# **FloPlast** building the future

## **PVC-U Rainwater Systems**



PVC-UE Roofline, Window & Cladding Systems

Rainwate Systems Soil & Waste Systems Underground Drainage Systems MDPE Systems

Hot & Cold Plumbing Systems



## 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.



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 1329-1:2014 and BS 1453-1:2000 (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.



- 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 your installation today at www.floplast.co.uk

\*excludes anthracite, 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		Product	Code		Product	Code
9	Universal Rainwater Adaptor Connects to 110mm drainage	D96	6	<b>DrainGuard</b> (Black) Fits round and square downpipe.	DG1	Ļ	Snow/Tile Guard Bracket	SG2
7	Universal Rise & Fall Bracket	RF 1		FloSaver Rainwater Diverter Connects to 65mm square & 68mm round downpipe	RVS1		400ml Silicone Lubricant Spray Please see profile section for gutter seals and clips.	SL400
1	Rafter Bracket Top	RR 1	P	8mm Downpipe Spacer Bracket Only to be used with RS2, RC4 & RB4.	RC9	$   \overline{)} $	Spare Gutter Clips Round Square	RRC1 RRSC1
F	Rafter Bracket Side	RR2	0	8mm Downpipe Spacer Bracket Only to be used with RSS2, RCS4 & RBS4.	RCS9	U	Niagara	rrnc1
9	<b>GutterBrush</b> Debris eliminator (4m)	GB4	*	Leaf/Debris Interceptor Gully <sup>Black</sup>	D94		Hi-Cap Spare Gutter Seals Round	
	FloGuard Leaf protection system (Sm Pack)	FG1		8mm Universal Fascia Bracket Spacer Suitable for Half Round, Square Line, Niagara Ogee and Hi- ap gutters only. (Black/white only)	RS9	~	Square	RRSS 1
<b>A</b>	Balloon (Outlet guard) Leaf protection system.	OG1		Snow/Tile Guard - 2m	SG1	>	Niagara Hi-Cap	

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.

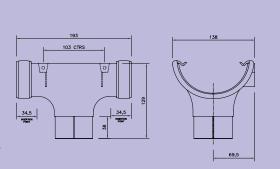
#### **FloPlast CAD drawings**

The benefits of CAD drawings are well known by the Architect/ Specifier community. Drawings are available to download for each product that FloPlast manufacture.

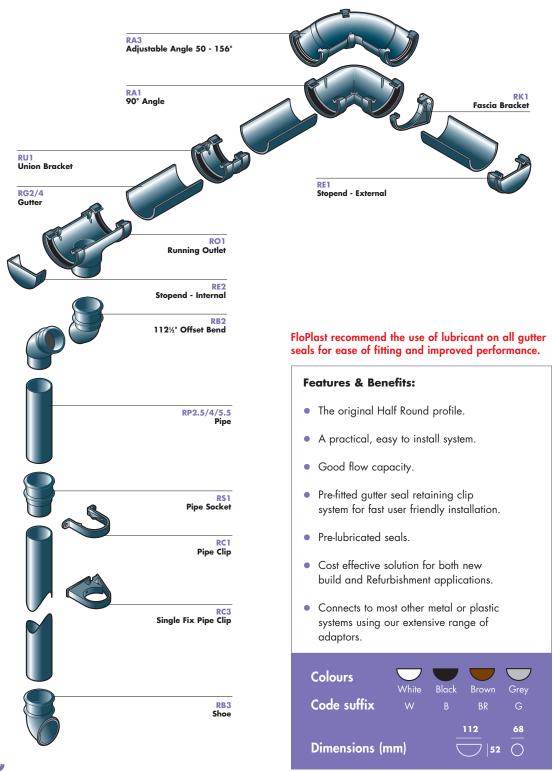
Please visit **www.floplast.co.uk** and click on the 'links' section.

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.



### HALF ROUND 112MM/68MM RAINWATER SYSTEM





## 112MM GUTTERING & FITTINGS BS EN 607:2004, BS EN12200-1:2000, BS EN 1462:2004



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.

	Product	Code		Product	Code
-	Gutter 4m 2m	RG4 RG2		Running Outlet	RO1
	90° Angle	RA1	Grit	Stopend Outlet	RO1
	135° Angle	RA2		Stopend - External	RE1
	Adjustable Angle 50° - 156° (Not available in grey)	RA3		Stopend - Internal	RE2
	Angle - Any degree FloPlast will fabricate any non- standard angle to special order.	RA9	V	Fascia Bracket	RK1



For Ancillaries and Spares see page 5.

	Product	Code
$\checkmark$	Union Bracket	RU1
-	Gutter Adaptors: To Cast Iron Ogee R/H	RD3
1	To Cast Iron Ogee L/H (Not available in brown)	RD4
•	To Half Round Cast Iron	RD5

## 68MM ROUND DOWNPIPE & FITTINGS BS EN 12200-1:2000

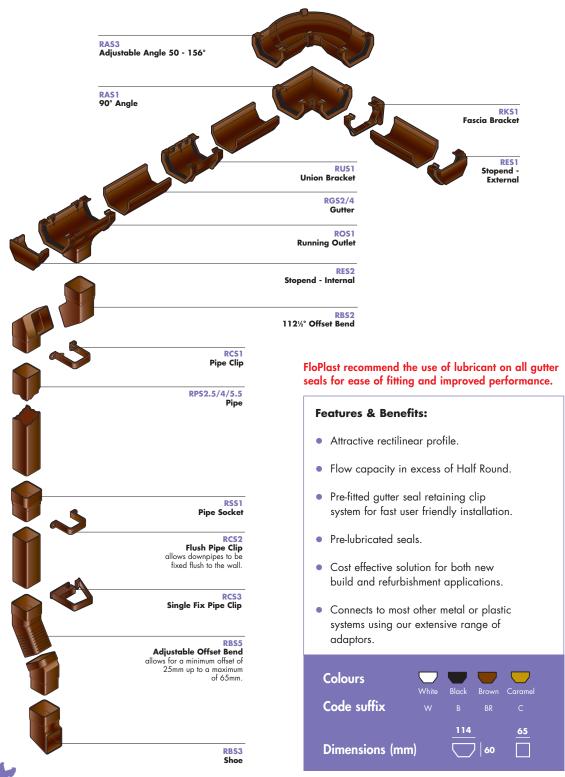
	Product	Code		Product	Code
	Pipe: 2.5m 4m 5.5m	RP2.5 RP4 RP5.5	?	Pipe Clips	RC1
3	Offset Bend 92½°	RB1	•	Pipe Clips Single Fix (Not available in caramel)	RC3
	Offset Bend 112½°	RB2	20	Pipe Clips Must be used in conjunction with RB4 & RS2 (Black and white only)	RC4
	Shoe	RB3	1	Pipe Socket	RS1
4	Shoe With fixing lugs. Must be used in conjunction with RC4 and RS2. (Black and white only)	RB4	•	Pipe Socket With fixing lugs. Must be used in conjunction with RC4 and RB4. (Black and white only)	RS2

	Product	Code		
Ţ	Hopper Connects to 65mm square & 68mm round downpipe.	RHS1		
4	67½° Branch FloPlast will fabricate any non- standard angle to special order.			
	Access Pipe	RX 1		





## SQUARE LINE 114MM/65MM RAINWATER SYSTEM





## 114MM GUTTER AND FITTINGS BS EN 607:2004, BS EN 12200-1:2000, BS EN 1462:2004



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.

Product	Code		Product	Code
Gutter -	RGS4 RGS2	-	Running Outlet	ROS1
90° Angle	RAS1	1	Stopend Outlet	ROS2
135° Angle	RAS2		Stopend - External	RES1
Adjustable Angle 50°-156° (Not available in caramel)	RAS3		Stopend - Internal	RES2
Angle - Any degree FloPlast will fabricate any non-standard angle to special order.	RAS9	V	Fascia Bracket	RKS1

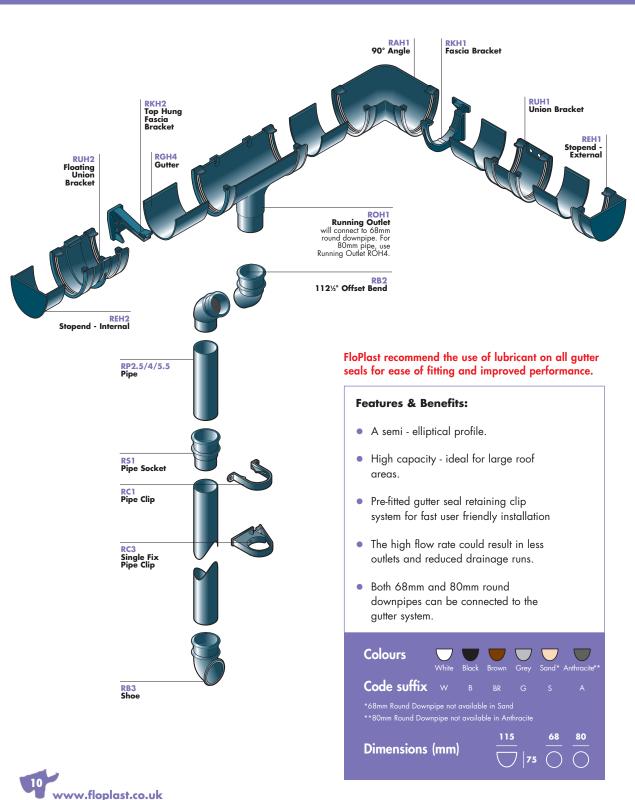
For Ancillaries and Spares see page 5.

	Product	Code
	Union Bracket	RUS1
	Sq/Rd Gutter Adaptor	RDS 1
-	To Cast Iron Ogee R/H (Not available in caramel)	RDS3
1	To Cast Iron Ogee L/H (Not available in caramel)	RDS4
•	To Half Round Cast Iron (Not available in caramel)	RDS5

## 65MM SQUARE DOWNPIPE & FITTINGS BS EN 12200-1:2000

	Product	Code		Product	Code		Product	
	Pipe 2.5m 4m	RPS2.5 RPS4		Adj. Offset Bend Not available in caramel)	RBS5		Pipe Sockets:	
3	Offset Bend 92½°	RBS1	5	Pipe Clips:	RCS1	٢	(With fixing lugs) Must be used in conjunction with RCS4 and RBS4. (Black and white only)	
	Offset Bend 112½°	RBS2		F <b>lush</b> Not available in caramel) <b>Single Fix</b> Not available in caramel)	RCS2 RCS3	4	67½° Branch	
	Shoe	RBS3		With fixing lugs). Must be used in conjunction with RBS4 & RSS2. (Black and white only)	RCS4	I	Square Access Pipe (Not available in caramel)	
	(With fixing lugs). Must be used in conjunction with RCS4 and RSS2. (Black and white only)	RBS4		Hopper Connects to 65mm square & 68mm round downpipe.	RHS1	1	Sq/Rd Downpipe Adaptor Connects to 68mm round downpipe System. (Not available in caramel)	

## HI-CAP 115MM/68MM/80MM RAINWATER SYSTEM





## 115MM GUTTER AND FITTINGS BS EN 607:2004, BS EN 1200-1:2000, BS EN 1462:2004



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.

	Product	Code		Product	Code
	Gutter - 4m	RGH4	-	Running Outlet - 80mm	ROH4
	90° Angle	RAH1		Stopend - External	REH 1
	135° Angle	RAH2		Stopend - Internal	REH2
	Angle - any degree FloPlast will fabricate any non-standard angle to special order.	RAH9	U	Fascia Bracket	RKH1
-	Running Outlet - 68mm (Not available in sand)	ROH1	2	Fascia Bracket Top Hung (Not available in brown or grey)	RKH2



For Ancillaries and Spares see page 5.

	Product	Code
•	Union Bracket	RUH1
	Union Bracket Floating (Not available in brown or grey)	RUH2
	Gutter Adaptors: Hi-Cap to Half Round	RHR3
-	Hi-Cap to Square Line	RHS3

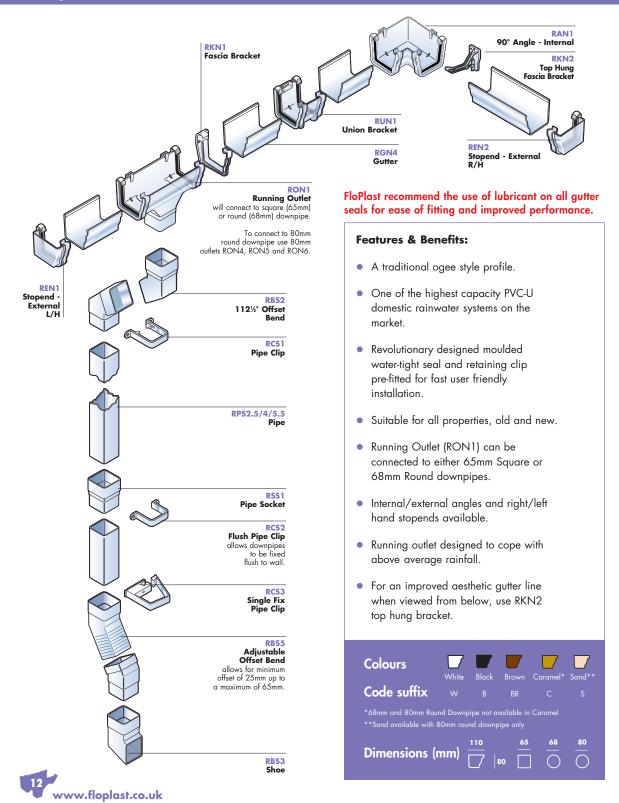
## 80MM ROUND DOWNPIPE & FITTINGS BS EN 12200-1:2000

	Product	Code		Product	Code
	Pipe	RPH4	J	Shoe	RBH3
L	Offset Bend 92½°	RBH 1	0	<b>Pipe Clip</b> (Single fix)	RCH3
Ļ	Offset Bend 112½°	RBH2		Pipe Socket	RSH1

	Product	Code
Ţ	Hopper Connects to 80mm round downpipe.	RHH1
4	67½° Branch	RYH1



### Niagara<sup>®</sup> OGEE 110MM/65MM/80MM RAINWATER SYSTEM





## 110MM GUTTER AND FITTINGS BS EN 607:2004, BS EN 12200-1:2000, BS EN 1462:2004



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.

	Product	Code		Product	Code
	Gutter - 4m	RGN4	5	Stopend Outlets - 65mm Square R/H (Not available in sand)	ron3
	90° Angle - Internal	RAN1	Y	Running Outlet - 80mm Round (Not available in caramel)	RON4
	90° Angle - External	RAN2	-	Stopend Outlets - 80mm Round: (Not available in sand)	RON5
U	135° Angle - Internal	ran3		R/H (Not available in sand)	RON6
U	135° Angle - External	RAN4	1	Stopends - External: L/H	REN 1
V	Angle - any Degree FloPlast will fabricate any non-standard angle to special order.	RAH9	V	R/H	REN2
5	Running Outlet - Multi Outlet (Not available in sand) Connects to 65mm square or 68mm round downpipes.	RON1		Stopends - Internal: L/H	REN3
-	Stopend Outlets - 65mm Square L/H (Not available in sand)	RON2		R/H	REN4

For Ancillaries and Spares see page 5.

	Product	Code
V	Fascia Bracket	rkn1
r	Fascia Bracket Top Hung	rkn2
U	Union Bracket	RUN1
	Gutter Adaptors: Niagara to Half Round R/H	RNR3
1	Niagara to Half Round L/H	RNR4
	Niagara to Square Line R/H	rns3
	Niagara to Square Line L/H (Products not available in caramel or sand)	RNS4

## 80MM ROUND DOWNPIPE & FITTINGS BS EN 12200-1:2000

	Product	Code		Product
	Pipe	RPH4	J	Shoe
Ŀ	Offset Bend 92½°	RBH1	0	<b>Pipe Clip</b> (Single fix)
Ļ	Offset Bend 112½°	RBH2		Pipe Socket

	Product	Code
<b>T</b>	Hopper Connects to 80mm round downpipe.	RHH 1
4	67½° Branch	RYH1

Code

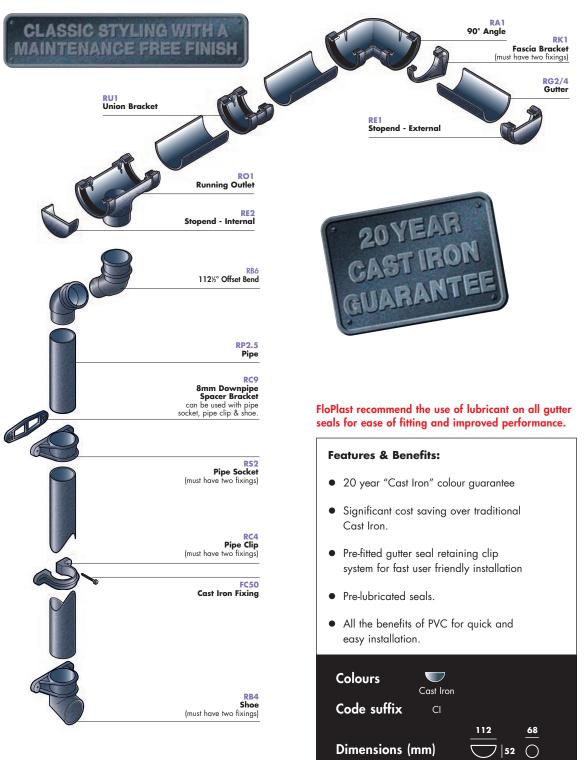
RBH3

RCH3

RSH1



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



## 112MM GUTTER & FITTINGS BS EN 607:2004, BS 12200-1:2000, BS EN 1462:2004



Code

RO1

RO2

RE1

RE2

Product

Running Outlet -

Stopend Outlet -

Stopend - External

Stopend - Internal

68mm Round

68mm Round

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

RA1

RA2

RA9

4m RG4

2m RG2

Product

Gutter -

90° Angle

135° Angle

order.

Angle - any degree FloPlast will fabricate any non-standard angle to special For Ancillaries and Spares see page 5.

105533	Product Co								
J	Fascia Bracket	RK 1							
-	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							

## 68MM ROUND DOWNPIPE & FITTINGS B5 EN 607:2004, B5 12200-1:2000, B5 EN 1462:2004

122.53	Product	Code	10000	Product	Code
	Pipe 2.5m	RP2.5	•	Cast Iron Fixings* 12 gauge x 50mm stainless steel fixings for "cast Iron" Range (socket fixings).	FC50
J	Offset Bend 92½°	RB8	•	67½° Branch	RY1
1	Offset Bend 112½°	RB6		Access Pipe	RX1
r	Shoe With fixing lugs (Requires 2 x FC50 fixings)	RB4	Ţ	Universal Hopper Connects to 65mm square & 68mm round downpipe	RH1
en	Pipe Clip With fixing lugs (Requires 2 x FC50 fixings)	RC4	P	Ogee Hopper With Fixing lugs. (Requires 2 x FC50 fixings). Connects to 68mm round and 65mm square downpipes.	RH4
-	Pipe Socket With fixing lugs (Requires 2 x FC50 fixings)	RS2		Rectangular Hopper** With Fixing lugs. (Requires 2 × FC50 fixings). Connects to 68mm round and 65mm square downpipes.	RH5

1.55	Product	Code
$\mathbf{+}$	Fleur-de-Lis 40mm 52mm	FL55 FL70
	Tudor Rose 40mm 52mm	TR55 TR70
	Decorative Square 40mm 52mm	DS55 DS70
6	Lion's Head 40mm 52mm	LH55 LH70

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

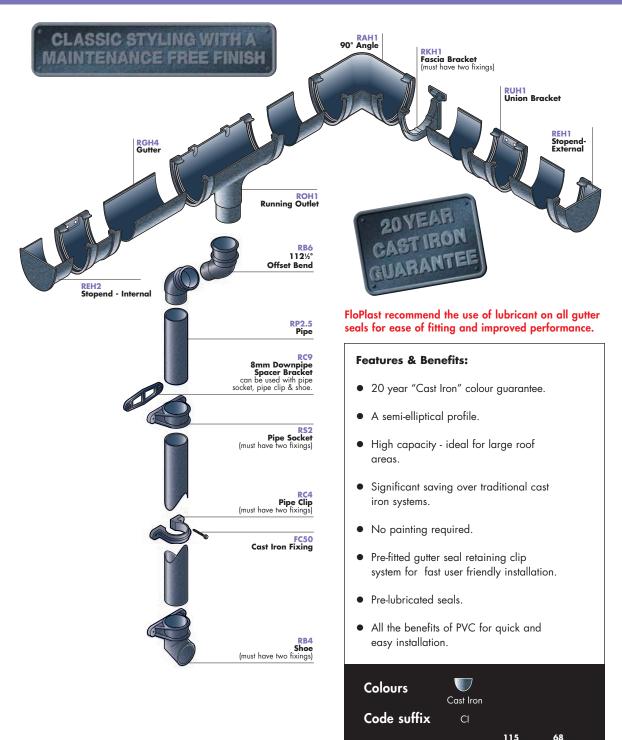
 $^{\star\star}$  This product is rotationally moulded and subject to bowing along its length up to +/-4%.

#### \*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



**Dimensions** (mm)

75

## 115MM GUTTER & FITTINGS BS EN 607:2004, BS 12200-1:2000, BS EN 1462:2004



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

For Ancillaries and Spares see page 5.

Product	Code	11252	Product	Code	1252	Product	Code
Gutter - 4m	RGH4 RGH2		Angle - any degree FloPlast will fabricate any non-standard angle to special order.	RAH9	~	Stopend - Internal	REH2
90° Angle	RAH1	-	Running Outlet - 68mm Round	ROH1	1	Fascia Bracket	RKH1
135° Angle	RAH2	5	Stopend - External	REH 1	-	Union Bracket	RUH1

## 68MM ROUND DOWNPIPE & FITTINGS B5 EN 607:2004, B5 12200-1:2000, B5 EN 1462:2004

	Product	Code	1255	Product	Code
	Pipe 2.5m	RP2.5		Cast Iron Fixings* 12 gauge x 50mm stainless steel fixings for "cast Iron" Range (socket fixings).	FC50
3	Offset Bend 92½°	RB8	-	67½° Branch	RY 1
1	Offset Bend 112½°	RB6		Access Pipe	RX 1
r	<b>Shoe</b> With fixing lugs (Requires 2 x FC50 fixings)	RB4		Universal Hopper Connects to 65mm Square & 68mm Round downpipe.	RH1
20	Pipe Clip With fixing lugs (Requires 2 x FC50 fixings)	RC4	Ţ	Vith Fixing lugs. (Requires 2 x FC50 fixings). Connects to 68mm round and 65mm square downpipe.	RH4
-	Pipe Socket With fixing lugs (Requires 2 x FC50 fixings)	RS2		Rectangular Hopper** With Fixing lugs. (Requires 2 x FC50 fixings). Connects to 68mm round and 65mm square downpipe.	RH5

	Product	Code
$\mathbf{+}$	Fleur-de-Lis 40mm 52mm	FL55 FL70
٠	Tudor Rose 40mm 52mm	TR55 TR70
	Decorative Square 40mm 52mm	DS55 DS70
	Lion's Head 40mm 52mm	LH55 LH70

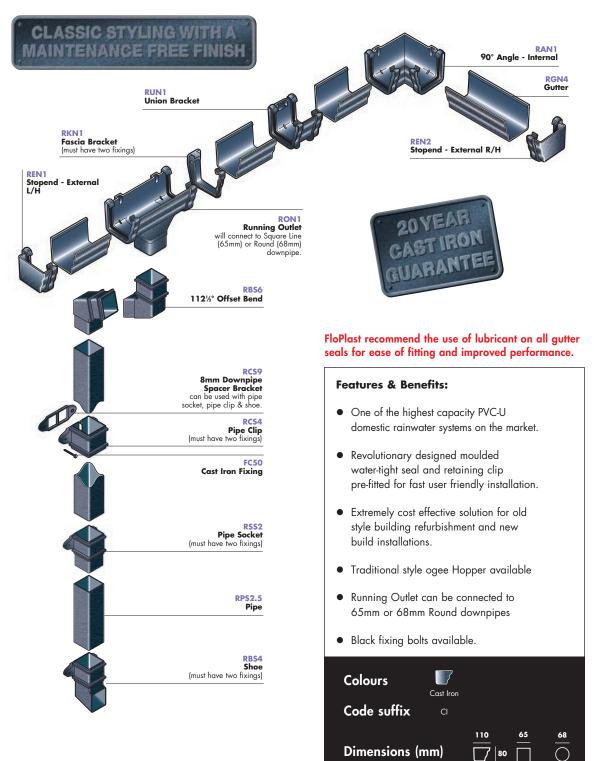
Motifs can be applied to hoppers or running outlets using a proprietary adhesive such as Siroflex MS Polymer.

\*\* This product is rotationally moulded and subject to bowing along its length up to +/-4%.

\*Fixing instructions for the FC50 (Cast Iron fixing bolts) The FC50 is a 12 gauge x 50mm Steinless 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" top washer is used. When fixing product to concrete, brick, block etc fix FCSO 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



## 110MM GUTTER & FITTINGS BS EN 607:2004, BS 12200-1:2000, BS EN 1462:2004



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

For Ancillaries and Spares see page 5.

	Product	Code		Product	Code		Product	Code
-	Gutter - 4m 3m	RGN4 RGN3		Angle - any Degree FloPlast will fabricate any non-standard angle to special order.	RAN9		Stopend - External R/H	REN2
	90° Angle - Internal	ran 1	-	Running Outlet - Multi Outlet	RON1		Stopend - Internal L/H	REN3
÷	90° Angle - External	RAN2	-	Stopend Outlet - 65mm L/H	RON2		Stopend - Internal R/H	REN4
	135° Angle - Internal.	ran3	-	Stopend Outlet - 65mm R/H	ron3	V	Fascia Bracket	RKN 1
	135° Angle - External	RAN4	V	Stopend - External L/H	REN 1	<b>V</b>	Union Bracket	RUN1

## 65MM SQUARE DOWNPIPE & FITTINGS B5 EN 607:2004, B5 12200-1:2000, B5 EN 1462:2004

1.155	Product	Code	10255	Product	Code
	Pipe 2.5m	RPS2.5	-	Pipe Socket With fixing lugs (Requires 2 x FC50 fixings)	RSS2
	Offset Bend 92½°	RBS8	1	67½° Branch	RYS2
	Offset Bend 112½°	RBS6	1	Sq/Rd Downpipe Adaptor	RDS1
	Shoe With fixing lugs (Requires 2 x FC50 fixings)	RBS4	Ţ	Universal Hopper Connects to 65mm square and 68mm round downpipe	RH1
-	Pipe Clip With fixing lugs (Requires 2 x FC50 fixings)	RCS4	F	Ogee Hopper With Fixing Lugs. (Requires 2 x FC50 fixings). Connects to 68mm round and 65mm square downpipe.	RH4
	Cast Iron Fixings* 12 gauge x 50mm stainless steel fixings for "Cast Iron" Range (Socket fixings).	FC50		Rectangular Hopper** With Fixing Lugs. (Requires 2 x FC50 fixings). Connects to 68mm round and 65mm square downpipe.	RH5

	Product	Code
$\mathbf{+}$	Fleur-de-Lis 40mm 52mm	FL55 FL70
*	Tudor Rose 40mm 52mm	TR55 TR70
	Decorative Square 40mm 52mm	DS55 DS70
	Lion's Head 40mm 52mm	LH55 LH70

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

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

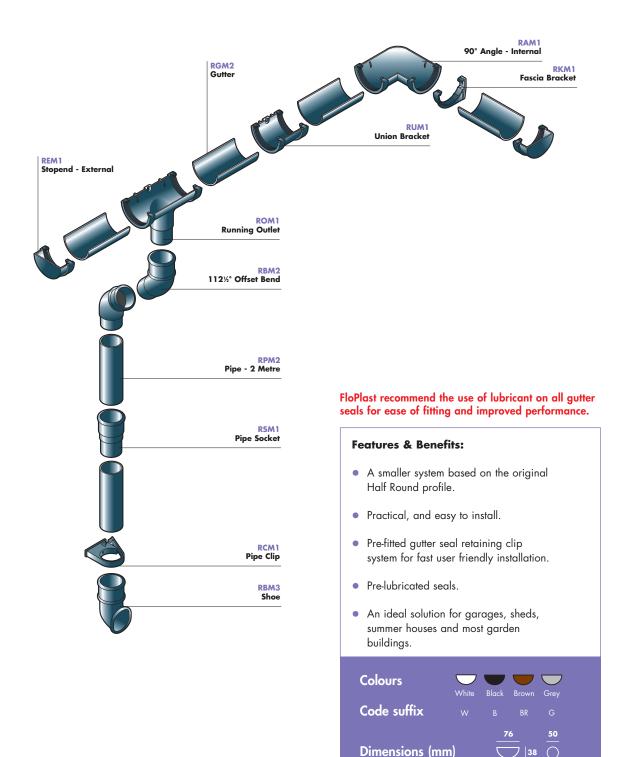
 $^{\star\star}$  This product is rotationally moulded and subject to bowing along its length up to +/-4%.

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

The FGS is a 12 gauge x SOmm Stainless Steel Bolt, that requires a 12mm, 12 point star head socket to tighten it. When using these fixings on Ogee and Rectangular Hoppers we recommend that a 3/4" top washer is used. When fixing product to concrete, brick, block etc fix FCS0 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



## 76MM GUTTER AND FITTINGS BS EN 607:2004, BS 12200-1:2000, BS EN 1462:2004



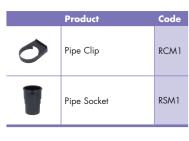
Gutter and pipe code reference numbers refer to length of run: 2 metres.

	Product	Code	Product	Code
-	Gutter - 2m	RGM4	Running Outlet	ROM1
	90° Angle	RAM1	Stopend Outlet	ROM2
	135° Angle	RAM2	Stopend - External	REM1

	Product	Code
	Fascia Bracket	RKM1
W	Union Bracket	RUM1

### 50MM ROUND DOWNPIPE & FITTINGS BS EN 12200-1:2000

	Product	Code		Proc
	Pipe - 2m	RPM2	0	Pipe
	Offset Bend 112½°	RBM2	T	Pipe
	Shoe	RBM3		



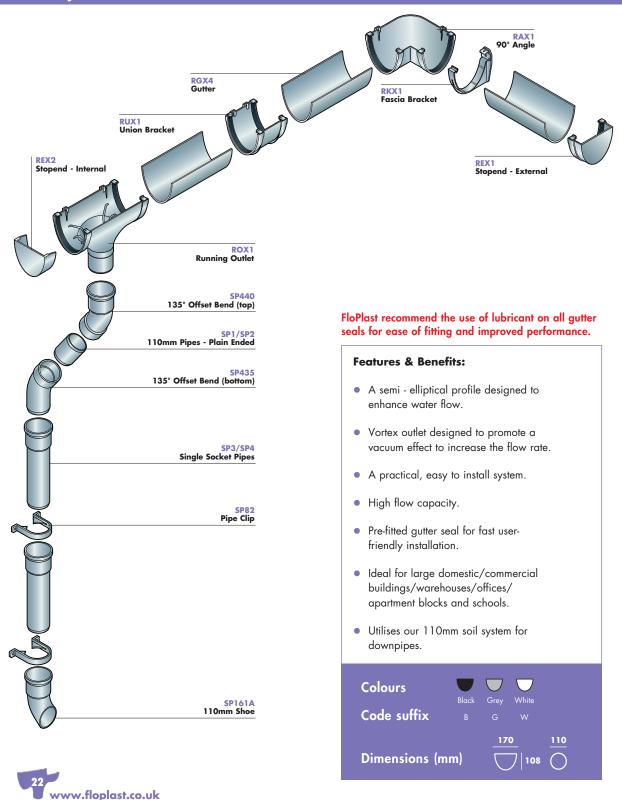


Rainwater Systems, such as Miniflo when used as an associated product with a water butt for the collection of rainwater, can lead to the award of credits under the Code for Sustainable Homes.

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



## Xtraflo 170MM/110MM RAINWATER SYSTEM





## 170MM GUTTER AND FITTINGS BS EN 607:2004, BS EN 1462:2004







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

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

	Code	
	Stopend - Internal	REX2
U	Fascia Bracket	RKX1
V	Union Bracket	RUX1



## 110MM ROUND DOWNPIPE & FITTINGS BS EN 1329-1:2014, BS 1453-1:2000

	Product	Code		Product	Code		Product	Code
	Pipe - Plain Ended 3m (Not available in white)		0	Offset Bends: 135° Top	SP440	P	92½° Soil Pipe Bend	SP169
	Pipe - Single Socket 3m 4m	SP3 SP4		135° Bottom		T	Access Pipe Socket/Spigot	SP274
Ţ,	Shoe	SP161A	7	Hopper	RHX1			
R	Pipe Clip	SP82	-	92½° Soil Pipe Branch	SP190			



### **ECOFID** WATER STORAGE SYSTEMS & RAINWATER DIVERTERS



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

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

	Product	Code
1	Rainwater Diverter Connects to 65mm square and 68mm round downpipe (not available in sand).	RVS1
J.	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
Ç	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 and 68mm round downpipe.	RVS1CI



#### **210L SLIM 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:** 57cm (22½") Diameter 97cm (38") Height **Stand:** 53cm (21") Diameter 31cm (12") Height

#### **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 1329-1:2014 and BS 1453-1:2000 (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

- 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

maximum 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.
- 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.
- 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 (1<sup>1</sup>/<sub>2</sub>" 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.
- 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.)





- 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

#### **Roof Area**

The effective roof area can be calculated by using the following formula:  $(B + \underline{C}) \times \text{length of Roof (A)} = \text{Area in M2}$ 

- 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.

**Cleaning and Maintenance** 

Although PVCu rainwater systems are considered to be relatively

maintenance-free it is important to clear gutter systems of fallen

More frequent inspections may be necessary in areas of high

Inspection of the gutter and brackets is also advisable during

In some cases lighter coloured systems may require cleaning.

Wash down with a solution of soapy warm water, in severe cases a non-abrasive kitchen cream cleaner should be used.

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

Several factors can come into play with the performance

of rainwater systems, installation, overhang and style of

facing, above or below 100 metres above sea level.

the roof system (tiles/slates), pitch of roof, North or South

where there is the possibility of high levels of snowfall, fascia brackets should be spaced at a maximum of 400mm

and after periods of ice formation in the guttering system.

leaves and other debris at least once per year.

pollution and where there are trees in the vicinity.

SNOW LOADING STATEMENT

centres.

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 m2.

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

METHOD C	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  $50^{\circ}$  or more and walls, the factor of 1.600 should be used.

## FLOPLAST PVC-U RAINWATER SYSTEMS

#### OUTLET AT END OF GUTTER RUN

		Gutter F	ixed Level	Gutter Fixed at 1:350 fall						
	Gutte (litres	<b>er Flow</b> /sec)	Roof (m²		Gutte (litres	<b>r Flow</b> /sec)	Roof Area (m²)			
System	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		
<b>Square Line</b> 65mm Square Downpipe	1.70	1.53	81	73	2.00	1.80	96	86		
<b>Hi-Cap</b> 68mm Circular Downpipe	2.05	1.84	98	88	2.56	2.30	123	111		
<b>Hi-Cap</b> 80mm Circular Downpipe	2.25	2.02	108	97	2.79	2.51	134	121		
<b>Niagara®</b> 65mm Square Downpipe	2.40	2.16	115	104	2.90	2.61	139	125		
<b>Niagara®</b> 80mm Circular Downpipe	2.64	2.37	127	114	3.19	2.87	153	138		
<b>Xtrafio</b> 110mm Circular Downpipe	4.30	3.87	206	185	6.20	5.58	297	267		

OUTLET AT CENTRE OF GUTTER RUN												
		Gutter Fi	xed Level	Gutter Fixed at 1:350 fall								
		Gutter Flow Roof Area (litres/sec) (m <sup>2</sup> )				<b>r Flow</b> /sec)	Roof Area (m²)					
System	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				
<b>Square Line</b> 65mm Square Downpipe	3.41	3.06	163	147	3.95	3.55	189	170				
<b>Hi-Cap</b> 68mm Circular Downpipe	3.80	3.42	182	164	5.00	4.05	240	216				
<b>Hi-Cap</b> 80mm Circular Downpipe	4.18	3.76	200	180	5.50	4.95	264	238				
<b>Niagara®</b> 65mm Square Downpipe	4.50	4.05	216	194	5.30	4.77	254	229				
<b>Niagara®</b> 80mm Circular Downpipe	4.95	4.45	237	213	5.83	5.24	279	251				
<b>Xtrafio</b> 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	<b>Roof Area</b> (m <sup>2</sup> ) 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.

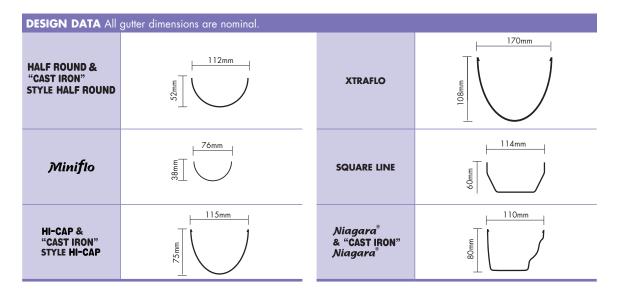
Pipe Dimensions	Normal Size	Actual OD		
Circular	50mm (2½")	50.3mm		
	8mm (2½″)	68.48mm		
	80mm (3″)	80.15mm		
	110mm (4")	110.2mm		
Square	65mm (2½″)	65mm		

#### **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.



## FLOPLAST PVC-U RAINWATER SYSTEMS

RAINWATER SYSTEM COMPATIBILITY CHART								
Manufacturer	Xtrafio 170mm	Niagara <sup>®</sup> 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	×	<b>×</b>	✔	✔	×	<b>×</b>		
	(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	×	×	✔	✓	×	<b>×</b>		
	(No equivalent)	(Classic)	(Deepflow)	(Clipmaster)	(Flowline)	(Miniline)		
Hunter	× (No equivalent)	× (Regency)	(125)	~	✔ (Squareflo)	¥ (Half Round)		
Marshall Tufflex	× (Xstream)	★ (Universal Plus)	✓ (Universal XL)	~	v	× (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**. 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?

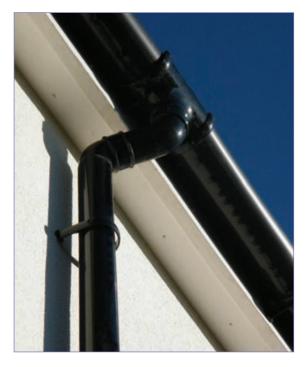
Please refer to our section on downpipe adaptors.

## 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 1<sup>1</sup>/<sub>2</sub>" x 12 round head screws.
- Galvanised finish, for long lasting performance.
- Assists in reducing insurance costs/claims caused by tile/ snow damage.

### StormSaver RAINWATER HARVESTING SYSTEM

Rainwater harvesting works by taking the rain from roofs and filtering out leaves and debris, before storing the water underground in the main storage tank. The water is then pumped into the property to be used for non-drinking applications e.g. flushing toilets, washing machines and garden watering.

Water conservation is an issue facing all households, particularly in the South-East of England where there is less water available per person than in many Mediterranean countries.

Increased water usage through kitchen appliances, power showers, garden sprinklers and hoses, power jet washers for patio and car cleaning, means that on average we each use 150 litres of clean treated mains water per day.

With inflation busting annual water price increases, the need to recycle water is an economic necessity for many households particularly for large ones on water meters.

StormSaver enables the household to recycle water which can potentially reduce annual water bills by up to 50%. In addition, StormSaver can form part of a Sustainable Drainage System (SuDS) for new build or retrofit developments and can contribute

to surface water management and reducing flood risk.

You can also help the environment by reducing the demand for mains water for example, using rain water for garden use during the summer or whenever there are water restrictions.

Please see our Stormsaver booklet for more detailed information (download from our website or print copy upon request)



#### Benefits of using StormSaver:

- Reuse rainwater effectively.
- Uses over 75% less energy.
- Flow Rate of 10 litres per minute.
- Compact control unit with low decibel rating.
- Tank pre-fitted with integral filtration, overflow siphon and inlet calmer.
- An automated supply of filtered rainwater that switches to main water supply should the tank run empty during periods of low rainfall.
- Ideal for new build properties and homes with up to 6 bedrooms.
- Option to run from a battery back up DC power supply if the system power fails then water supply is maintained.



www.floplast.co.uk

## **FloPlast**<sup>®</sup> building the future

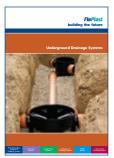
**FloPlast Limited Castle Road Eurolink Business Park** Sittingbourne Kent ME10 3FP UK Tel: 01795 431731 **Sales Office Direct Line:** 01795 421422 Fax: 01795 431188 E-mail: sales@floplast.co.uk Website: www.floplast.co.uk

#### Other systems available:

























KM 563461

20 YEAR CASTIRON GUARANTEI



KM 544332





KM 572704

























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NMBS



#### 02/12/14

PVC-UE Roofline, Window & Cladding Systems

Rainwater Systems

Soil & Waste Systems

Underground Drainage Systems

MDPE Systems

Hot & Cold Plumbing Systems



