FloPlast

building the future

PVC-U Rainwater Systems

PVC-UE Roofline, Window & Cladding Systems | Rainwater Systems | Soil & Waste Systems | Underground Drainage Systems | MDPE Systems | Hot & Cold Plumbing Systems

FloPlast KM 501316

HIGH QUALITY PVC-U RAINWATER SYSTEMS

FloPlast, a name synonymous with high quality PVC-U roofline products for new build and home improvement projects, with its wide range of rainwater systems, cellular foam and rigid PVC-U building profiles.

FloPlast rainwater systems offer a wide choice of profile design, both traditional and modern, in a range of colours to suit all tastes and applications.

The **FloPlast** reputation for technical excellence, competitively priced and quality finished products have established the company as a leading supplier of PVC-U Plastic Building products.

Standards/Quality Control

FloPlast operations embrace quality and environment management systems which have been accredited by BSI to BS EN ISO 9001:2008 Certificate No. FM 501414, BS EN ISO 14001:2004 Certificate No. EMS 538445 and BS EN ISO 18001:2007 Certificate No. OHS 593622.

All products are subject to continuous quality control procedures and products manufactured to British Standard Specifications are marked accordingly.

System Features

- Gutters, pipes and fittings manufactured in PVC-U, a material which is not easily ignitable and will not support combustion. All products comply with the material requirements of:

  BS EN 12200 1:2000 & BS EN 1329-1:2000 (downpipes and fittings)

  BS EN 607:2004 (gutters and fittings)

  BS EN 1462:2004 (eaves brackets)

FloPlast Rainwater Systems have been rigorously tested by The British Standards Institute and have been awarded their prestigious Kitemark. License No. KM 501316.

BSI EN 12200 BSI EN 607 BSI EN 1462

- Suitable for all types of buildings including domestic, commercial and industrial.
- Practical rainwater handling systems which, unlike metal systems, do not conduct lightning.
- Components have a consistent self-finish and colour and are essentially maintenance free.
- Tough and durable, yet lightweight for ease of installation, they will withstand normal ladder weight.
- High gloss finish with blemish free surface providing excellent all round weathering and colour fastness.
- Comprehensive range of systems, colours and fittings to provide solutions to all installation requirements.
- All large fittings are packaged individually to protect their surface from scratch marks.
- Cost effective solution to rainwater collection and drainage.
- Well defined stylish contours ensure a seamless match with the architecture of all properties, new or old.

INSTALLATION FEATURES

Specification, Technical Advice and Design

An advisory service is available to offer technical assistance regarding product selection and installation. Those associated with the building industry can take advantage of design services provided by the company for customers who have made a commitment to use or specify **FloPlast** products.

- Wrap around retaining clip on the majority of gutter fittings allows a fast positive joint to be made. Clips are easily removed should any adjustments be required during installation of the gutter system, making the system very user friendly. It also facilitates dismantling and re-assembly of the gutter system during any period of property maintenance.
- Extended gutter unions, with extra wide seals designed to eliminate the "roll-over" effect from gutter movement from thermal expansion and contraction, whilst still maintaining a watertight seal.
- All gutter fittings have positioning guide marks to allow for thermal expansion and contraction.
- Hoppers, running and stopend outlets are designed to accept sockets or plain-ended downpipe.
- Running and stopend outlets have twin fixing holes and fascia brackets offer a choice of single or twin screw fixing.

FLOPLAST PRODUCT GUARANTEES & INSTALLATION VIDEOS

10 - Year Performance & Colour Guarantee*
Applies to our PVC Rainwater range.

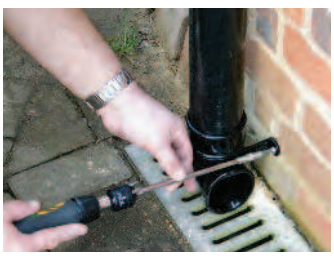
FloPlast are pleased to announce that due to further research and development within our manufacturing process, we can now offer a **20 Year "Cast Iron" Colour Guarantee** across all of our "Cast Iron" Style Rainwater products.

Register you installation today at www.floplast.co.uk

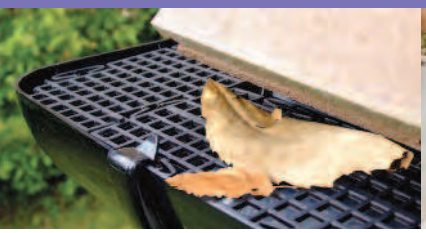
*excludes caramel, sand and grey rainwater colours

FloPlast Installation Videos

Our step-by-step installation videos (available online), make it clearer and easier to get to grips with the all the technical elements involved in what may be a complex process. What's more there is also a downloadable pdf guide to help with your installation.



SPARES/ANCILLARIES



	Product	Code
	Universal Rainwater Adaptor Connects to 110mm drainage	D96
	Universal Rise & Fall Bracket	RF1
	Rafter Bracket Top	RR1
	Rafter Bracket Side	RR2
	GutterBrush Debris eliminator (4m)	GB4

	Product	Code
	FloGuard Leaf Protection System (5m Pack)	FG1
	Balloon (Outlet Guard) Leaf Protection System.	OG1
	DrainGuard (Black) Fits Round and Square downpipe.	DG1
	8mm Downpipe Spacer Bracket Only to be used with RS2, RC4 & RB4.	RC9
	8mm Downpipe Spacer Bracket Only to be used with RSS2, RCS4 & RBS4.	RCS9
	Spacer Brackets available in Black/White only	

	Product	Code
	Leaf/Debris Interceptor Gully Black	D94
	8mm Universal Fascia Bracket Spacer (Black/White only) Suitable for Half Round, Square Line, Niagara Ogee and Hi-Cap gutters only.	RS9
	Snow/Tile Guard - 2m	SG1
	Snow/Tile Guard Bracket	SG2
	400ml Silicone Lubricant Spray Please see profile section for gutter seals and clips.	SL400

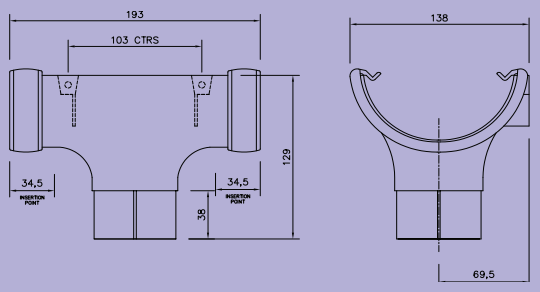
For Water Butts & Rainwater Diverters please see page 24

FloPlast recommend the use of lubricant on all gutter seals for ease of fitting and improved performance.

FloPlast CAD drawings

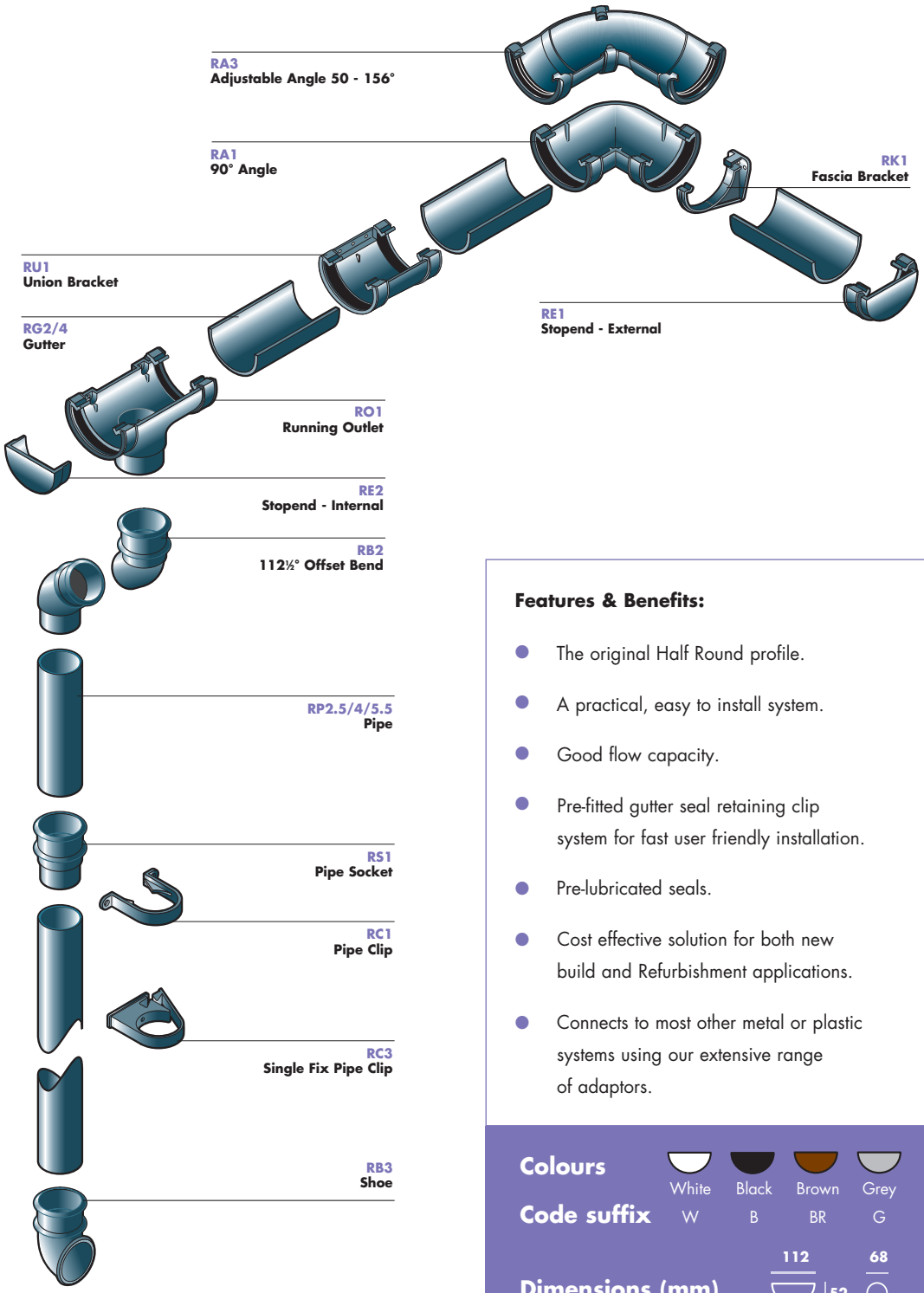
The benefits of CAD drawings are well known by the Architect/ Specifier community. Drawings are available to download for each product that FloPlast manufacture.
Please visit **www.floplast.co.uk** and click on the 'links' section.

For your convenience, files are downloadable as either a .dwg (primarily for CAD programs) or as a PDF for easy viewing. All files determine design lengths required by the Architect/Specifier to enable them to produce accurate drawings.



FloPlast

HALF ROUND 112MM/68MM RAINWATER SYSTEM



Features & Benefits:

- The original Half Round profile.
- A practical, easy to install system.
- Good flow capacity.
- Pre-fitted gutter seal retaining clip system for fast user friendly installation.
- Pre-lubricated seals.
- Cost effective solution for both new build and Refurbishment applications.
- Connects to most other metal or plastic systems using our extensive range of adaptors.

	White	Black	Brown	Grey
Colours				
Code suffix	W	B	BR	G

Dimensions (mm)

For optimum performance of Half Round gutter systems we recommend the use of FloPlast 68mm Round downpipe system.
Gutter and pipe code reference numbers refer to length of run: 2 metres, 2.5 metres, 4 metres and 5.5 metres.

112mm Gutter & Fittings BS EN 607:2004, BS EN 12200-1:2000, BS EN 1462:2004

Product	Code
Gutter - 4m	RG4
2m	RG2
90° Angle	RA1
135° Angle	RA2
Adjustable Angle 50° - 156° (not available in Grey)	RA3
Angle - Any degree. FloPlast will fabricate any non-standard angle to special order.	RA9

Product	Code
Running Outlet	RO1
Stopend Outlet	RO2
Stopend - External	RE1
Stopend - Internal	RE2
Fascia Bracket	RK1
Union Bracket	RU1

Product	Code
Gutter Adaptors:	
To Cast Iron Ogee R/H	RD3
To Cast Iron Ogee L/H (not available in Brown)	RD4
To Half Round Cast Iron	RD5
Spare Gutter Clip	RRC1
Spare Gutter Seal	RRS1

For Ancillaries see page 5.

68mm Round Downpipe & Fittings BS EN 12200-1:2000

Product	Code
Pipe: 2.5m	RP2.5
4m	RP4
5.5m	RP5.5
Offset Bend 92½°	RB1
Offset Bend 112½°	RB2
Shoe	RB3
Shoe. With Fixing Lugs Must be used in conjunction with RC4 and RS2. (Black/White only)	RB4

Product	Code
Pipe Clips:	
	RC1
Single Fix (not available In Caramel)	RC3
Must be used in conjunction with RB4 & RS2 (Black and White only)	RC4
Pipe Sockets:	
	RS1
(Black & White only) With fixing lugs. Must be used in conjunction with RC4 and RB4.	RS2

Product	Code
Hopper. Connects to 65mm Square & 68mm Round downpipe.	RHS1
67½° Branch	RY1
Access Pipe (Black/White/Brown only)	RX1

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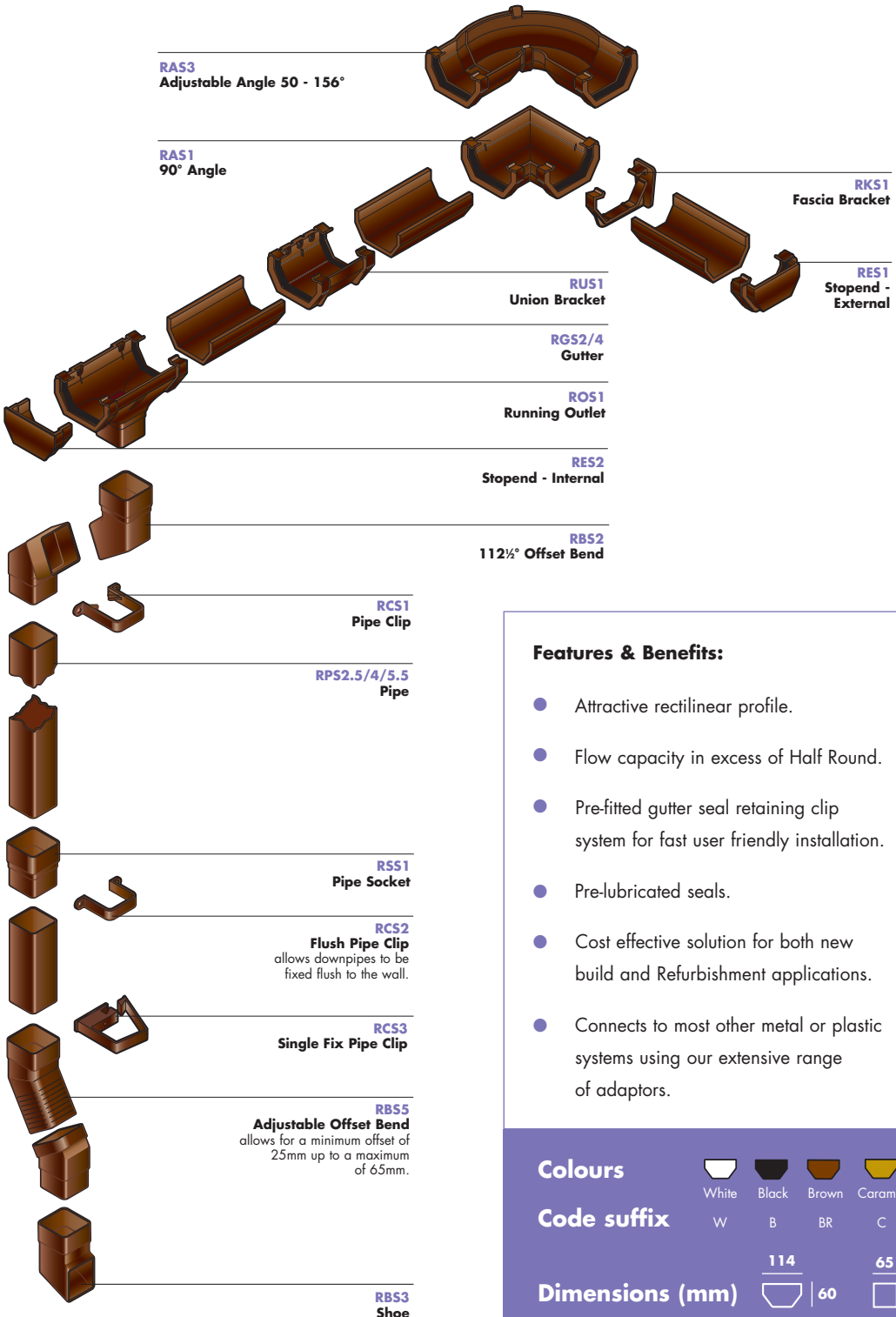
SQUARE LINE 114MM/65MM RAINWATER SYSTEM



Features & Benefits:

- Attractive rectilinear profile.
- Flow capacity in excess of Half Round.
- Pre-fitted gutter seal retaining clip system for fast user friendly installation.
- Pre-lubricated seals.
- Cost effective solution for both new build and Refurbishment applications.
- Connects to most other metal or plastic systems using our extensive range of adaptors.

	White	Black	Brown	Caramel
Colours				
Code suffix	W	B	BR	C

Dimensions (mm): 114 × 60; 65

For optimum performance of Square Line gutter systems we recommend the use of FloPlast 65mm Square downpipe system.
Gutter and pipe code reference numbers refer to length of run: 2 metres, 2.5 metres, 4 metres and 5.5 metres.

114mm Gutter & Fittings BS EN 607:2004, BS EN 12200-1:2000, BS EN 1462:2004

Product	Code
Gutter - 4m	RGS4
2m	RGS2
90° Angle	RAS1
135° Angle	RAS2
Adjustable Angle 50° - 156° (not available in Caramel)	RAS3
Angle - Any degree. FloPlast will fabricate any non-standard angle to special order.	RAS9

Product	Code
Running Outlet	ROS1
Stopend Outlet	ROS2
Stopend - External	RES1
Stopend - Internal	RES2
Fascia Bracket	RKS1
Union Bracket	RUS1
Sq/Rd Gutter Adaptor	RDS1

Product	Code
Gutter Adaptors:	
To Cast Iron Ogee R/H (not available in Caramel)	RDS3
To Cast Iron Ogee L/H (not available in Caramel)	RDS4
To Half Round Cast Iron (not available in Caramel)	RDS5
Spare Gutter Clip	RRSC1
Spare Gutter Seal	RRSS1

For Ancillaries see page 5.

65mm Square Downpipe & Fittings BS EN 12200-1:2000

Product	Code
Pipe: 2.5m	RPS2.5
4m	RPS4
5.5m	RPS5.5
Offset Bend 92½°	RBS1
Offset Bend 112½°	RBS2
Adj. Offset Bend (not available in Caramel)	RBS5

Product	Code
Shoes:	
	RBS3
(With fixing lugs) Must be used in conjunction with RCS4 and RSS2. (Black & White only)	RBS4
Pipe Clips:	
	RCS1
Flush (Not available in Caramel)	RCS2
Single Fix (Not available in Caramel)	RCS3
With fixing lugs Must be used in conjunction with RBS4 & RSS2. (Black and White only)	RCS4

Product	Code
Pipe Sockets:	
	RSS1
(Black & White only) (With fixing lugs) Must be used in conjunction with RCS4 and RBS4.	RSS2
Hopper. Connects to 65mm Square & 68mm Round downpipe.	RHS1
67½° Branch	RYS1
Square Access Pipe (Not available in Caramel)	RXS1
Sq/Rd Downpipe Adaptor. Connects to 68mm Round Downpipe System. (not available in Caramel)	RDS2

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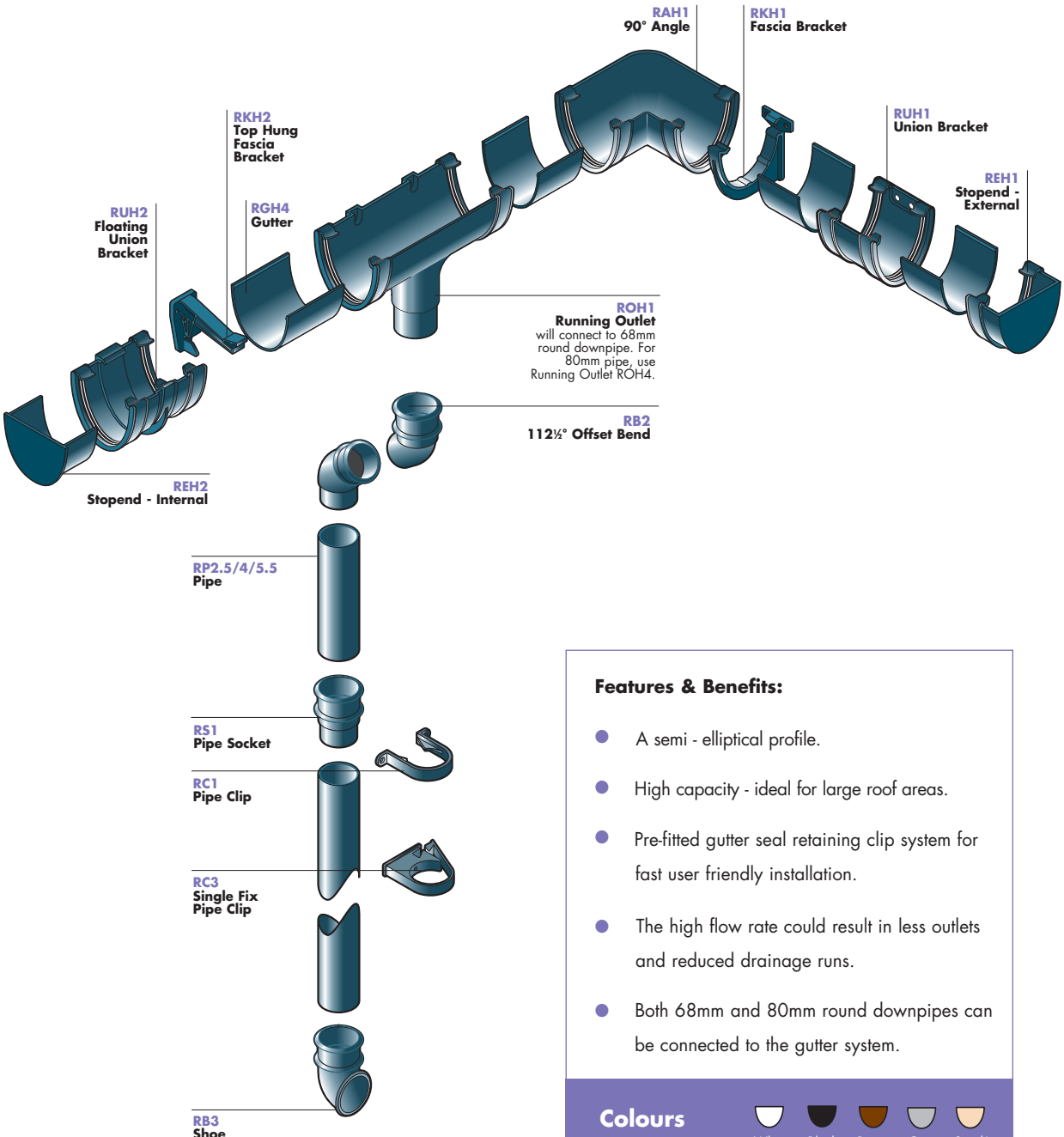
HI-CAP 115MM/80MM RAINWATER SYSTEM



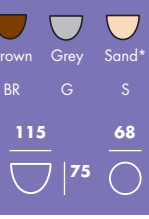
Features & Benefits:

- A semi - elliptical profile.
- High capacity - ideal for large roof areas.
- Pre-fitted gutter seal retaining clip system for fast user friendly installation.
- The high flow rate could result in less outlets and reduced drainage runs.
- Both 68mm and 80mm round downpipes can be connected to the gutter system.

Colours	White	Black	Brown	Grey	Sand*
Code suffix	W	B	BR	G	S

* 68mm Round Downpipe not available in Sand

Dimensions (mm)



For optimum performance of Niagara gutter systems we recommend the use of FloPlast 68mm Round & 80mm Round downpipe system. Gutter and pipe code reference numbers refer to length of run: 4 metres.

115mm Gutter & Fittings BS EN 607:2004, BS EN 1200-1:2000, BS EN 1462:2004

Product	Code
Gutter - 4m	RGH4
90° Angle	RAH1
135° Angle	RAH2
Angle - Any degree FloPlast will fabricate any non-standard angle to special order.	RAH9
Running Outlet - 68mm (not available in Sand)	ROH1
Running Outlet - 80mm	ROH4

Product	Code
Stopend - External	REH1
Stopend - Internal	REH2
Fascia Bracket	RKH1
Fascia Bracket Top Hung (not available in Brown or Grey)	RKH2
Union Bracket	RUH1
Union Bracket Floating (not available in Brown or Grey)	RUH2

Product	Code
Gutter Adaptors:	
Hi-Cap to Half Round	RHR3
Hi-Cap to Square Line (Products not available in Sand or Grey)	RHS3
Spare Gutter Clip	RRHC1
Spare Gutter Seal	RRHS1

For Ancillaries see page 5.

80mm Round Downpipe & Fittings BS EN 12200-1:2000

Product	Code
Pipe	RPH4
Offset Bend 92½°	RBH1
Offset Bend 112½°	RBH2

Product	Code
Shoe	RBH3
Pipe Clip (Single Fix)	RCH3
Pipe Socket	RSH1

Product	Code
Hopper Connects to 80mm Round downpipe.	RHH1
67½° Branch	RYH1

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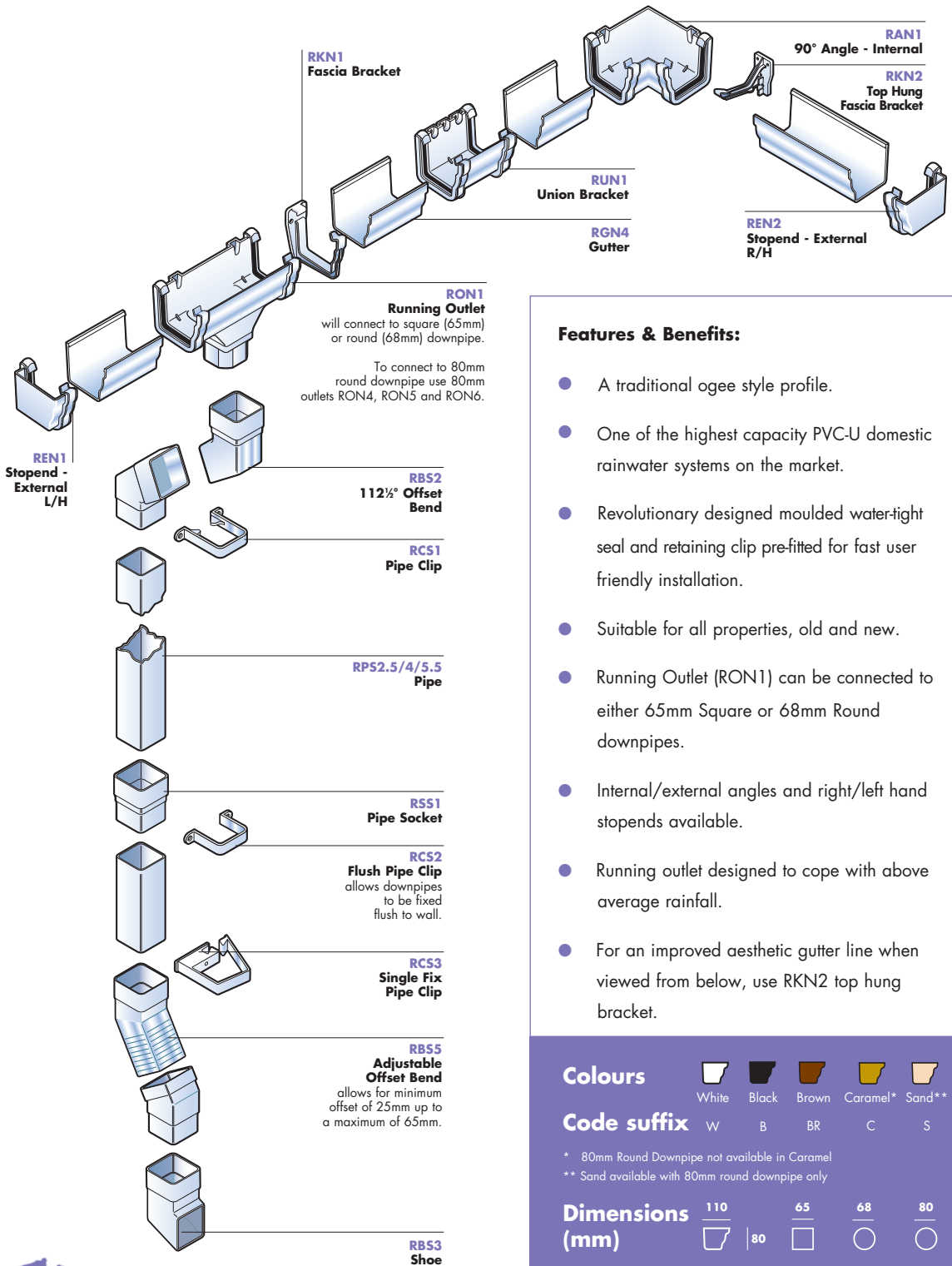
Niagara® OGEE 110MM/65MM/80MM RAINWATER SYSTEM



Features & Benefits:

- A traditional ogee style profile.
- One of the highest capacity PVC-U domestic rainwater systems on the market.
- Revolutionary designed moulded water-tight seal and retaining clip pre-fitted for fast user friendly installation.
- Suitable for all properties, old and new.
- Running Outlet (RON1) can be connected to either 65mm Square or 68mm Round downpipes.
- Internal/external angles and right/left hand stopends available.
- Running outlet designed to cope with above average rainfall.
- For an improved aesthetic gutter line when viewed from below, use RKN2 top hung bracket.

	White	Black	Brown	Caramel*	Sand**
Colours					
Code suffix	W	B	BR	C	S

* 80mm Round Downpipe not available in Caramel

** Sand available with 80mm round downpipe only

Dimensions (mm)	110 / 80	65	68	80

For optimum performance of Niagara gutter systems we recommend the use of FloPlast 65mm Square & 80mm Round downpipe systems.
Gutter and pipe code reference numbers refer to length of run: 4 metres.

110mm Gutter & Fittings BS EN 607:2004, BS EN 12200-1:2000, BS EN 1462:2004

Product	Code
Gutter - 4m	RGN4
90° Angle - Internal	RAN1
90° Angle - External	RAN2
135° Angle - Internal	RAN3
135° Angle - External	RAN4
Angle - Any Degree FloPlast will fabricate any non-standard angle to special order.	RAN9
Running Outlet - Multi Outlet (Not available in sand) Connects to 65mm Square or 68mm Round downpipes.	RON1
Stopend Outlets - 65mm Square:	
L/H (not available in Sand)	RON2
R/H (not available in Sand)	RON3

Product	Code
Running Outlet - 80mm Round (not available in Caramel)	RON4
Stopend Outlets - 80mm Round:	
L/H (not available in Caramel)	RON5
R/H (not available in caramel)	RON6
Stopends - External:	
L/H	REN1
R/H	REN2
Stopends - Internal:	
L/H	REN3
R/H	REN4

Product	Code
Fascia Bracket	RKN1
Fascia Bracket Top Hung	RKN2
Union Bracket	RUN1
Gutter Adaptors:	
Niagara to Half Round R/H	RNR3
Niagara to Half Round L/H	RNR4
Niagara to Square Line R/H	RNS3
Niagara to Square Line L/H	RNS4
(Products not available in Caramel or Sand)	
Spare Gutter Clip	RRNC1
Spare Gutter Seal	RRNS1

For Ancillaries see page 5.

80mm Round Downpipe & Fittings BS EN 12200-1:2000

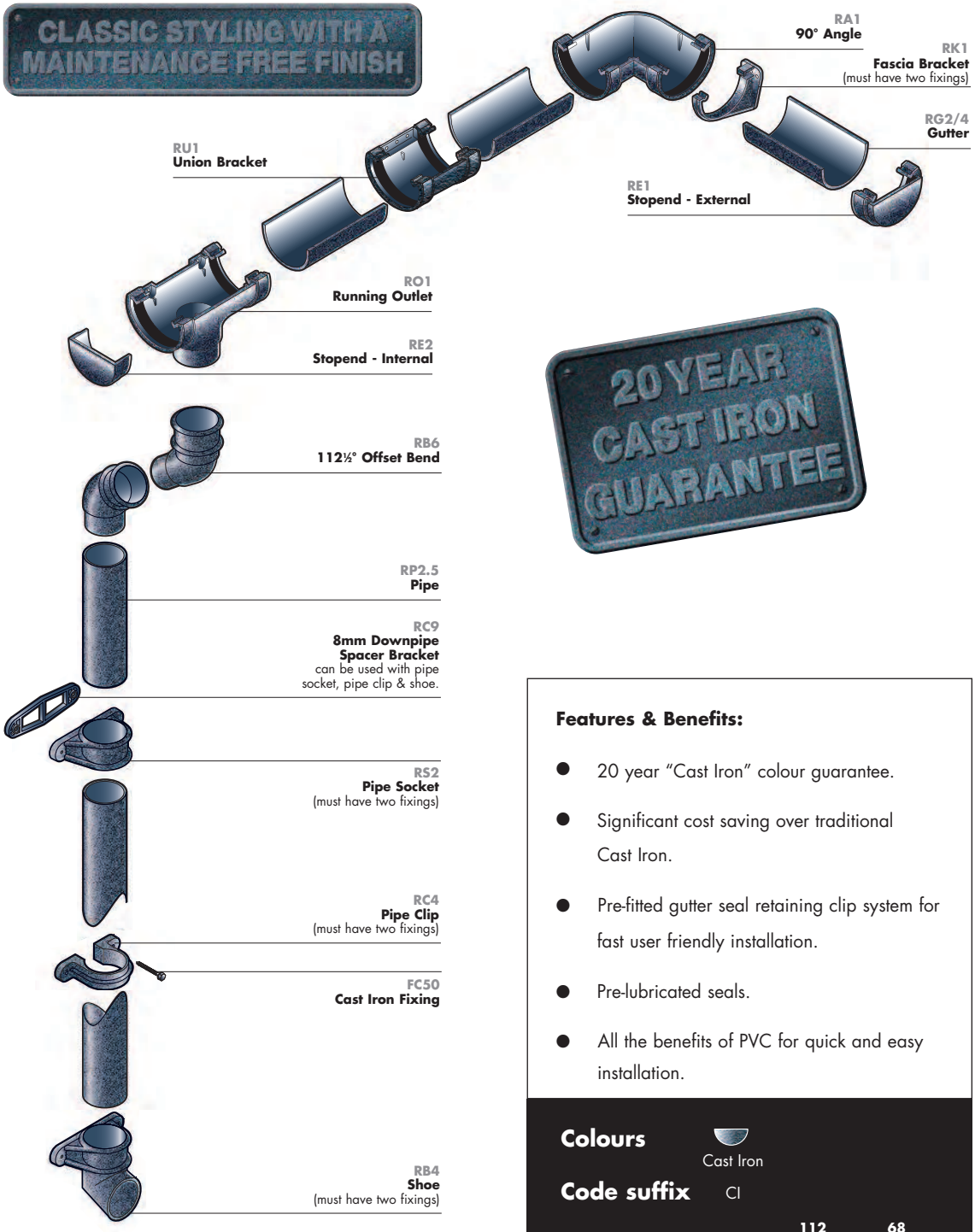
Product	Code
Pipe	RPH4
Offset Bend 92½°	RBH1
Offset Bend 112½°	RBH2

Product	Code
Shoe	RBH3
Pipe Clip (Single Fix)	RCH3
Pipe Socket	RSH1

Product	Code
Hopper Connects to 80mm Round downpipe.	RHH1
67½° Branch	RYH1

FloPlast

HALF ROUND "CAST IRON" STYLE 112MM/68MM RAINWATER SYSTEM



Features & Benefits:

- 20 year "Cast Iron" colour guarantee.
- Significant cost saving over traditional Cast Iron.
- Pre-fitted gutter seal retaining clip system for fast user friendly installation.
- Pre-lubricated seals.
- All the benefits of PVC for quick and easy installation.

Colours Cast Iron

Code suffix CI

Dimensions (mm) 112 | 52 | 68

Gutter and pipe code reference numbers refer to length of run: 2 metres, 2.5 metres and 4 metres.

112mm Gutter & Fittings BS EN 607:2004, BS EN 12200-1:2000, BS EN 1462:2004

Product	Code
Gutter - 4m	RG4
2m	RG2
90° Angle	RA1
135° Angle	RA2
Angle - Any degree FloPlast will fabricate any non-standard angle to special order.	RA9

Product	Code
Running Outlet - 68mm Round	RO1
Stopend Outlet - 68mm Round	RO2
Stopend - External	RE1
Stopend - Internal	RE2
Fascia Bracket	RK1

Product	Code
Union Bracket	RU1
Gutter Adaptors:	
To Cast Iron Ogee R/H	RD3
To Cast Iron Ogee L/H	RD4
To Half Round Cast Iron	RD5
Spare Gutter Clip	RRC1
Spare Gutter	RRS1

For Ancillaries see page 5.

68mm Round Downpipe & Fittings BS EN 607:2004, BS EN 12200-1:2000, BS EN 1462:2004

Product	Code
Pipe: 2.5m	RP2.5
Offset Bend 92½°	RB8
Offset Bend 112½°	RB6
Shoe With Fixing Lugs (Requires 2 x FC50 fixings)	RB4
Pipe Clip With Fixing Lugs (Requires 2 x FC50 fixings)	RC4
Pipe Socket With Fixing Lugs (Requires 2 x FC50 fixings)	RS2
Cast Iron Fixings* 12 gauge x 50mm Stainless Steel fixings for "Cast Iron" Range (Socket Fixings).	FC50

Product	Code
67½° Branch	RY1
Access Pipe	RX1
Universal Hopper Connects to 65mm Square & 68mm Round downpipe	RH1
Ogee Hopper With Fixing Lugs. (Requires 2 x FC50 fixings). Connects to 68mm Round downpipe and 65mm Square downpipe.	RH4
Rectangular Hopper With Fixing Lugs. (Requires 2 x FC50 fixings) Connects to 68mm Round downpipe and 65mm Square downpipe. This product is rotationally moulded and subject to bowing along its length up to +/-4%.	RH5

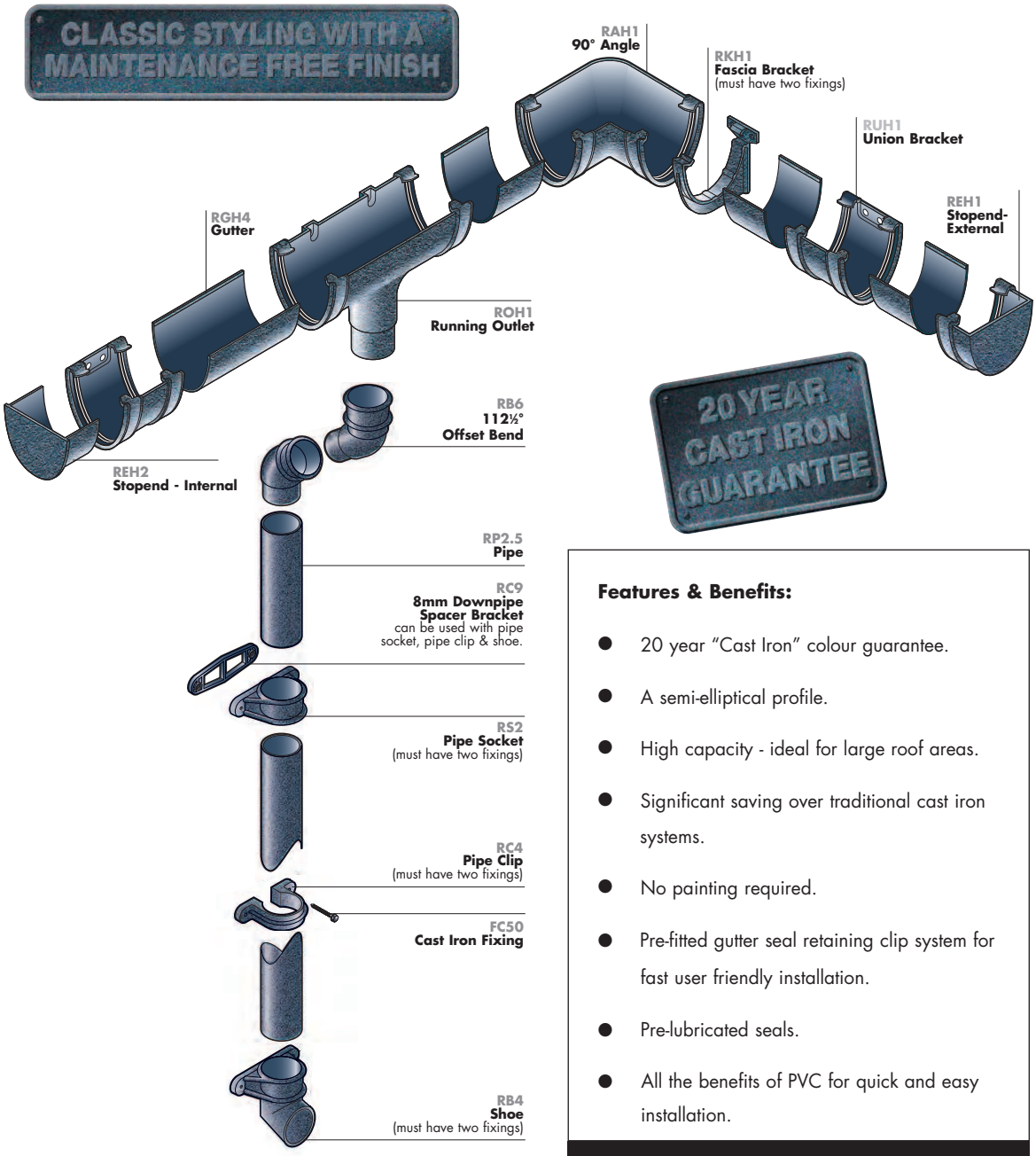
Product	Code
Fleur-de-Lis 55mm 70mm	FL55 FL70
Tudor Rose 55mm 70mm	TR55 TR70
Decorative Square 55mm 70mm	DS55 DS70
Lion's Head 55mm 70mm	LH55 LH70

Motifs can be applied to hoppers or running outlets using a proprietary adhesive such as Siroflex MS Polymer.

***Fixing instructions for the FC50 (Cast Iron fixing bolts)**

The FC50 is a 12 gauge x 50mm Stainless Steel Bolt, that requires a12mm, 12 point star head socket to tighten it. When using these fixings on Ogee and Rectangular Hoppers we recommend that a 3/4" tap washer is used.When fixing product to concrete, brick, block etc fix FC50 in the same way as any other screw by using a plug type fixing, and into timber by pilot drilling a starter hole first.

HI-CAP "CAST IRON" STYLE 115MM/68MM RAINWATER SYSTEM



Features & Benefits:

- 20 year "Cast Iron" colour guarantee.
- A semi-elliptical profile.
- High capacity - ideal for large roof areas.
- Significant saving over traditional cast iron systems.
- No painting required.
- Pre-fitted gutter seal retaining clip system for fast user friendly installation.
- Pre-lubricated seals.
- All the benefits of PVC for quick and easy installation.

Colours Cast Iron

Code suffix CI

Dimensions (mm) 115 / 75 / 68

Gutter and pipe code reference numbers refer to length of run: 2.5 metres and 4 metres.

115mm Gutter & Fittings BS EN 607:2004, BS EN 12200-1:2000, BS EN 1462:2004

Product	Code
Gutter - 4m	RGH4
90° Angle	RAH1
135° Angle	RAH2
Angle - Any degree FloPlast will fabricate any non-standard angle to special order.	RAH9

Product	Code
Running Outlet - 68mm Round	ROH1
Stopend - External	REH1
Stopend - Internal	REH2
Fascia Bracket	RKH1

Product	Code
Union Bracket	RUH1
Spare Gutter Clip	RRHC1
Spare Gutter Seal	RRHS1

For Ancillaries see page 5.

68mm Round Downpipe & Fittings BS EN 607:2004, BS EN 12200-1:2000, BS EN 1462:2004

Product	Code
Pipe: 2.5m	RP2.5
Offset Bend 92½°	RB8
Offset Bend 112½°	RB6
Shoe With Fixing Lugs (Requires 2 x FC50 fixings)	RB4
Pipe Clip With Fixing Lugs (Requires 2 x FC50 fixings)	RC4
Pipe Socket With Fixing Lugs (Requires 2 x FC50 fixings)	RS2
Cast Iron Fixings* 12 gauge x 50mm Stainless Steel fixings for "Cast Iron" Range (Socket Fixings).	FC50

Product	Code
67½° Branch	RY1
Access Pipe	RX1
Universal Hopper Connects to 65mm Square & 68mm Round downpipe	RH1
Ogee Hopper With Fixing Lugs. (Requires 2 x FC50 fixings). Connects to 68mm Round downpipe and 65mm Square downpipe.	RH4
Rectangular Hopper With Fixing Lugs. (Requires 2 x FC50 fixings) Connects to 68mm Round downpipe and 65mm Square downpipe. This product is rotationally moulded and subject to bowing along its length up to +/-4%.	RH5

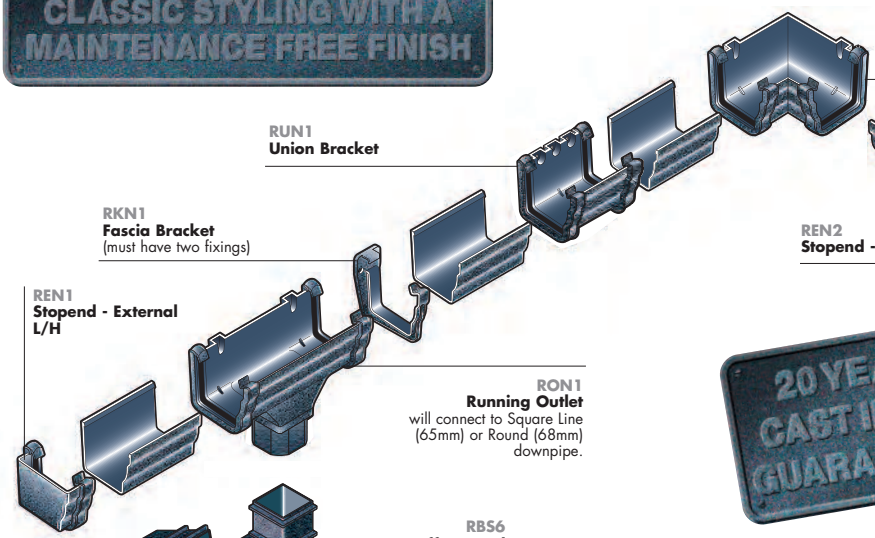
Product	Code
Fleur-de-Lis 55mm 70mm	FL55 FL70
Tudor Rose 55mm 70mm	TR55 TR70
Decorative Square 55mm 70mm	DS55 DS70
Lion's Head 55mm 70mm	LH55 LH70

Motifs can be applied to hoppers or running outlets using a proprietary adhesive such as Siroflex MS Polymer.

***Fixing instructions for the FC50 (Cast Iron fixing bolts)**

The FC50 is a 12 gauge x 50mm Stainless Steel Bolt, that requires a12mm, 12 point star head socket to tighten it. When using these fixings on Ogee and Rectangular Hoppers we recommend that a 3/4" tap washer is used.When fixing product to concrete, brick, block etc fix FC50 in the same way as any other screw by using a plug type fixing, and into timber by pilot drilling a starter hole first.

Niagara® OGEE "CAST IRON" STYLE 110MM/65MM/68MM RAINWATER SYSTEM



RAN1
90° Angle - Internal

RGN4
Gutter

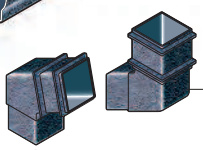
RUN1
Union Bracket

RKN1
Fascia Bracket
(must have two fixings)

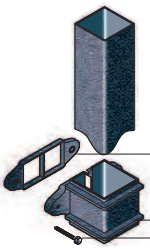
REN2
Stopend - External R/H

REN1
Stopend - External L/H

RON1
Running Outlet
will connect to Square Line (65mm) or Round (68mm) downpipe.



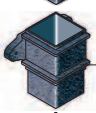
RBS6
112½° Offset Bend



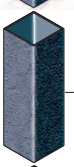
RCS9
8mm Downpipe Spacer Bracket
can be used with pipe socket, pipe clip & shoe.

RCS4
Pipe Clip
(must have two fixings)

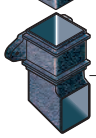
FC50
Cast Iron Fixing



RSS2
Pipe Socket
(must have two fixings)



RPS2.5
Pipe



RBS4
Shoe
(must have two fixings)

Features & Benefits:

- One of the highest capacity PVC-U domestic rainwater systems on the market.
- Revolutionary designed moulded water-tight seal and retaining clip pre-fitted for fast user friendly installation.
- Extremely cost effective solution for old style building refurbishment and new build installations.
- Traditional style ogee Hopper available.
- Running Outlet can be connected to 65mm or 68mm Round downpipes.
- Black fixing bolts available.

Colours Cast Iron

Code suffix CI

Dimensions (mm) 110 | 80 | 65 | 68

Gutter and pipe code reference numbers refer to length of run: 2.5 metres, 3 metres and 4 metres.

110mm Gutter & Fittings BS EN 607:2004, BS EN 12200-1:2000, BS EN 1462:2004

	Product	Code
	Gutter - 4m 3m	RGN4 RGN3
	90° Angle - Internal	RAN1
	90° Angle - External	RAN2
	135° Angle - Internal	RAN3
	135° Angle - External	RAN4
	Angle - Any Degree FloPlast will fabricate any non-standard angle to special order.	RAN9

	Product	Code
	Running Outlet - Multi Outlet	RON1
	Stopend Outlet - 65mm L/H	RON2
	Stopend Outlet - 65mm R/H	RON3
	Stopend - External L/H	REN1
	Stopend - External R/H	REN2

	Product	Code
	Stopend - Internal L/H	REN3
	Stopend - Internal R/H	REN4
	Fascia Bracket	RKN1
	Union Bracket	RUN1

For Ancillaries see page 5.

65mm Round Downpipe & Fittings BS EN 607:2004, BS EN 12200-1:2000, BS EN 1462:2004

Please note: Round downpipe can also be used, please see page 15

	Product	Code
Pipe:	2.5m	RPS2.5
	Offset Bend 92½°	RBS8
	Offset Bend 112½°	RBS6
	Shoe With Fixing Lugs (Requires 2 x FC50 fixings)	RBS4
	Pipe Clip With Fixing Lugs (Requires 2 x FC50 fixings)	RCS4
	Cast Iron Fixings 12 gauge x 50mm Stainless Steel fixings for "Cast Iron" range (socket fixings).	FC50

	Product	Code
	Pipe Socket With Fixing Lugs (Requires 2 x FC50 fixings)	RSS2
	67½° Branch	RYS2
	Sq/Rd Downpipe Adaptor	RDS2
	FloSaver Rainwater Diverter Connects to 65mm Square & 68mm Round downpipe	RVS1
	Universal Hopper Connects to 65mm Square & 68mm Round downpipe.	RH1
	Ogee Hopper With Fixing Lugs. (Requires 2 x FC50 fixings). Connects to 68mm Round downpipe and 65mm Square downpipe.Rectangular Hopper.	RH4

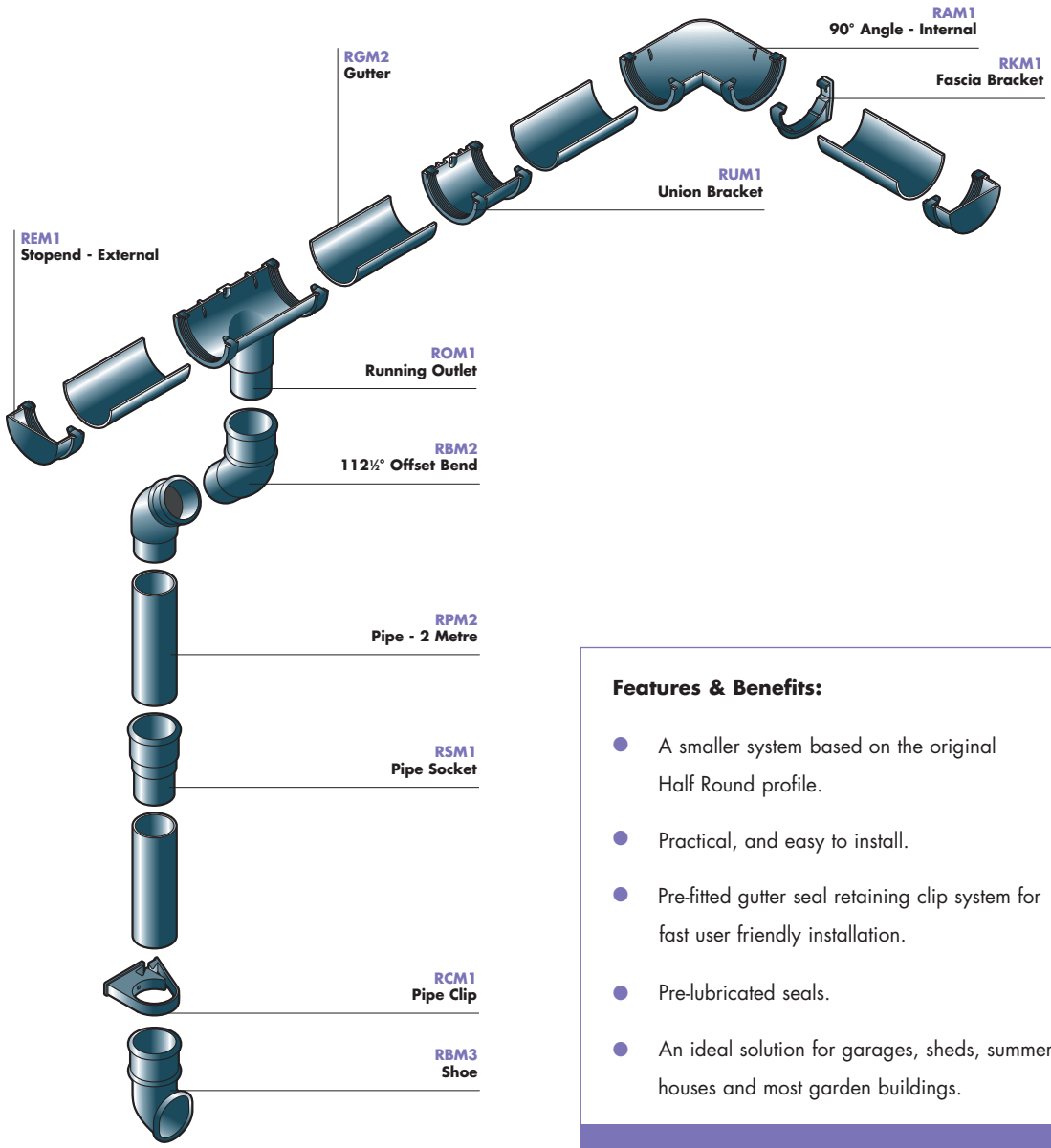
	Product	Code
	Rectangular Hopper With Fixing Lugs. (Requires 2 x FC50 fixings) Connects to 68mm Round downpipe and 65mm Square downpipe. This product is rotationally moulded and subject to bowing along its length up to +/-4%.	RH5
	Fleur-de-Lis 55mm 70mm	 FL55 FL70
	Tudor Rose 55mm 70mm	 TR55 TR70
	Decorative Square 55mm 70mm	 DS55 DS70
	Lion's Head 55mm 70mm	 LH55 LH70

Motifs can be applied to hoppers or running outlets using a proprietary adhesive such as Siroflex MS Polymer.

***Fixing instructions for the FC50 (Cast Iron fixing bolts)**

The FC50 is a 12 gauge x 50mm Stainless Steel Bolt, that requires a12mm, 12 point star head socket to tighten it. When using these fixings on Ogee and Rectangular Hoppers we recommend that a 3/4" tap washer is used.When fixing product to concrete, brick, block etc fix FC50 in the same way as any other screw by using a plug type fixing, and into timber by pilot drilling a starter hole first.

Miniflo 76MM/50MM RAINWATER SYSTEM



Features & Benefits:

- A smaller system based on the original Half Round profile.
- Practical, and easy to install.
- Pre-fitted gutter seal retaining clip system for fast user friendly installation.
- Pre-lubricated seals.
- An ideal solution for garages, sheds, summer houses and most garden buildings.

Colours	White	Black	Brown	Grey
Code suffix	W	B	BR	G
Dimensions (mm)	76 / 38			50

Gutter and pipe code reference numbers refer to length of run: 2 metres.

76mm Gutter & Fittings BS EN 607:2004, BS EN 12200-1:2000, BS EN 1462:2004

Product	Code
Gutter - 2m	RGM2
90° Angle	RAM1
135° Angle	RAM2

Product	Code
Running Outlet	ROM1
Stopend Outlet	ROM2
Stopend - External	REM1

Product	Code
Fascia Bracket	RKM1
Union Bracket	RUM1

For Ancillaries see page 5.

50mm Round Downpipe & Fittings BS EN 12200-1:2000

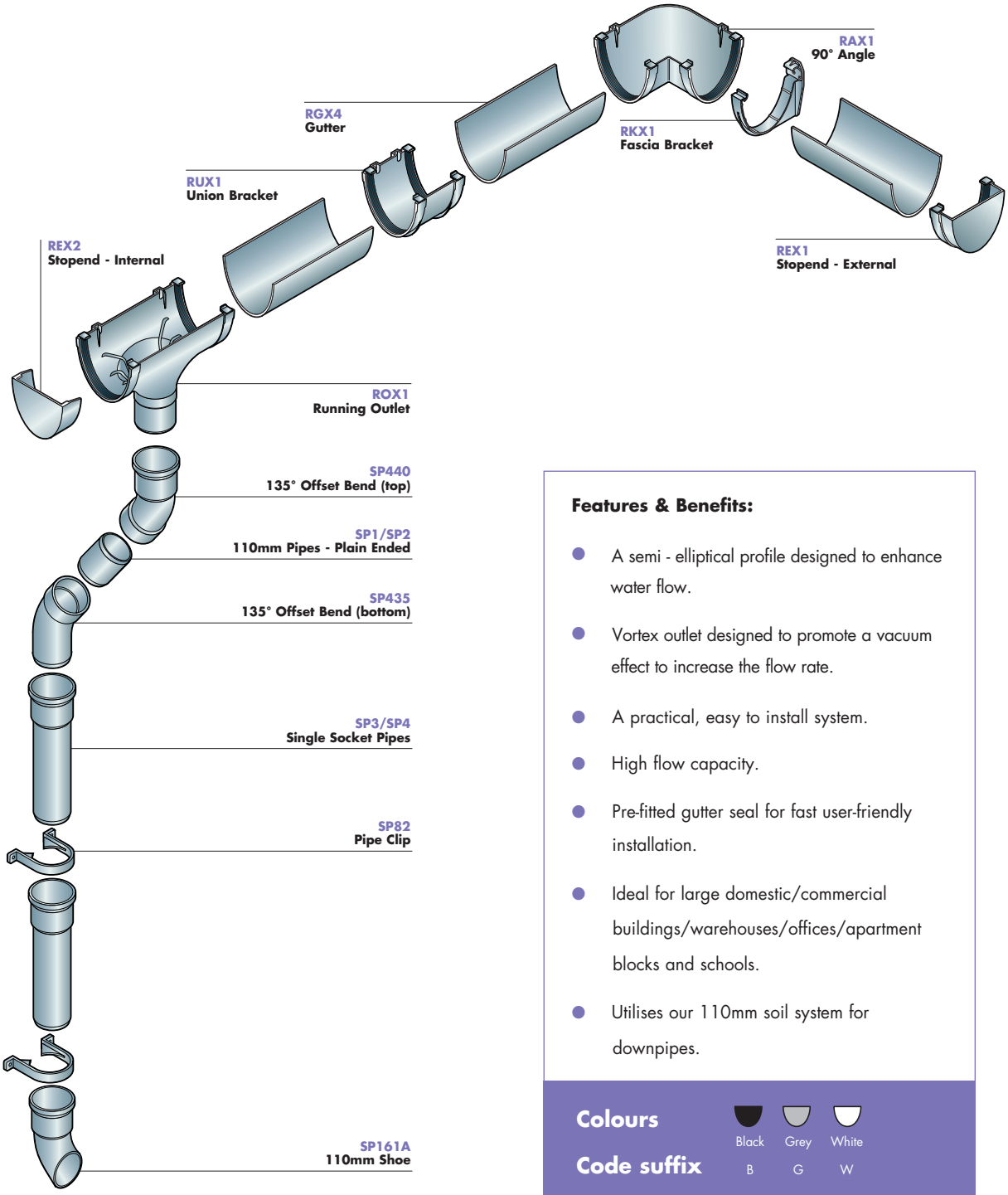
Product	Code
Pipe - 2m	RPM2
Offset Bend 112½°	RBM2
Shoe	RBM3

Product	Code
Pipe Clip	RCM1
Pipe Socket	RSM1

Rainwater Systems, such as Miniflo when used as an associated product with a water butt for the collection of rainwater, can lead to the award of credits under the Code for Sustainable Homes.

Miniflo 50mm downpipe would normally be installed, terminating directly into the top of a water butt.

Xtraflo 170MM/110MM RAINWATER SYSTEM



Features & Benefits:

- A semi - elliptical profile designed to enhance water flow.
- Vortex outlet designed to promote a vacuum effect to increase the flow rate.
- A practical, easy to install system.
- High flow capacity.
- Pre-fitted gutter seal for fast user-friendly installation.
- Ideal for large domestic/commercial buildings/warehouses/offices/apartment blocks and schools.
- Utilises our 110mm soil system for downpipes.

Colours	Black	Grey	White
Code suffix	B	G	W

Dimensions (mm)

Gutter and pipe code reference numbers refer to length of run: 3 or 4 metres.

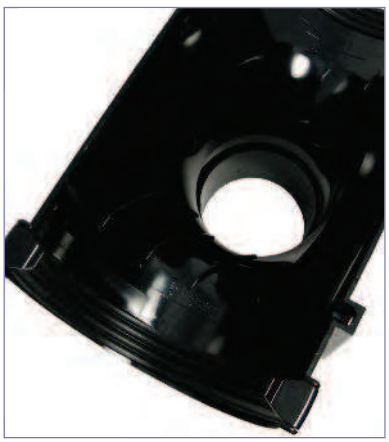
Silicone Lubricant must be used for all installations.

170mm Gutter & Fittings BS EN 607:2004, BS EN 1462:2004

Product	Code
Gutter - 4m	RGX4
90° Angle	RAX1
Running Outlet	ROX1
Stopend - External	REX1

Product	Code
Stopend - Internal	REX2
Fascia Bracket	RKX1
Union Bracket	RUX1

For Ancillaries see page 5.



110mm Round Downpipe & Fittings BS EN 12200-1:2000

Product	Code
Pipe - Plain Ended	
3m	SP1
4m (Not available in white)	SP2
Pipe - Single Socket	
3m	SP3
4m	SP4
Shoe	SP161A

Product	Code
Pipe Clip	SP82
Offset Bends:	
135° Top	SP440
135° Bottom	SP435
Hopper	RHX1

Product	Code
92½° Soil Pipe Branch	SP190
92½° Access Bend	SP169
Access Pipe Socket/Spigot	SP274

EcoFlo WATER STORAGE SYSTEMS & RAINWATER DIVERTERS

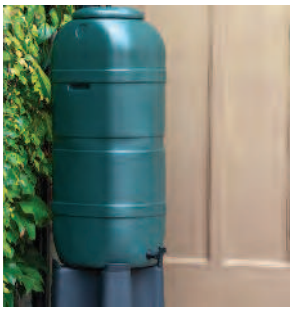
Water Butts

	Product	Code
	100L Slim Water Butt	WB100
	100L Slim Water Butt Stand	ST100
	210L Standard Water Butt	WB200
	210L Standard Water Butt Stand	ST200

Rainwater Diverters

White Black Brown Grey Sand Cast Iron

	Product	Code
	Rainwater Diverter Connects to 65mm Square and 68mm Round Downpipe (not available in sand).	RVS1
	Connector Kit (not available in Brown, Grey, Sand or "Cast Iron" Style).	RVS2
	Rainwater Diverter Connects to 80mm Round Downpipe (not available in "Cast Iron" Style).	RVH1
	Rainwater Diverter Connects to 50mm Round Downpipe (not available in Sand or "Cast Iron" Style).	RVM1
	"Cast Iron" Style Rainwater Diverter Connects to 65mm Square & 68mm Round downpipe.	RVS1CI



100L Slim Water Butt

- 100L capacity.
- Space saving water butt ideal where space is at a premium.
- Supplied with tap and lid.
- Manufactured in the UK from recycled materials.

Dimensions

Water Butt:	Stand:
32cm (12½") Length	33cm (13") Length
36cm (14") Width	33cm (13") Width
95.2cm (37½") Height	30.5cm (12") Height

210L Standard Water Butt

- 210L capacity.
- Traditional shape water butt with a large capacity.
- Supplied with tap and childproof lid.
- Manufactured in the UK from recycled materials.

Dimensions

Water Butt:	Stand:
57cm (22½") Diameter	53cm (21") Diameter
97cm (38") Height	31cm (12") Height

FLOPLAST PVC-U RAINWATER SYSTEMS

Applications

FloPlast Rainwater Systems are suitable for all applications and types of building, including domestic, commercial and industrial.

Composition

All products are manufactured from unplasticised polyvinyl chloride (PVC-U) and comply with the material requirements of either BS EN 12200-1:2000, BS EN 607:2004 or BS EN 1462:2004 as relevant.

Rainwater gutters and pipes are manufactured by a continuous extrusion process. Fittings are produced on high-pressure injection moulding machines. All fittings are manufactured to close tolerances allowing accurate incorporation of design features.

Accreditation

All of our profiles are manufactured to BS EN 607:2004 (Gutters and fittings) BS EN 12200-1:2000 & BS EN 1329-1:2000 (Downpipes and fittings) BS EN 1462:2004 (Gutter brackets) within a quality management system assessed and registered by British Standards as meeting the requirements of BS EN ISO 9001:2000 (Certificate Number FM:501414).

Supply

Products are available from a national network of distributors and stockists. For details of your local stockist contact our Sales Office.

Specification, Technical Advice and Design Guidance

A free advisory service is available to offer technical assistance regarding product and installation details. Those involved with the building industry may take advantage of design services provided by the company for customers who have made a commitment to use or specify FloPlast products.

Installation

1 Plan your installation using the component diagrams to assist you in selecting the correct type and quantity of products required.

- Fascia brackets should be spaced at a maximum of one metre apart on straight gutter runs. (800mm in the case of the Niagara system, 600mm in the case of the Xtraflo system). When using 80mm Round Downpipe with Hi-Cap and Niagara Systems, fascia brackets should be spaced at a maximum of 800mm intervals.
  In areas where there is the possibility of high levels of snowfall, fascia brackets should be spaced at a maxi mum of 400mm centres. For further information, view our snow loading statement on page 26.
- Angles and stopends should have a fascia bracket within 150mm of the fitting.
- A supporting pipe clip should be used on shoes, branches and bends where necessary.
- Support downpipes below offset and at maximum intervals of 1.8 metres.

2 Where necessary remove the old gutter and replace old fascia board with FloPlast low maintenance PVC-UE co-extruded fascia board.

3 Establish the position of the running outlet, usually over an existing drain, and fix securely to fascia board.

4 Fix a fascia bracket 100mm short of furthest point from the outlet. Allow for a fall to the outlet (1:350 is recommended) using a string line.

5 Fixings:

- Fix fascia and union brackets at required intervals.
- Fascia brackets should be positioned so as to avoid the fixing screws splitting the top edge of any timber fascia board. All brackets should be secured to the fascia board with two 25mm x 5mm (1" x 10) screws or one 40mm x 5mm (1½" x 10) screw. The "Cast Iron" fascia brackets must have two fixings.
- Unions should be fixed using a 25mm x 5mm (1" x 10) screw.
- Outlets and Angles should be fixed using two 25mm x 5mm (1" x 10) screws.
- In areas of heavy snowfall it is recommended that each fascia bracket is secured using two 25mm x 5mm (1" x 10) screws.
- Rainwater downpipe clips should be fixed using two 40mm x 6mm (1½" x 12) screws.
- Round head screws are the recommended style of screw, however counter sunk can be used as long as care is taken not to overtighten, particularly when using power tools.

6 Lubricate all gutter seals with FloPlast silicone spray lubricant to ensure an easy fit and to allow for movement caused by expansion and contraction.

7 Working from the running outlet insert the back edge of the gutter under the retaining lip of the wrap around clip. Using slight downward pressure on the gutter snap the front edge of the retaining clip over the front of the gutter. (Ensure that the marked expansion allowance is kept.)

8 Use a union bracket or angle to join to next gutter length in order to build up a gutter run. Use a stopend to complete the run.

9 Downpipe installation starts at the outlet. If an offset is required use two offset bends with or without a short piece of pipe, alternatively use an adjustable offset bend. Ensure a 6mm gap is left at the top of the downpipe for expansion.

Pipe connectors if required should be secured to the wall with a pipe clip.

At the base of the pipe, fit a shoe secured with a pipe clip or connect downpipe to underground drainage system using a 110mm x 68mm reducer (SP96/D96 or D97).

Capacity of Drainage

To select the gutter size appropriate to your requirements, two factors must be taken into consideration.

- Roof Area
- Gutter Flow Capacity

For further reference refer to BS 12056-3:2000 "Roof Drainage Layout and Calculation".

The capacity of a drainage system should be large enough to carry the expected flow at any point in the system.

The flow of 'run-off' depends upon the area to be drained, (the 'effective roof area'), and the intensity of rainfall. It is accepted that 75mm an hour is the intensity of rainfall in the United Kingdom. For further information, see the FloPlast "Gutter calculator" at: **www.floplast.co.uk**

Snow Loading Statement

Snow slippage is particularly evident where smooth roofing materials such as slate have been installed. For additional security FloPlast strongly recommend the installation of Snow Guard (see page 5) which facilitates the retention of snow, allowing slow melt, rather than slippage. In areas where there is the possibility of high levels of snowfall, fascia brackets should be spaced at a maximum of 400mm centres.

Several factors can come into play with the performance of rainwater systems, installation, overhang and style of the roof system (tiles/slates), pitch of roof, North or South facing, above or below 100 metres above sea level.

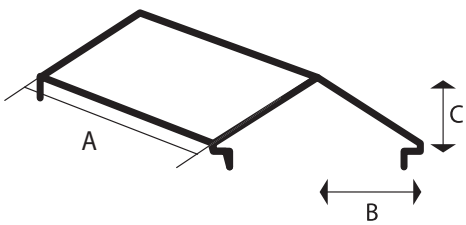
Roof Area

The effective roof area can be calculated by using the following formula:

$(B + \frac{C}{2})$ x length of Roof (A) =Area in M^2

B = Half width of gable end or hip

C = Vertical measurement from eaves to apex



An alternative to the above method is the use of multiplication factors to establish effective roof cover.

Approved Document H of the Building Regulations shows the same method, although the options given below allow for greater accuracy of the effective roof area in m^2.

Calculate the above using the following method: A x B x factors dependant on the angle of the roof pitch

Method of calculating effective roof area

Roof Pitch	10°	12.5°	15°	17.5°	20°	22.5°	25°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°
Factor	1.088	1.111	1.134	1.158	1.182	1.207	1.233	1.260	1.288	1.319	1.350	1.384	1.419	1.459	1.500	1.547

For roofs of 50° or more and walls, the factor of 1.600 should be used.

Outlet at end of Gutter Run

System	Gutter Fixed Level				Gutter Fixed at 1:350 fall			
	Gutter Flow (litres/sec)		Roof Area (m^2)		Gutter Flow (litres/sec)		Roof Area (m^2)	
	Max flow rate	BS 12056	Max flow rate	BS 12056	Max flow rate	BS 12056	Max flow rate	BS 12056
Half Round 68mm Circular Downpipe	0.92	0.82	44	40	1.17	1.05	56	50
Square Line 65mm Square Downpipe	1.70	1.53	81	73	2.00	1.80	96	86
Hi-Cap 68mm Circular Downpipe	2.05	1.84	98	88	2.56	2.30	123	111
Hi-Cap 80mm Circular Downpipe	2.25	2.02	108	97	2.79	2.51	134	121
Niagara® 65mm Square Downpipe	2.40	2.16	115	104	2.90	2.61	139	125
Niagara® 80mm Circular Downpipe	2.64	2.37	127	114	3.19	2.87	153	138
Xtraflo 110mm Circular Downpipe	4.30	3.87	206	185	6.20	5.58	297	267

Outlet at centre of Gutter Run

System	Gutter Fixed Level				Gutter Fixed at 1:350 fall			
	Gutter Flow (litres/sec)		Roof Area (m^2)		Gutter Flow (litres/sec)		Roof Area (m^2)	
	Max flow rate	BS 12056	Max flow rate	BS 12056	Max flow rate	BS 12056	Max flow rate	BS 12056
Half Round 68mm Circular Downpipe	1.80	1.62	86	77	2.60	2.34	125	113
Square Line 65mm Square Downpipe	3.41	3.06	163	147	3.95	3.55	189	170
Hi-Cap 68mm Circular Downpipe	3.80	3.42	182	164	5.00	4.05	240	216
Hi-Cap 80mm Circular Downpipe	4.18	3.76	200	180	5.50	4.95	264	238
Niagara® 65mm Square Downpipe	4.50	4.05	216	194	5.30	4.77	254	229
Niagara® 80mm Circular Downpipe	4.95	4.45	237	213	5.83	5.24	279	251
Xtraflo 110mm Circular Downpipe	8.20	7.38	393	354	11.80	10.62	566	509

The flow rates in the columns BS 12056 have been calculated in accordance with BS EN 12056-3: 2000 where 90% of full flow is used as a safety factor (freeboard).

A rainwater system is suitable in terms of performance as long as the carrying capacity of the chosen configuration exceeds the calculated run-off of rainwater from the roof.

Hoppers		
Code	**Hopper Flow** (litres/sec) Max flow rate	**Roof Area** (m^2) Max Flow rate
RH1/RHS1	1.14	54.5
RH4	2.18	104.5
RH5	2.18	104.5
RHH1	1.66	79.5

Design Factors

Building Regulations (Approved Document H) requirements.

The provisions to meet the requirements of the Building regulations 2000 (2002) are set out in Approved document H part H3.

An alternative to this requirement, is to follow the relevant recommendations of BS EN12056-3:2000 Roof Drainage, Layout and Calculation.

This document gives very comprehensive information on the calculations/design of systems in a variety of situations, and should be referred to whenever large industrial type installations are envisaged or whenever particularly severe weather conditions are expected.

Expansion

Tests have shown that expansion and contraction of gutter occurs during normal usage, and expansion tolerances are allowed for within our fittings.

Tests were conducted between -8°C and +40°C where an expansion of 14.63mm was experienced over a 4 metre length.

These are obvious extremes, and under normal daily temperature fluctuations expansion and contraction will be in the region of 10mm per 4 metre length.

Pipe Dimensions	Normal Size	Actual OD
Circular	50mm (2½")	50.3mm
	68mm (2½")	68.48mm
	80mm (3")	80.15mm
	110mm (4")	110.2mm
Square	65mm (2½")	65mm

Carrying Capacities for Gutter

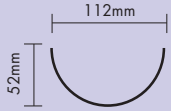
The carrying capacity of gutters varies under differing conditions. The main variables are whether or not the gutter is fitted to a fall and whether the outlet is placed in the centre or at one end of the gutter run.

Gutter flow rates will vary according to the type and configuration of downpipe system being used, however downpipe sizing is not a normal design consideration, as the downpipe systems manufactured by FloPlast have flow capacities approximately ten times greater than the gutter systems they drain.

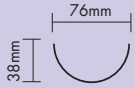
The carrying capacities in litres per second for gutters, taking into account the major variables, are specified in the performance table on page 27.

Design Data All gutter dimensions are nominal.

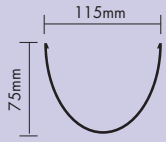
HALF ROUND & "CAST IRON" STYLE HALF ROUND



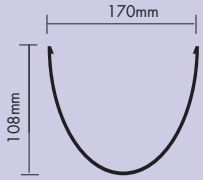
Miniflo



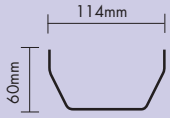
HI-CAP & "CAST IRON" STYLE HI-CAP



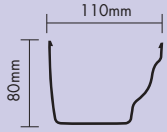
XTRAFLO



SQUARE LINE



***Niagara*® & "CAST IRON" *Niagara*®**



Rainwater Systems Compatibility Chart

Manufacturer	*Xtraflo* 170mm	*Niagara* Ogee	Hi-Cap	Half Round 112mm	Square Line	MiniFlo
Hepworth	✘ (No equivalent)	✔ (Ogee)	✔ (High capacity)	✔ (Clickfit)	✔ (Clickfit)	✘ (Clickfit)
Brett Martin	✘ (No equivalent)	✘ (Prostyle)	✔ (Deepstyle)	✔ (Roundstyle)	✔ (Squarestyle)	✘ (No equivalent)
Osma	✘ (No equivalent)	✘ (Stormline)	✔ (Deepline)	✔ (Roundline)	✘ (Squareline)	✘ (Mini-fit)
Polypipe	✘ (No equivalent)	✘ (Sovereign)	✔ (Polyflow)	✔	✔	✘ (Half Round)
Polypipe Terrain	✘ (No equivalent)	✘ (Omega)	✘ (Rapidflow)	✘ (Crescent)	✘ (Corniche)	✘ (No equivalent)
Marley	✘ (No equivalent)	✘ (Classic)	✔ (Deepflow)	✔ (Clipmaster)	✘ (Flowline)	✘ (Miniline)
Hunter	✘ (No equivalent)	✘ (Regency)	✔ (125)	✔	✔ (Squareflo)	✘ (Half Round)
Marshall Tufflex	✘ (Xstream)	✘ (Universal Plus)	✔ (Universal XL)	✔	✔	✘ (No equivalent)

The above is a guide only for connection to existing fitted product.
We recommend that you do not mix systems if at all possible.

Transport, Handling and Storage

FloPlast PVC-U pipes and gutters are supplied in secure bales bound with straps within timber frames, **FloPlast** recommend that movement of bales is carried out by fork lift or other mechanical device using webbing or rope strings.

The bales may be stacked up to a maximum of three high, providing that the timber frames are placed on each other.

Fittings are generally supplied in plastic bags and should be stored away from direct sunlight. If they have to be stored outside, the bags should be opened to prevent temperature build-up.

Terms and Conditions of Sale

Goods are sold subject to our Standard Terms and Conditions of Sale, copies of which are available upon request. **FloPlast Limited** reserve the right to modify or extend any product range or published information without prior notice.

RAINWATER SYSTEMS FREQUENTLY ASKED QUESTIONS

Do I need to fit my gutter with a gradient?

FloPlast's domestic eaves gutters, especially when fixed with a rafter bracket, should be fitted at a gradient no greater than 1:350 fall. The gradient should not be too steep, as this will cause an excessive gap between the lowest edge of the roof and the top of the gutter. Gutters fitted with a fall will have a higher drainage capacity, please refer to our flow rate calculator at **www.floplast.co.uk** or page 26/27 of this brochure.

How do I work out what flow rate is required?

A flow rate calculator is available on our website at www.floplast.co.uk, alternatively please contact 01795 431731 to speak to our technical department.

How can I prevent leaves blocking my gutters?

Use ***FloPlast GutterBrush***, see page 31 for more information. FloPlast also manufactures ***FloGuard***, a non restrictive system which prevents both debris and leaves collecting on the inside of the gutters. Balloons are available, for added protection in the outlets.

Can FloPlast gutters be painted?

FloPlast's gutters are produced from PVC-u and are considered low or relatively maintenance free. It may be necessary from time to time to clean our lighter gutter systems. We recommend that a soapy warm water solution is used when cleaning - in severe cases a non-abrasive kitchen cream cleaner can be used.

If the gutter needs to be painted, the system should be cleaned, with a degreasing agent such as sugar soap. Once cleaned 2 coats of a good quality gloss paint should be applied. Avoid scouring or roughing the surface of the plastic as this will affect the final appearance of the painted product.

What capacity of water do your gutters hold?

Please refer to our section on Flow Rates on page 27 for more information.

What are the maximum centres for gutter fascia brackets?

In general, maximum centres should be 1m. However, different profiles and downpipe configurations present other design considerations. Please refer to our Installation Guide on page 25 or view our video installation guide at **www.floplast.co.uk**

Which screws should be used to secure fascia brackets to fascia boards?

For 2 hole fixing use 25mm x 5mm non-ferrous round head screws 1 hole fixing use 32mm x 6.5mm non-ferrous round head screws.

How can "Cast Iron" Style gutters be connected to traditional cast iron?

FloPlast have an extensive range of adaptors. Use the 2 piece adaptor RD5.

Where and how far apart should downpipe clips be?

Downpipe clips should be placed below the sockets of offset bends, joints, branches and shoes, and at maximum intervals of 1.8 mtrs.

Do I need to allow for expansion on offsets?

It is not necessary to make any allowance for expansion between offset bends.

How do I fit my downpipe into Underground Drainage?

Please refer to our section on downpipe adaptors.

What brackets do I use when installing gutter directly to the rafters?

The standard gutter bracket, bolts to the galvanised top, side and rise & fall rafter brackets.

How do I connect to a neighbour's different gutter?

FloPlast have a range of adaptors for most applications, please refer to our section on rainwater adaptors and compatibility table on page 29.

PRODUCT FEATURES

Snow/Tile Guard

Installing FloPlast's **Snow/Tile Guard** system ensures the property is protected, as well as preventing unnecessary injury from falling tiles, snow and debris.

- Easy to handle and straightforward to install.
- Protects conservatories from falling roof tiles.
- Prevents tile/snow slippage.
- 2m wide x 150mm high.
- Brackets should be fitted at a maximum of 800mm centres, using 2 x 1½" x 12 round head screws.
- Galvanised finish, for long lasting performance.
- Assists in reducing insurance costs/claims caused by tile/snow damage.

Leaf Protection Systems - never clean your gutters again!

FloGuard

- Prevents leaves and debris from blocking the gutter.
- Non restrictive system.
- Clips together, no screws required.
- Manufactured in tough polypropylene - 1 pack= 5 metres.
- Durable and resistant.

GutterBrush

- Simple to install.
- ***FloPlast GutterBrush*** will flex to fit virtually any shaped gutter system.
- Prevents debris such as moss/leaves/twigs/seeds from blocking the gutter.
- Made from high quality Polypropylene filaments securely fixed into a flexible central rust-free stainless steel core.
- Low maintenance.
- Available in black.

FloPlast®
building the future

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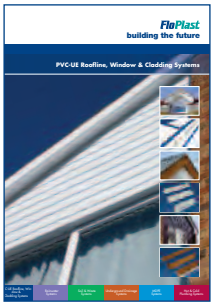
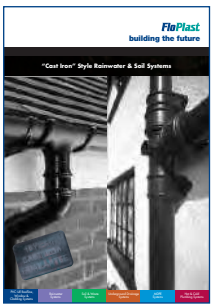
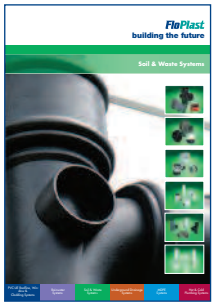
E-mail:
sales@floplast.co.uk

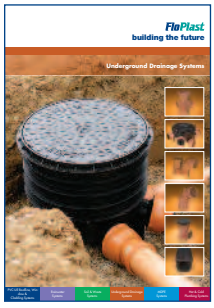
Website:
www.floplast.co.uk

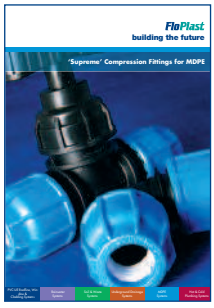
Other systems available:











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KM 563461 KM 544332 KM 563460 KM 572704 KM 563462

20 YEAR CAST IRON GUARANTEE

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IN COMPLIANCE WITH BUILDING REGULATIONS PART H

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NMBS STRENGTHENING INDEPENDENTS

BBA BRITISH BOARD OF AGREEMENT CERTIFICATE No.00/3771

BBA BRITISH BOARD OF AGREEMENT CERTIFICATE No.00/3772

WRAS APPROVED PRODUCT

20 Year Guarantee on White Roofline

10 Year Guarantee on Woodgrain Roofline

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01/04/14