

# Rainwater Underground & Soil Systems







soil

rainwater

www.kayflow.co.uk

### contents









- Easy to fit with a complete range of colour matched fittings
- Choice of 4 designs
- 10 year guarantee\*
- High gloss finish with a choice of up to 5 colours
- Lightweight for ease of storage and transportation
- Low maintenance
- Durable and tough
- Kitemarked

P4 - 9

### SuperDeep 170



- Exceptionally strong components
- High capacity super deep system for commercial application
- Designed for high volume capture
- · Market leading flow capacity
- Choice of downpipe sizes
- 10 year guarantee\*
- · High gloss finish in black and grey

P 10 - 11

### **Cast Iron Effect Gutters**

- Authentic cast iron look without the weight or cost
- Choice of 3 designs
- Square or round downpipes
- Unique pipe fittings with built in saddle strap
- Durable and tough
- 10 year guarantee

P 12 - 14

### **Underground Drainage**

- User friendly easy fit system
- Lightweight, easy to handle
- Impact resistant and extremely durable in use
- A wide range of products and ancillary fittings
- Tested to BS EN 1401-1: 2009 PVC-U Underground Drainage Systems\*\*

P 16 - 21

### Soil

- A wide range of profiles and fittings manufactured from PVC-U.
- High gloss PVC-U for low maintenance
- Lightweight, durable and easy to install
- Compatible with most other UK systems
- Choice of 3 colours
- Tested to BS EN 1329-1: 2014
   Plastics piping systems for soil and waste discharge\*\*

P 22 - 23

<sup>\*</sup>Excludes Caramel. \*\*For scope refer to manufacture.



# Kayflow is a comprehensive range of Rainwater, Soil and Underground drainage products.

The Kayflow range is ideal for builders merchants and PVC stockists. Kayflow is easy to deal with having a straight forward pricing structure, and a national delivery service with low minimum order levels.

Kayflow can be specified with confidence. The technical team are there to help with questions concerning flow rates and installation procedures.

Kayflow installers have a wide choice of rainwater products and the quality and fit of the clipping system is widely regarded as excellent.

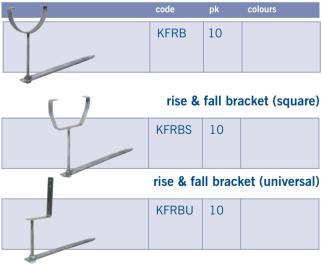






### accessories

### rise & fall bracket (half round)

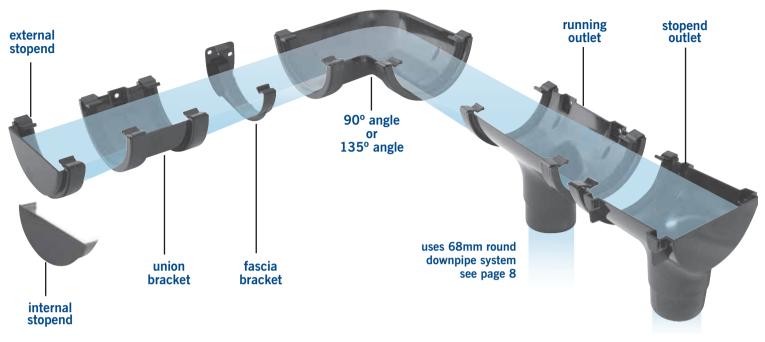


Metal brackets are galvanised or zinc plated for excellent water resistance.





Height	Width	Flow Rate	Area Drained	Down Pipe
50mm	112mm	0.9 l/s	43m <sup>2</sup>	Round (P8)



	hal	f round gutter
code	pk	colours
KFG4	6x4m	W, BL, BR, GY,
KFG5	6x5m	W, BL

### 90° angle

	KFA1	20	W, BL, BR, GY
--	------	----	------------------

### 135° angle

	KFA2	20	W, BL, BR, GY
--	------	----	------------------

### external/internal stopends

ext	KFE1	100	W, BL, BR,
	KFE2	20	GY

### fascia bracket

#### union bracket

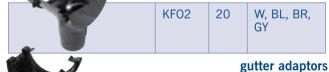
KFU1	30	W, BL, BR, GY

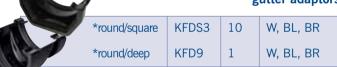
<sup>\*</sup>Gutter adaptors - description denotes which side each section is on when looking at the building.

### running outlet

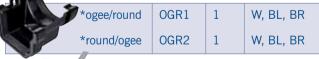
code	pk	colours
KF01	20	W, BL, BR, GY

### stopend outlet





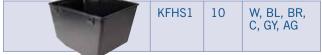
### round/ogee gutter adaptors



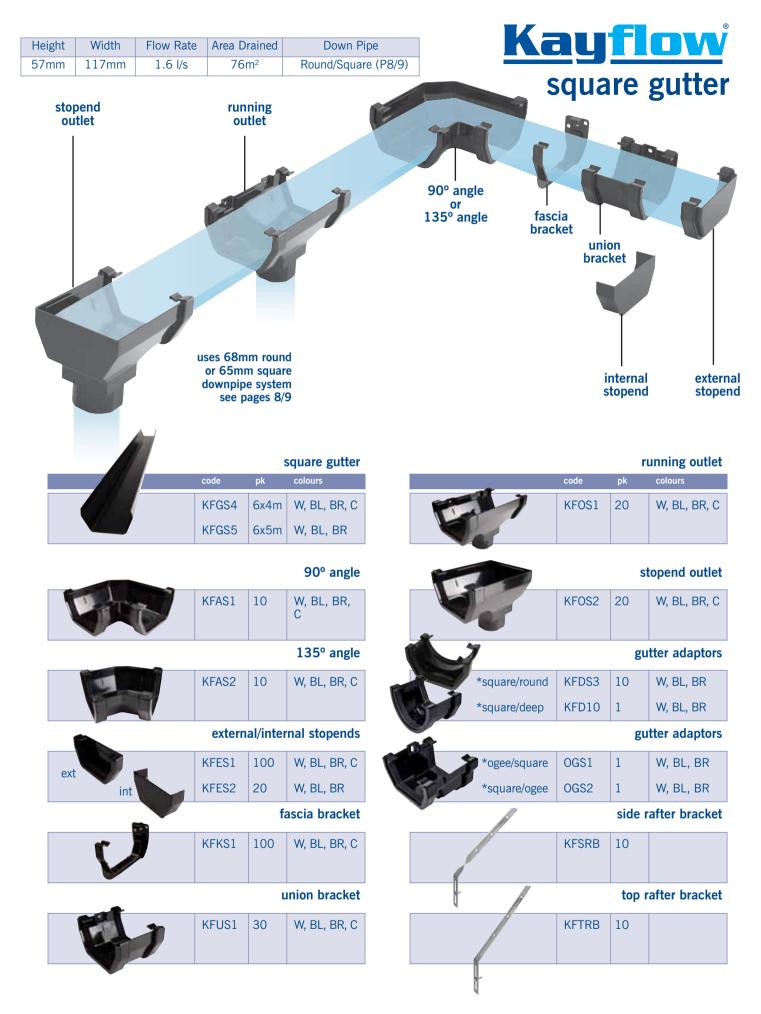
### side rafter / top rafter bracket

-	h	opper (	(square/round)
side top	KFTRB	10	
	KFSRB	10	

### hopper (square/round)

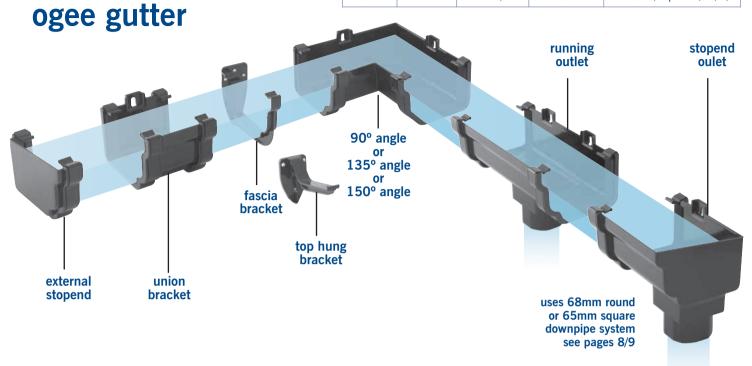


h 150 x w 247 x d 165mm





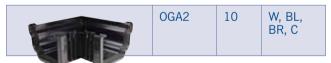
HeightWidthFlow RateArea DrainedDown Pipe70mm120mm2.2 l/s105m²Round/Square (P8/9)



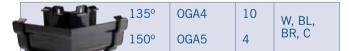
# ogee gutter code pk colours OGG4 4x4m W, BL, BR, C



### 90° external angle



### 135° & 150° external angles



### union bracket

and the second			
	OGU1	8	W, BL, BR, C

# external stopend OGE1 (L) 10 W, BL, BR, C

### gutter brackets

			guti	ier brackers
558		code	pk	colours
	fascia	OGK1	100	W, BL,
	top hung	OGK2	20	W, BL, BR, C
			rui	nning outlet
		OGO1	10	W, BL, BR, C

		stopend outle		
L. L.	OGO2 (R)	10	W. BL.	
L/H R/H	OGO3 (L)	10	W, BL, BR, C	

### ogee/deep gutter adaptors

result.		0800,40	ob Sarr	or adaptoro
	*ogee/deep	OGD1	1	W. BL.
	*deep/ogee	OGD2	1	BR

### square/ogee gutter adaptors

- 10				
	*ogee/square	OGS1	1	W, BL,
	*square/ogee	OGS2	1	BŘ
NO. 1				

### round/ogee gutter adaptors

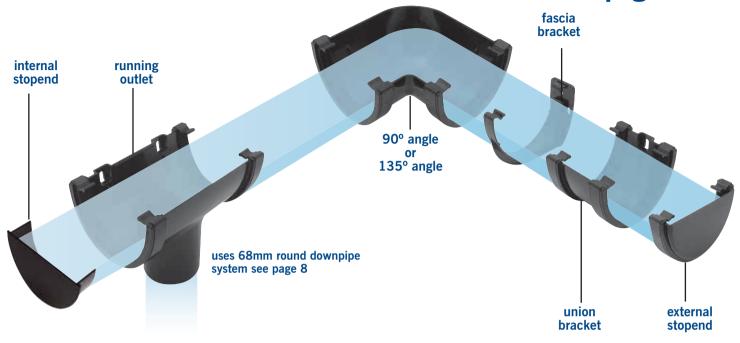
*ogee/round	OGR1	1	W. BL.
*round/ogee	OGR2	1	BR

<sup>\*</sup>Gutter adaptors - description denotes which side each section is on when looking at the building.

HeightWidthFlow RateArea DrainedDown Pipe71mm114mm1.8 l/s86m²Round (P8)

# **Kayflow**

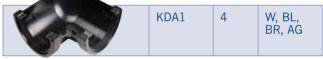
### deep gutter



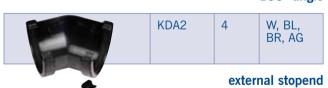
### deep gutter

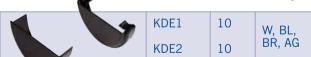
code	pk	colours
KDG4	6x4m	W, BL, BR, AG

### 90° angle



### 135° angle





# \*deep/round KFD9 1 W, BL, BR

### ogee/deep gutter adaptors

*deep/ogee OGD2 1 BR	*ogee/deep	OGD1	1	W, BL,
	*deep/ogee	OGD2	1	BR

### fascia bracket

	code	pk	colours
U	KDK1	100	W, BL, BR, AG
		rui	nning outlet
	KDO1	10	W, BL, BR, AG
<b>.</b>		ur	ion bracket
	KDU1	10	W, BL, BR, AG

### accessories



#### hopper (square/round)

KFHS1	10	W, BL, BR, C, GY, AG	
KFHS1	10	BR, C,	

h 150 x w 247 x d 165mm

# Kayflow round down pipe

- 68mm diameter
- use with half round, square, ogee & deep



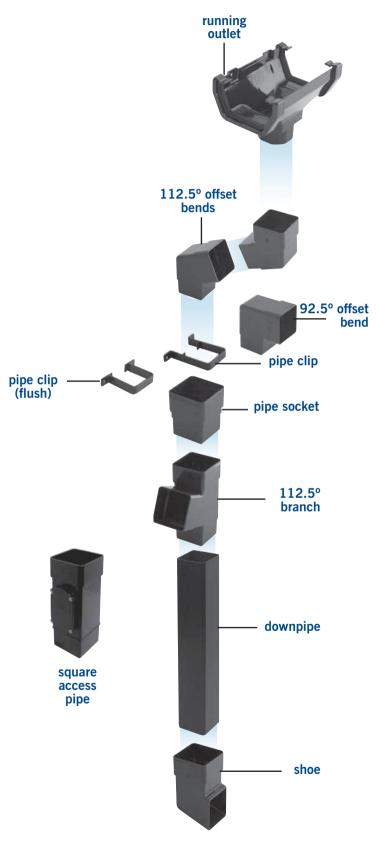






• 65mm x 65mm

use with square and ogee



# **Kayflow**SuperDeep 170

Kayflow SuperDeep 170 is a super tough, high capacity gutter for use on commercial buildings, hotels, flats and any structure that has a large roof area.

### **Tough Construction**

SuperDeep 170 has a high material content that ensures it can easily contain the weight of water that could potentially flow into its huge gutter profile. Each fascia bracket is capable of supporting over 125kg and the union can take over half as much again.

The gutter angles have been produced as individual internal and external versions. This allows positive fixing of each unit to the fascia board.

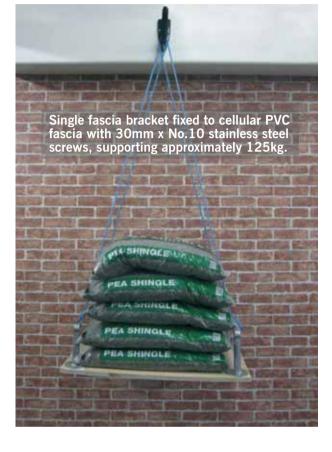
### **High Capacity**

SuperDeep 170 is one of the largest and toughest commercial rainwater systems available.

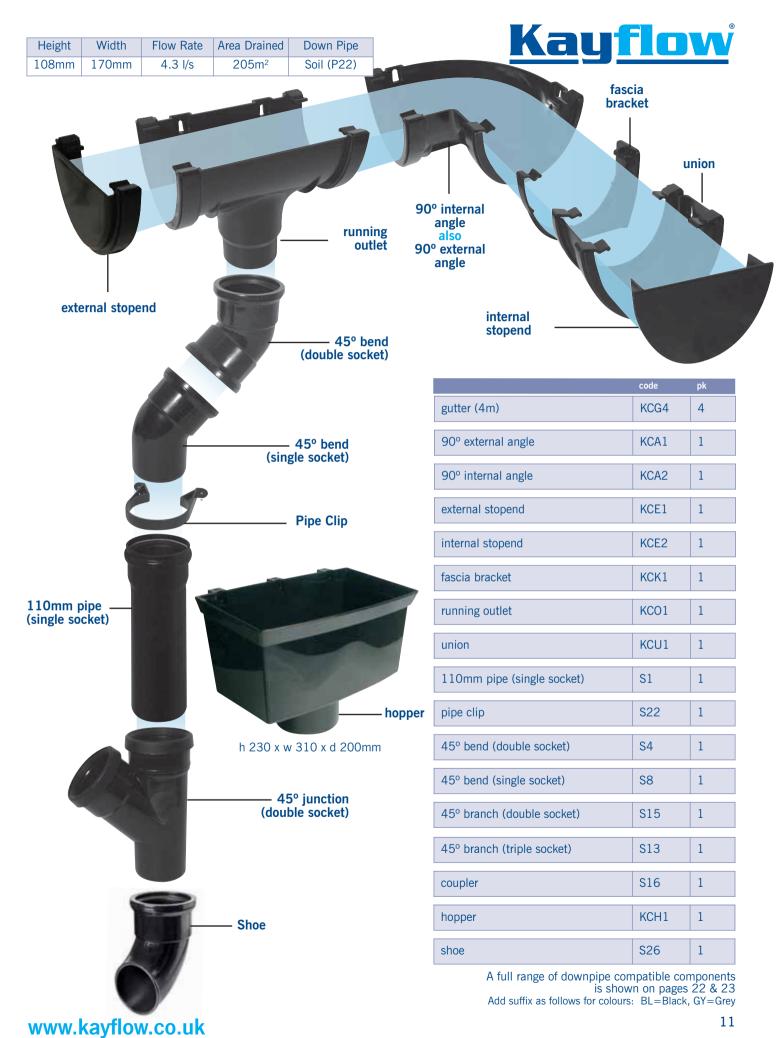
At 170mm from rim to rim SuperDeep 170 has a huge reservoir and is designed to move water rapidly into and down a 100mm or 110mm down pipe.

SuperDeep 170 has an independently tested, market leading flow rate of 9.4 litres per second when set level, and 10.5 litres per second when set at 1:350

- Ultra tough, thick-wall system
- 170mm high capacity commercial system
- White core reduces heat absorbtion
- Uses 100mm or 110mm downpipe
- Internal and external versions of angles
- Fix fascia brackets at maximum 600mm centres
- Kitemark KM508760 to BS EN 607:2004 and BS EN 1462:2004













112.5° offset bend

pipe clip with lugs

hopper with lugs

112.5° branch

pipe socket with lugs

shoe with lugs

KFB2

KFB4

KFC2

KFHS2

KFS2

KFY1

1

1

1

1

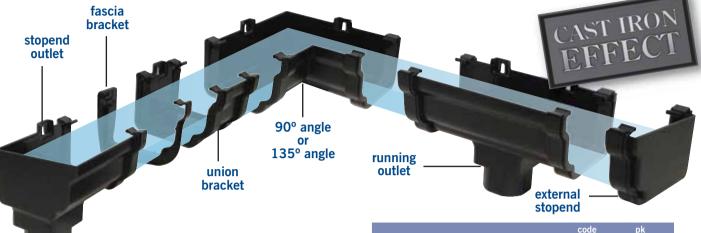
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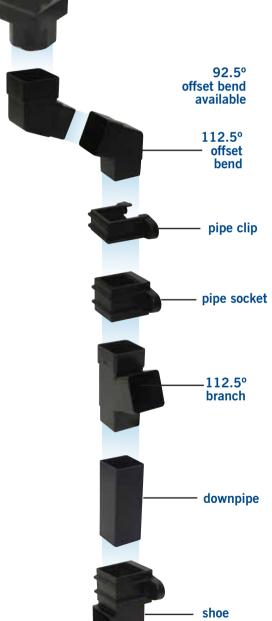
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HeightWidthFlow RateArea DrainedDown Pipe70mm120mm2.2 l/s105m²Round/Square



### ogee gutter



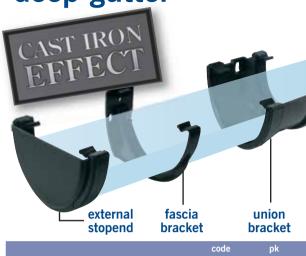


	code	pk
gutter (4m)	OGG4	1
90° external angle	OGA2	1
90° internal angle	OGA1	1
135° external angle	OGA4	1
135° internal angle	OGA3	1
external stopend (R/H)	OGE2	1
external stopend (L/H)	OGE1	1
fascia bracket	OGK1	1
running outlet	OG01	1
stopend outlet (R/H)	OG02	1
stopend outlet (L/H)	OG03	1
union bracket	OGU1	1
square downpipe (2.5m)	KFPS25	1
112.5° offset bend	KFBS2	1
92.5° offset bend	KFBS1	1
shoe with lugs	KFBS5	1
pipe clip with lugs	KFCS4	1
pipe socket with lugs	KFSS2	1
112.5° branch	KFYS1	1
hopper with lugs	KFHS2	1



Height	Width	Flow Rate	Area Drained	Down Pipe
71mm	114mm	1.8 l/s	86m <sup>2</sup>	Round

running outlet



stopend	bracket	br	acket
		code	pk
gutter (4m)		KDG4	1
90° angle		KDA1	1
135° angle		KDA2	1
external stopend		KDE1	1
internal stopend		KDE2	1
fascia bracket		KDK1	1
running outlet		KD01	1
union bracket		KDU1	1
round downpipe (2.5m)		KFP25	1
92.5° offset bend		KFB1	1
112.5° offset bend		KFB2	1
shoe with lugs		KFB4	1
pipe clip with lugs		KFC2	1
hopper with lugs		KFHS2	1
pipe socket with lugs		KFS2	1
112.5° branch		KFY1	1





### **Specification & Installation Guide for Guttering**

#### How much water?

The gutter system must be able to drain the roof during an unusually heavy rainfall event which lasts at least two minutes.

BS12056 shows how to work out the amount of rainwater (in litres per second) that could run off a roof.

The roof area is multiplied by the amount of water running off each square metre of the roof area in litres per second.

Volume of water coming off a roof  $= A \times B$  where:

A = 0.021 litres per second.

B = the effective roof area, calculated as follows:

#### (W+H/2) x L or L x W x Pitch factor (see table)



W = eaves to below the ridge

H = vertical height from eaves to ridge

L = length of roof section

### Which Gutter to Choose

Compare the result of the calculation (AxB) with the flow capacity of the Kayflow systems available. Please note the following:

- 1. Reduce flow rates of gutters with angles by 15%.
- 2. Gutter sections longer than 50 x the height of water when the gutter is full have a reduced flow rate.
- 3. Gutters are laid level this can be up to 3mm fall per metre.
- **4.** Centrally placed outlets drain a much larger volume of water.

#### Installation

- Fascia brackets must be used within 150mm of any gutter fitting.
- Use all fixing positions on all unions, angles and outlets for all systems.
- Whilst it is best practice to make use of all available fixing holes for gutter brackets, the specification in the table (below) may be adopted. Ensure the fixings are long enough to penetrate the rear face of the board. If the cellular PVC fascia board is less than 16mm thick, install a backing board to accept gutter bracket fixings. The gutter should be fitted as high as possible but not such that the outer edge projects above the line of the roof.
- For all gutters, the tile overhang from the fascia board should not be more than 50mm.
- Where over fascia ventilation is used, it may be necessary to use a gutter spacer and height adjuster bracket in conjunction with fascia brackets to ensure the gutter is fitted in the optimum position.

#### Specifications for gutter bracket fixings

Gutter Type	Normal / Sheltered Areas	Snowfall / Exposed Areas	Max distance between brackets
Round	2 x 25 x 4mm or 1 x 32 x 5mm	2 x 25 x 5mm	1m
Square	2 x 25 x 4mm or 1 x 32 x 5mm	2 x 25 x 5mm	1m
Deepflow	2 x 25 x 4mm or 1 x 32 x 5mm	2 x 25 x 5mm	800mm
Ogee	2 x 25 x 4mm or 1 x 32 x 5mm	2 x 25 x 5mm	800mm
SuperDeep 170	2 x 25 x 4mm or 1 x 32 x 6.5mm	3 x 32 x 6.5mm	600mm
Cast Effect	2 x 25 x 4mm	3 x 25 x 5mm	1m

(4mm = 8 gauge, 5mm = 10 gauge, 6.5mm = 12 gauge stainless steel pan head screw)

### System Specifications (All flow rates have been independently established through physical testing to BS 12056-3:2000)

Gutter Type	Flow rate End Outlet (gutter laid level)	Area Drained	'Short' length gutter	Downpipe
Round	0.9l/s	43m²	2.4m	68mm Round
Square	1.6l/s	76m²	2.7m	68mm Round, 65mm Square
Deepflow	1.8l/s	86m²	3.4m	68mm Round
Ogee	2.2l/s	105m²	3.4m	68mm Round, 65mm Square
SuperDeep 170	4.3l/s	205m <sup>2</sup>	5.45m	100/110mm Round
Cast Effect Round	0.9l/s	43m²	2.4m	68mm Round
Cast Effect Ogee	2.2l/s	105m <sup>2</sup>	3.4m	68mm Round, 65mm Square
Cast Effect Deep	1.8l/s	86m²	3.4m	68mm Round

### **Snow Loading**

In locations where heavy snowfall is common, fixing centres for gutter brackets should be reduced to 600mm for all Kayflow systems. In addition all fixing holes should be used on all brackets and the use of snowboards is recommended where appropriate. For further advice on the specification and installation of Kayflow gutters please email:info@kayflow.co.uk or call 01827 317200



This drawing is for illustration only - full product range guides available



# **Kayflow**° 110mm underground pipe & fittings



coupie	er and slip d	coupier (doub	ie socket)
		code	pk
	coupler	UG10	1
	slip coupler	UG12	1
so	lvent weld	socket and so	ocket plug
	socket	UG117	1
	socket plug	UG111	1
	15	o bend (doub	ole socket)
		UG20	1
	20	° bend (doub	alo coaka <del>t</del> )
	30		
		UG18	1
	45	° bend (doub	ole socket)
	90	o bend (doub	ole socket)
		UG14	1
	90° swep	t bend (doub	ole socket)
		UG21	1
	Adjustable	e bend (doub	le socket)
		UG23	1
			001 000

coupler and slip coupler (double socket)

0° to 90°



### 110mm underground fittings





THE PROPERTY OF THE PARTY OF TH	rectangu	ar hopper
	UG104	1
	UG105 Grid ONLY	1

	rodding eye
UG1012	1

	level inver	t reducer
	UG115	1
	160	x 110mm

rainwater	adaptor
UG1010	1

110mm	straight rubbe	r coupler	
	UG1011	1	

UG1008

for use with bottle gully

Allen	plastic to cla	ay adaptor
	UG1009	1

### 160mm underground pipe & fittings



### **Kayflow** inspection chambers

### 320 inspection chamber

### 450 inspection chamber



1 x Main Entry 2 x 90° Entries 2 x 45° Entries 4 x Blanking Plugs Max. Depth 1200mm All Chambers 110mm



1











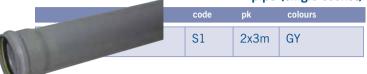






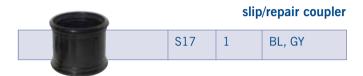
# Kayflow 110mm soil

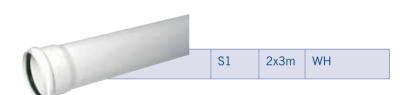
### pipe (single socket)

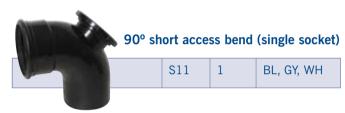


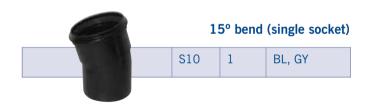
		coupler
code	pk	colours
\$16	1	BL, GY, WH
		, ,

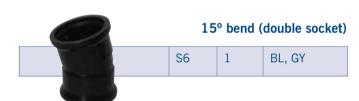


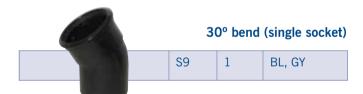




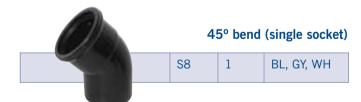


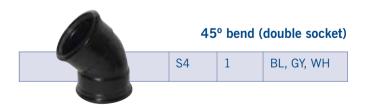










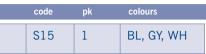






110mm soil









code	pk	colours
S13	1	BL, GY, WH



### 90° branch (double socket)

S14	1	BL, GY, WH
		, - ,



### 90° branch (triple socket)

S12	1	BL, GY, WH
-----	---	------------



### access junction (double socket)

S18	1	BL, GY, WH



### air admittance valve

	S24	1	BL, GY, WH
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### straight access pipe (single socket)

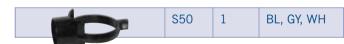
S25	1	BL, GY, WH	
020		DL, GI, 1111	



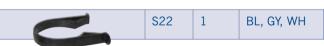
### cowl

Personal	
S21 1 BL, GY, WH	









### 40mm adaptor

61	S40	1	BL

### end plug/cap

0	1	BL, GY
		· '

### 32mm adaptor

<b>(1)</b>	S32	1	BL



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