# **FloPlast** building the future



# Rainwater Systems















# HIGH QUALITY PVC-U RAINWATER SYSTEMS



**FIOPIASE**, 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.

**FIOPIASE** 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 **FIOPlast** 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, Environment and Energy Management Systems which have been accredited by BSI to BS EN ISO 9001:2015 Certificate No. FM 501414, BS EN ISO 14001:2015 Certificate No. EMS 538445, BS EN ISO 18001:2007 Certificate No. OHS 593622 and ISO 50001:2011 Certificate No. ENMS 638370.



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, BS EN 1329-1 and BS 1453-1 (downpipes and fittings)

BS EN 607 (gutters and fittings)

BS EN 1462 (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 **FIoPlast** 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.

#### Colour Guide





#### PRODUCT GUARANTEES

#### 10 - Year Performance & Colour Guarantee\*

Applies to our PVC Rainwater range.





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

\*Excludes caramel rainwater colour.

#### 20 - "Cast Iron" Style Guarantee



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.

#### INSTALLATION VIDEOS

#### **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.







# LEAF/WEATHER PROTECTION











Product	Colour	Code
Snow/Tile Guard - 2	2m	
	N/A	SG1
Snow/Tile Guard Bracket		
Ļ	N/A	SG2

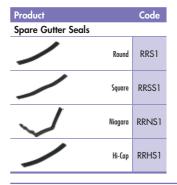
## ANCILLARIES

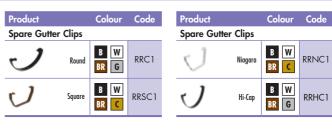






# **SPARES**

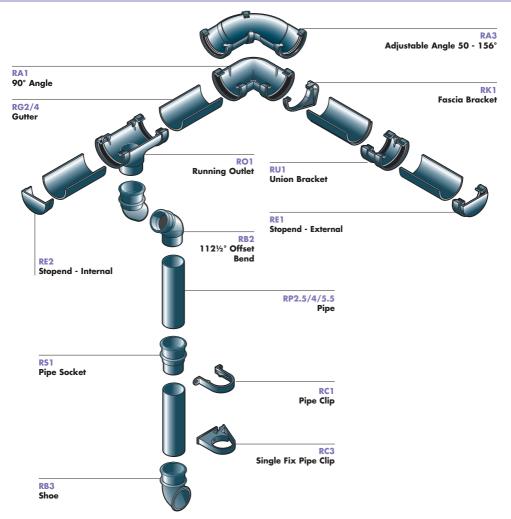




www.floplast.co.uk



# Half Round 112MM/68MM RAINWATER SYSTEM



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

Colours	Fec
B W BR	•
G AG	•
Dimensions	•
<u>112</u> <u>68</u>	
<b>◯</b>  52 ○	1

Features	&	<b>Benefits:</b>
----------	---	------------------

- 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.



# 112MM GUTTERING & FITTINGS BS EN 607, BS EN 1462, BS EN 12200-1



2m

3m

4m

90°

135°

Angle - Any degree

G

BW

B W BR

G AG FloPlast will fabricate any non-standard angle to special order.

BR

Product

Gutter

Angle



RO1

RO2

RE1

RE2

RK1

B W BR

B W BR

G AG

G AG

Internal

Fascia Bracket





Prod	uct	Colour	Code
Unio	n Bracket		
		P W PP	

B W BK RU1 G AG To Cast Iron Ogee Gutter Adaptors

R/H	B W G	RD3
VH	B W G	RD4

#### To Half Round Cast Iron Adaptor



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

RA3

RA9



Product	Colour	Code
Pipe Clips:		
$\sim$	B W BR G AG	RC1
Single Fix	B W BR G	RC3
With fixing lugs	BW	RC4**
67½° Branch		
4	B W BR G AG	RY1
Access Pipe		
PART	B W BR G AG	RX1



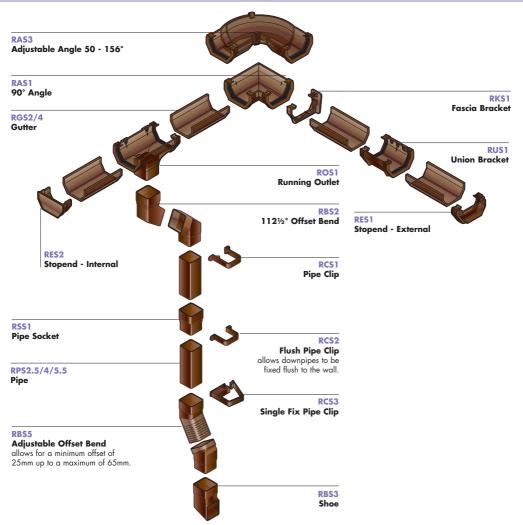
\*Must be used in conjunction with RC4 and RS2. \*\*Must be used in conjunction with RB4 and RS2.

\*\*\*\*Must be used in conjunction with RC4 and RB4.

www.floplast.co.uk



#### Square Line 114MM/65MM RAINWATER SYSTEM



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

Colours	Fe
B W BR C	•
	•
Dimensions	•
<b>60</b>	•

- 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.



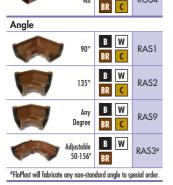
# 114MM GUTTER AND FITTINGS BS EN 607, BS EN 1462, BS EN 12200-1



 Product
 Colour
 Code

 Gutter 2m / 3m / 4m
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4m









 Product
 Colour
 Code

 Union Bracket
 B
 W
 RUS1

 Square/Round Gutter
 Adaptor

 B
 W
 RDS1

To Cast Iron Gutter Adaptors



# 65MM SQUARE DOWNPIPE & FITTINGS B5 EN 12200-1

RGS4



Product	Colour	Code
Shoe		
	B W BR	RBS3
With fixing lugs	BW	RBS41
Pipe Clips		
5	B W BR C AG	RCS1
Con Flush	B W BR	RCS2
Single Fix	B W BR	RCS3
With fixing lugs	BW	RCS4 <sup>2</sup>

<sup>1</sup>Must be used in conjunction with RCS4 and RSS2. <sup>2</sup>Must be used in conjunction with RBS4 and RSS2.

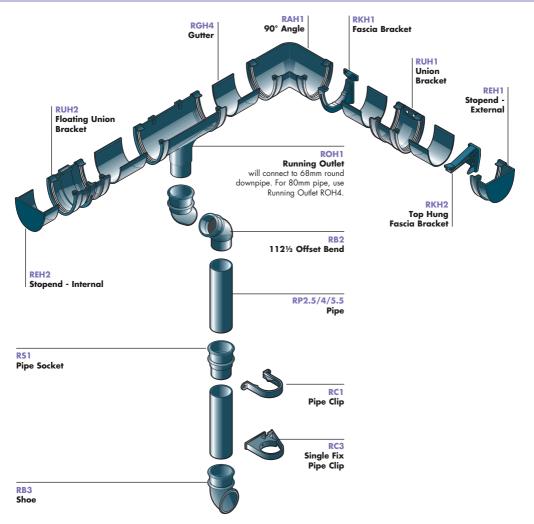
Product	Colour	Code
Pipe Sockets		
	B W BR	RSS1
With fixing lugs	BW	RSS2 <sup>3</sup>
Square Access P	ipe	
	B W BR AG	RXS1
68mm Round Do	ownpipe Ada	ptor
1	B W BR AG	RDS2
Hopper Connects to 65mm Sq and 68mm Rnd Downpipe		
	B W BR C AG	RHS1

<sup>3</sup>Must be used in conjunction with RCS4 and RBS4.

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# Hi-Cap 115MM/68MM/80MM RAINWATER SYSTEM



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

Colours	Fe
B W BR	•
G AG	•
Dimensions	
<u>115</u> <u>68</u> <u>80</u>	
7500	

#### 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.
- For an improved aesthetic gutter line when viewed from below, use RKN2 top hung bracket.



# 11.5MM GUTTER AND FITTINGS BS EN 607, BS EN 1462, BS EN 12200-1



G AG

B W

BR G

G AG

Floating **B** W

B W BR

80mm

Product

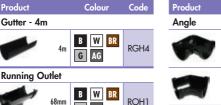
Gutter - 4m

Union Bracket



Colour

Code



ROH4

RUH1

RUH2



\*FloPlast will fabricate any non-standard angle to special order.







Colour Code Product Fascia Bracket B W BR RKH1 G AG Top Hung B W RKH2

Hi-Cap to Half Round Gutter Adaptors



#### Hi-Cap to Square Line Gutter Adaptors



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





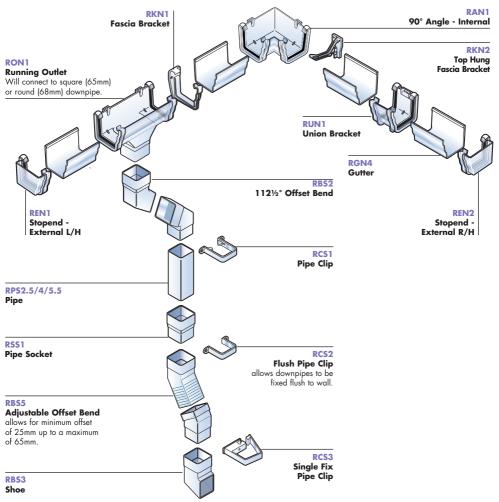
For Anthracite Grey 68mm round downpipe, see page 7.



www.floplast.co.uk



#### Niagara Ogee 110MM/65MM/68MM/80MM RAINWATER SYSTEM



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

Colours	Features & Benefits:
B W BR	<ul> <li>A traditional ogee style profile.</li> </ul>
C AG	<ul> <li>One of the highest capacity PVC-U</li> </ul>
Dimensions	domestic rainwater systems.
<u>110</u> 80	• Water-tight seal and retaining clip pre-fitted for fast user friendly installation.
$\stackrel{\underline{65}}{\Box} \stackrel{\underline{68}}{\bigcirc} \stackrel{\underline{80}}{\bigcirc}$	• Suitable for all properties, old and new.
ПОО	

- Running Outlet (RON1) can be connected to either 65mm Square or 68mm Round downpipes.
- Running outlet designed to cope with above average rainfall.
- For an improved aesthetic gutter line when viewed from below, use RKN2 top hung bracket.

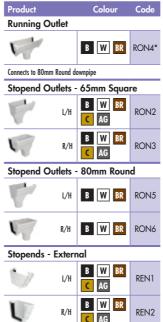


# 110MM GUTTER AND FITTINGS BS EN 607, BS EN 12200-1, BS EN 1462













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





\*FloPlast will fabricate any non-standard angle to special order.

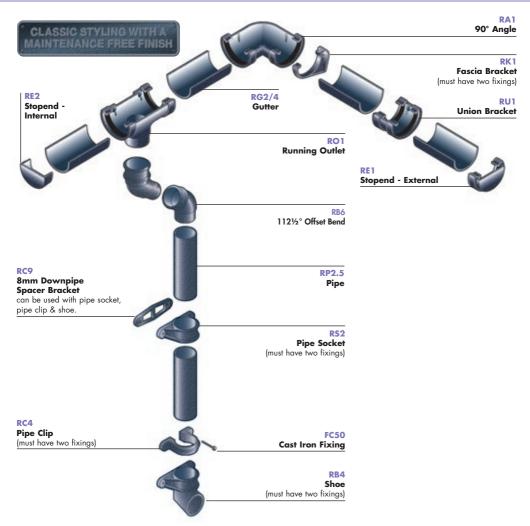
Product	Colour	Code
Hopper		
-	B W BR G	RHH1
Connects to 65mm square & 68m	nm round downp	ipe.
67½° Branch		
	BW	RYH1

For Anthracite Grey 65mm square downpipe, see page 9.

BR G



# Half Round "CAST IRON" STYLE 112MM/68MM RAINWATER SYSTEM



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

Colours Cl Dimensions 112 6852 0

- Features & Benefits:
  - The original Half Round profile.
  - 20 year "Cast Iron" colour guarantee
  - Good flow capacity.
  - Pre-fitted gutter seal retaining clip system for fast user friendly installation
- Pre-lubricated seals.
- Significant cost saving over traditional Cast Iron.
- All the benefits of PVC for quick and easy installation.

#### 112MM GUTTER & FITTINGS B5 EN 607, B5 EN 12200-1, B5 EN 1462

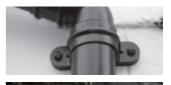


# Product Colour Code Running Outlet - 68mm round CI RO1 Stopend Outlet - 68mm round

CI

RO2

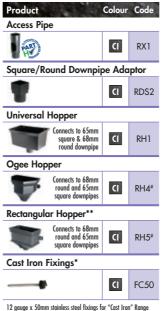
# External Image: Constraint of the second second



Product Colour Code Bracket CI Fascia RK1 CI RU1 Union To Cast Iron gutter adaptors CI RD3 ogee R/H ogee L/H CI RD4 Half Round CI RD5

# 68MM ROUND DOWNPIPE & FITTINGS B5 EN 12200-1

			-
Product Pipe	1	Colour	Code
	2.5m	CI	RP2.5
Offset Bend			
3	<b>92</b> ½°	CI	RB8
1	11 <b>2</b> ½°	CI	RB6
Shoe			
r		CI	RB4#
Pipe Clip			
en		CI	RC4#
Pipe Socket			
-		CI	RS2#
67½° Branch			
4		CI	RY1



Product	0	olour	Code
Fleur-de-Lis			
•	40mm	CI	FL55
<b>. X</b>	52mm	CI	FL70
Tudor Rose			
100	40mm	CI	TR55
- <b>1</b>	52mm	CI .	TR70
Decorative Sc	vare		
202	40mm	CI	D\$55
	52mm	CI I	DS70
Lion's Head	)		
<b>A</b>	40mm	<b>C</b> 1	LH55
	52mm	CI .	LH70
Motifs can be applied to I proprietary adhesive such			g a

proprietary adhesive such as Siroflex MS Polymer. \*\*This product is rotationally moulded and subject to bowing along

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

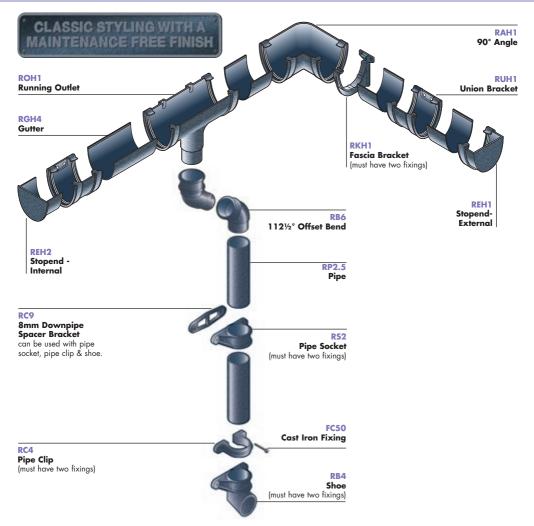
"With fixing lugs (Requires 2 x FC50 fixings)

\*Fixing instructions for the FC50 (Cast Iron fixing bolts) the FC50 is a 12 gauge x S0mm Stainless Steel bolt, that requires a 12mm 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 et fix FC50 in the same way as any other screw by using a plug type fixing, and into timber by plot drilling a starter hole first.

www.floplast.co.uk



# Hi-Cap "CAST IRON" STYLE 115MM/68MM RAINWATER SYSTEM



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

Colours (1) Dimensions 115 6875 0

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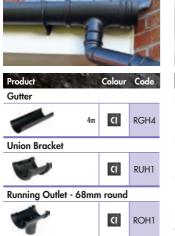
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#### Features & Benefits:

- 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.



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







Colour Code

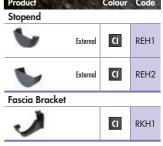
RDS2

RH4#

RH5#

FC50





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

	1. 1	Colour	Code	Product
				Access Pipe
	2.5m	CI	RP2.5	PART
Bend				Square/Round Downp
	<b>92</b> ½°	CI	RB8	•
	11 <b>2</b> ½°	CI	RB6	Universal Hopper
	11272	¢1	KDO	Connects to 65mm square & 68mm round downpipe
		CI	RB4#	Ogee Hopper
				Connects to 68mm
р				round and 65mm square downpipes
		CI	RC4#	Rectangular Hopper**
ocket				Connects to 68mm round and 65mm square downpipes
P		CI	RS2#	Cast Iron Fixings*
Branch		1 		
			DV1	
		CI	RY1	12 gauge x 50mm stainless steel fixing

Product	1	Colour	Code
Fleur-de-Lis			
•	40mm	CI	FL55
<b>*</b> #*	52mm	CI.	FL70
Tudor Rose			
100	40mm	<b>C</b> 1	TR55
- <b>1</b>	52mm	CI	TR70
Decorative Sq	uare		
202	40mm	41	DS55
	52mm	CI	DS70
Lion's Head			
6500	40mm	<b>C</b> 1	LH55
	52mm	CI	LH70

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

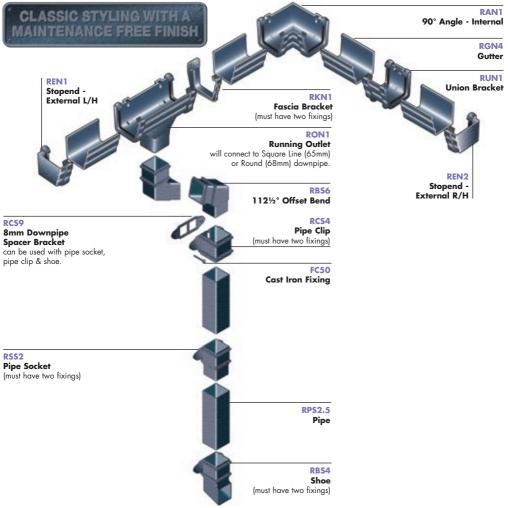
\*\* This product is rotationally moulded and subject to bowing along its length up to +/-4%.

"With fixing lugs (Requires 2 x FC50 fixings)

\*Fixing instructions for the FC50 (Cast Iron fixing bolts) The FC50 is a 12 gauge x 50mm Stainless Steel bolt, that requires a 12mm 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 "CAST IRON" STYLE 110MM/65MM/68MM RAINWATER SYSTEM



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

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#### Features & Benefits:

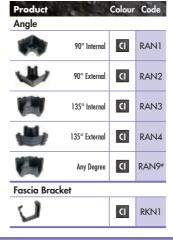
- Traditional style ogee Hopper available.
  - One of the highest capacity PVC-U domestic rainwater systems on the market.
  - Water-tight seal and retaining clip pre-fitted for fast user friendly installation.
- Extremely cost effective solution for old style building refurbishment and new build installations.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

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



Product		Colour	Code		
Gutter					
	3m 4m	CI	rgn3 rgn4		
Union Bracket					
1		CI	RUN1		
Running Outlet - Multi Outlet					
		CI	RON1		
Stopend Outlet - 65	ōmm				
*	L/H	CI	RON2		
1	R/H	CI	RON3		



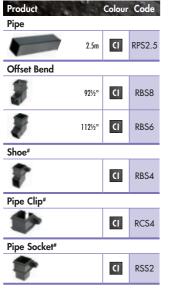




Product Stopend - Externa	1000	Colour	Code
•	L/H	CI	REN1
	R/H	CI	REN2
Stopend - Internal			
V	L/H	CI	REN3
	R/H	CI	REN4

Please note: Round downpipe can also be used, please see page 17

# 65MM SQUARE DOWNPIPE & FITTINGS B5 EN 12200-1



Product	State of	Colour	Code			
67½° Brai	nch					
-		CI	RYS2			
Square/Re	ound Downpi	oe Ada	ptor			
1		CI	RDS2			
Universal	Hopper					
	Connects to 65mm square & 68mm round downpipe	CI	RH1			
Ogee Hop	per#					
F	Connects to 68mm round and 65mm square downpipes	CI	RH4			
Rectangula	ar Hopper#					
	Connects to 68mm round and 65mm square downpipes	CI	RH5			
This product is rotationally moulded and subject to bowing along its length up to $+/-4\%$ .						
Cast Iron I	ixings*					
		CI	FC50			

Product		Colour	Code
Fleur-de-Lis			
•	40mm	CI	FL55
ТГ —	52mm	CI.	FL70
Tudor Rose			
100	40mm	CI	TR55
- <b>1</b>	52mm	CI.	TR70
Decorative Squ	Jare		
200	40mm	CI	D\$55
	52mm	CI.	DS70
Lion's Head			
	40mm	CI	LH55
1.00	52mm	CI.	LH70

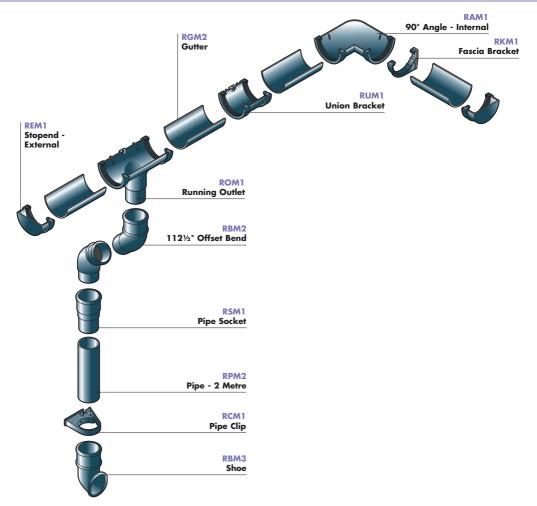
Motifs can be applied to hoppers or running outlets using a proprietary adhesive such as Siroflex MS Polymer.

"With fixing lugs (Requires 2 x FC50 fixings)

\*Fixing instructions for the FC50 (Cast Iron fixing bolts) The FC50 is a 12 gauge x 50mm Stainless Steel balt, that requires a 12mm socket to tighten it. When using these fixings on Ogee and Rectangular Hoppers we recommend that a 3/4" top worker is used. When fixing product to concrete, brick, block et fix FC50 in the same way as any other strew by using a plug type fixing, and into timber by pilot drilling a starter hole first.



## MiniFlo 76MM/50MM RAINWATER SYSTEM



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

Colours	Features & Benefits:	<ul> <li>Pre-lubricated seals.</li> </ul>
B W BR G	<ul> <li>A smaller system based on the original Half Round profile.</li> </ul>	<ul> <li>Practical, and easy to install.</li> </ul>
$ \begin{array}{c}         Dimensions \\         \underline{76} & \underline{50} \\         \overline{\bigcirc} &  38 & \bigcirc \end{array} $	<ul> <li>Pre-fitted gutter seal retaining clip system for fast user friendly installation.</li> </ul>	<ul> <li>An ideal solution for garages, sheds, summer houses and most garden buildings.</li> </ul>



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





Code

RAM1

RAM2

REM1

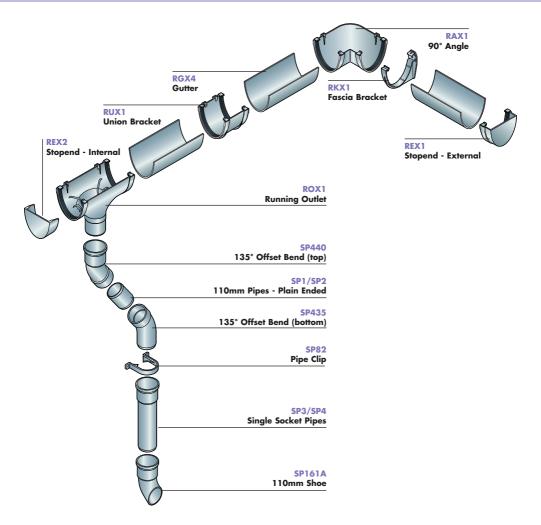


# 50MM ROUND DOWNPIPE & FITTINGS B5 EN 12200-1

Product	Colour	Code	Product	Colour Code
Pipe			Pipe Clip	
2m	B W BR G	RPM2	0	B W BR G RCM1
Offset Bend			Pipe Socket	
112½°	B W BR G	RBM2	T	B W RSM1
Shoe			MiniFlo Rainwater	Diverter
J	B W BR G	RBM3	Ç	B W BR G RVM1
			Rainwater Systems when used as an o product with a wai collection of rainw to the award of crr Code for Sustainad Miniflo 50mm dow normally be install directly into the top For an alternative a RVM1 Rainwater D	associated ter butt for the ater, can lead edits under the ole Homes. Anpipe would ed, terminating o of a water butt. solution fit a



## XtraFlo 170MM/110MM RAINWATER SYSTEM



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

#### Colours Feat BWGAA or Dimensions

110

108 🔾

#### Features & Benefits:

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

170



# 170MM GUTTER AND FITTINGS BS EN 607, BS EN 12200-1, BS EN 1462



Colour

B W

B W

BW

G

G

G

Code

RGX4

RAX1

ROX1

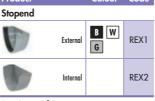
Product

Gutter

90° Angle

**Running Outlet** 







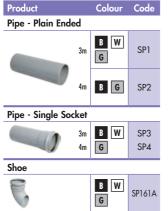


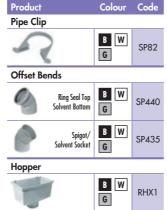
Product Colour Code

Union Bracket



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





Product	Colour	Code
921/2° Soil Pipe Bran	ch	
0	B W G	SP190
921/2° Soil Pipe Acces	ss Bend	
CO .	B W G	SP169
Access Pipe		
Socket/Spigot	B W G	SP274





#### ECOFIO RAINWATER DIVERTERS BS EN 12200-1



# ECOFIO WATER STORAGE SYSTEMS



# Product Code 210L Slim Water Butt WB200 210L Slim Water Butt Stand 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

#### **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

# StormSaver RAINWATER HARVESTING SYSTEM B58515



With the average home owner using around 150 litres of water per day, the **StormSaver** rainwater harvesting system will enable the metered home owner to recycle rainwater and potentially reduce their bills by up to 50%, whilst remaining kinder to the environment. StormSaver can also alleviate pressure on local drainage in line with Sustainable Drainage Schemes (SuDS), to help prevent flood risk

Benefits of using StormSaver:

- Uses over 75% less energy than other traditionally pumped Rainwater Harvesting systems, by using clever suction technology.
- Low decibel rating.
- Flow Rate of 10 litres per minute (same as mains pressure).
- Compact control unit, which can easily fit into either a kitchen cupboard, or be located in a utility room or garage.
- Cost effective solution to reuse rainwater effectively.
- The shallow dig tank is robust and comes with all the necessary components such as integral filtration, overflow siphon and inlet calmer pre-fitted for ease of installation.
- Ideal for new build properties and homes with up to 6 bedrooms.

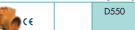
Product	Size (L)	Code	Produ
StormSaver Pack			Pede
	1500 3000 5000 7500	\$1500 \$3000 \$5000 \$7500	Entra
Package includes: • Underground sto • 235mm Entrance • Pedestrian duty I • Control panel • ½" Boosted float • 20m ½" Flexible	e shaft id for tank ing suction		
			Contr
Also availbale as c	a garden o	nly system	
	-		

Product	Size	Code	P
Pedestrian Duty I	.id		Ņ
		PDL1	
Entrance Shaft			
8	235 (mm)	ES235	
	635 (mm)	ES635	k
Control Panel			E
		CP1	
√2" Boosted Float	ting Suctio	CE	
	Joene		_
-		FK1	1





110mm Non-Return Valve - Single Flap



Required for the system to comply with BS 8515



# 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, BS EN 607, BS EN 1462 or BS EN 1329-1 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 (Gutters and fittings), BS EN 12200-1, and BS EN 1329-1(Downpipes and fittings), BS EN 1462 (Gutter brackets) within a quality management system assessed and registered by British Standards as meeting the requirements of BS EN ISO 9001 (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 27.

- Angles and stopends should have a fascia bracket within 150mm of the fitting.
- A supporting pipe clip should be used on shoes, sockets, branches and bends where necessary.
- Support downpipes below any 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.
- Establish the position of the running outlet, usually over an existing drain, and fix securely to the 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 (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.
- 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 the 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 if installing square downpipe use an adjustable offset bend. Ensure a 6mm gap is left at the top of the downpipe for expansion.

Pipe sockets 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 the underground drainage system using a 110mm x 68mm or 50mm 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 EN 12056-3 "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

#### **Cleaning and Maintenance**

Although PVCu rainwater systems are considered to be relatively low maintenance it is important to clear gutter systems of fallen leaves and other debris at least once per year.

More frequent inspections may be necessary in areas of high pollution and where there are trees in the vicinity.

Inspection of the gutter and brackets is also advisable during and after periods of ice formation in the guttering system.

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 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 M2

- B = Half width of gable end or hip
- C = Vertical measurement from eaves to apex



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 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.





# FLOPLAST PVC-U RAINWATER SYSTEMS

#### OUTLET AT END OF GUTTER RUN

		xed Level	Gu	utter Fixed	at 1:350 fa	11		
	Gutter Flow (litres/sec)		Roof Area (m²)		Gutter (litres/	r <b>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
Square Line 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
<i>Niagara</i> ® 65mm Square Downpipe	2.40	2.16	115	104	2.90	2.61	139	125
<i>Niagara</i> ® 80mm Circular Downpipe	2.64	2.37	127	114	3.19	2.87	153	138
Xtrafio 110mm Circular Downpipe	4.30	3.87	206	185	6.20	5.58	297	267

OUTLET AT CENTRE OF GUTTER RUN										
		Gutter Fi	ixed Level		Gutter Fixed at 1:350 fall					
	Gutter (litres/	r <b>Flow</b> ⁄sec)	Roof Area (m²)		Gutter Flow (litres/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		
<i>Niagara</i> <sup>®</sup> 65mm Square Downpipe	4.50	4.05	216	194	5.30	4.77	254	229		
<i>Niagara</i> ® 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	<b>Roof Area</b> (m²) 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 EN 12056-3 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		XTRAFLO	
Minifio		SQUARE LINE	
HI-CAP & "CAST IRON" STYLE HI-CAP		Niagara <sup>®</sup> & "CAST IRON" STYLE <i>Ni</i> agara <sup>®</sup>	

# **FloPlast**

# FLOPLAST PVC-U RAINWATER SYSTEMS

RAINWATER SYSTEM COMPATIBILITY CHART								
Manufacturer	Xtraflo 170mm	Niagara <sup>®</sup> Ogee	Hi-Cap	Half Round 112mm	Square Line	MiniFlo		
Brett Martin	<b>×</b> (Deepstyle 170)	× (Prostyle)	✔ (Deepstyle)	(Roundstyle)	<b>×</b> (Squarestyle)	× (No equivalent)		
Osma	× (No equivalent)	<b>×</b> (Stormline)	✔ (Deepline)	✔ (Roundline)	<b>×</b> (Squareline)	× (No equivalent)		
Polypipe	× (No equivalent)	<b>×</b> (Sovereign)	(Polyflow)	~	v	¥ (Half Round)		
Polypipe Terrain	× (No equivalent)	<b>×</b> (Omega)	<b>×</b> (Rapidflow)	× (Crescent)	× (Corniche)	× (No equivalent)		
Marley	× (No equivalent)	× (Classic)	✔ (Deepflow)	✔ (Clipmaster)	× (Flowline)	<b>x</b> (Miniline)		
Hunter	× (No equivalent)	× (Regency)	<b>×</b> (125)	~	✔ (Squareflo)	¥ (Half Round)		
Swish	× (No equivalent)	× (Ogee)	<b>×</b> (Deepflow)	v	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. **FIoPlast Limited** reserve the right to modify or extend any product range or published information without prior notice.



## 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 28 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 26 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 nonferrous 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, sockets, 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 30.



# **FloPlast** building the future



#### **Contact Details:**

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May 2018

