80
GD 513	3	130	80



Adjustable Top rafter arm

Code	A	B	C	D
AC 77	195	120	23	30

Black only.



Union

Code	A
GD 520	70

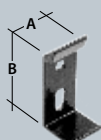
Internal



Packing shim

Code
SC380

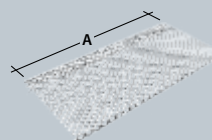
For use with GD580 fascia bracket



Fascia bracket

Code	A	B
GD 580	25	52

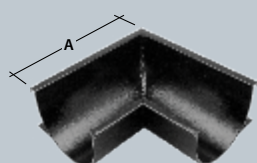
For linear alignment of brackets use packing shim, SC380



Leafguard

Code	A
SL 102	1220

Mill finish



Angle

Code	Angle	A
GD 530	90° internal	200
GD 531	90° external	70
GD 535	135° internal	120
GD 536	135° external	66
GD 539	Non standard	–

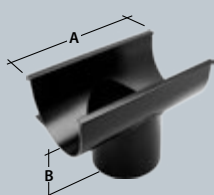
Internal angle illustrated



Joint Sealant

Code	Description
SC101	310ml clear

Please note sealant shelf life is 12 months. Refer to sealant usage table, page 35.



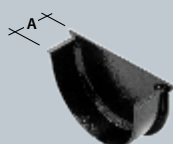
Outlet

Code	Outlet Size	A	B	Fascia to Outlet Centre
GD 522	63 Ø	200	70	70
GD 523	76 Ø	200	70	70
GD 524	102 Ø	200	70	70
GD 525	72x72	200	70	70
GD 526	102x76	200	70	70
GD 527	102x102	200	70	70



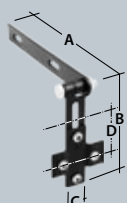
Compatible fixing screws

Code	Description
SC201	30mm x No.10 Mill Finish For use with gutter



Stop end

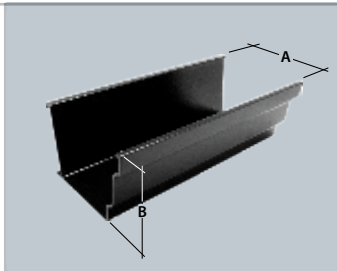
Code	A
GD 550	33



Adjustable Side rafter arm

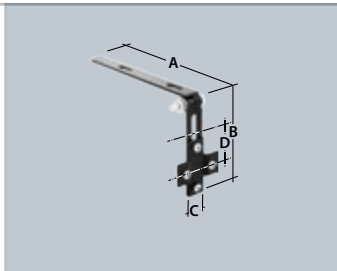
Code	A	B	C	D
AC 78	195	120	23	30

Black only.



Gutter

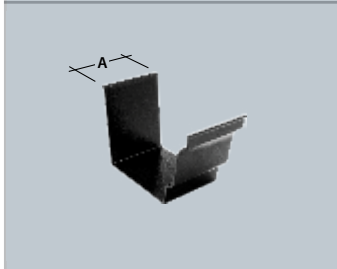
Code	Nominal Length(m)	A	B
GG 511	1	155	100
GG 512	2	155	100
GG 513	3	155	100



Adjustable Top rafter arm

Code	A	B	C	D
AC 77	195	120	23	30

Black only



Union

Code	A
GG 520	70

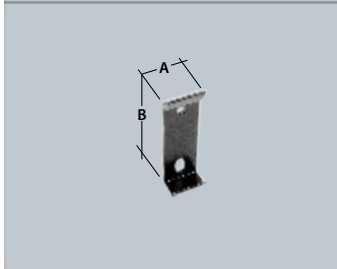
Internal



Packing shim

Code
SC381

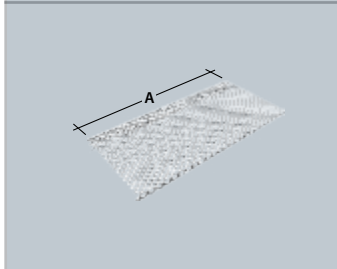
For use with GG580 fascia bracket



Fascia bracket

Code	A	B
GG 580	30	85

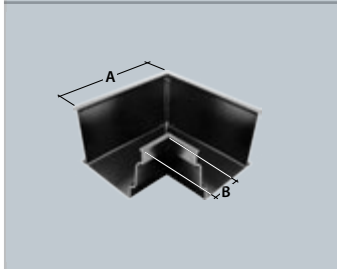
For linear alignment of brackets use packing shim, SC381



Leafguard

Code	A
SL 103	1220

Mill finish



Angle

Code	Angle	A	B
GG 530	90° internal	200	45
GG 531	90° external	45	200
GG 535	135° internal	135	71
GG 536	135° external	71	135
GG 539	Non standard	-	-

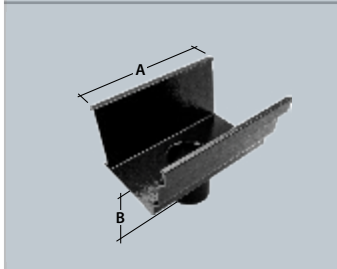
Internal angle illustrated



Joint Sealant

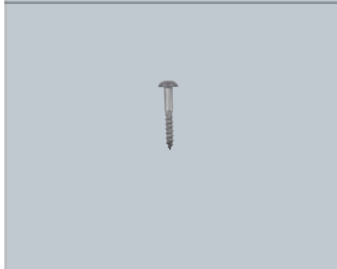
Code	Description
SC101	310ml clear

Please note sealant shelf life is 12 months. Refer to sealant usage table, page 35.



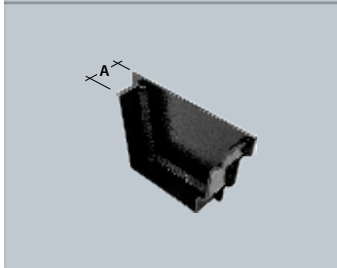
Outlet

Code	Outlet Size	A	B	Fascia to Outlet Centre
GG 522	63 Ø	200	70	73
GG 523	76 Ø	200	70	73
GG 524	102 Ø	200	70	73
GG 525	72x72	200	70	73
GG 526	102x76	200	70	73
GG 527	102x102	200	70	73



Compatible fixing screws

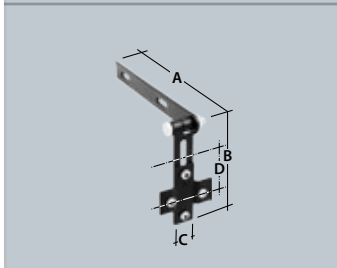
Code	Description
SC201	30mm x No.10 Mill Finish For use with gutter



Stop end

Code	A	
GG 550	Left hand	33
GG 555	Right hand	33

Right hand illustrated



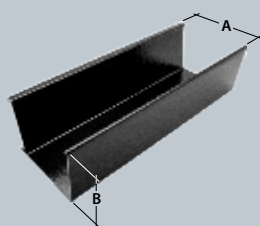
Adjustable Side rafter arm

Code	A	B	C	D
AC 78	195	120	23	30

Black only

Aligator® Snap-fit Boxer gutters

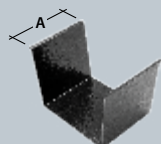
Compatible with Tudor circular and all Traditional, Flush-fit and Vandal Resistant downpipes (pages 20 – 26)



Gutter

Code	Nominal Length(m)	A	B
GF 413	3	120	80
GF 513	3	135	100
GF 613	3	160	100

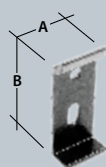
Also available in 1m & 2m lengths



Union

Code	Size	A
GF 420	120	70
GF 520	135	70
GF 620	160	70

Internal

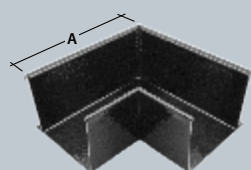


Fascia bracket

Code	A	B
GF 480 [†]	30	65
GF 080 [†]	30	85

[†]Use with 120x80 Gutter
For linear alignment use shim plate SC382

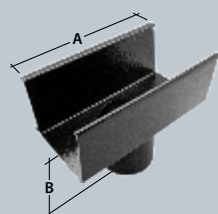
[†]Use with 135x100 and 160x100 Gutters
For linear alignment use shim plate SC381



Angle

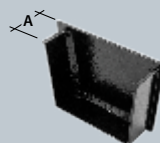
Code	Size	Angle	A
GF 430	120	90° internal	185
GF 431	120	90° external	65
GF 435	120	135° internal	115
GF 436	120	135° external	65
GF 439	120	Non standard	–
GF 530	135	90° internal	200
GF 531	135	90° external	65
GF 535	135	135° internal	120
GF 536	135	135° external	64
GF 539	135	Non standard	–
GF 630	160	90° internal	225
GF 631	160	90° external	65
GF 635	160	135° internal	135
GF 636	160	135° external	69
GF 639	160	Non standard	–

Internal angle illustrated



Outlet

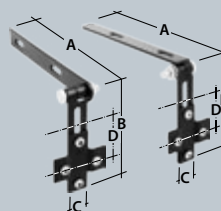
Code	Size	Outlet Size	A	B	Fascia to Outlet Centre
GF 422	120	63 Ø	200	70	66
GF 423	120	76 Ø	200	70	66
GF 425	120	72x72	200	70	66
GF 426	120	102x76	200	70	66
GF 522	135	63 Ø	200	70	75
GF 523	135	76 Ø	200	70	75
GF 524	135	102 Ø	200	70	75
GF 525	135	72x72	200	70	75
GF 526	135	102x76	200	70	75
GF 527	135	102x102	200	70	75
GF 622	160	63 Ø	200	70	88
GF 623	160	76 Ø	200	70	88
GF 624	160	102 Ø	200	70	88
GF 625	160	72x72	200	70	88
GF 626	160	102x76	200	70	88
GF 627	160	102x102	200	70	88



Stop end

Code	Size	A
GF 450	120	Left Hand 33
GF 455	120	Right Hand 33
GF 550	135	Left Hand 33
GF 555	135	Right Hand 33
GF 650	160	Left Hand 33
GF 655	160	Right Hand 33

Right hand illustrated



Adjustable rafter arm

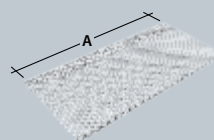
Code	A	B	C	D
AC 78 Side	195	120	23	30
AC 77 Top	195	120	23	30

Black only.



Packing shim

Code	Size
SC382	120
SC381	135, 160



Leafguard

Code	Gutter Size	A
SL 105	120x80	1220
SL 106	135x100	1220
SL 107	160x100	1220

Mill finish



Joint Sealant

Code	Description
SC101	310ml clear

Please note sealant shelf life is 12 months.
Refer to sealant usage table, page 35.



Compatible fixing screws

Code	Description
SC201	30mm x No.10 Mill Finish For use with gutter



C of E Primary School,
Sissinghurst, Kent



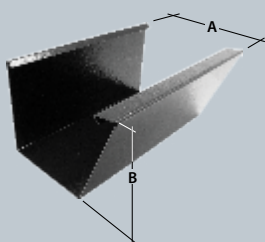
Cala Homes Development,
East Lothian



Residential development,
Leighton Buzzard, Bedfordshire

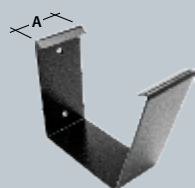
Aligator® Snap-fit Giant gutter

Compatible with Tudor circular and all Traditional, Flush-fit and Vandal Resistant downpipes (pages 20 – 26)



Gutter

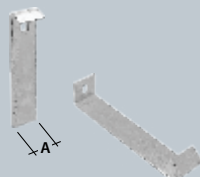
Code	Nominal Length(m)	A	B
GH 813	3	200	150



Union

Code	A
GH 820	70

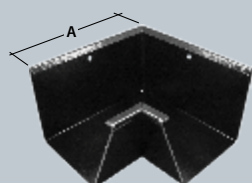
External



Stiffener bracket & spacer assembly

Code	A
GH 885	25

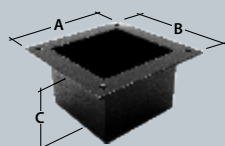
4 stiffener brackets and spacers required to each 3m gutter length
Mill finish



Angle

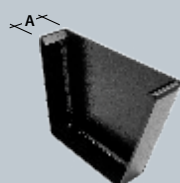
Code	Angle	A
GH 830	90° internal	250
GH 831	90° external	50
GH 835	135° internal	150
GH 836	135° external	67
GH 839	Non standard	–

Internal angle illustrated



Patch outlet

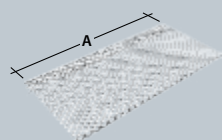
Code	Outlet Size	A	B	C
GH 823	76 Ø	100	100	70
GH 824	102 Ø	128	128	70
GH 825	72x72	120	120	70
GH 826	102x76	160	120	70
GH 827	102x102	140	140	70



Stop end

Code	A	
GH 850	Left hand	33
GH 855	Right hand	33

Right hand illustrated



Leafguard

Code	A
SL 225	1220

Mill finish



Joint Sealant

Code	Description
SC101	310ml clear

Please note sealant shelf life is 12 months.
Refer to sealant usage table, page 35.



Compatible fixing screws

Roundhead fascia bracket screw. Mill Finish.

Code	Description
SC202	32mm x No.10 countersunk For use with union, angle and outlet
SC231	50mm x No.12 domehead For use with stiffener bracket GH885

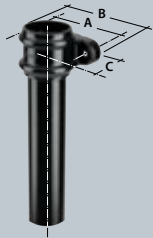


Aluminium washer

Code	Description
SC521	20mm x M6 Aluminium washer per 100

For use with stiffener bracket and spacer assembly

Compatible with Aligator Snap-fit® Classic¹, Deepflow, Ogee No. 46, Boxer and Giant² gutters only (pages 11 - 19)



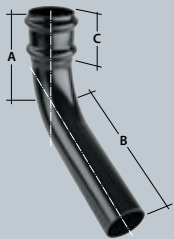
Downpipe

Code	Size	Nominal Length(m)	A	B	C
TR 206	63	1.83	110	145	45
TR 212	63	2	110	145	45
TR 213	63	3	110	145	45
TR 306	76	1.83	115	160	52
TR 312	76	2	115	160	52
TR 313	76	3	115	160	52



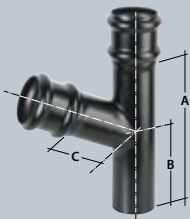
Pipe socket

Code	Size	A	B
TR 220	63	75	30 eared
TR 220NE	63	75	30 non eared
TR 320	76	81	30 eared
TR 320NE	76	81	30 non eared



Bend

Code	Size	Angle	A	B	C
TR 230	63	92.5°	150	240	70
TR 232	63	112.5°	190	230	70
TR 330	76	92.5°	180	250	70
TR 332	76	112.5°	220	250	70



Branch

Code	Size	Angle	A	B	C
TR 240	63	92.5°	215	115	110
TR 242	63	112.5°	215	115	110
TR 340	76	92.5°	250	138	112
TR 342	76	112.5°	250	119	130



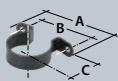
Shoe

Code	Size	Angle	A	B
TR 250	63	112.5°	85	90
TR 350	76	112.5°	103	106



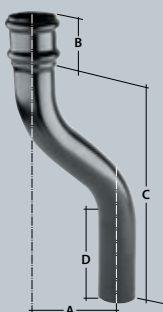
Access pipe

Code	Size	A	B	C
TR 260	63	300	140	105
TR 360	76	300	140	105



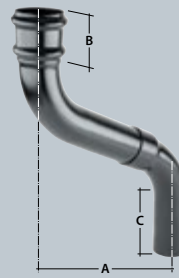
Pipe clip

Code	Size	A	B	C
TR 280	63	105	80	45
TR 380	76	118	93	52



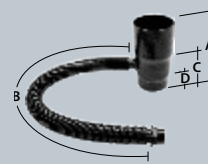
Fixed offset

Code	Size	A	B	C	D
TR 2903	63	75	70	370	100
TR 2904	63	100	70	355	100
TR 2906	63	150	70	400	100
TR 2909	63	225	70	400	100
TR 2912	63	300	70	445	100
TR 3903	76	75	70	380	130
TR 3904	76	100	70	380	130
TR 3906	76	150	70	400	130
TR 3909	76	225	70	425	130
TR 3912	76	300	70	435	130



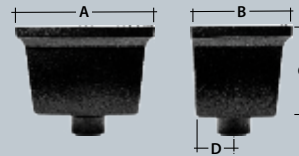
Adjustable offset

Code	Size	Angle	A min	A max	B	C
TR 2945	63	112.5°	150	450	70	100
TR 2990	63	112.5°	150	900	70	100
TR 3945	76	112.5°	200	450	70	163
TR 3990	76	112.5°	200	900	70	163



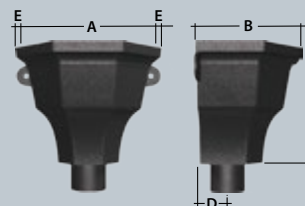
Rainwater diverter

Code	Size	A	B	C	D
TRD 25	63	134	500	74	30
TRD 35	76	134	500	74	30



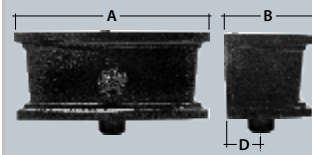
Hopper head (Standard)

Code	Size	A	B	C	D
TH 101	63	250	180	180	45
TH 102	76	250	180	180	52



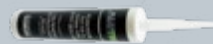
Hopper head (Fluted)

Code	Size	A	B	C	D	E
TH 401	63	285	210	225	45	18
TH 402	76	285	210	225	52	18



Hopper head (Ornamental)

Code	Size	A	B	C	D
TH 301	63	410	190	185	45
TH 302	76	410	190	185	52



Joint Sealant

Code	Description
SC101	310ml clear

Please note sealant shelf life is 12 months.



Compatible fixings

Code	Description
SC208	No. 16 x 70mm hex insert domehead – for use with downpipe and hopper
SC209	No. 16 x 100mm hex insert domehead – for use with wall spacer



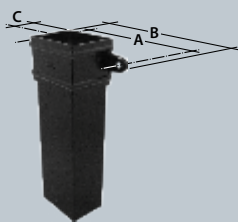
Wall spacer

Code	Description
SC712	30mm Per 2



Traditional square and rectangular downpipes

Compatible with Aligator® Snap-fit Deepflow, Ogee No.46, Boxer and Giant gutters only (pages 15 – 19).



Downpipe

Code	Size	Nominal Length(m)	A	B	C
RSR 311	72x72	1	125	151	42
RSR 312	72x72	2	125	151	42
RSR 313	72x72	3	125	151	42
RSR 111	102x76	1	154	182	44
RSR 112	102x76	2	154	182	44
RSR 113	102x76	3	154	182	44
RSR 411	102x102	1	154	182	56
RSR 412	102x102	2	154	182	56
RSR 413	102x102	3	154	182	56

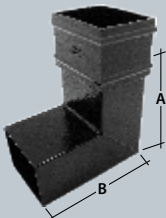
Add suffix 'N.E.' for non-eared pipes



Pipe socket

Code	Size	A	B	C	D
RSR 320	72x72	80	83	83	40
RSR 120	102x76	80	87	112	40
RSR 420	102x102	80	112	112	40

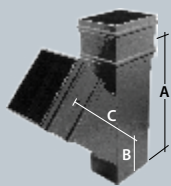
Add suffix 'N.E.' for non-eared pipes



Bend

Code	Size	Angle	A	B
RSR 330	72x72	92.5°	150	150
RSR 332	72x72	112.5°	60	135
RSR 335	72x72	135°	43	110
RSR 130	102x76	92.5°	175	175
RSR 132	102x76	112.5°	63	140
RSR 135	102x76	135°	55	132
RSR 430	102x102	92.5°	198	198
RSR 432	102x102	112.5°	75	155
RSR 435	102x102	135°	55	140

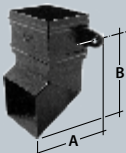
For 102x76mm state if left/right handed or front/rear projection is required



Branch

Code	Size	Angle	A	B	C
RSR 340	72x72	92.5°	260	140	114
RSR 342	72x72	112.5°	260	127	130
RSR 345	72x72	135°	260	95	160
RSR 140	102x76	92.5°	280	130	140
RSR 142	102x76	112.5°	280	112	156
RSR 145	102x76	135°	280	72	164
RSR 440	102x102	92.5°	280	130	140
RSR 442	102x102	112.5°	280	112	156
RSR 445	102x102	135°	280	72	164

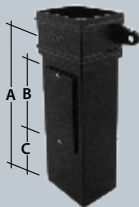
For 102x76mm state if left/right handed or front/rear projection is required



Shoe

Code	Size	Angle	A	B
RSR 350	72x72	120°	96	100
RSR 150	102x76	120°	108	170
RSR 450	102x102	120°	132	198

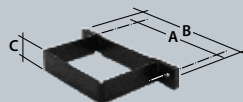
Add suffix 'N.E.' for non-eared shoe



Access pipe

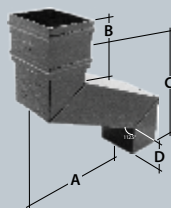
Code	Size	A	B	C
RSR 360	72x72	300	140	105
RSR 160	102x76	300	140	105
RSR 460	102x102	300	140	105

Add suffix 'N.E.' for non-eared access pipe



Pipe clip

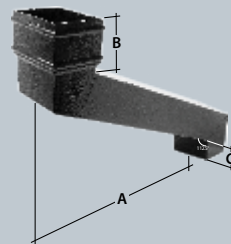
Code	Size	A	B	C
RSR 380	72x72	103	128	25
RSR 180	102x76	134	159	25
RSR 480	102x102	134	159	25



Fixed offset

Code	Size	A	B	C	D
RSR 3903	72x72	75	80	160	60
RSR 3904	72x72	100	80	173	60
RSR 3906	72x72	150	80	193	60
RSR 3909	72x72	225	80	223	60
RSR 3912	72x72	300	80	255	60
RSR 1903	102x76	75	82	160	60
RSR 1904	102x76	100	82	175	60
RSR 1906	102x76	150	82	185	60
RSR 1909	102x76	225	82	210	60
RSR 1912	102x76	300	82	245	60
RSR 4903	102x102	75	82	180	60
RSR 4904	102x102	100	82	188	60
RSR 4906	102x102	150	82	220	60
RSR 4909	102x102	225	82	250	60
RSR 4912	102x102	300	82	258	60

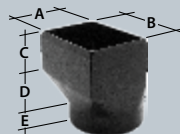
Other offset projections available on request.
For 102x76mm state if left/right handed or front/rear projection is required.



Adjustable offset

Code	Size	A min	A max	B	C
RSR 3945	72x72	75	450	82	60
RSR 3990	72x72	75	900	82	60
RSR 1945	102x76	75	450	82	60
RSR 1990	102x76	75	900	82	60
RSR 4945	102x102	100	450	82	60
RSR 4990	102x102	100	900	82	60

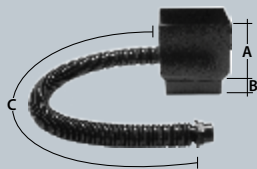
For 102x76mm state if left/right handed or front/rear projection is required.



Drain connector (slip socket)

Code	Size	A	B	C	D	E
RSR 370	72x72	85	85	65	41	30
RSR 170	102x76	90	116	65	41	30
RSR 470	102x102	115	115	65	41	30

Adapts to a 110mm Ø drain.

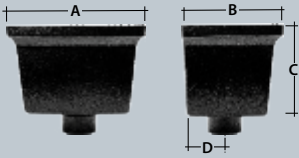

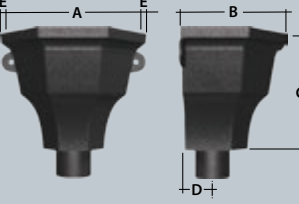






Rainwater diverter

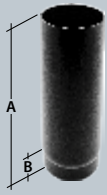
Code	Size	A	B	C
RSRD35	72x72	98	30	500
RSRD15	102x76	98	30	500

For hopper heads, cast bobbin spacers, pipe socket filler, sealant and compatible fixing screws, see the sundries section on pages 23 and 27.

Traditional hopper heads

	<h3>Hopper head (standard)</h3> <table border="1"> <thead> <tr> <th>Code</th> <th>Size</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>RH101</td> <td>63 Ø</td> <td>250</td> <td>180</td> <td>180</td> <td>58</td> </tr> <tr> <td>RH102</td> <td>76 Ø</td> <td>250</td> <td>180</td> <td>180</td> <td>70</td> </tr> <tr> <td>RH103</td> <td>102 Ø</td> <td>250</td> <td>180</td> <td>180</td> <td>91</td> </tr> <tr> <td>RH104</td> <td>72x72</td> <td>250</td> <td>180</td> <td>180</td> <td>42</td> </tr> <tr> <td>RH105</td> <td>102x76</td> <td>250</td> <td>180</td> <td>180</td> <td>44</td> </tr> <tr> <td>RH106</td> <td>102x102</td> <td>250</td> <td>180</td> <td>180</td> <td>54</td> </tr> </tbody> </table>	Code	Size	A	B	C	D	RH101	63 Ø	250	180	180	58	RH102	76 Ø	250	180	180	70	RH103	102 Ø	250	180	180	91	RH104	72x72	250	180	180	42	RH105	102x76	250	180	180	44	RH106	102x102	250	180	180	54		<h3>Compatible fixing screws</h3> <table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SC208</td> <td>No. 16 x 70mm hex insert domehead For use with downpipe & hopper</td> </tr> <tr> <td>SC209</td> <td>No. 16 x 100mm hex insert domehead For use with cast spacer bobbin</td> </tr> </tbody> </table>	Code	Description	SC208	No. 16 x 70mm hex insert domehead For use with downpipe & hopper	SC209	No. 16 x 100mm hex insert domehead For use with cast spacer bobbin
Code	Size	A	B	C	D																																														
RH101	63 Ø	250	180	180	58																																														
RH102	76 Ø	250	180	180	70																																														
RH103	102 Ø	250	180	180	91																																														
RH104	72x72	250	180	180	42																																														
RH105	102x76	250	180	180	44																																														
RH106	102x102	250	180	180	54																																														
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	<h3>Hopper head (fluted)</h3> <table border="1"> <thead> <tr> <th>Code</th> <th>Size</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> </tr> </thead> <tbody> <tr> <td>RH 401</td> <td>63Ø</td> <td>285</td> <td>210</td> <td>225</td> <td>45</td> <td>18</td> </tr> <tr> <td>RH 402</td> <td>76Ø</td> <td>285</td> <td>210</td> <td>225</td> <td>52</td> <td>18</td> </tr> <tr> <td>RH 404</td> <td>72x72</td> <td>285</td> <td>210</td> <td>225</td> <td>42</td> <td>18</td> </tr> </tbody> </table>	Code	Size	A	B	C	D	E	RH 401	63Ø	285	210	225	45	18	RH 402	76Ø	285	210	225	52	18	RH 404	72x72	285	210	225	42	18		<h3>Pipe socket filler</h3> <table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SC911</td> <td>10m roll foam</td> </tr> </tbody> </table> <p>For use with traditional circular sockets</p>	Code	Description	SC911	10m roll foam																
Code	Size	A	B	C	D	E																																													
RH 401	63Ø	285	210	225	45	18																																													
RH 402	76Ø	285	210	225	52	18																																													
RH 404	72x72	285	210	225	42	18																																													
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RH301	63 Ø	410	190	185	59																																														
RH302	76 Ø	410	190	185	70																																														
RH303	102 Ø	410	190	185	91																																														
RH304	72x72	410	190	185	42																																														
RH305	102x76	410	190	185	43																																														
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	<h3>Cast spacer bobbin</h3> <table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SC701</td> <td>Mill finish 30mm spacer</td> </tr> <tr> <td>SC711</td> <td>PPC finish 30mm spacer</td> </tr> </tbody> </table> <p>Used to increase pipe distance from wall</p>	Code	Description	SC701	Mill finish 30mm spacer	SC711	PPC finish 30mm spacer																																												
Code	Description																																																		
SC701	Mill finish 30mm spacer																																																		
SC711	PPC finish 30mm spacer																																																		





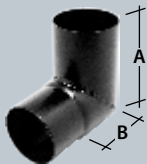
Downpipe 3m³

Code	Size	A	B
RE213	63	3000	50
RE313	76	3000	50
RE413	102	3000	50



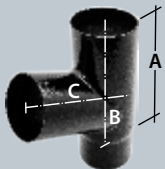
Internal joint spigot

Code	Size	A
RE220	63	64
RE320	76	69
RE420	102	104



Bend

Code	Size	Angle	A	B
RE230	63	92.5°	115	51
RE232	63	112.5°	90	56
RE330	76	92.5°	115	51
RE332	76	112.5°	90	56
RE430	102	92.5°	160	106
RE432	102	112.5°	130	76



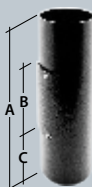
Branch 112.5°

Code	Size	A	B	C
RE242	63	176	65	107
RE342	76	180	180	120
RE442	102	310	150	196



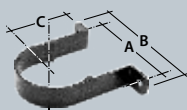
Shoe

Code	Size	A	B
RE250	63	167	58
RE350	76	173	62
RE450	102	203	75



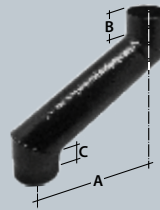
Access pipe

Code	Size	A	B	C
RE260	63	345	140	105
RE360	76	345	138	104
RE460	102	345	140	105



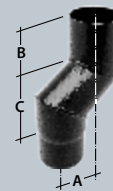
Pipe clip

Code	Size	A	B	C
RE280	63	94	118	59
RE380	76	112	137	69
RE480	102	140	110	91



Adjustable eaves offset

Code	Size	A min	A max	B	C
RE2925	63	90	250	50	14
RE2950	63	90	500	50	14
RE29100	63	90	1000	50	14
RE3925	76	90	250	100	14
RE3950	76	90	500	100	14
RE39100	76	90	1000	100	14
RE4925	102	120	250	63	14
RE4950	102	120	500	63	14
RE49100	102	120	1000	63	14



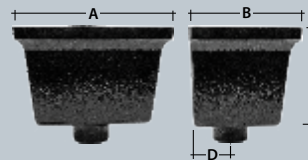
Fixed wall offset

Fixed offsets are available to order



Rainwater diverter

Code	Size	A	B	C	D
RED25	63	125	500	45	25
RED35	76	125	500	45	25



Hopper head (standard)

Code	Size	A	B	C	D
RH113	63	250	180	180	59
RH111	76	250	180	180	70
RH114	102	250	180	180	91



Joint Sealant

Code	Description
SC101	310ml clear

Please note sealant shelf life is 12 months. Refer to sealant usage table, page 35.



Compatible fixing screws

Code	Description
SC208	No. 16 x 70mm hex insert domehead For use with downpipe & hopper

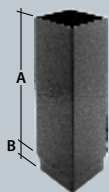
3 = If connecting downpipe directly to outlet without an offset, contact Alutec Technical Services Department.

All dimensions are in mm. For colour range and finishes, see page 7.

1 = Only compatible with 63mm Ø downpipe 2 = Not compatible with 63mm Ø downpipes

Flush-fit square and rectangular downpipes

Compatible with Aligator® Snap-fit Deepflow, Ogee No.46, Boxer and Giant gutters only (pages 15 – 19).



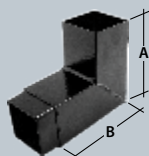
Downpipe 3m

Code	Size	A	B
RJ313	72x72	3000	30
RJ113	102x76	3000	34
RJ413	102x102	3000	34



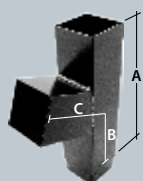
Internal joint spigot

Code	Size	A
RJ320	72x72	62
RJ120	102x76	70
RJ420	102x102	70



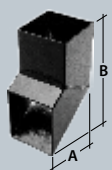
Bend

Code	Size	A	B
RJ330	72x72	150	150
RJ332	72x72	128	128
RJ130	102x76	175	175
RJ132	102x76	150	150
RJ430	102x102	198	198
RJ432	102x102	154	154



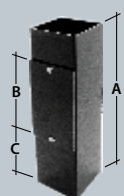
Branch 112.5°

Code	Size	A	B	C
RJ342	72x72	260	127	154
RJ142	102x76	280	112	190
RJ442	102x102	280	112	190



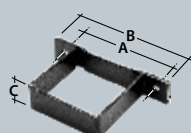
Shoe

Code	Size	A	B
RJ350	72x72	96	160
RJ150	102x76	104	187
RJ450	102x102	130	202



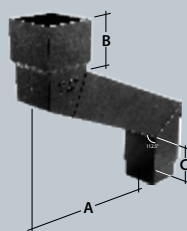
Access pipe

Code	Size	A	B	C
RJ360	72x72	300	140	105
RJ160	102x76	300	140	105
RJ460	102x102	300	140	105



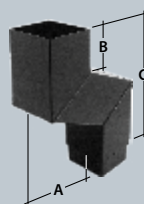
Pipe clip

Code	Size	A	B	C
RJ380	72x72	103	128	25
RJ180	102x76	134	159	25
RJ480	102x102	134	159	25



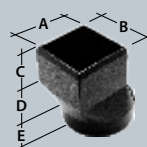
Adjustable eaves offset

Code	Size	A min	A max	B	C
RJ3925	72x72	75	250	75	60
RJ3950	72x72	75	500	75	60
RJ39100	72x72	75	1000	75	60
RJ1925	102x76	75	250	83	60
RJ1950	102x76	75	500	83	60
RJ19100	102x76	75	1000	83	60
RJ4925	102x102	109	250	83	60
RJ4950	102x102	109	500	83	60
RJ49100	102x102	109	1000	83	60



Fixed wall offset

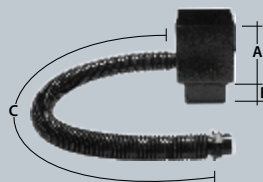
Fixed offsets are available to order*



Drain connector (slip socket)

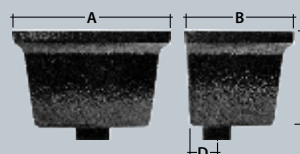
Code	Size	A	B	C	D	E
RJ370	72x72	85	85	65	41	30
RJ170	102x76	90	116	65	41	30
RJ470	102x102	115	115	65	41	30

Adapts to a 110mm Ø drain



Rainwater diverter

Code	Size	A	B	C
RJD35	72x72	98	30	500
RJD15	102x76	98	30	500



Hopper head (standard)

Code	Size	A	B	C	D
RH112	72x72	250	180	180	42
RH115	102x76	250	180	180	44
RH116	102x102	250	180	180	57



Joint Sealant

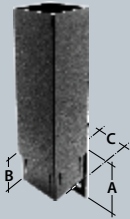
Code	Description
SC101	310ml clear

Please note sealant shelf life is 12 months. Refer to sealant usage table, page 35.



Compatible fixing screws

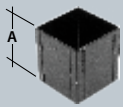
Code	Description
SC208	No. 16 x 70mm hex insert domehead For use with downpipe & hopper



Downpipe

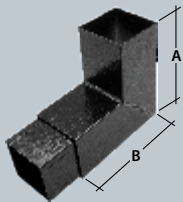
Code	Size	Nominal Length(m)	A	B	C
RVR 311	72x72	1	100	50	72
RVR 312	72x72	2	100	50	72
RVR 313	72x72	3	100	50	72
RVR 111	102x76	1	100	50	102
RVR 112	102x76	2	100	50	102
RVR 113	102x76	3	100	50	102
RVR 411	102x102	1	100	50	102
RVR 412	102x102	2	100	50	102
RVR 413	102x102	3	100	50	102

For direct connection to gutter outlet, or hopper use pipe socket RSR320NE, RSR120NE or RSR420NE



Internal joint spigot

Code	Size	A
RVR 320	72x72	70
RVR 120	102x76	70
RVR 420	102x102	70



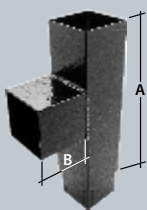
Bend

Code	Size	Angle	A	B
RVR 330	72x72	92.5°	150	150
RVR 332	72x72	112.5°	128	128
RVR 335	72x72	135°	110	110
RVR 130	102x76	92.5°	175	175
RVR 132	102x76	112.5°	150	150
RVR 135	102x76	135°	132	132
RVR 430	102x102	92.5°	198	198
RVR 432	102x102	112.5°	154	154
RVR 435	102x102	135°	141	141

"Fixing Plate" with fixing kit included for on site positioning to required handling

For 102x76mm state if left/right handed or front/rear projection is required

For direct connection to gutter outlet, or use pipe socket RSR320NE, RSR120NE or RSR420NE

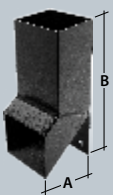


Branch

Code	Size	Angle	A	B
RVR 340	72x72	92.5°	260	114
RVR 342	72x72	112.5°	260	130
RVR 345	72x72	135°	260	160
RVR 140	102x76	92.5°	280	140
RVR 142	102x76	112.5°	280	156
RVR 145	102x76	135°	280	164
RVR 440	102x102	92.5°	280	140
RVR 442	102x102	112.5°	280	156
RVR 445	102x102	135°	280	164

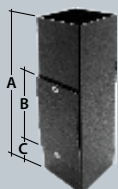
A fixing plate with fixing kit is included for on site positioning to required handling

For 102x76mm state if left/right handed or front/rear projection is required



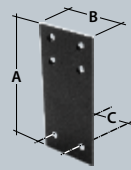
Shoe

Code	Size	A	B
RVR 350	72x72	101	270
RVR 150	102x76	108	270
RVR 450	102x102	140	270



Access pipe

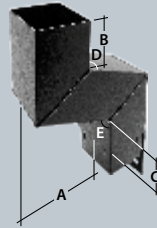
Code	Size	A	B	C
RVR 360	72x72	300	140	105
RVR 160	102x76	300	140	105
RVR 460	102x102	300	140	105



Fixing plate

Code	Size	A	B	C
RVR 380	72x72	150	68	38
RVR 180	102x76	150	98	58
RVR 480	102x102	150	98	58

Supplied complete with fixing kit



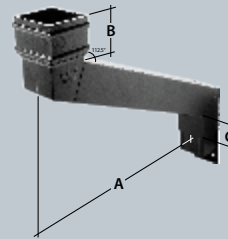
Wall offset

Provide dimensions, A to E as indicated on drawing.

A fixing plate with fixing kit is included for on site positioning to required handling

For 102x76mm state if left/right handed or front/rear projection is required

For direct connection to gutter outlet, use pipe socket RSR320NE, RSR120NE or RSR420NE

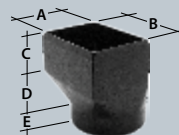


Adjustable eaves offset

Code	Size	A min	A max	B	C
RVR 3945	72x72	75	450	82	60
RVR 3990	72x72	75	900	82	60
RVR 1945	102x76	75	450	82	60
RVR 1990	102x76	75	900	82	60
RVR 4945	102x102	109	450	82	60
RVR 4990	102x102	109	900	82	60

Longer projection offsets available on request.

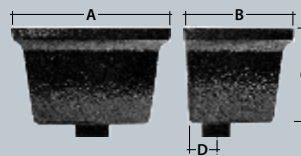
For 102x76mm state if left/right handed or front/rear projection is required



Drain connector (slip socket)

Code	Size	A	B	C	D	E
RVR 370	72x72	85	85	65	41	30
RVR 170	102x76	90	116	60	41	30
RVR 470	102x102	115	115	60	41	30

70mm from wall to centre of 110mm drain connection



Hopper head (standard)

Code	Size	A	B	C	D
RH124	72x72	250	180	180	42
RH125	102x76	250	180	180	44
RH126	102x102	250	180	180	56



Joint Sealant

Code **Description**

SC101 310ml clear

Please note sealant shelf life is 12 months. Refer to sealant usage table, page 35.









Compatible fixing screws

Code **Description**

SC241 No. 12 x 50mm countersunk
For use with fixing plate

SC208 No. 16 x 70mm hex insert domehead
For use with hopper head

Accessories and installation sundries

	<h3>Sealant gun</h3> <p>Code</p> <hr/> <p>SC105</p> <hr/> <p>Required to apply jointing sealant</p>
	<h3>Solvent cleaner</h3> <p>Code Description</p> <hr/> <p>SC108 1 litre</p> <hr/> <p>For cleaning joint surfaces or removing visible sealant marks</p>
	<h3>Aligator® gutter joint compression tool</h3> <p>Code</p> <hr/> <p>SC104</p> <hr/>
	<h3>Touch up paint</h3> <p>Code Description</p> <hr/> <p>SC880 250ml</p> <hr/> <p>Standard colours For making good cut ends and scratches</p>
	<h3>Lightning conductor</h3> <p>Code Description</p> <hr/> <p>SC401 Universal link assembly</p> <hr/> <p>For use with all gutter types, where required</p>
	<h3>Oxide inhibitor</h3> <p>Code Description</p> <hr/> <p>SC402 225cc</p> <hr/> <p>Applied to joint surfaces of all lightning bonding</p>

Design basis

Aligator® gutter flow capacities shown on page 32 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

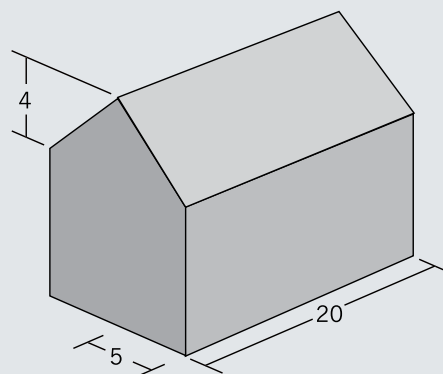
Building Regulations 2000 Document H3 recommend a general design rate of 0.021 l/s/m² (which is virtually the same as the traditional design rate of 75mm/hour) for eaves gutters where if overflowing occurs, water overspill will discharge clear of the building without risk of water ingress. If required, 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 throughout the UK depending on geographical location.

The flow capacities table (page 32) 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).



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



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 at the end of the gutter run. Refer to the flow capacities table (page 32) 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 flow capacities 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 × 140m² = 3.5 l/s

3.5 l/s into centre outlet =
Aligator® Ogee No. 46
with 63mm Ø outlet



Faroe and Maldives development,
Basingstoke, Hampshire

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 contact the Alutec Technical Services Department.

Durability

Alutec systems are manufactured from marine grade aluminium and under normal UK atmospheric conditions, Alutec systems if correctly installed have a life expectancy of 50 years or more. The life expectancy is likely to be reduced in environmentally aggressive 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 bespoke product service to complement any non standard requirements.

An indication of the most common non standard items are shown below, however other items may be possible. For further advice, contact the Alutec Technical Services department.



Prestige new build, Bedford, Bedfordshire

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.



True Radius

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 easily noticeable on two storey buildings and above.



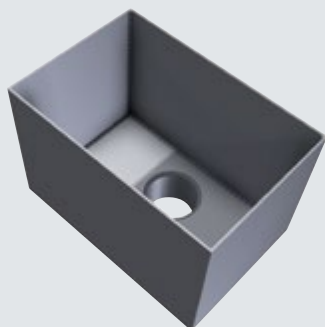
Segmented Radius

Site dimensions

As theoretical radius dimensions are often subject to extreme building tolerances, we recommend that a rigid 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 hopper heads

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.



Private house,
Bodmin, Cornwall

Compound 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 different sized 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.

Special pipe and gutter brackets

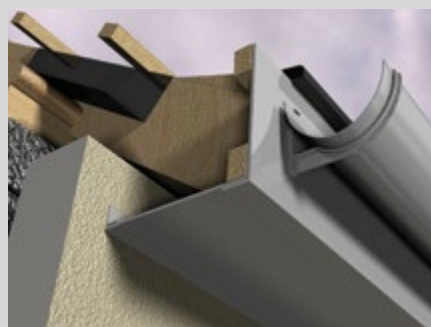
Special support brackets for use in conjunction with standard or bespoke products are available to order subject to design criteria.

Lightning conductor links

If gutters are to be bonded to a lightning conductor system, a positive electrical continuity bridge across all gutter joints will be necessary. Gutter sealant acts as an insulator between joint union and gutter, hence electrical continuity through the gutter system

cannot be guaranteed. A universal electrical continuity link assembly conforming to BS 6651: 1985 is available as standard, SC401.








To determine if lightning links are required, it is recommended you consult with a specialist Lightning Protection Consultant or Installer.




Gutter / fascia / soffit assemblies

Evoke Fascia and soffit systems are made to standard designs which can be adapted to suit most applications; see the Evoke fascia and soffit brochure for further information.

Gutter flow rates

Gutter Profile	Outlet size	End Outlet		Centre Outlet	
		Capacity l/s	Effective Roof Area m ²	Capacity l/s	Effective Roof Area m ²
Aligator® Classic 120x75mm 	62x62mm	2.15	102	4.13	196
	63mm Ø	2.15	102	4.13	196
Aligator® Deepflow 130x80mm 	63mm Ø, 76mm Ø	2.10	100	4.00	190
	102mm Ø, 72x72mm	2.20	104	4.20	200
	102x76mm	2.20	104	4.20	200
	102x102mm	2.30	109	4.40	209
Aligator® Ogee No. 46 155x100mm 	63mm Ø	3.50	166	5.90	280
	76mm Ø	3.80	180	5.90	280
	102mm Ø	4.00	190	7.60	361
	72x72mm, 102x76mm	3.90	185	7.50	357
	102x102mm	4.10	195	7.60	361
Aligator® Boxer 120x80mm 	63mm Ø	2.27	108	3.39	161
	76mm Ø	2.27	108	3.75	178
	72x72mm	2.27	108	4.26	202
	102x76mm	2.27	108	4.34	206
Aligator® Boxer 135x100mm 	63mm Ø	4.17	198	4.17	198
	76mm Ø	4.38	208	5.92	281
	102mm Ø	4.38	208	5.97	284
	72x72mm	4.38	208	6.49	309
	102x76mm	4.38	208	7.09	337
	102x102mm	4.38	208	7.14	340
Aligator® Boxer 160x100mm 	63mm Ø	4.22	200	4.22	200
	76mm Ø	5.25	249	6.06	288
	102mm Ø	5.25	249	6.11	290
	72x72mm	5.25	249	6.68	318
	102x76mm	5.25	249	7.35	350
	102x102mm	5.25	249	7.41	352
Aligator® Giant 200x150mm 	76mm Ø	7.84	373	8.67	412
	102mm Ø	7.91	376	8.75	416
	72x72mm	7.92	377	9.59	456
	102x76mm	7.92	377	10.60	504
	102x102mm	7.92	377	10.76	512

Hopper head flow rates

	Outlet size	Capacity l/s	Effective Roof Area m ²
	63mm Ø	3.01	114.7
	76mm Ø	4.46	214.4
	102mm Ø	7.94	381.7
	72x72mm	4.37	210.1
	102x76mm	7.17	344.7
	102x102mm	9.49	456.3

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

Alutec specification clauses

NBSPlus

Alutec have a full list of NBS clauses for rainwater gutter and downpipe systems. Below is an example of a typical specification. More detailed specifications are also available online marleyalutec.co.uk.



East Sussex National Golf Club

R10 rainwater drainage systems

Manufacturer

Marley Alutec, Unit 1 (G – H),
Hudson Road,
Elms Farm Industrial Estate,
Bedford MK41 0LZ
Tel: 01234 359438
Fax: 01234 357199
Email: enquiries@marleyalutec.co.uk
Web address: marleyalutec.co.uk

Product reference

Alutec Aluminium Rainwater
Gutter system

Type/Grade

Aligator® Deepflow – Extruded

Profile

Aligator® Deepflow

Nominal size

Aligator® Deepflow: 130x80mm

Jointing

Aligator® Snap fit joint with
Alutec sealant

Fixing

Aligator® Deepflow – Concealed
fascia bracket

Accessories

Outlet, corner angle, stop end

Product reference

Alutec Aluminium Rainwater
Downpipe system

Profile

Circular

Nominal size

Traditional circular: 63mm Ø,
76mm Ø, 102mm Ø

Fixings

Eared pipe socket / Pipe clip

Finish

Polyester Powder Coated to
BS EN 12203: 2004

Accessories

Hopper head rectangular / triangular
flat back / ornamental

Branch

Adjustable offset

Fixed offset

Access pipe

Rainwater diverter

Bend

Shoe

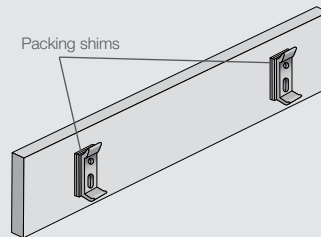
Colour gutter and downpipe

RAL 9010 White/RAL 1013 Pearl
White/RAL 9006 Silver/RAL 9005
Black/RAL 7035 Light Grey/RAL 7036
Platinum Grey/RAL 7037 Steel Grey/
RAL 7012 Basalt Grey/RAL 7015
Slate Grey/RAL 7022 Umbra Grey/
RAL 7016 Anthracite Grey/RAL 7021
Granite Grey/RAL 6005 Moss Green/
RAL 8016 Chestnut Brown/RAL 8014
Sepia Brown/RAL 8017 Chocolate/
BS 08B29 Vandyke Brown/Cast 98
Heritage Black

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 less than 20mm thick, 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.

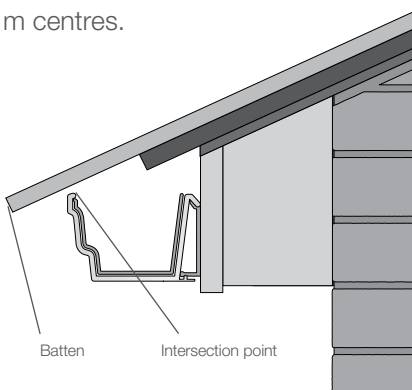


Gutter position

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 not higher than the intersection point (where the top front edge of the gutter and the batten meet).

Gutter brackets must be fixed at minimum 750mm centres, except Aligator Classic – at minimum 1m centres.



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.

Jointing

The patented Aligator® snap fit joint system is proven to reduce installation times by up to 40% compared to traditional bolted systems. The 'no-bolt' design provides a secure, leak free installation. Each joint is made using four 8mm beads of Alutec sealant.

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.

Traditional circular downpipe sockets, caulk with pipe socket filler SC911 and then apply Alutec Sealant SC101 to seal joint.



Fixing

To ensure the secure fixing of aluminium rainwater 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 or downpipes.

SC201	No. 10 x 30mm roundhead
SC202	No. 10 x 30mm countersunk
SC205	No. 10 x 15mm countersunk For fixing gutter brackets to Evoke fascia
SC208	No. 16 x 70mm hex insert domehead
SC209	No. 16 x 100mm hex insert domehead
SC231	No. 12 x 50mm domehead
SC241	No. 12 x 50mm countersunk
SC521	M6 x 20mm aluminium washer

If fixing to fascia boards made of materials other than wood or Alutec aluminium composite, please contact the Alutec Technical Services Department.

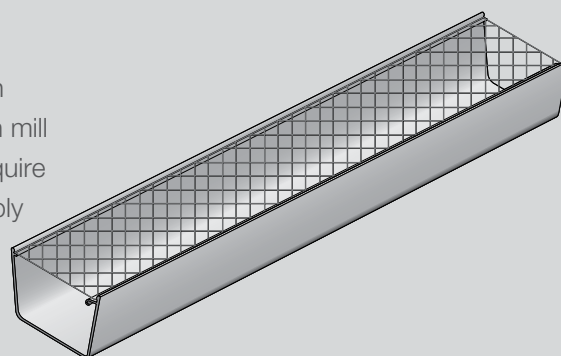
Sealant usage table

Approximate number of joints per tube of Alutec sealant.

Gutter system	Joints per tube of sealant	Downpipe system	Joints per tube of sealant
Aligator® Classic gutter	5	Aligator Classic 62x62 & 63mm Ø	30
Aligator® Deepflow gutter	6	Tudor 63mm & 76mm Ø	30
Aligator® Ogee No.46 gutter	4	Traditional 63mm Ø	30
Aligator® Boxer 120x80mm gutter	5	Traditional 76mm Ø	20
Aligator® 135x100mm gutter	4	Traditional 102mm Ø	15
Aligator® 160x100mm gutter	4	Traditional 72x72mm	17
Aligator® Giant gutter	3	Traditional 102x76mm	13
		Traditional 102x102mm	12
		Flush-fit all sizes	30
		Vandal Resistant all sizes	30

Leafguards

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



Detailed installation instructions are supplied with every consignment of goods and are available separately on request or at marleyalutec.co.uk.



Site painting

When hand painting over powder coated or mill finish components, ensure each surface is individually painted.

Aligator® Classic is only supplied in polyester powder coat paint finishes; the remaining Aligator® range is available in mill finish.

Prior to painting either unpainted (mill finish) or polyester powder coated surfaces, clean components using a clean cloth and solvent cleaner, SC108. Prime mill finish surfaces with an "aluminium etch primer" or zinc phosphate; rub down polyester powder coated components with a light abrasive scotch (not steel) wool to achieve a good key.

It is recommended that two-part synthetic or polyurethane paints are used 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.

Mill finished goods to be installed in their natural state should also be stored undercover, to prevent uneven oxidization to visible surfaces. Once installed the surface will mature uniformly.

Safety

The relevant safety regulations are outlined in the Health and Safety at Work Act 1974 and should be followed. Refer to the Approved Code of Practice (ACOP) Construction (Design and Communications) Regulations 2007.

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.



Beaumont School, Suffolk

Standards

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

BS EN ISO 9227:2006
Corrosion tests in artificial atmospheres – Salt spray tests.

BS EN 12056-3:2000
Gravity drainage systems inside buildings, Part 3 Roof drainage layout and calculation.

BS EN 755-2:2008
Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles.

BS EN 1706:2010
Aluminium and aluminium alloys – Castings – Chemical composition and mechanical properties.

BS EN 1559-2:2000
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.



National Oceanography Centre,
Southampton, Hampshire



East Sussex National Golf Club

Alutec range overview



Evolve

Gutter range specifically developed to meet the demands of both the building owner and installer. Evolve systems combine high flow rate performance with fast and easy installation. Evolve systems use the latest manufacturing technologies to reduce its carbon footprint.



Aligator®

Two distinctive design solutions: Aligator Classic, a domestic size ogee style gutter system with external unions and brackets; ideal for community or local authority housing.

Deepflow, Ogee and Boxer profiles with internal joints and concealed brackets, offering a sleek and unobtrusive solution for modern building design.



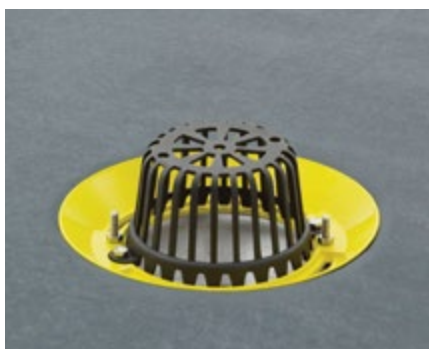
Traditional

A range of BS 8530:2010 traditional style bolted gutter systems for replacement of cast iron on period, listed or traditional style new builds, combining aluminium's inherent benefits of longevity and low maintenance. Manufactured to original British Standard cast iron dimensions; available in Half Round, Victorian Ogee and Moulded Ogee profiles with matching round, square and rectangular downpipe options.



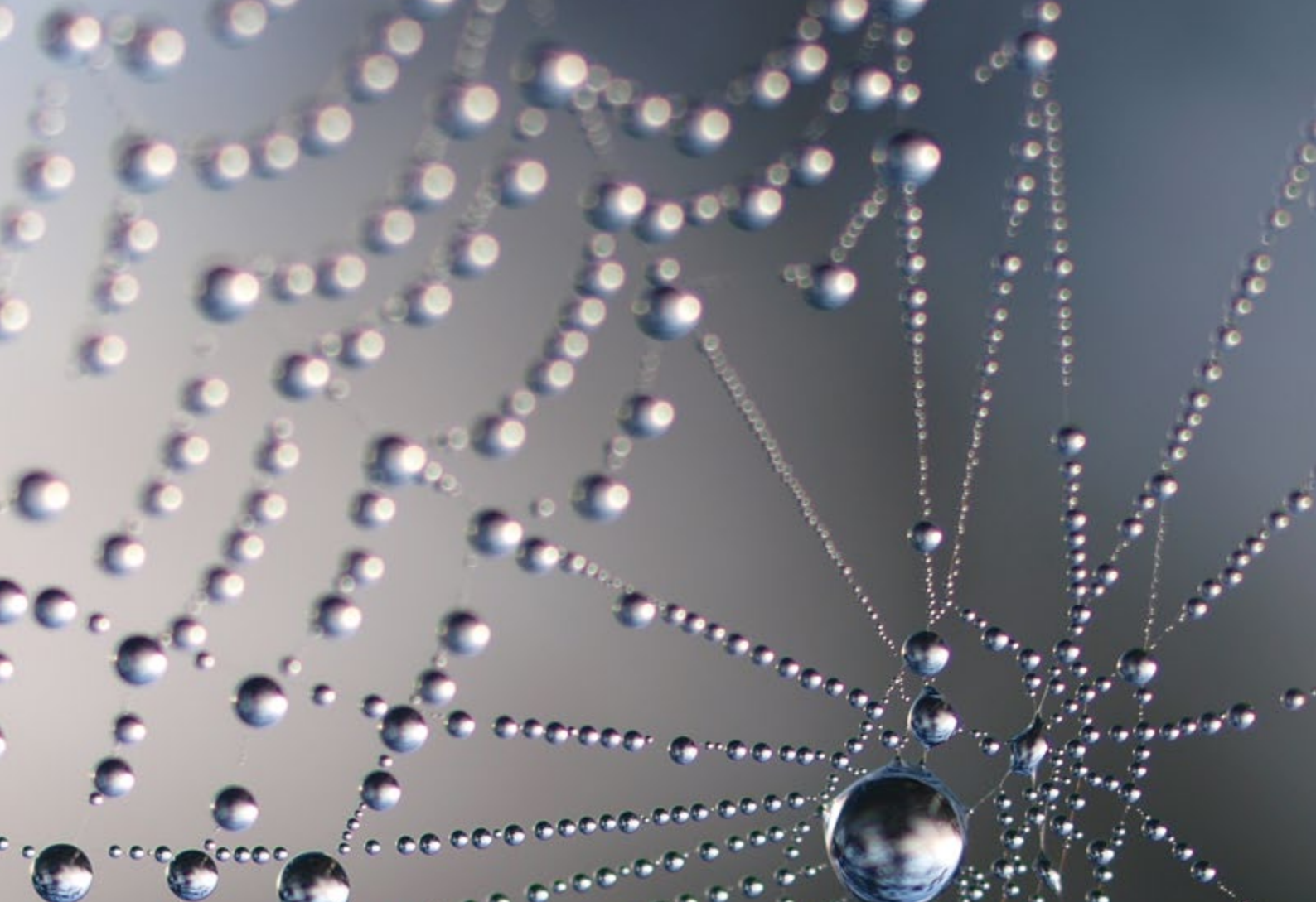
Evoke fascia, soffit & coping

A new and innovative concept in roofline solutions. Evoke fascia, soffit & coping systems are manufactured from composite aluminium, a material used on some of the world's most prestigious developments, including high rise buildings, where exceptional durability and aesthetic appearance are key. Evoke systems have a life expectancy of 50 years or more.



Roof outlets

A comprehensive range of aluminium roof outlets for a wide range of applications. Each component has been engineered to achieve design flexibility and the highest performance specification to give complete confidence to the specifier.



evolve RAINWATER SYSTEMS



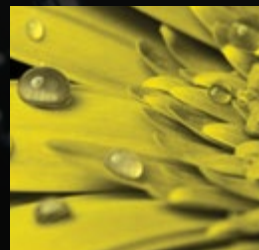
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