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October 2011

**PAM**

**Classical**

**Specifiers Manual**  
**Cast Iron Rainwater Pipe**  
**& Gutter Systems**

*Classical*  
**EXPRESS**

*Classical* **PLUS**



**PAM**  
SAINT-GOBAIN





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Note: Our policy of continuing product development and improvement necessitates that we reserve the right to modify designs shown in this brochure without prior notice.

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# Introduction

**Saint-Gobain PAM UK is a leading supplier of ductile iron pipes, fittings, valves, access covers, gullies and grates, as well as being the leading producer of cast iron above and below ground drainage systems.**

Its markets include water and sewerage, telecommunications, highways, civil engineering, construction and housing.

Saint-Gobain PAM UK, specialises in the manufacture of cast iron above and below ground drainage systems and rainwater and gutter systems.

Cast iron gutters have been manufactured at the Telford site for over 100 years, building a reputation for supplying quality products and services for the housing and construction industry in the UK and World markets.

To support our commitment to quality, Saint-Gobain PAM UK is the only cast

iron manufacturer to achieve British Board of Agrément third party Accreditation for its standard range of half round gutter systems and round downpipe systems within the Classical range. Saint-Gobain PAM UK also manufactures under BS EN ISO 9001:2000 Quality Management Systems.

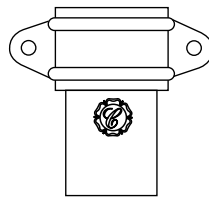
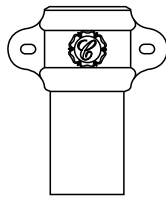
Prominent downpipe products in the Classical range will carry the distinctive 'C' rosette. Classical is distributed in the UK through a wide selection of builders/plumbers merchants at national and local level.

When specifying/installing cast iron rainwater systems 'insist on the mark of quality' and be sure of its origin of manufacture and quality performance.



## Markings

**'Classical' rainwater pipes:**



### Circular pipes:

Classical 'C' rosette cast on the socket

### Fittings

Loose sockets, shoes, access pipes

### Rectangular pipes:

Classical 'C' rosette cast on the pipe barrel underneath the socket

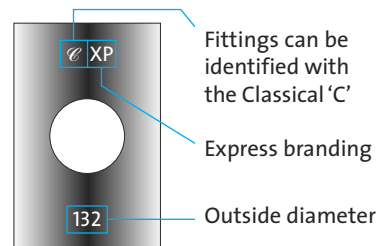
### Fittings

Shoes



All the remaining rainwater fittings and gutter fittings can be identified with the Classical 'C' badge

## Classical Express product markings



Fittings can be identified with the Classical 'C'

Express branding

Outside diameter



## Technical Sales Support

Classical rainwater systems are supported by our experienced technical representatives who can carry out site visits and assist the specifier with design and identification of the most appropriate cast iron system, together with scheduling of materials.

See details below or visit the website for details of your local representative, and literature requests:

[www.saint-gobain-pam.co.uk](http://www.saint-gobain-pam.co.uk)

## Technical Advisory Service

Saint-Gobain PAM UK offers a comprehensive technical advisory service. The technical team can provide the customer with a complete CAD drawing – design and take-off – detailing of bill of materials for the gutter and downpipe system in cast iron – FREE OF CHARGE.

**Tel: 01952 262529. Fax: 01952 262592.**

**Email: [technical.soildrain.uk.pam@saint-gobain.com](mailto:technical.soildrain.uk.pam@saint-gobain.com)**



## Commitment to quality

Saint-Gobain PAM UK is committed to satisfying its customers' needs in both quality products and services.

It recognises the necessity for continual improvement in all disciplines throughout the organisation and clearly states this objective to its employees at all levels.

As a basis for this objective, the company is committed to operating strict quality management systems in accordance with BS EN ISO 9001:2000. It also recognises the responsibility of the company's employees in meeting the quality objectives and is conscious of their training and development needs.

## Quality Assurance – Endorsed by British Standard BS EN ISO 9001: 2000

Products included in this manual are manufactured under the BS EN ISO 9001:2000 Quality Assurance Scheme, providing the highest guarantee of product quality, reliability and safety.

A strict quality control policy is maintained throughout the company from purchasing of raw materials to the inspection and testing of products. Spot checks are made throughout the year by the BSI inspectorate, to ensure that standards are not allowed to fall.

BS EN ISO 9001:2000 legislates for Quality Assurance and may be chosen as an alternative 'third party guarantee'. It also provides a means of underwriting the quality of products which lie outside the scope of product standards such as BS 460.

On occasions, owing to pressure on normal production units, it may be necessary to manufacture certain components outside the confines of the BS EN ISO 9001:2000 Quality Assurance license. Such items will be produced however, to a quality in keeping with that of accredited manufacturing units.

Components so produced will be identified on the order acknowledgement.

## BS 460 Product standards

Classical cast iron rainwater systems conform to the dimensional requirements of BS 460. (Where applicable).

## BBA Approval

Saint-Gobain PAM UK have been awarded a British Board of Agrément third party accreditation for its standard range of half round gutter systems and circular downpipe systems, within the Standard range.

It should be noted that these are the only cast iron rainwater and gutter systems with BBA approval and manufactured under BS EN ISO 9001:2000 scheme of Quality Assurance.







**Saint-Gobain PAM UK specialises in the manufacture of cast iron above and below ground drainage systems and rainwater and gutter systems.**

Cast iron gutters have been manufactured at the Telford Sinclair site for over 100 years – previously under names Allied Iron pre-1969, then Glynwed Foundries before being acquired by Saint-Gobain in 1997.

Manufacturing at Telford is operated under strict quality management systems BS EN ISO 9001:2004 and has been awarded the 'manufacturing to Environmental Standards' accreditation BS EN ISO 14001:2004.

This standard was developed to help manufacturers maintain and improve their management of environmental responsibilities and assist them in ensuring compliance with environmental laws and regulations.

## Quality manufacturing

Saint-Gobain PAM UK centrifugally spin their rainwater pipes that ensures consistent section dimensions.

The volume gutters are produced from spun castings using a plasma cutter – providing top quality gutters that are consistent and straight.

The gutter and rainwater downpipe fittings are manufactured using various methods:

- **Volume fittings made on a Disamatic**
- **Lower volume fittings in our special products plant.**

## Services at Telford

- **Technical advisory –**
  - *Advice and guidance on installation*
  - *Complete CAD drawing design and take-off*
  - *Detailed bill of materials – FREE OF CHARGE*
- **Ability to make special castings**
  - *Replica castings made from existing iron fittings*
  - *Modify angle fittings to suit particular needs*
  - *Each casting is quoted on a job basis.*



## Why cast iron is the green choice

Cast iron as a material provides many reasons why it's the first choice over plastic based systems when considering the future environmental impact.

- **Cast iron uses 97% recycled material in the manufacture of gutters and rainwater systems, which in turn are 100% recyclable. Cast iron which has come to the end of its long life has a residual value by taking it to a scrap merchant. Cast iron can be re-melted and made into new. Other materials such as plastic claim they are recyclable – but too often end up as landfill as the infrastructure to carry out such recycling just isn't there.**
- **Cast iron is a Greenpeace recommended drainage material. There can be no greater approbation than one from the world's foremost environmental campaigners who leave no stone unturned in their determination to husband our planets dwindling resources and safeguard its environment for the future.**

- **Long life. Strong and durable, cast iron has a proven long life span and it is not uncommon for it to exceed 100 years. Cast iron systems will last your lifetime, demanding little if any modernisation and minimal maintenance. The natural consequence of this of course is absolutely minimal environmental impact.**
- **Plastic may be able to resemble something like cast iron – but it will never be able to replace it.**

### MAKE CAST IRON A MATTER OF FACT IN YOUR ENVIRONMENT

We do not own this planet. Every generation is but a caretaker for the next. How responsibly we husband this precious environment and its dwindling resources will be our greatest contribution to its sustainability. And our children's children will be our judges.







## Environmental Standard BS EN ISO 14001: 2004



Saint-Gobain PAM UK manufacturing sites including Sinclair, at Telford have been awarded the 'Manufacturing to Environmental Standards' accreditation BS EN ISO 14001: 2004 which was developed to help manufacturers maintain and improve their management of environmental responsibilities and assist them in ensuring compliance with environmental laws and regulations.

Saint-Gobain PAM UK operates Integrated Pollution and Preventative Control (IPPC) regulations, and have implemented comprehensive environmental management systems throughout its manufacturing sites.

## CEMARS certification

(Certified Emissions Measurement And Reduction Scheme)

Saint-Gobain PAM UK Ltd has been awarded certification to the world class, ISO-accredited CEMARS (Certified Emissions Measurement And Reduction Scheme) standard by the Achilles carbonReduction programme.

CEMARS certification demonstrates the company's commitment to measuring, managing and reducing greenhouse gas emissions in a robust and credible way. It confirms the company has measured its greenhouse gas emissions in compliance with ISO 14064-1:2006 and has committed to managing and reducing its emissions in respect of all operational activities across its Water & Sewer, Municipals and Soil & Drain business units.

Saint-Gobain PAM UK Ltd has achieved CEMARS for its operational carbon footprint for the period 2011–2014.





# Why choose cast iron?

## Planning policy

The material properties of cast iron have long been recognised and it is these which make it particularly suitable for the rainwater systems of listed buildings and wherever conservation is an issue.

In its revised Planning Practice Guide (PPS5) for Historic Environment, the Department of Communities and Local Government, and English Heritage it not only advises a change from original materials usually requires building consent but also under point 189 (guide page 49) supports the use of materials appropriate to the relevant period, such as cast iron for gutters and downpipes for many Georgian and Victorian buildings.

No other material can match the character, durability, strength or appeal of cast iron and – most importantly – only cast iron can preserve the intentions of the original architect and the aesthetic integrity of the building.

## Strength

- High resistance to impact (accidental and vandalism) a major consideration for inner cities, town shopping precincts and schools etc
- Secure against – heavy snow falls and high winds if bracketed in accordance with manufacturers recommendations
- Rigidity to comfortably accommodate the weight of ladders for routine maintenance
- The physical properties of cast iron will be sustained throughout its life (provided adequately painted and maintained).

## Quiet/noiseless

- Will not rattle in high winds
- Will not twist/creak due to temperature changes
- Excellent sound deadening properties – therefore no significant sound of running or dripping water disturbing the peace.



## 100% recyclable

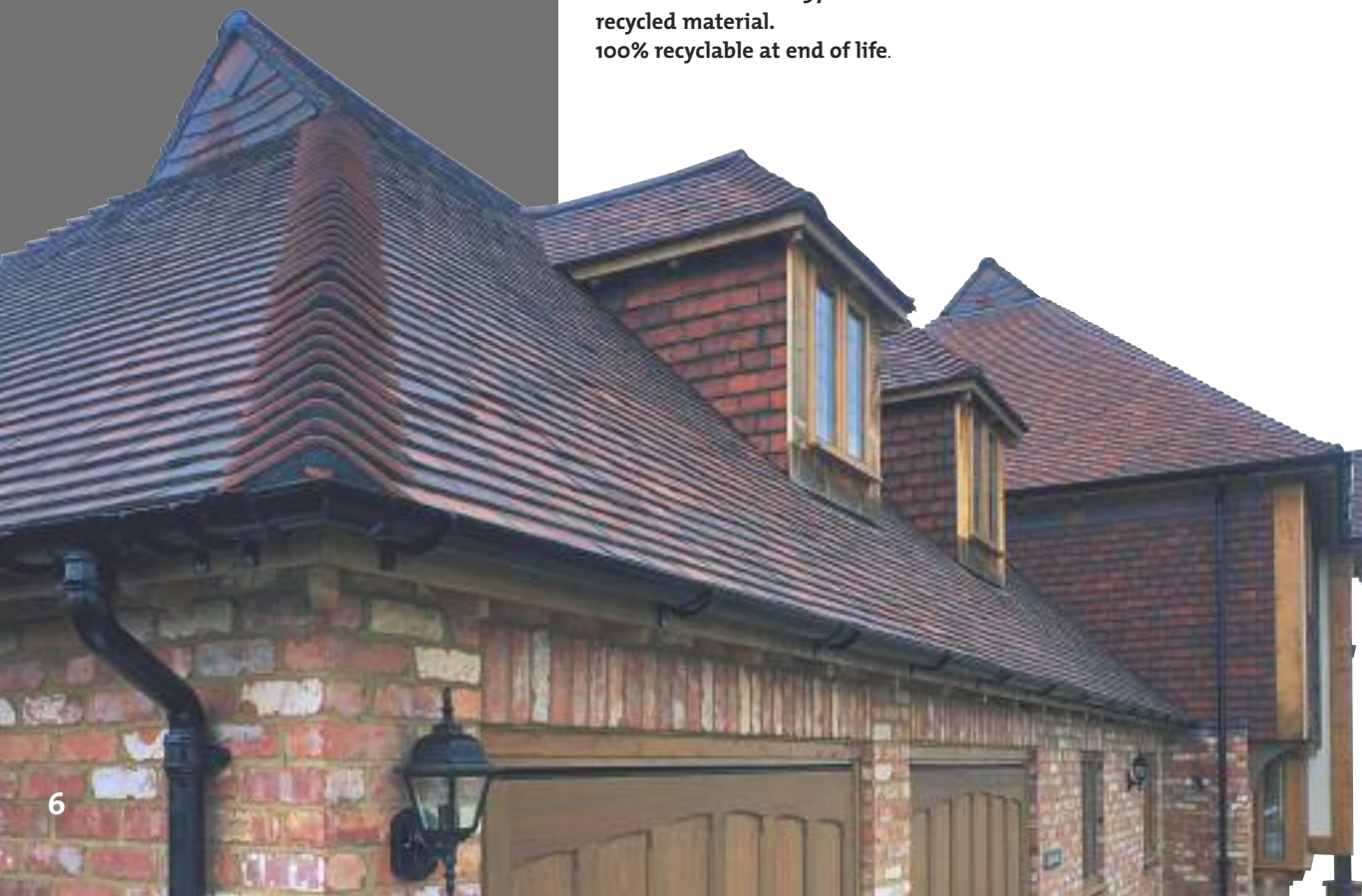
Manufactured from 97% recycled material.  
100% recyclable at end of life.

## Appearance

- Cast iron has aesthetic charm that simply cannot be matched by other materials
- Retains and enhances the traditional character of the building
- Can be painted any colour to match building
- Enhances perception of the value to the property
- Many profiles to match all architectural styles.

## Longevity

- Naturally durable up to 100 years
- Cost effective in long term
- Minimal maintenance: If installed correctly to the manufacturer's recommendations, cast iron systems should require little structural maintenance throughout their life only periodical painting approximately every 7-10 years (*depending on location and climatic conditions*)
- Eliminates unnecessary replacement and waste – not adding to landfill, leaving no legacy of waste for future generations
- Profile designs have changed little over the years. Therefore new components can easily be integrated into existing systems, avoiding costs of complete replacement.





# The benefits of Classical

## Quality downpipes

Classical rainwater downpipes (circular) are produced using the latest pipe manufacturing technology – centrifugally spinning the pipe ensuring consistent section dimensions.

## Classical Plus



Pre-painted, ready to install cast iron rainwater systems in a semi-gloss black finish as standard, further colours available to order saving both time and materials. (See page 9).

## Classical Express



A true half round gutter profile with increased flow rates – over existing half round. A unique jointing clip making installation easier than ever. (See page 8).

## Cast iron jointing kit

A rubber gasket jointing kit for use with G800 HR gutters enabling quicker and cleaner installation when compared to the traditional mastic/putty method. (See page 32).

## Rainwater pipe sockets

- Elongated fixing holes (Eared)
- Drip grooves – will encourage rainwater to run down rainwater pipe away from wall, avoiding staining of wall
- Recessed ear piece – eliminates ponding of water at back of socket
- Internally profiled
- Increased spigot length – improves location within pipe when used in loose situation
- Guaranteed joint integrity
- Now customised.

## Spigot pipes/loose socket option

To increase the flexibility of installing the Classical circular downpipes, plain ended pipe barrels (1,750mm length) are available to use with the rainwater socket. This will allow the installer to utilise more effectively, pipe offcuts and save cost on reduced wastage. This option also provides the installer the flexibility to work bottom up or vice versa. (See page 34).

## Cast iron spacer plates

Available to suit the eared circular downpipes, the cast iron spacer plate is used to position the pipe away from the wall to accommodate uneven wall surfaces and assist in painting after installation. The spacer plates will equal the life expectancy of the system and complements the installation. (See page 14).

## Coating/colour

- Classical is available either with black primer coating or factory applied top coat
- Reduces number of paint finishing systems on-site
- Reduction in time and cost of installation
- Colour of finished product predominantly black – but also available in other colours to order.

## Extensive range

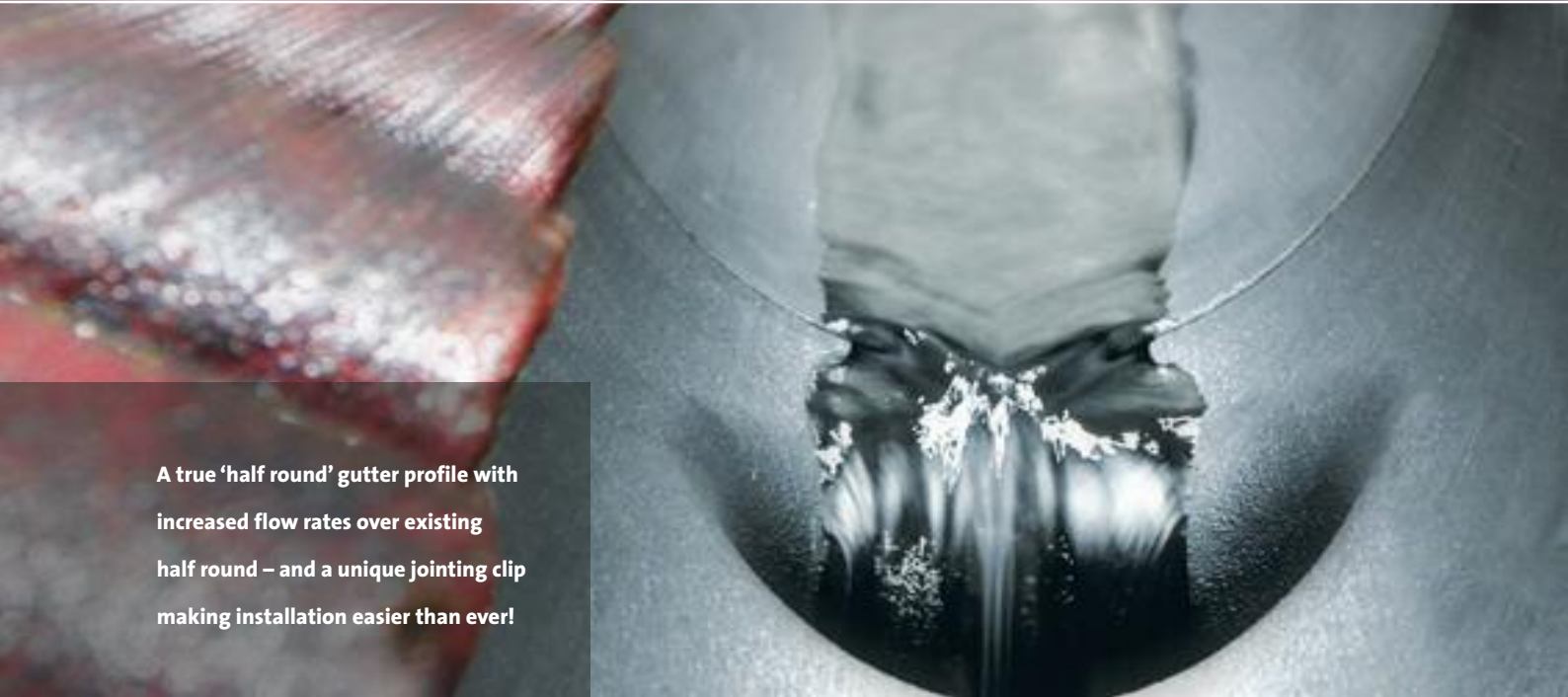
The Classical range of cast iron rainwater systems offers eight gutter profiles a choice of round, square and rectangular pipes with extensive ranges of associated fittings to suit any building whatever the architectural style.

## Design

All the Classical standard HR gutters have undergone hydraulic testing (HR Wallingford) to establish actual capacity, capabilities and performance.

Circular downpipes incorporating the new socket design have also been assessed in conjunction with gutters.





A true 'half round' gutter profile with increased flow rates over existing half round – and a unique jointing clip making installation easier than ever!

- Fast, clean and easier to install
- Available in 125mm – flow capacity 1.5 litres per second
- Use with existing 75mm Classical round downpipes
- Double spigot design, so fewer fittings required
- Unique jointing clip enables joint to be completed in only minutes
- Higher flow capacity than existing 150mm 'half round' standard.

### Classical Express Plus

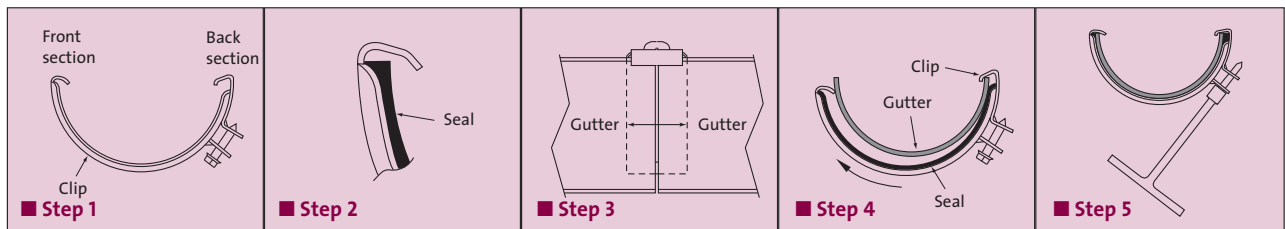
- The Classical Express system is available in the factory applied top coat – (semi gloss black) for immediate installation.  
*(See opposite for coating details).*

### Classical Express benefits

- True half round profile gives significantly higher flow rates than traditional half round
- System able to cope with increased rainfall attributed to climate change

- Joint can be completed in a matter of minutes and in any weather condition
- Reduces the time and cost for scaffolding which may have to be hired
- Reduces the total installed time
- Double spigoted design means fewer fittings so ordering, delivery, and stocking are much simpler
- Competitively priced against other high flow metal systems
- Flexibility of clip jointing can allow some deflection.

## Classical Express clip assembly instructions



Slacken bolt to the fullest extent.

Locate the gasket centrally within the clip assembly ensuring the seal ends are positioned within the locating lugs.

Locate the back section on the rear gutter edge and ensure clip is positioned equal distant to each end of the gutter.

**Note:** In the case of fittings, use the joint location lugs as a guide.

Bring the front section forwards and clip onto the front edge of the gutters. Re-check the position and bolt up tight.

Typical appearance of assembled joint.



**Pre-painted, ready-to-install, cast iron rainwater systems in a semi-gloss, black finish as standard!**

- Cast iron system with factory-applied finished coating
- In standard 'half round', Express and OG gutters and round downpipe from stock
- PLUS coating available on all other gutter profiles and downpipes **to order**
- Needs no extra labour (no undercoating or topcoating needed prior to installation)
- Cuts total installation time to a minimum
- Durable, longlasting, even finish
- Cost comparable against powder-coated cast aluminium.



### PLUS coating

The Classical Plus coating is high performance polymer alloy PPA571 recognised for its outstanding performance on external metals.

### Classical PLUS colour options

The Classical Plus range can now be supplied in a range of colour options, see chart examples. Other RAL colours will be considered available on a made to order basis.

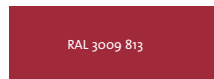
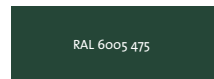
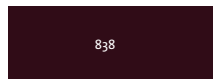
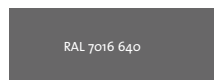
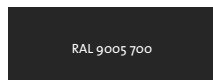
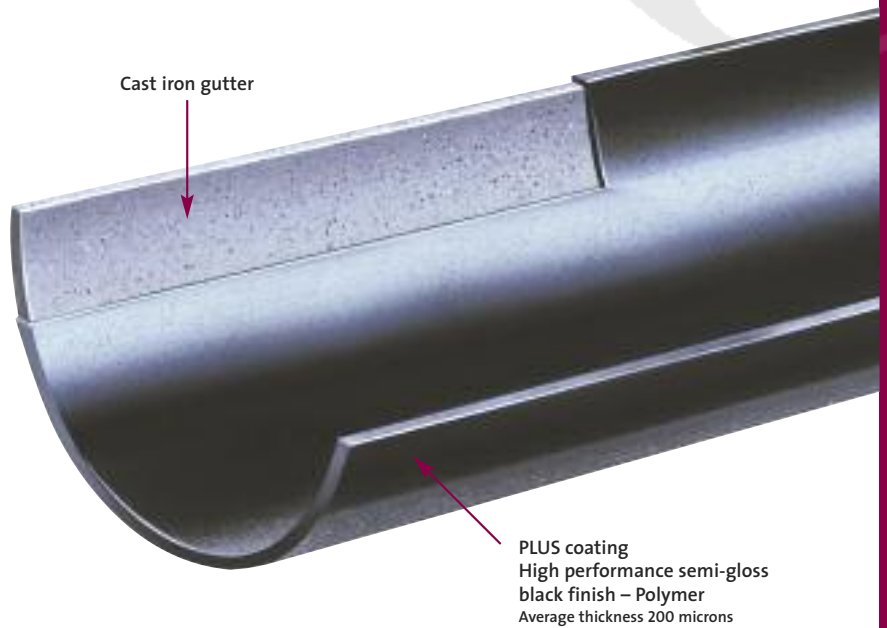
### Classical Plus benefits

- Minimal maintenance
- Finished coated product. Does not require additional labour time for under coating and top coating prior to installation
- Tested to 1500 hours salt spray and ultra violet resistance
- Reduces the time and cost for scaffolding which may have to be hired
- Reduces the total installed time by up to 60%
- The coatings are factory applied to a consistent standard
- When used with gutter jointing kits installation can be completed in one day.

### Installation advice for Classical Plus

- Product is supplied wrapped to protect from physical damage. Care should be taken when handling
- After installation, it is important that any slight installation damage to the coating is repaired with the appropriate quick drying touch up paint and that any cut pieces are also primer coated and top coated
- For properties located in coastal areas, Saint-Gobain PAM can offer a finished coat which is designed to perform in aggressive atmospheres – price on application.

	Product code
0.5 litre tin Primer	192549
0.5 litre tin Top Coat	192550



Please note: Actual RAL colours when applied to the product may vary from these representations.



# Timesaver Heritage

**Timesaver is a mechanically jointed cast iron soil system to BS 416 part 2, British Standard Kitemark approved. The range includes push-fit couplings that turn a mechanical system into one with a traditional socket appearance of yesteryear, as depicted in BS 416 part 1 – but without the labour intensive caulked jointing method.**

Supplied in a black water based primer coat the product is easy to overpaint and is the modern solution for external cast iron soil stacks, often seen on listed buildings, pre-1960's housing and properties situated in areas of conservation.

The Heritage couplings are available in 50, 75 and 100mm diameters that connect standard timesaver pipe and fittings.

Pipes are available in 3 metre lengths for 50mm diameter (also available on 75 and 100mm), and 1.8m (6ft) lengths in 75 and 100mm diameters specially introduced to meet this field of application.

**The Heritage couplings are available in three types:**

- **With fixing ears to fit to the wall**
- **Plain without ears for connection only**
- **Slip version available to use when pipework already installed.**

The couplings are easy to install – with the application of Saint-Gobain lubricant (Product code 199037) or a silicon spray – pushing the socket over the spigot of the pipe or fitting until it abuts to a central register.

When suitably painted with a quality external paint system – the Timesaver Heritage pipework adds the final aesthetic touch to the traditional appearance of your property.

For details of the Timesaver Heritage range, please request the Timesaver catalogue or download from our website [www.saint-gobain-pam.co.uk](http://www.saint-gobain-pam.co.uk)





# Classical showcase



Classical cast iron rainwater systems

# Rainwater diverter kit

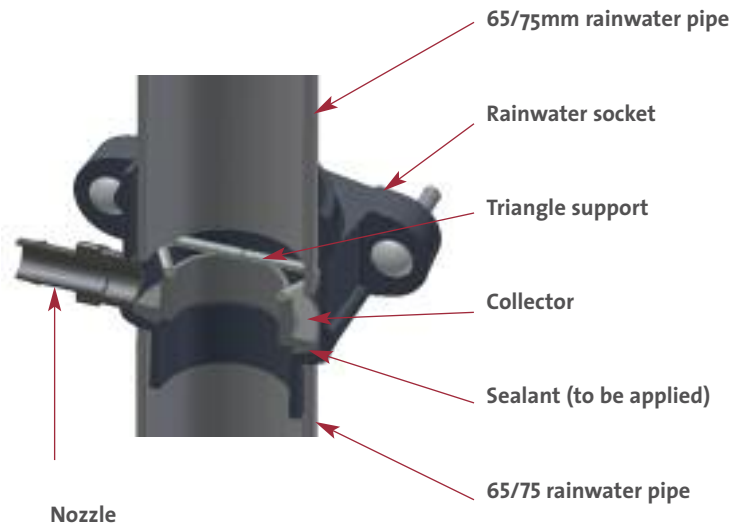
The Classical range now includes a rainwater diverter in cast iron, enabling homeowners to utilise natural resources effectively, and save money on their water bills.

The rainwater diverter is obtainable in kit format in sizes 65mm and 75mm diameter in standard primer or PLUS finish for installing into a new or an existing system.

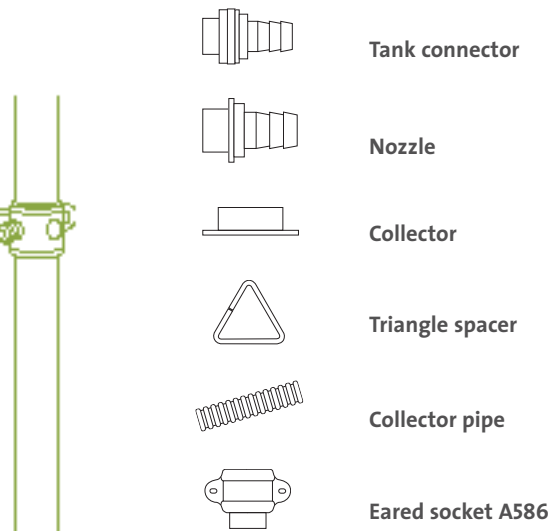
Complete with all connecting plugs and a tube to connect to most water butts, the diverter mechanism fits inside a standard eared loose socket (A586), and is bag packed, with a step by step instruction installation guide.

## Installation

- Simply determine the size and capacity water butt to be used
- Fix the socket into the downpipe with the outlet at a similar level to the inlet of the water butt and allow for a slight fall
- When installed the collector should be no higher than the top of the water butt so that when the water butt is full the water will flow back down the rainwater pipe
- Secure the socket back to the wall using 8mm x 75mm coachscrews and wall plugs. Drop the triangular spacer on top of the collector to prevent the pipe above slipping down. Insert the rainwater pipe from above and fix back to the wall.



## Diverter kit contents



### A593 Rainwater diverter kit

Suitable for 65mm and 75mm down pipes. Connection right hand or left. Sold in kit.



Product code	Primed	PLUS	Dia	Hand	Wt
192395	192397	65	LEFT	1.6	
192396	192398	75	LEFT	1.8	
214840	217407	65	RIGHT	1.6	
217408	217409	75	RIGHT	1.8	

Dimensions as loose socket A586

Supplied in a bag with fixing instructions. Water butt not included.



## Bespoke castings

**Saint-Gobain PAM UK has the capability to manufacture bespoke castings to support its comprehensive standard product range.**

The Telford site includes a special products manufacturing plant which operates moulding machines for low to medium volume products to floor moulding for bespoke castings to virtually any size.

A fabricating facility has been installed at Telford – to further invest into this bespoke fittings service.

Through this investment Saint-Gobain PAM UK can not only offer replica castings made from existing iron fittings, and modified angle fittings but also large size decorative gutters to decorative rainwater heads.



Due to the nature and variety of specials each casting is quoted on a job basis. Our Technical advisory service will provide a confirmation design and quotation upon request.

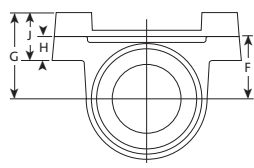
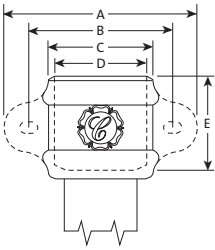
Contact details:  
Tel – 01952 262 529  
Fax – 01952 262 592  
Email – [technical.soildrain.uk.pam@saint-gobain.com](mailto:technical.soildrain.uk.pam@saint-gobain.com)



# Round pipes and fittings



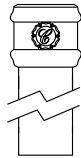
## A585 Pipe



Pipe	Nominal bore		
	65	75	100
Internal dia	60	73	99
External dia	67	79	105
Section thickness	3	3	3
Socket			
A Ears over all	150	162	191
B Hole centres	111	130	158
C External dia	81	93	120
D Internal dia	72	86	112
E Internal depth	76	77	83
F Back of ear to centre of pipe	47	53	66
G Ditto – including wall spacer plate	67	73	86
H Ear thickness	20	20	20
J Ear thickness with wall spacer	40	40	40

## A585 Pipe without ears

Uneared

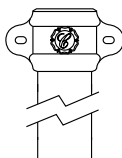


Product code		Length	Dia
Primed	PLUS		
19190	192447	1830	65
19191*	-	1830	65
Product code		Length	Dia
Primed	PLUS		
19194	192449	1830	75
19195*	-	1830	75
Product code		Length	Dia
Primed	PLUS		
19198	192451	1830	100

\* Double socket pipes uneared

## A585 Pipe with ears

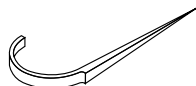
Eared



Product code		Length	Dia
Primed	PLUS		
19192	192448	1830	65
Product code		Length	Dia
Primed	PLUS		
19196	192450	1830	75
Product code		Length	Dia
Primed	PLUS		
19199	192452	1830	100

## A549 Drive-in spike

Product code	Dia	Wt
192371	65	0.2
192372	75	0.3

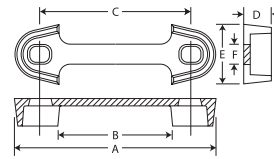


## A585 Pipe barrels



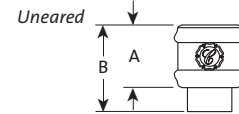
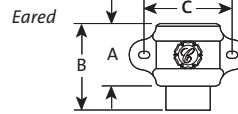
Product code		Length	Dia
Primed	PLUS		
192216	192558	1750	65
Product code		Length	Dia
Primed	PLUS		
192217	192559	1750	75
Product code		Length	Dia
Primed	PLUS		
192218	192560	1750	100

## A584 Cast iron wall space plates



Product code		Dia	A	B	C	D	E	F	Wt
Primed	PLUS								
192213	192555	65	148	85	111	20	42	15	0.2
192214	192556	75	158	94	130	20	43	15	0.3
192215	192557	100	187	120	158	20	45	20	0.4

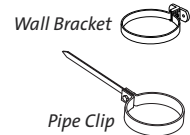
## A586 Socket loose with or without ears



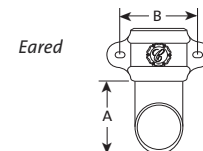
Product code		Dia	A	B	C	Wt
Primed	PLUS					
191921	192453	65	79	109	111	1.3
191922	192454	75	82	112	130	1.5
191923	192455	100	86	116	158	2.0
Product code		Dia	A	B	C	Wt
Primed	PLUS					
192219	192561	65	79	109	-	0.9
192220	192562	75	82	112	-	1.1
192221	192563	100	86	116	-	1.3

## A548 Wall bracket/pipe clip with spike in zinc plated mild steel

Product code		Dia	Wt
Wall Bracket Zinc CTD	PLUS		
192301	192400	65	0.2
192302	192401	75	0.3
192303	192402	100	0.4



## A588 Shoes with or without ears



Product code		Dia	A	B	Wt
Primed	PLUS				
191924	192456	65	118	111	2.3
191925	192457	75	127	130	2.8
191926	192458	100	180	158	4.5
Product code		Dia	A	B	Wt
Primed	PLUS				
192227	192569	65	118	-	2.2
192228	192570	75	127	-	2.3
191927	192459	100	180	-	3.8

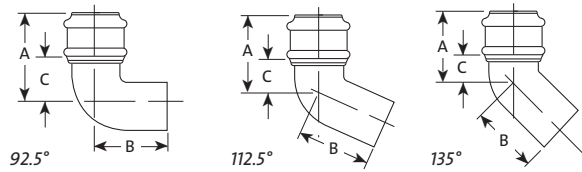
Dimensions (mm) Weight (kg)



# Round pipes and fittings

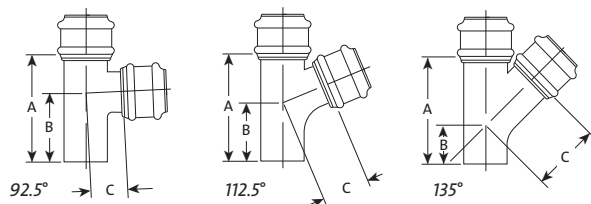


## A591 Bends



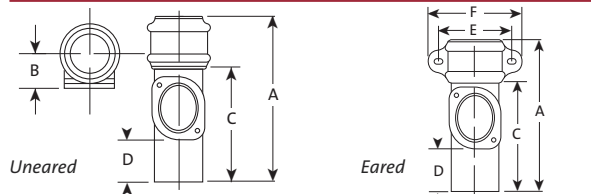
92.5° Bend		Dia	A	B	C	Wt
Product code						
Primed	<b>PLUS</b>					
191930	192462	65	140	140	77	1.9
191933	192465	75	146	146	83	2.6
191936	192468	100	175	175	96	4.3
112.5° Bend		Dia	A	B	C	Wt
191931	192463	65	121	121	58	1.9
191934	192466	75	124	124	58	2.3
191937	192469	100	140	140	70	3.8
135° Bend		Dia	A	B	C	Wt
191932	192464	65	108	108	45	1.6
191935	192467	75	111	111	48	1.9
191938	192470	100	135	135	50	2.9

## A592 Branches



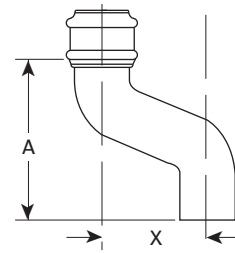
92.5° Branch		Dia	A	B	C	Wt
Product code						
Primed	<b>PLUS</b>					
191939	192471	65 x 65	209	150	79	3.0
191942	192474	75 x 75	222	159	82	4.0
191945	192477	100 x 100	264	190	95	5.9
112.5° Branch		Dia	A	B	C	Wt
191940	192472	65 x 65	197	130	80	3.0
191943	192475	75 x 75	191	120	80	3.5
135° Branch		Dia	A	B	C	Wt
191941	192473	65 x 65	238	133	110	3.3
191944	192476	75 x 75	223	115	120	3.6

## A590 Access pipe with or without ears



Unearred		Dia	A	B	C	D	Wt		
Product code									
Primed	<b>PLUS</b>								
191928	192460	65	181	55	190	70	2.4		
191929	192461	75	203	62	215	75	3.4		
192222	192564	100	318	58	232	92	4.9		
Eared		Dia	A	B	C	D	E	F	Wt
192410	192412	65	181	55	190	70	111	150	2.9
192411	192413	75	203	62	215	75	130	162	3.8
192223	192565	100	318	58	232	92	158	190	5.5

## A594 Offset

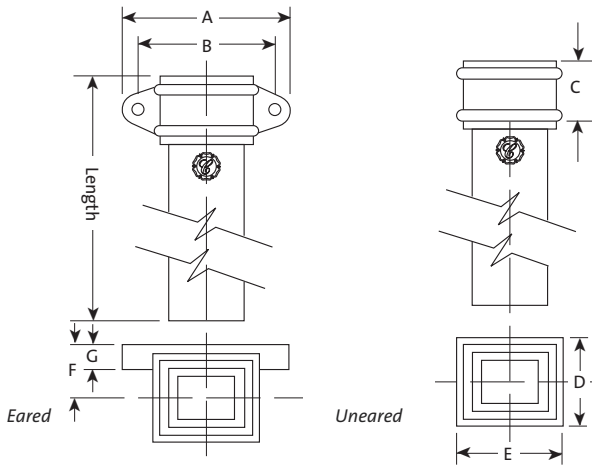


Product code	Primed	PLUS	Dia	X	A	Wt
191946	192478		65 mm	75mm offset	191	2.3
Product code	Primed	PLUS	Dia	X	A	Wt
191953	192485		75 mm	75mm offset	200	2.7
Product code	Primed	PLUS	Dia	X	A	Wt
191960	192492		100 mm	75mm offset	245	4.7
Product code	Primed	PLUS	Dia	X	A	Wt
191947	192479		65 mm	115mm offset	210	2.6
Product code	Primed	PLUS	Dia	X	A	Wt
191954	192486		75 mm	115mm offset	216	2.7
Product code	Primed	PLUS	Dia	X	A	Wt
191961	192493		100 mm	115mm offset	235	4.1
Product code	Primed	PLUS	Dia	X	A	Wt
191948	192480		65 mm	150mm offset	235	3.2
Product code	Primed	PLUS	Dia	X	A	Wt
191955	192487		75 mm	150mm offset	232	3.5
Product code	Primed	PLUS	Dia	X	A	Wt
191962	192494		100 mm	150mm offset	250	5.9
Product code	Primed	PLUS	Dia	X	A	Wt
191949	192481		65 mm	230mm offset	248	3.4
Product code	Primed	PLUS	Dia	X	A	Wt
191956	192488		75 mm	230mm offset	265	3.8
Product code	Primed	PLUS	Dia	X	A	Wt
191963	192495		100 mm	230mm offset	290	6.2
Product code	Primed	PLUS	Dia	X	A	Wt
191950	192482		65 mm	305mm offset	280	3.8
Product code	Primed	PLUS	Dia	X	A	Wt
191957	192489		75 mm	305mm offset	295	5.0
Product code	Primed	PLUS	Dia	X	A	Wt
191964	192496		100 mm	305mm offset	310	6.4
Product code	Primed	PLUS	Dia	X	A	Wt
191951	192483		65 mm	380mm offset	337	4.5
Product code	Primed	PLUS	Dia	X	A	Wt
191958	192490		75 mm	380mm offset	330	6.4
Product code	Primed	PLUS	Dia	X	A	Wt
191965	192497		100 mm	380mm offset	340	6.8
Product code	Primed	PLUS	Dia	X	A	Wt
191952	192484		65 mm	455mm offset	381	5.9
Product code	Primed	PLUS	Dia	X	A	Wt
191959	192491		75 mm	455mm offset	360	6.8
Product code	Primed	PLUS	Dia	X	A	Wt
191966	192498		100 mm	455mm offset	365	7.7

Dimensions (mm) Weight (kg)



## A601 Pipe with or without ears



### Eared (length 1830)

Product code	Size	A	B	C	D	E	F	G	Wt
220880	75 x 75	171	131	66	115	115	47	25	26.0
191968	100 x 75	205	165	85	115	145	60	25	30.0
220902	100 x 100	196	157	66	145	145	60	25	36.0
220905	125 x 100	221	181	66	145	165	60	25	40.0

### Uneared (length 1830)

220901	75 x 75	-	-	66	115	115	-	-	26.0
191967	100 x 75	-	-	85	115	145	-	-	30.0
220904	100 x 100	-	-	66	145	145	-	-	36.0
220906	125 x 100	-	-	66	145	165	-	-	40.0

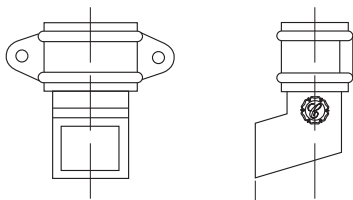
### Eared (length 915)

Product code	Size	Wt
✓	75 x 75	16.0
✓	100 x 100	22.0
✓	125 x 100	26.0

### Uneared (length 915)

✓	75 x 75	16.0
✓	100 x 100	22.0
✓	125 x 100	26.0

## A603 Front shoe with or without ears



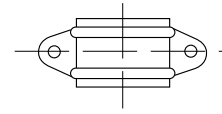
### Eared

Product code	Size	Wt
225541	75 x 75	4.8
191970	100 x 75	4.8
224876	100 x 100	6.0
222844	125 x 100	5.0

### Uneared

✓	75 x 75	3.8
191969	100 x 75	4.5
✓	100 x 100	4.7
222671	125 x 100	5.0

## A604 Loose socket with or without ears



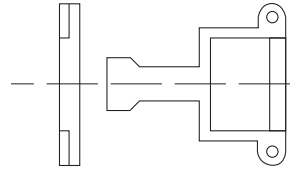
### Eared

Product code	Size	Wt
✓	75 x 75	2.4
191972	100 x 75	2.8
✓	100 x 100	2.8
225776	125 x 100	3.0

### Uneared

✓	75 x 75	2.1
191971	100 x 75	2.5
✓	100 x 100	2.5
✓	125 x 100	2.8

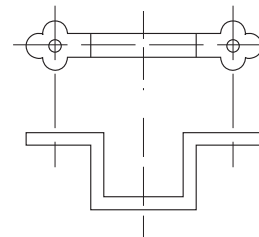
## A605 Holderbat (build-in)



### Product code

Product code	Size	Wt
✓	75 x 75	1.7
191973	100 x 75	2.0
✓	100 x 100	2.2
✓	125 x 100	2.4

## A606 Earband plain or trefoil



### Plain

Product code	Size	Wt
✓	75 x 75	1.5
191975	100 x 75	1.6
✓	100 x 100	1.6
225769	125 x 100	1.7

### Trefoil

✓	75 x 75	1.3
191974	100 x 75	1.4
✓	100 x 100	1.4
✓	125 x 100	1.5

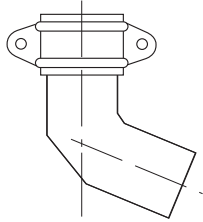
Other decorative earbands available upon request



# Square and Rectangular pipes and fittings

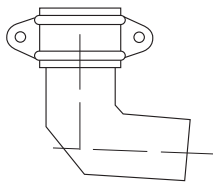


## A607 112½° Side bend with or without ears left or right hand (R.H. illustrated)



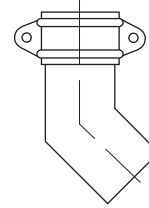
Plain unearred		
Product code	Size	Wt
✓	75 x 75	5.6
<b>191976</b>	100 x 75	6.6
✓	100 x 100	7.3
✓	125 x 100	8.0
Eared left hand		
✓	75 x 75	5.8
<b>191977</b>	100 x 75	6.8
✓	100 x 100	7.5
✓	125 x 100	8.3
Eared right hand		
✓	75 x 75	5.8
<b>191978</b>	100 x 75	6.8
✓	100 x 100	7.5
✓	125 x 100	8.3

## A608 92½° Side bend with or without ears left or right hand (R.H. illustrated)



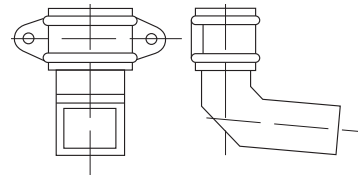
Plain unearred		
Product code	Size	Wt
✓	75 x 75	6.6
<b>191979</b>	100 x 75	7.8
✓	100 x 100	8.6
✓	125 x 100	9.5
Eared left hand		
✓	75 x 75	7.0
<b>197170</b>	100 x 75	8.2
✓	100 x 100	9.0
✓	125 x 100	9.9
Eared right hand		
✓	75 x 75	7.0
<b>191980</b>	100 x 75	8.2
✓	100 x 100	9.0
✓	125 x 100	9.9

## A609 135° Side bend with or without ears left or right hand (R.H. illustrated)



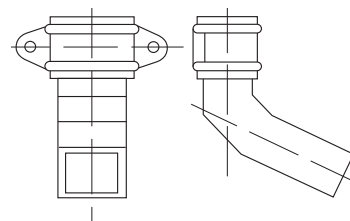
Plain unearred		
Product code	Size	Wt
<b>225089</b>	75 x 75	5.8
<b>191981</b>	100 x 75	5.8
✓	100 x 100	6.4
✓	125 x 100	7.0
Eared left hand		
✓	75 x 75	5.1
<b>191982</b>	100 x 75	6.0
✓	100 x 100	6.6
✓	125 x 100	7.3
Eared right hand		
✓	75 x 75	5.1
<b>191983</b>	100 x 75	6.0
✓	100 x 100	6.6
✓	125 x 100	7.3

## A610 92½° Front bend with or without ears



Eared		
Product code	Size	Wt
✓	75 x 75	6.4
<b>191989</b>	100 x 75	7.5
✓	100 x 100	8.3
✓	125 x 100	9.1
Unearred		
✓	75 x 75	6.2
<b>191988</b>	100 x 75	7.3
<b>227335</b>	100 x 100	8.1
✓	125 x 100	8.9

## A610 112½° Front bend with or without ears



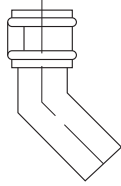
Eared		
Product code	Size	Wt
✓	75 x 75	6.5
<b>191985</b>	100 x 75	7.7
✓	100 x 100	8.5
✓	125 x 100	9.4
Unearred		
✓	75 x 75	6.4
<b>191984</b>	100 x 75	7.5
✓	100 x 100	8.3
✓	125 x 100	9.1

Dimensions (mm) ✓ = Available to order Weight (kg estimated)

# Square and Rectangular pipes and fittings

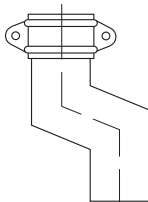


## A610 135° Front bend with or without ears



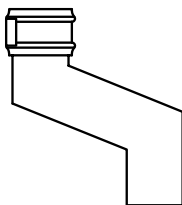
Eared		
Product code	Size	Wt
✓	75 x 75	6.0
191987	100 x 75	7.1
✓	100 x 100	7.8
✓	125 x 100	8.6
Unearred		
✓	75 x 75	5.8
191986	100 x 75	6.9
✓	100 x 100	7.6
✓	125 x 100	8.4

## A611 Side offset with or without ears



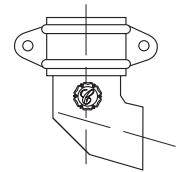
Eared				
Projection	75x75	100x75	100x100	125x100
150	✓	✓	191992	✓
Unearred				
Projection	75x75	100x75	100x100	125x100
75	✓	✓	191990	✓
115	✓	✓	191991	✓
225	✓	✓	191993	✓
300	✓	✓	191994	✓

## A612 112.5° Offsets with or without ears (Front illustrated)



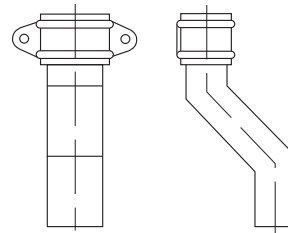
Eared				
Projection	75x75	100x75	100x100	125x100
75	✓	191995	✓	✓
150	✓	191996	✓	✓
225	✓	191711	✓	✓
305	✓	191997	✓	✓
381	✓	✓	✓	✓
457	✓	✓	✓	✓
Unearred				
Projection	75x75	100x75	100x100	125x100
75	227293	191208	✓	226293
150	227292	191209	✓	226837
225	✓	191210	✓	✓
305	✓	191211	✓	222827
381	225088	✓	✓	✓
457	✓	✓	✓	222828

## A613 Side shoe with or without ears left or right hand (R.H. illustrated)



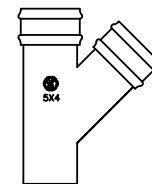
Plain unearred		
Product code	Size	Wt
✓	75 x 75	4.6
191998	100 x 75	5.4
✓	100 x 100	5.9
✓	125 x 100	6.5
Eared left hand		
✓	75 x 75	5.0
192000	100 x 75	5.9
✓	100 x 100	6.5
✓	125 x 100	7.2
Eared right hand		
225091	75 x 75	5.1
191999	100 x 75	5.9
✓	100 x 100	6.5
✓	125 x 100	7.2

## A615 135° Plinth offset with or without ears



Eared				
Projection	75x75	100x75	100x100	125x100
75	224221	✓	✓	✓
115	✓	192002	✓	226196
150	✓	✓	✓	✓
305	✓	✓	✓	222821
Unearred				
Projection	75x75	100x75	100x100	125x100
75	✓	✓	✓	✓
115	✓	192001	✓	✓
150	✓	✓	✓	✓

## A616 Single Branch



Projection	75x75	100x75	100x100	125x100
92.5	✓	✓	✓	✓
112.5	✓	✓	✓	✓
135	✓	✓	✓	✓

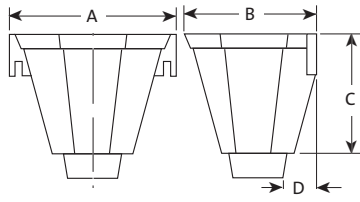
Dimensions (mm) ✓ = Available to order Weight (kg estimated)



# Rainwater heads

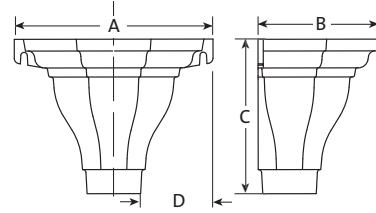


## A750 Hopper head



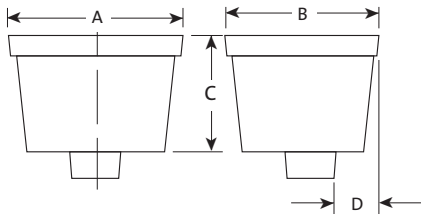
Product code	Outlet Size	A	B	C	D	Wt
Primed PLUS						
191904 192441	65	210	160	185	20	3.9
191905 192442	75	210	160	185	15	4.0
191906 192443	100	250	215	215	25	6.2

## NEW A751 Hopper Head



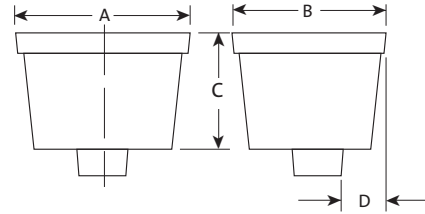
Product code	Outlet Size	Dia	A	B	C	D	Wt
Primed PLUS							
222660 222661	65	305	186	200	7	6.0	
222662 222663	75	305	186	200	7	6.0	

## A841 Box head



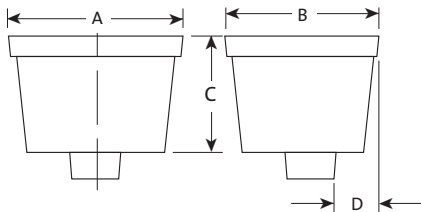
Product code	Outlet Size	A	B	C	D	Wt
Primed PLUS						
191907 192444	65	225	125	125	10	3.6
191908 192445	75	225	125	125	10	3.6

## A485 Rectangular head



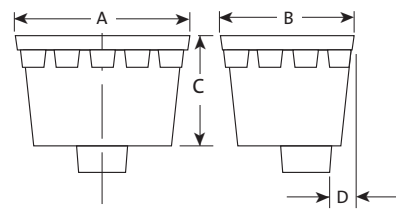
Product code	Outlet Size	A	B	C	D	Wt
Primed PLUS						
191902 192439	75	250	180	175	15	6.8
191903 192440	100	250	180	175	15	6.8

## A842 Box head



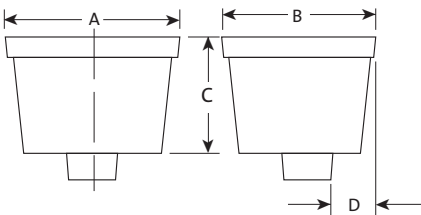
Product code	Outlet Size	A	B	C	D	Wt
Primed PLUS						
191909 192446	100	280	150	130	10	5.4

## A485 Castellated rectangular head



Product code	Outlet Size	A	B	C	D	Wt
Primed PLUS						
191901 192438	65	250	180	175	15	6.8

## A484 Rectangular head



Product code	Outlet Size	A	B	C	D	Wt
Primed PLUS						
191897 192435	65	300	250	200	14	12.4
191898 192436	75	300	250	200	14	12.4
191899 192437	100	300	250	200	14	12.4
191900 -	100 x 75*	300	250	200	20	12.4

\*Rectangular outlet to suit pipe and fittings on page 16 to 18

Dimensions (mm) Weight (kg)

# NEW Classical Royale

## A751 Pipe



### 1m Length

Product code	Size	Wt
155534	75	9.8
155592	100	13.5

### 2m Length

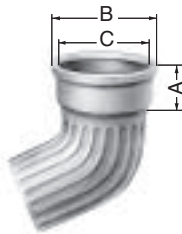
Product code	Size	Wt
155537	75	16.8
155596	100	23.5

## A704 Fishes Head Shoe



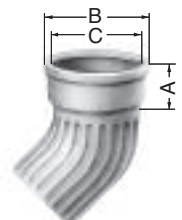
Product code	Size	Wt
155568	75	4.5
155637	100	6.0

## A702 Bends 45°



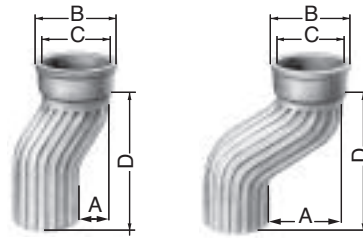
Product code	Size	A	B	C	Wt
155556	75	63	115	98	2.0
155620	100	65	144	125	3.2

## A702 Bends 68°



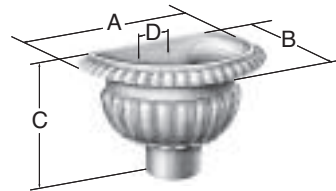
Product code	Size	A	B	C	Wt
155554	75	63	115	98	2.0
155617	100	65	144	125	3.5

## A703 Offsets



Product code	Size	A	B	C	D	Wt
155564	75	75	115	98	225	2.7
155629	100	75	144	125	251	3.1
155560	75	150	115	98	237	4.3
155625	100	150	144	125	251	4.8

## A705 Decorative Rainwater Head



Product code	Size	A	B	C	D	Wt
156510	75	385	260	260	80	12.5
156656	100	274	260	260	80	13.8

## A706 Wall Fixing Bracket



Product code	To suit both 75 and 100mm diameter pipework.
155531	

## A707 Spare Gasket for Royale Bends & Offsets



Product code	Size
156077	75
156133	100

## A708 Spare Gasket for Royale Pipe



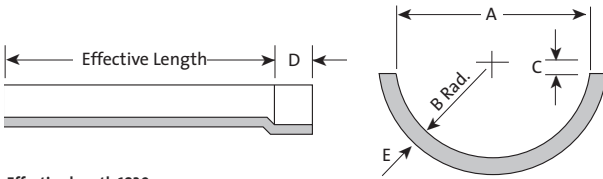
Product code	Size
155566	75
155632	100



# Half round gutters and fittings



## G800 Gutter

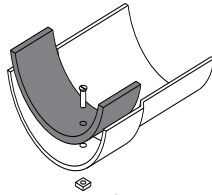


Effective length 1830

Product code	Size	A	B	C	D	E	Wt
Primed <b>PLUS</b>							
192191 192551	100	100	50	8	40	3	6.2
192192 192552	115	115	58	11	40	3	7.4
192193 192553	125	125	65	15	45	3	8.3
192194 192554	150	150	75	15	45	3	10.4

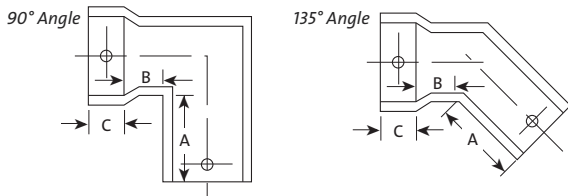
## G873 Cast iron jointing kit

Rubber gasket jointing kit for use with G800 HR gutter systems. Sold in packs of 20.



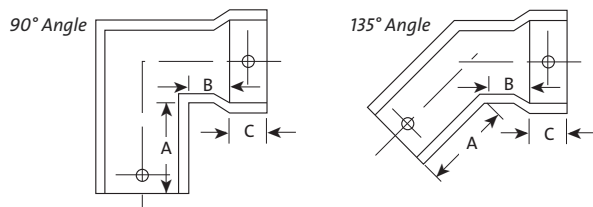
Product code	Size
192284	100, 115, 125

## G801 Angle right hand



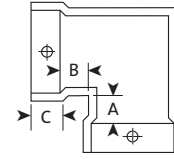
Product code	Dia	A	B	C	Wt
Primed <b>PLUS</b>					
192004 192500	100	75	30	40	0.9
192006 192502	115	75	30	45	1.3
192008 192504	125	75	30	45	1.4
192010 192506	150	75	25	40	2.0
135° Angle					
192003 192499	100	75	30	40	0.8
192005 192501	115	75	30	45	0.9
192007 192503	125	75	25	45	1.3
192009 192505	150	75	30	40	1.6

## G802 Angle left hand



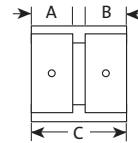
Product code	Dia	A	B	C	Wt
Primed <b>PLUS</b>					
192012 192508	100	75	30	40	0.9
192014 192510	115	75	30	45	1.3
192016 192512	125	75	30	45	1.4
192018 192514	150	75	25	40	2.0
135° Angle					
192011 192507	100	75	30	40	0.8
192013 192509	115	75	30	45	0.9
192015 192511	125	75	25	45	1.3
192017 192513	150	75	30	40	1.6

## G802D 90° Double socket



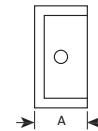
Product code	Dia	A	B	C	Wt
Primed <b>PLUS</b>					
192224 192566	100	30	30	45	1.1
192225 192567	115	30	30	45	1.3
192226 192568	125	25	25	40	1.5

## G803 Union clip



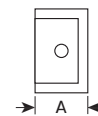
Product code	Dia	A	B	C	Wt
Primed <b>PLUS</b>					
192019 192515	100	45	45	95	0.5
192020 192516	115	45	45	95	0.5
192021 192517	125	45	45	95	0.7
192022 192518	150	45	45	95	0.7

## G804 Stop end for spigot (external)



Product code	Size	A	Wt
Primed <b>PLUS</b>			
192023 192519	100	50	0.4
192024 192520	115	50	0.4
192025 192521	125	50	0.6
192026 192522	150	50	0.6

## G805 Stop end for socket (internal)



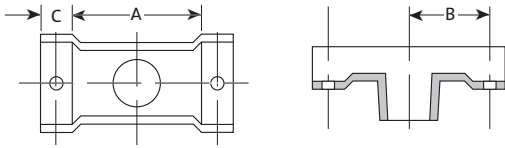
Product code	Size	A	Wt
Primed <b>PLUS</b>			
192027 192523	100	45	0.3
192028 192524	115	45	0.3
192029 192525	125	45	0.5
192030 192526	150	45	0.6

Dimensions (mm) Weight (kg)

# Half round gutters and fittings

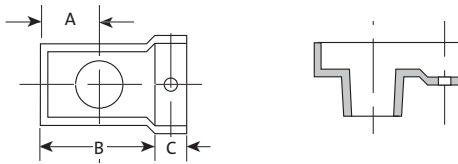


## G806 Nozzle with sockets



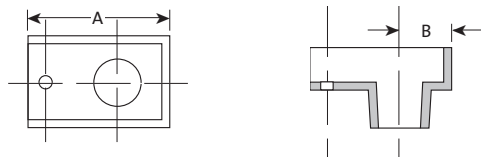
Product code	Size	Outlets available	A	B	C	Wt
Primed PLUS						
192031 192527	100	65	160	120	45	1.1
192033 192529	115	65	160	120	40	1.3
192035 192531	125	65	150	120	45	1.4
192032 192528	100	75	160	120	45	1.3
192034 192530	115	75	160	120	40	1.4
192036 192532	125	75	150	120	45	1.4
192037 192533	150	75	155	120	45	1.8
192038 192534	150	100	155	120	45	1.8

## G807 Dropend with socket



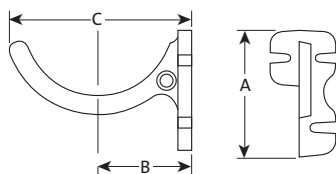
Product code	Size	Outlets available	A	B	C	Wt
Primed PLUS						
192039 192535	100	65	60	125	45	0.9
192040 192536	115	65	60	130	45	0.9
192041 192537	125	75	60	125	45	1.1
192042 192538	150	75	60	125	45	1.8
192043 192539	150	100	60	125	45	2.2

## G808 Dropend with spigot



Product code	Size	Outlets available	A	B	Wt
Primed PLUS					
192044 192540	100	65	170	60	0.9
192045 192541	115	65	170	60	0.9
192046 192542	125	75	170	60	1.0
192047 192543	150	75	170	60	1.4
192048 192544	150	100	170	60	2.2

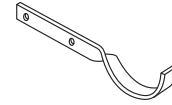
## G809 Cast iron fascia bracket



Product code	Dia	A	B	C	Wt
Primed PLUS					
192049 192545	100	90	69	134	0.3
192050 192546	115	90	77	142	0.3
192051 192547	125	90	79	162	0.3
192052 192548	150	90	90	182	0.3

## G870 Galvanised mild steel bracket

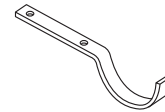
Mild steel, galvanised side fixing rafter bracket for HR gutter systems G800



Product code	Size	Wt
GALV PLUS		
192243 192388	100	0.3
192244 192387	115	0.3
192245 192389	125	0.3
192246 192390	150	0.3

## G871 Galvanised mild steel bracket

Mild steel, galvanised top fixing rafter bracket for HR gutter systems G800



Product code	Size	Wt
GALV PLUS		
192247 192391	100	0.3
192248 192392	115	0.3
192249 192393	125	0.3
192250 192394	150	0.3

## G872 Mild steel bracket (black coated)

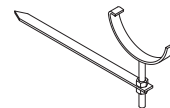
Mild steel, black coated rise and fall bracket for HR gutter systems G800



Note: requires painting after installation (see page 37).

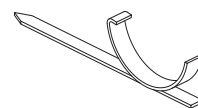
Product code	e	Wt
192251	100	0.4
192252	115	0.4
192253	125	0.4
192254	150	0.4

## G872 Zinc plated mild steel bracket (with front lip)



Product code	(with understay) Product code	Size	Wt
220703	220731	100	0.4
220704	220732	115	0.4
220705	220733	125	0.4
-	220734	150	0.4

## G878 Zinc plated mild steel drive in bracket



Product code	Size	Wt
220706	100	0.3
220707	115	0.3
220708	125	0.3

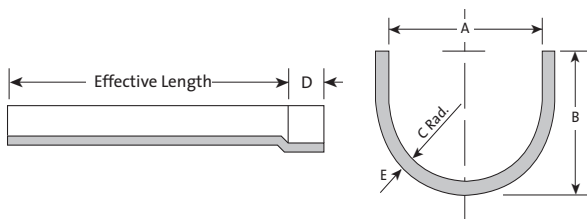
Dimensions (mm) Weight (kg)



# Deep half round gutters and fittings



## G810 Gutter

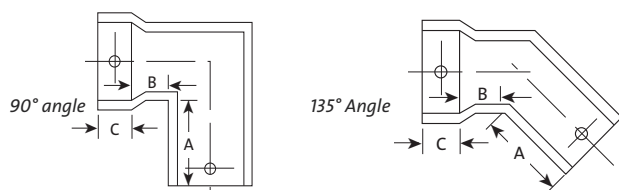


Effective length 1830

Product code

Primed	PLUS	Size	A	B	C	D	E	Wt
192195	218539	100 x 75	100	75	50	45	3	13.6
192196	210572	125 x 75	125	75	65	45	3	14.0

## G811 Angle right hand



90° Angle

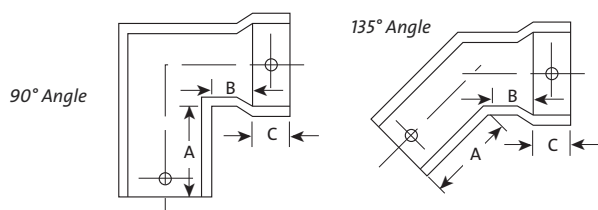
Product code

Primed	PLUS	Size	A	B	C	Wt
192054	219622	100 x 75	150	105	45	3.2
192056	223183	125 x 75	170	120	50	3.2

135° Angle

192053	223180	100 x 75	120	80	40	3.2
192055	223184	125 x 75	140	85	50	3.2

## G812 Angle left hand



90° Angle

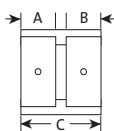
Product code

Primed	PLUS	Size	A	B	C	Wt
192058	219623	100 x 75	150	105	45	3.2
192060	210560	125 x 75	170	120	50	3.2

135° Angle

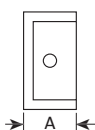
192057	223181	100 x 75	120	80	40	3.2
192059	223185	125 x 75	140	85	50	3.2

## G813 Union clip



Product code	PLUS	Size	A	B	C	Wt
192061	219624	100 x 75	45	45	100	0.5
192062	223186	125 x 75	55	55	115	0.5

## G814 Stop end for spigot (external)

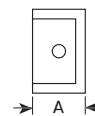


Product code	Size	A	Wt
192063	100 x 75	50	0.8
192064	125 x 75	60	0.7

Dimensions (mm) Weight (kg)

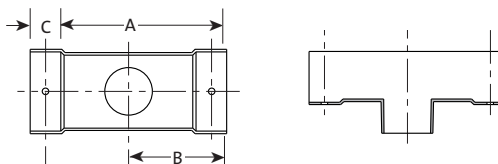
✓ = Available to order

## G815 Stop end for socket (internal)



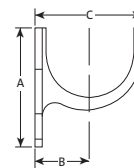
Product code	Size	A	Wt
192065	100 x 75	50	0.6
192066	125 x 75	60	0.6

## G816 Nozzle with socket



Product code	PLUS	Size Available	Outlets	A	B	C	Wt
192067	223182	100 x 75	65	195	120	45	1.8
192069	223187	125 x 75	65	195	120	45	2.5
192068	218554	100 x 75	75	195	120	45	1.8
192070	210559	125 x 75	75	195	120	45	2.5

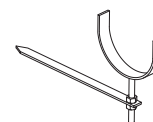
## G819 Cast iron fascia bracket



Product code	PLUS	Size	A	B	C	Wt
192077	218555	100 x 75	138	75	135	0.3
192078	210571	125 x 75	127	82	165	0.7

## Zinc plated mild steel Rise and fall brackets

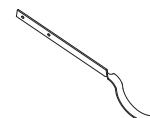
Mild steel, zinc plated rise and fall bracket for deep half round gutter systems G810



Product code	Size	Wt
227013	100 x 75	0.4
225821	125 x 75	0.4

## Zinc plated mild steel Rafter brackets side fixing

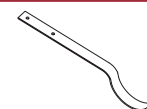
Mild steel, zinc plated side fixing rafter bracket for deep half round gutter systems G810



Product code	Size	Wt
214902	100 x 75	0.3
225051	125 x 75	0.3

## Zinc plated mild steel Rafter brackets top fixing

Mild steel, zinc plated top fixing rafter bracket for deep half round gutter systems G810



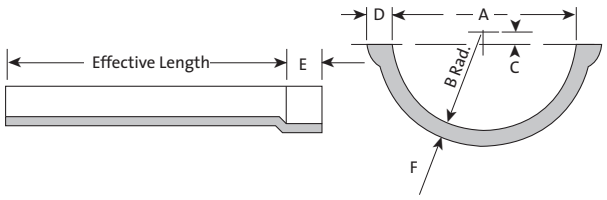
Product code	Size	Wt
225560	100 x 75	0.3
206955	125 x 75	0.3

Available in PLUS finish to order.

# Beaded half round gutters and fittings



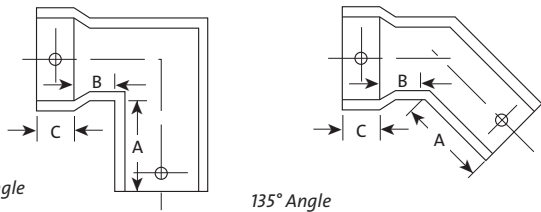
## G820 Gutter



Effective length 1830

Product code	PLUS	Size	A	B	C	D	E	F	Wt
192197	223167	100	100	50	8	8	40	3	9.0
192198	213645	115	115	55	13	8	40	3	10.8
192199	209694	125	125	65	11	11	40	3	12.2

## G821 Angle right hand



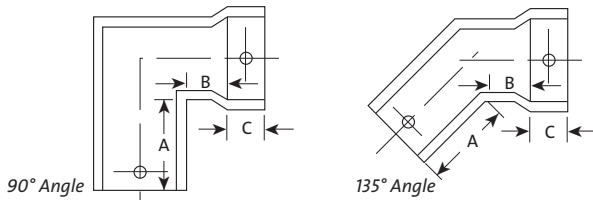
90° Angle

Product code	PLUS	Size	A	B	C	Wt
192080	223168	100	75	30	45	1.4
192082	213641	115	85	30	50	1.6
192084	209693	125	85	25	50	2.0

135° Angle

192079	223169	100	80	30	40	1.4
192081	213642	115	80	30	50	1.6
192083	223177	125	80	25	50	2.0

## G822 Angle left hand



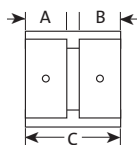
90° Angle

Product code	PLUS	Size	A	B	C	Wt
192086	223170	100	75	30	45	1.4
192088	213619	115	85	30	50	1.6
192090	209692	125	85	25	50	2.0

135° Angle

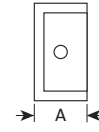
192085	223171	100	80	30	40	1.4
192087	213620	115	80	30	50	1.6
192089	223178	125	80	25	50	2.0

## G823 Union clip



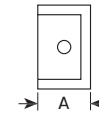
Product code	PLUS	Size	A	B	C	Wt
192091	223172	100	45	45	95	0.7
192092	213643	115	45	45	95	0.7
192093	209691	125	45	45	95	0.8

## G824 Stop end for spigot (external)



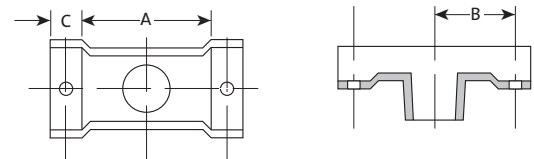
Product code	PLUS	Size	A	Wt
192094	223173	100	50	0.5
192095	213617	115	50	0.5
192096	209680	125	50	0.5

## G825 Stop end for socket (internal)



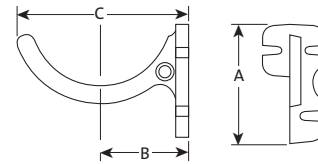
Product code	PLUS	Size	A	Wt
192097	223174	100	45	0.3
192098	213616	115	45	0.4
192099	209678	125	45	0.5

## G826 Nozzle with socket



Product code	PLUS	Size available	Outlets	A	B	C	Wt
192100	223175	100	65	165	120	40	1.8
192101	213615	115	65	160	130	50	1.3
192103	223179	125	65	155	125	45	1.4
192102	223176	115	75	160	130	50	1.4
192104	209677	125	75	155	125	45	1.5

## G809 Cast iron fascia bracket



Product code	PLUS	Size	A	B	C	Wt
192049	192545	100	90	69	134	0.3
192050	192546	115	90	77	142	0.3
192051	192547	125	90	79	162	0.3

## G872 Rise and fall bracket

Mild steel, black coated rise and fall Bracket for HR gutter systems G800



Product code	Size	Wt
192251	100	0.4
192252	115	0.4
192253	125	0.4

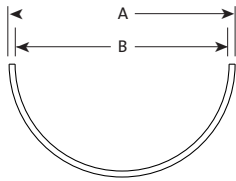
Dimensions (mm) Weight (kg)



# Classical Express gutters and fittings



## G880 Gutter



Effective length 1830

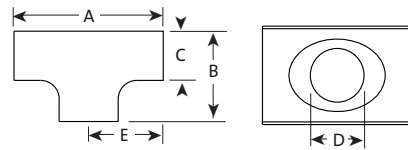
Product code	Size	A	B	Wt	
Primed	PLUS				
192347	192350	125	132	125	10.0

## G884 Stop end



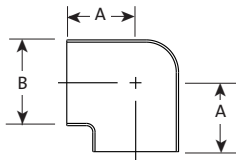
Product code	Size	A	B	Wt	
Primed	PLUS				
192344	192354	125	132	35	0.4

## G885 Nozzle



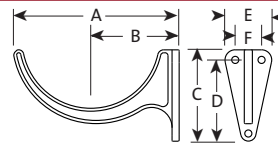
Product code	Size	A	B	C	D	E	Wt	
Primed	PLUS							
192345	192355	125 x 75	200	121	66	79	100	1.3

## G881 90° Angle



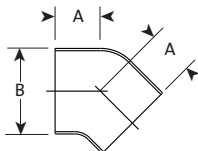
Product code	Size	A	B	Wt	
Primed	PLUS				
192341	192351	125	106	132	1.1

## G886 Fascia bracket



Product code	Size	A	B	C	D	E	F	Wt	
Primed	PLUS								
192340	192356	125	165	87	90	72	46	26	0.3

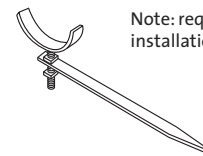
## G882 45° Angle



Product code	Size	A	B	Wt	
Primed	PLUS				
192342	192352	125	70	132	0.7

## G872 Rise and fall bracket

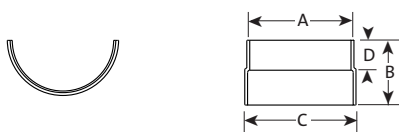
Mild steel, black coated rise and fall bracket for HR gutter systems G800



Note: requires painting after installation (see page 37).

Product code	Size	Wt
192253	125	0.4

## G883 Transitional clip



Product code	Size	A	B	C	D	Wt	
Primed	PLUS						
192343	192353	125	132	80	137	37	0.5

Connect to 115mm and 125mm BS460 half round gutter.

## G887 Jointing clip

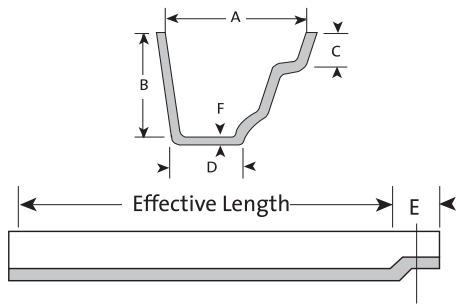


Product code	Wt
192346	Box of 20 Clips
192348	6 pack of spare gasket seals
192349	T spanner

# Moulded gutters and fittings



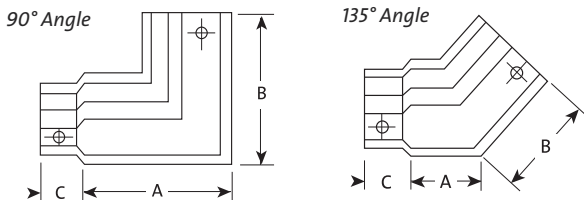
## G830 Gutter



Effective Length 1830

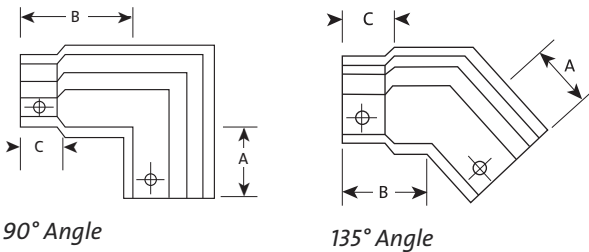
Product code	PLUS	Size	A	B	C	D	E	F	Wt
192200	204868	100 x 75	95	75	30	50	45	3	11.0
192202	206382	125 x 100	125	100	30	50	45	3	18.0
192621	223199	150 x 100	145	100	20	78	50	4	19.0

## G831 Internal angle



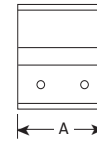
90° Angle									
Product code	PLUS	Size	A	B	C	Wt			
192113	223188	100 x 75	200	200	50	2.0			
192115	206383	125 x 100	160	200	50	2.3			
192668	223200	150 x 100	180	225	45	3.4			
135° Angle									
192112	223189	100 x 75	170	220	50	2.0			
192114	223194	125 x 100	140	140	50	3.2			
208230	223201	150 x 100	95	140	50	2.6			

## G832 External angle



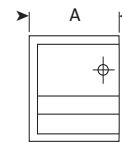
90° Angle									
Product code	PLUS	Size	A	B	C	Wt			
192117	204869	100 x 75	105	100	50	2.0			
192119	206385	125 x 100	80	80	50	2.3			
208227	223202	150 x 100	70	70	57	3.4			
135° Angle									
192116	223190	100 x 75	90	90	50	2.0			
192118	223195	125 x 100	90	90	50	3.2			
208272	223203	150 x 100	87	85	50	2.6			

## G833 Union clip



Product code	PLUS	Size	A	Wt
192120	223191	100 x 75	100	0.5
192121	206386	125 x 100	105	0.6
208276	223204	150 x 100	100	0.7

## G834 Stop end for spigot (left hand)



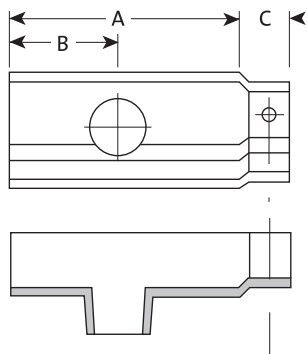
Product code	PLUS	Size	A	Wt
192122	204874	100 x 75	55	0.5
192123	206388	125 x 100	55	0.7
192665	223205	150 x 100	55	0.8

## G835 Stop End for socket (right hand)



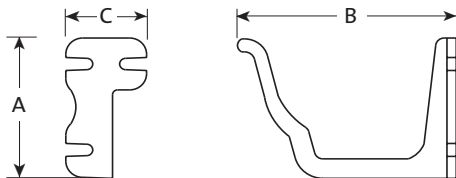
Product code	PLUS	Size	A	Wt
192124	204875	100 x 75	55	0.6
192125	206387	125 x 100	60	1.0
192666	223206	150 x 100	55	0.7

### G836 Nozzle



Product code	PLUS	Size available	Outlets	A	B	C	Wt
192126	223192	100 x 75	65	200	120	50	2.0
192127	204876	100 x 75	75	200	120	50	2.0
192128	223196	125 x 100	65	250	150	50	2.0
192129	206390	125 x 100	75	185	120	50	2.0
192130	223197	125 x 100	100	185	120	50	2.0
192131	206389	125 x 100	100 x 75	250	150	50	2.3
221821	223207	150 x 100	65	246	125	55	3.9
192667	223208	150 x 100	75	246	125	55	3.9
208273	223209	150 x 100	100	246	125	55	4.0
206930	223210	150 x 100	100 x 75	246	125	55	4.0
208273		150 x 100	100 x 100	246	125	55	4.0
-	223211	150 x 100	125 x 100	246	125	55	4.0

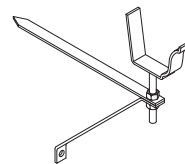
### G839 Fascia bracket



Product code	PLUS	Size	A	B	C	Wt
192267	223193	100 x 75	90	108	70	0.5
192242	223198	125 x 100	90	135	48	0.6
192623	223212	150 x 100	145	189	56	0.6

### Zinc plated Rise and fall brackets with or without stay

Mild steel, zinc plated rise and fall bracket for moulded gutter systems G830

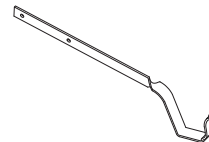


Without Stay	Size	Wt
✓	100 x 75	0.4
✓	125 x 75	0.4
✓	150 x 100	0.4

With Stay	Size	Wt
✓	100 x 75	0.4
✓	125 x 75	0.4
✓	150 x 100	0.4

### Zinc plated Rafter brackets side fixing

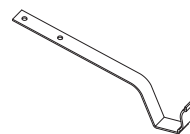
Mild steel, zinc plated side fixing rafter bracket for moulded gutter systems G830



Product code	Size	Wt
✓	100 x 75	0.3
223380	120 x 75	0.3
226081	150 x 100	0.3

### Zinc plated Rafter brackets top fixing

Mild steel, zinc plated side fixing rafter bracket for moulded gutter systems G830



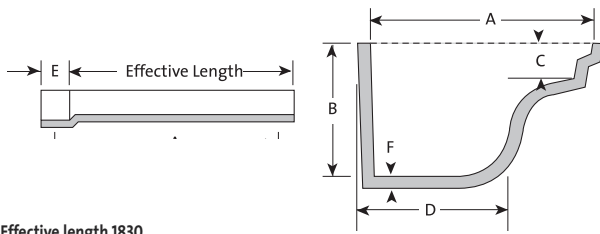
Product code	Size	Wt
✓	100 x 75	0.3
✓	125 x 100	0.3
222138	150 x 100	0.3



# Notts Ogee gutters and fittings



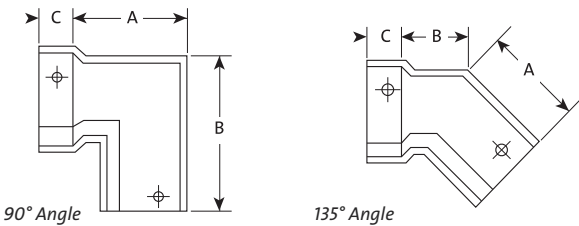
## G850 Gutter



Effective length 1830

Product code	PLUS	Size	A	B	C	D	E	F	Wt
192210	219546	115	115	70	35	75	40	3	14.5

## G851 Internal angle



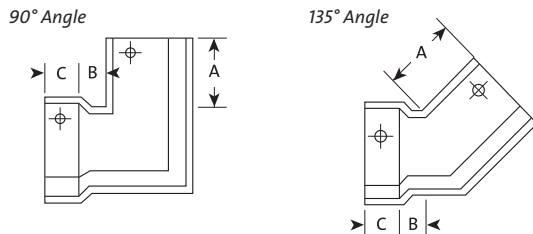
90° Angle

Product code	PLUS	Size	A	B	C	Wt
192173	219532	115	210	240	40	2.0

135° Angle

192172	223213	115	175	135	40	2.0
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## G852 External angle



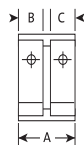
90° Angle

Product code	PLUS	Size	A	B	C	Wt
192175	219533	115	110	80	40	2.0

135° Angle

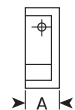
192174	223214	115	125	75	40	2.0
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## G853 Union Clip



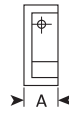
Product code	PLUS	Size	A	B	C	Wt
192176	219538	115	100	45	45	0.8

## G854 Stop end for spigot (external)



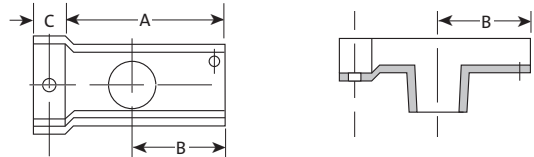
Product code	PLUS	Size	A	Wt
192177	219536	115	50	0.6

## G855 Stop end for socket (internal)



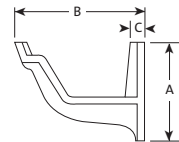
Product code	PLUS	Size	A	Wt
192178	219537	115	45	0.5

## G856 Nozzle



Product code	PLUS	Size available	Outlets	A	B	C	Wt
192179	223215	115	65	225	135	40	2.4
192180	219535	115	75	225	135	40	2.4

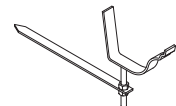
## G859 Cast Iron Fascia Bracket



Product code	PLUS	Size	A	B	C	Wt
192183	219539	115	100	145	15	0.5

## Zinc plated mild steel Rise and fall brackets

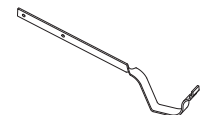
Mild steel, zinc plated rise and fall bracket for Notts OG gutter systems G850



Product code	Size	Wt
220963	115	0.4

## Zinc plated mild steel Rafter brackets side fixing

Mild steel, zinc plated side fixing rafter bracket for Notts OG gutter systems G850

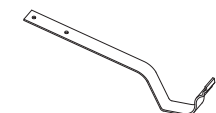


Product code	Size	Wt
220964	115	0.3

Available in PLUS finish to order.

## G876 Zinc plated mild steel Rafter brackets top fixing

Mild steel, zinc plated top fixing rafter bracket for Notts OG gutter systems G850



Product code	Size	Wt
✓	115	0.3

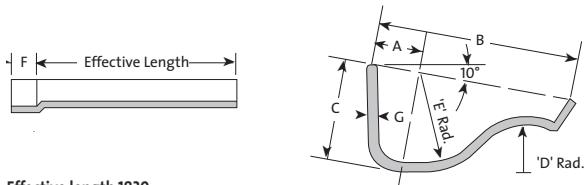
Dimensions (mm) Weight (kg)

✓ = Available to order

# Ogee gutters and fittings



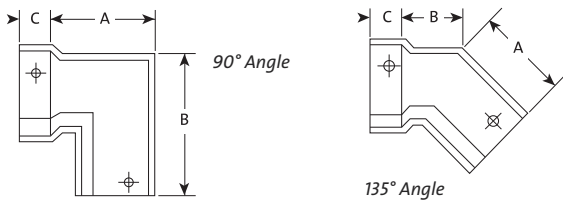
## G840 Gutter



Effective length 1830

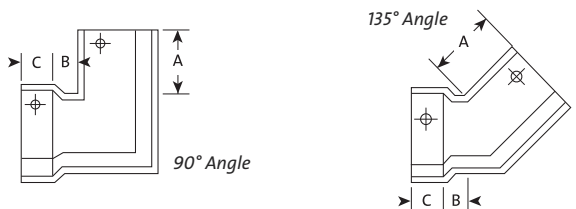
Product code	Size	A	B	C	D	E	F	G	Wt
Primed <b>PLUS</b>									
192204 199748	100	25	105	55	40	55	40	3	9.0
192206 199803	115	30	115	60	40	55	45	3	10.5
192208 199824	125	30	130	65	40	65	40	3	12.5

## G841 Internal angle



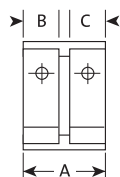
Product code	Size	A	B	C	Wt
Primed <b>PLUS</b>					
192137 199793	100	135	185	45	1.0
192139 199805	115	150	200	45	1.5
192141 199828	125	160	210	45	1.9
135° Angle					
192136 199792	100	125	80	40	1.0
192138 199804	115	130	80	40	1.0
192140 199827	125	130	80	45	1.8

## G842 External angle



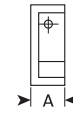
Product code	Size	A	B	C	Wt
Primed <b>PLUS</b>					
192143 199795	100	75	25	45	1.0
192145 199780	115	75	25	45	1.4
192147 199830	125	75	25	45	1.5
135° Angle					
192142 199794	100	75	25	40	1.0
192144 199806	115	80	30	40	1.1
192146 199829	125	80	30	40	1.4

## G843 Union clip



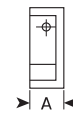
Product code	Size	A	B	C	Wt
Primed <b>PLUS</b>					
192148 199796	100	95	45	45	0.7
192149 199813	115	95	45	45	0.7
192150 199851	125	95	45	45	0.8

## G844 Stop end for socket (internal)



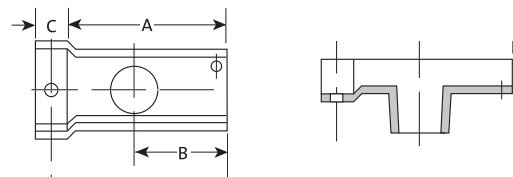
Product code	Size	A	Wt
Primed <b>PLUS</b>			
192151 199798	100	45	0.3
192152 199814	115	45	0.5
192153 199852	125	45	0.5

## G845 Stop end for spigot (external)



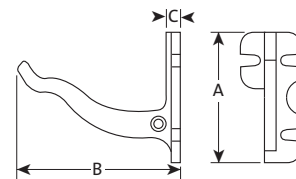
Product code	Size	A	Wt
Primed <b>PLUS</b>			
192154 199800	100	50	0.5
192155 199815	115	50	0.5
192156 199871	125	50	0.6

## G846 Nozzle



Product code	Size	Outlets	A	B	C	Wt
Primed <b>PLUS</b>						
192157 199801	100	65	200	120	40	1.3
192158 199834	115	65	200	120	45	1.5
192159 199873	125	65	200	120	40	1.9
192160 199874	125	75	200	120	40	1.7

## G849 Cast iron fascia bracket



Product code	Size	A	B	C	Wt
Primed <b>PLUS</b>					
192169 199802	100	100	124	10	0.3
192170 199837	115	100	141	14	0.3
192171 199876	125	100	151	14	0.5

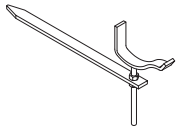
Dimensions (mm) Weight (kg)

# Ogee gutters and fittings



## G874 Rise and fall brackets

Mild steel, black coated rise and fall bracket for OG gutter systems G840

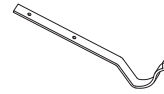


Note: requires painting after installation (see page 37).

Product code	Size	Wt
208278	100	0.4
208280	115	0.4
208281	125	0.4

## G875 Rafter brackets top fixing

Mild steel, galvanised top fixing rafter bracket for OG gutter systems G840

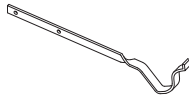


Product code	Size	Wt
208282	100	0.3
208283	115	0.3
208284	125	0.3

Available in PLUS finish to order.

## G876 Rafter brackets side fixing

Mild steel, galvanised side fixing rafter bracket for OG gutter systems G840



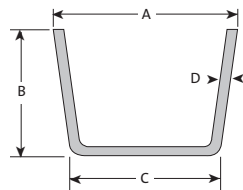
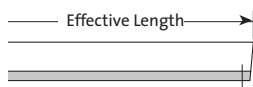
Available in PLUS finish to order.

Product code	Size	Wt
208285	100	0.3
208286	115	0.3
208287	125	0.3

# Box gutters and fittings



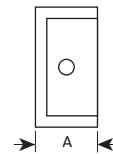
## G860 Gutter



Effective length 1830

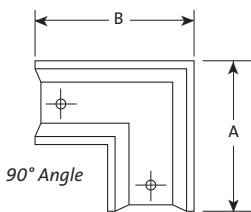
Product code	PLUS	Size	A	B	C	D	Wt
192212	223216	100 x 75	110	80	85	4	14.0

## G864 Stop end (internal)



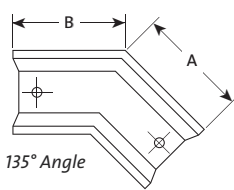
Product code	PLUS	Size	A	Wt
192187	223220	100 x 75	55	0.7

## G861 Angle 90°

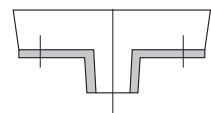
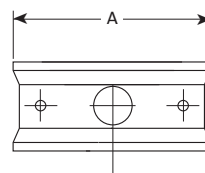


Product code	PLUS	Size	A	B	Wt
192185	223217	100 x 75	200	200	2.4
192184	223218	100 x 75	145	145	2.2

## G862 Angle 135°



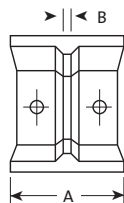
## G866 Nozzle



Rectangular outlet to suit pipe and fittings on pages 15 to 16.

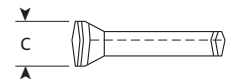
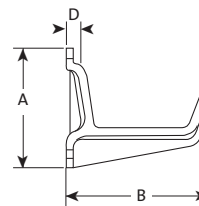
Product code	PLUS	Size	Outlets available	A	Wt
192188	223221	100 x 75	65	245	2.1
192189	223222	100 x 75	75	245	2.1
192190	223223	100 x 75	100 x 75*	245	2.2

## G863 Union clip



Product code	PLUS	Size	A	B	Wt
192186	223219	100 x 75	115	6	1.3

## G869 Cast iron fascia bracket



Product code	PLUS	Size	A	B	C	D	Wt
192229	223298	100 x 75	100	130	50	15	0.5

Dimensions (mm) Weight (kg)



# Installation advice

## General

When working on gutters or fascias at height it is advisable to use scaffolding in preference to ladders. If you are using a ladder please take the following points into consideration: (These points are for guidance only)

1. Ensure the ladder is based on level ground, preferably not soil or grass. If the ladder is based on soil or grass then place a board beneath the legs to spread the load and prevent sinking.
2. If possible, tie the top of the ladder to ring bolts at eaves level.

Before fitting pipes/gutters, ensure that all pieces have been primed and painted, including all cut ends to prevent corrosion. If any pipes/gutters have been cut/drilled, ensure that there are no loose filings on the system as these will quickly discolour the product.

3. We strongly recommend that you do not work alone. Removal and installation of cast iron guttering generally requires two people.

Before replacing an existing system it is advisable to inspect and repair fascia and wall faces before beginning a new installation. All fascias must be in good condition before new guttering is installed as the weight of the cast iron gutters could cause rotten fascias to fall causing damage or injury to property or persons below.

If the building does not have fascia boards, contact your local builders merchant for advice on suitable support brackets, or contact our Technical Advisory department on **01952 262529**.

### Equipment required

#### TOOLS

- Adjustable spanner
- Drill
- Hacksaw – disc cutter
- Ladder
- Paint brush
- Pencil/Marker

- Plumb line
- Scaffold
- Scraper
- Spirit level
- Screwdriver
- Tape measure
- Wirebrush

#### MATERIALS

- Classical gutters and rainwater fittings etc.
- Paint – metal primer, undercoat, topcoat, touch-up paint if installing PLUS (see page 33)
- Mastic sealant – low modulus (suitable for overpainting) or gutter jointing kits to suit HR profile (see page 28)
- Setscrews and nuts (gutter bolts 6mm x 25mm long)
- Wall anchors – for pipe sockets (50-75mm min. length)
- Lead strips – to wedge in sockets
- Round headed woodscrews (5mm x 25mm long) for fixing brackets to fascia boards.

## Gutter installation



### Step 1

Identify route which rainwater will take.

### Step 2

Locate gully/connection to drain and position outlet, taking into account offset projection. (Fig. 1).

### Step 3

Approximately 75mm – 100mm from the end of the run fit a bracket, taking into account the fall down to the outlet.

**Note:** For other brackets see 'General notes' (above).

### Step 4

Ensure brackets are installed so that centre of gutter is beneath the tile edge. (Fig. 4).

See installation advice, general above re: fascia board.

### Step 5

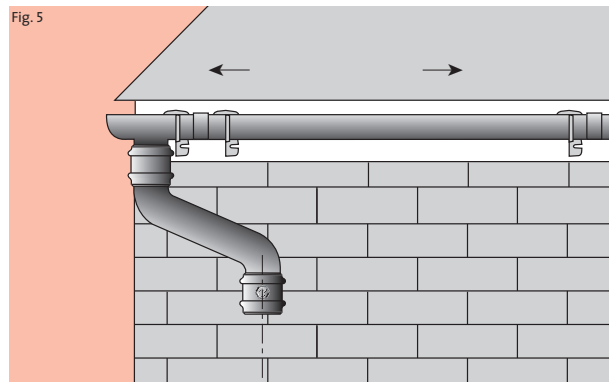
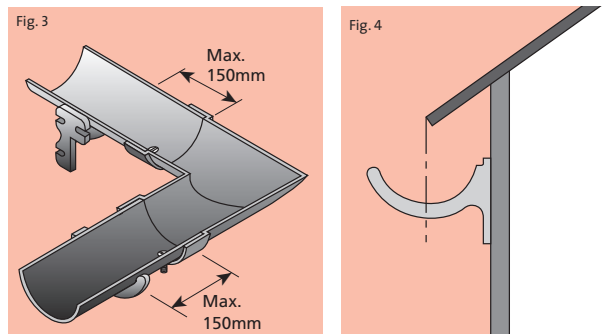
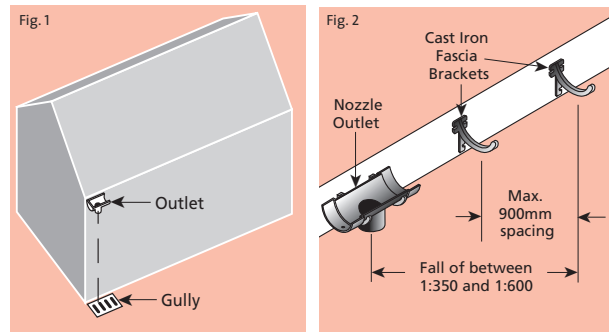
Position gutters loosely within brackets and assess installation for fall and offset position to rainwater pipe. Make adjustments as required. (Fig. 5).

Fix the remaining gutter brackets at maximum centres of 900mm (MORE FREQUENTLY IN AREAS PRONE TO HIGH SNOWFALL) along the fall line (as shown in Fig. 2).

Additional brackets should be fitted at a maximum of 150mm from angles and outlets (as shown in Fig. 3). Brackets should be fixed using corrosion resistant wood screws 5mm x 25mm round or pan headed.

Use plumb line or string for alignment when bracketing.

**Please note:** When using OG and moulded profiles, we recommend that fascia brackets are used wherever possible.



# Jointing

## Half round profile

If installing half round profile gutters, The **new cast iron jointing kit** (product code 192284) can be used as an alternative to the traditional method. Kit contains enough materials to seal 20 half round gutter joints (and is suitable for the 100, 115 and 125mm HR sizes. For 150mm HR, see Fig. 10).

1. Push screw through spigot of gutter or fitting and then through the hole in the gasket



2. Locate the screw, seal and spigot of the gutter or fitting into the socket of the gutter or fitting and fix square nut to the end of the screw. (Fig. 7).
3. Ensure the seal is sitting squarely in the socket and tighten the nut on the screw. (It may be necessary to hold the screw with a screw driver as the seal is compressed. (Fig. 8).

4. Trim excess rubber at the edge of the joint with a sharp bladed knife. (Fig. 9).
5. Paint gutters, joint and screws as per installation guide.

The new Classical Gutter Jointing System has been designed to satisfy the requirements of the latest BS460 draft standard.

## Beaded half round, deep half round, moulded No.46, OG, Notts OG and box profile

Gutter sockets should be joined to spigots with a specialist rubberised bitumen gutter sealant or a low modulus silicon sealant, then fixed with a corrosion resistant round/ pan head setscrew and nut, M6 x 20mm long. (Fig. 10).

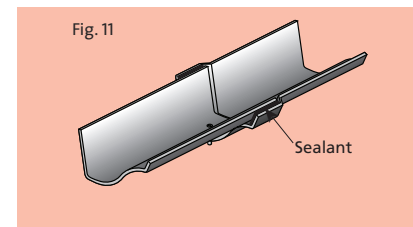
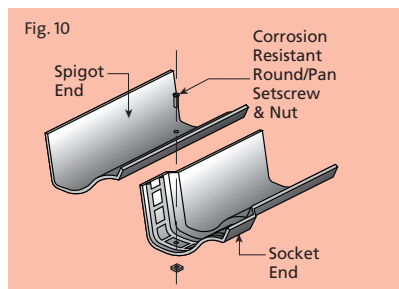
Spread sufficient sealant within the socket, applying additional sealant under the head of the setscrew, when bringing the parts together. The nut should then be finger tightened. Any excess that appears should then be removed. Allow the sealant to 'cure' and then tighten the nut and bolt. Do not over-tighten as this could damage the gutter. (Fig. 11).

Repeat this procedure for all joints.

See notes regarding replacement gutters.

**Note:** Before installing gutters and fittings, ensure that all pieces have been suitably painted. See painting/finish methods (page 33).

If any gutters have been cut, ensure that there are no loose filings on the system as these will quickly discolour the product.



# Classical Express

## Clip assembly

### Step 1

Slacken bolt to the fullest extent (Fig. 12).

### Step 2

Locate the gasket centrally within the clip assembly ensuring the seal ends are positioned within the locating lugs (Fig. 13).

### Step 3

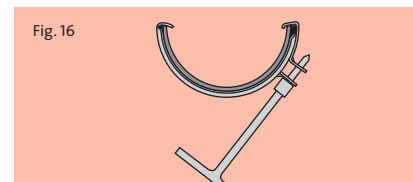
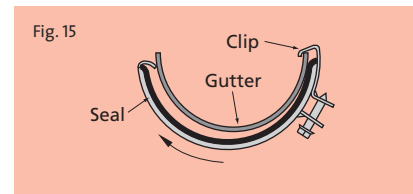
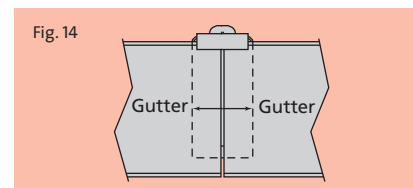
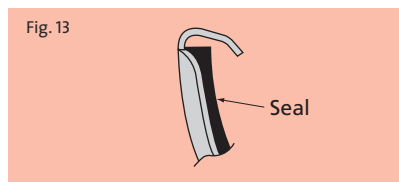
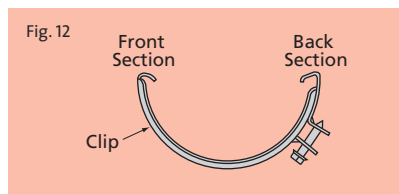
Locate the black section on the rear gutter edge and ensure clip is positioned equal distant to each end of the gutter. Note: In the case of fittings, use the joint location lugs as a guide (Fig. 14).

### Step 4

Bring the front section forwards and clips onto the front edge of the gutters. Re-check the position and bolt up tight (Fig. 15).

### Step 5

Typical appearance of assembled joint (Fig. 16).



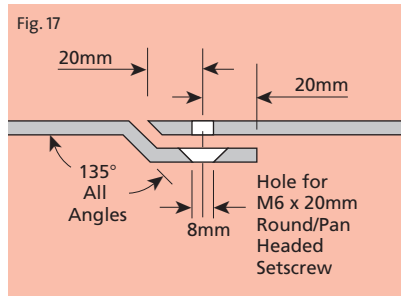
# Drilling and cutting gutters

## Drilling gutters

Hole size is 8mm (5/16") and should be positioned centrally 20mm from the spigot of the gutter (Fig. 17).

The hole in a fitting socket will provide a useful template.

We recommend the use of tungsten tipped drills.

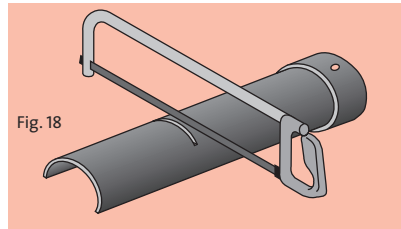


## Cutting

Gutters can be cut using a hacksaw, the blade should be tungsten tipped with 50 teeth per inch.

A powered saw or disc cutter can be used.

**Note:** Please observe the necessary safety precautions recommended by the tool manufacturer.



# Pipe installation (bottom up)

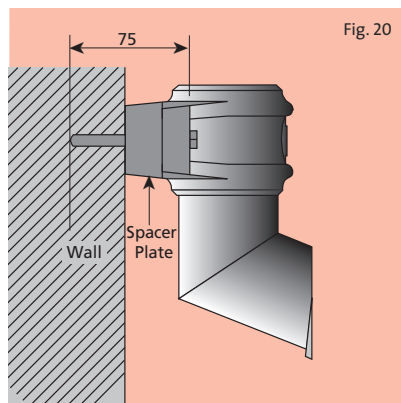
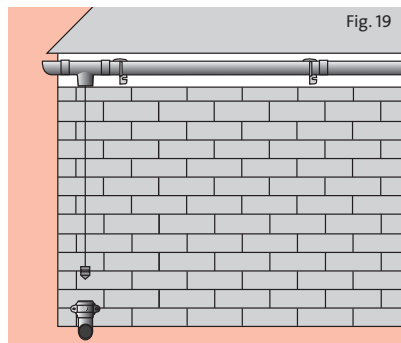
### Step 1

Using plumb line from centre of nozzle/offset, determine position of shoe or connection to drain. (Fig. 19).

### Step 2 (eared pipe)

Determine the position of the fixings and drill suitable holes to take rawlplugs or anchors. 8mm x 50mm min. non corrosive fixing should be used without wall spacer plate, 8mm x 75mm min. non corrosive fixing with wall spacer plate. (Fig. 20).

**Note:** Cast iron spacer plates may be required if wall is uneven and will also allow for easier maintenance. These should be fixed with the flat back plate to the back of the pipe ear.



### Step 3

The pipe spigot is offered into the shoe socket and positioned in line with the plumb line, hole centres are then marked through centre of elongated holes in ears, this will allow for adjustment. (Fig. 21).

### Step 4

Drill and fix as shoe.

### Step 5

Repeat until last full length is fixed, ensuring in each case that the pipe spigot is fully seated in supporting socket.

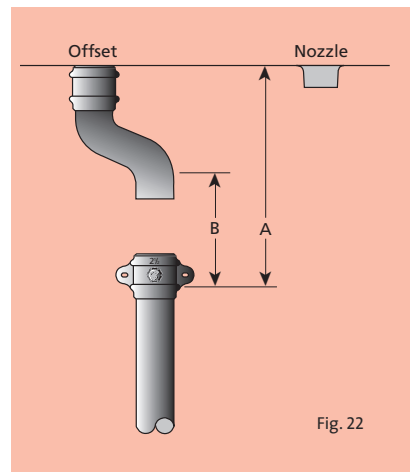
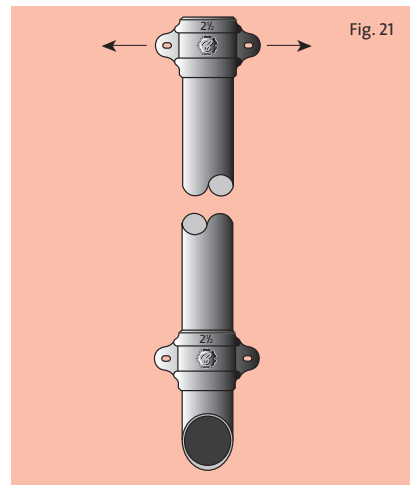
### Step 6

The last pipe length should be measured from the internal base of the socket to the underside of the gutter nozzle (A), or to the spigot of the offset (B), remembering to include the depth of socket in overall length. (Fig. 22).

### Step 7

Cut pipe to length allowing 5mm for clearance on length and fix as previously described.

**Note:** It may be necessary to lift gutter to locate nozzle in the pipe socket.





# Pipe installation (bottom up)

## Step 8

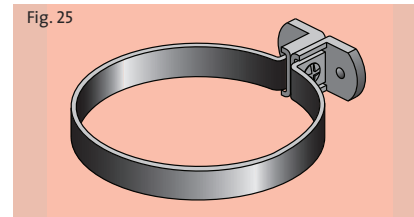
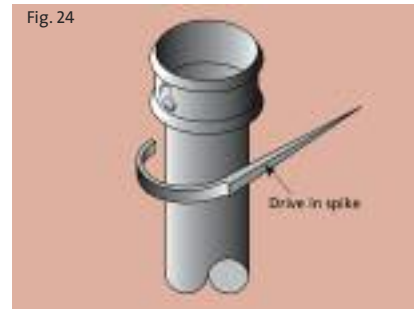
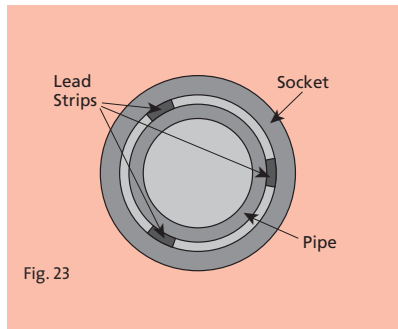
Finally, to centralise and secure pipe joints, use wedges made up from sheet lead cut into 30mm strips, rolled and tapped, between socket and pipe. This should be inserted in 3 places to avoid any rattle. (Fig. 23).

## Unearthed pipe fixing

These can be fixed using a drive in spike (tradename, Holdfast), wrought iron or galvanised mild steel. (Fig. 24).

A wall fixing bracket made in galvanised mild steel can also be used by drilling suitable holes and inserting rawplugs to take 50mm (depth) screw. The bracket will then be located to the back plate supplied. (Fig. 25).

**Note:** For rectangular pipes, a cast iron decorative ear band can be supplied by Saint-Gobain PAM UK for fixing pipes to the wall.



# Loose socketed pipe fixing

## Bottom up fixing

Installation is as for Classical fixed socketed pipe, the loose socket, however, is loosely inserted into the pipe before establishing fixed centres.

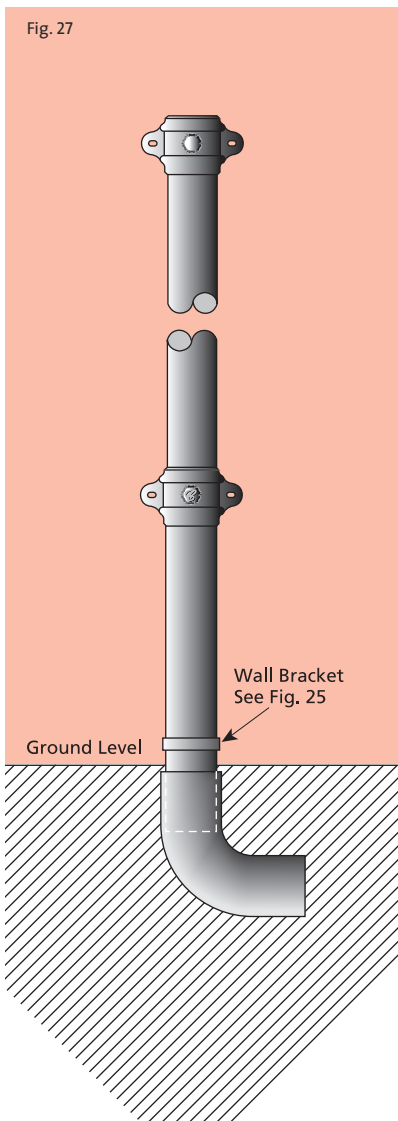
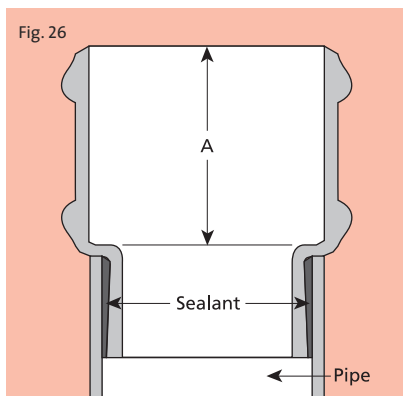
The socket will perform without the need for filling in the vertical position, but if preferred a suitable low modulus sealant or filler can be used.

To establish pipe length required, loosely insert socket and follow Step 6 in fixed socket section.

**Note:** Allowances for socket depths, refer to dimension A. (Fig. 26).

**Note:** When cutting pipe to length, ensure cut ends are clean and square to give a neat appearance. Any gaps can be filled using a proprietary mastic filler for external use.

In a situation where the connection at the base of the rainwater stack runs into the drain inlet, a galvanised steel wall fixing bracket or eared access pipe (100mm only) will be required to retain pipe barrel. (Fig. 27).

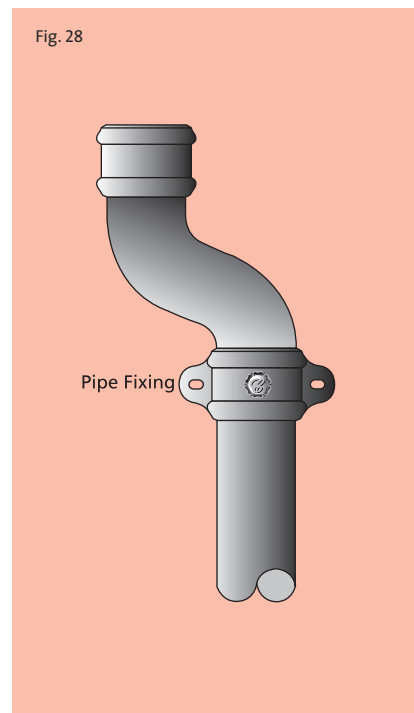


## Top down fixing (fixed socket)

This is the reverse procedure to the previous section. The first pipe to be fixed is positioned and marked relative to the offset/gutter nozzle. (Fig. 28).

The process is repeated up to the last full pipe length.

The pipe at the base of the stack will have to be cut to length relative to the shoe.



# Loose socketed pipe fixing

## Top down fixing

### Step 1

The loose socket is located and fixed so that it fully supports the offset, or is located beneath the nozzle.

### Step 2

A pipe barrel is then inserted into the inlet of the loose socket.

### Step 3

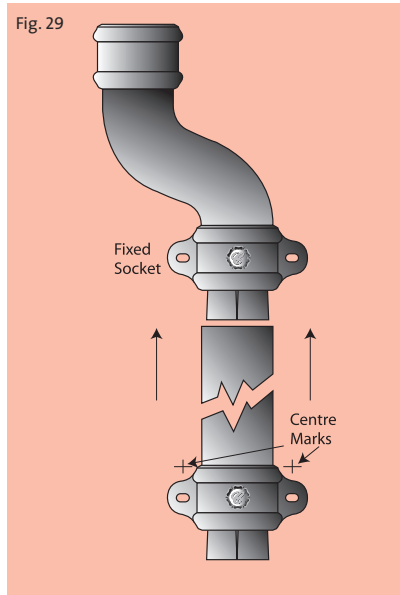
Both pipe and socket are then offered to the fixed socket spigot ensuring that the pipe end is located to the underside of the fixed socket.

### Step 4

Holes on the loose socket are marked, drilled and socket is then fixed.

### Step 5

This is repeated until stack is completed.



## Offsets and sealing

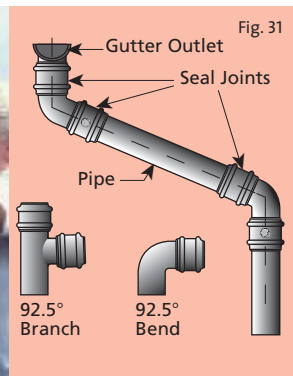
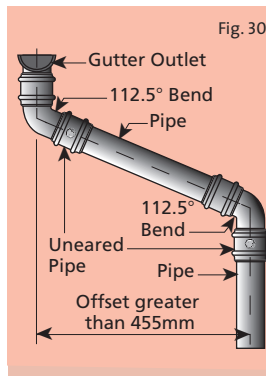
### Making up offsets

When the projection of the fascia is in excess of 455mm the offset is formed with a pipe offset, and two 112.5° bends (as shown in Fig. 30).

### Sealing pipe joints

With vertical pipes, joints are usually left unsealed in the sockets so that if any blockages occur the rainwater pipe does not fill up with water to the eaves and create a nuisance. Only seal joints between gutter outlet and rainwater pipe or offset. (Fig. 31).

Also, any joint which is in the horizontal position such as 90° branch arms or bends etc.



## Maintenance

### Maintenance

Cast iron rainwater gutter systems are designed and manufactured to give many years of reliable service, but to achieve this, regular inspection and minimal routine maintenance should be carried out including:

1. Annually check and clear the gutter systems and rainwater heads of any leaves and debris that could cause a potential blockage (may require more checks if in close proximity of trees etc).
2. Also inspect the condition of the paintwork at the same time as 1. wiping clean any film built up, to protect the surface finish.
3. Also check on security of fixings and joints.

If the manufacturers installation and paint suppliers instructions are adhered to re-painting should not be required for approx five years or longer. (Unless subject to aggressive atmospheric conditions i.e. coastal towns and providing the integrity of the finish coat is maintained).

### Cutting pipe

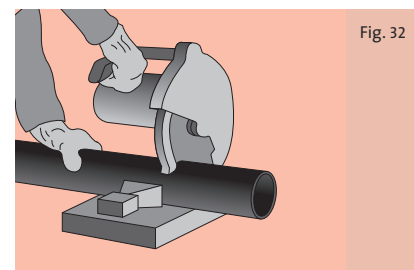
How do you cut a length of cast iron pipe or gutter? With pipe there are three methods.

Firstly the easiest and quickest way is by using a powered disc cutter or metal saw (as shown here Fig. 32).

Secondly, by pipe wheel cutter, which takes slightly more time but gives a neat square edged cut.

Thirdly, by hacksaw, although a tungsten tipped or 50 TPI blade is usually required.

**Note:** Snap cutters are not recommended for use on cast iron pipes etc., and safety equipment, for instance eye protection, should be worn at all times.



# Technical calculations

To select the size of the Classical rainwater system the following method should be used.

## Rainfall intensity

For roof drainage calculations it is usual to assume a rate of rainfall of 75mm/h. Regional differences are more significant in relation to total rainfall than to peak intensities and can be ignored. Short storms of higher intensity do occur and should be taken into consideration where overflowing cannot be tolerated.

### Step 1 – Calculating the area

The first stage of the calculation is determining the largest catchment area. The two most simple ways are illustrated in images (i) and (ii) taking into consideration the outlet position. Image (i),  $A \times B$  = catchment area. Image (ii),  $C \times D \times \text{pitch factor}$  = catchment area.

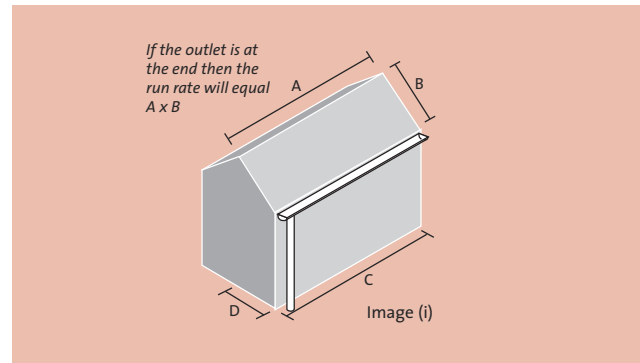
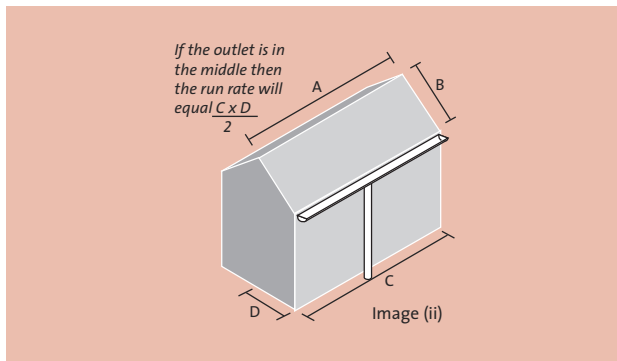


Table 2 – Reduction factors

Answer 'B'	Reduction Factor
50	1.00
100	0.93
150	0.86
200	0.80

### Step 5

Answer 'A' ÷ Reduction factor = total flowrate in l/s.

### Step 6

Using the total flowrate, consult Table 3 for the appropriate gutter profile and size.

### Step 2 – determine run off rate

Catchment area (m<sup>2</sup>) x rainfall intensity in l/s = Answer 'A' (l/s)  
(mm/h ÷ 3600)

Table 1 – Roof pitch factor

ROOF ANGLE	FACTOR
15	1.13
17.5	1.16
20	1.18
22.5	1.21
25	1.24
27.5	1/26
30	1.29
35	1.26
37.5	1.39
40	1.43
42.5	1.46
45	1.50
47.5	1.55

Table 3 – Gutter capacities

Capacity l/sec	Gutter type and size							
	Half round	Beaded half round	Deep half round	Express	Ogee	Moulded no. 46	Notts Ogee	Box
3.10	-	-	-	-	-	150x100	-	-
1.75	-	-	125x75	-	-	-	-	-
1.50	-	-	-	125	-	-	-	-
1.42	-	-	-	-	-	125x100	-	-
1.40	150	-	-	-	-	-	-	-
1.39	-	-	-	-	-	-	-	100x75
1.24	-	-	100x75	-	-	-	-	-
1.07	-	-	-	-	-	-	115	-
0.97	-	125	-	-	-	-	-	-
0.94	125	-	-	-	-	-	-	-
0.79	115	115	-	-	-	-	-	-
0.71	-	-	-	-	125	-	-	-
0.67	-	-	-	-	-	100x75	-	-
0.59	-	100	-	-	115	-	-	-
0.53	100	-	-	-	-	-	-	-
0.41	-	-	-	-	100	-	-	-

\*All gutter and pipe capacities have been tested by HR. Wallingford

Table 4 – Pipe capacities

Pipe diameter (mm)	Capacity litres/second
65	2.00
75	3.00
100	7.00
100 x 75	4.00

If you require your calculations checked, please contact our Technical Department 01952 262 529

### Step 3

Longest gutter run to an outlet ÷ gutter depth = Answer 'B'  
(length in mm) (mm)

### Step 4

Using Answer 'B', consult Table 2 for the next highest reduction factor.

For details of our free of charge design service see page 2.

Dimensions (mm) Weight (kg)



# Painting/Finishing methods

Classical cast iron rainwater systems are supplied in a black primer coating or in 'Plus' finish (a semi-gloss, black topcoat) – available on Express, standard HR and OG gutters and fittings and circular downpipes and fittings.

## Painting (on-site, prior to installation)

When preparing the pipe, gutter and fittings for the on-site finishes, inspect the products, wire brush and touch up the factory applied primer coating, with a metal primer, (if and where necessary) after first ensuring all surfaces are degreased with thinners and are dust free.

Apply an undercoat (usually two coats), before finishing the product with a top coat to suit the building decor. We recommend that only a suitable, good quality paint finish is used to ensure minimal maintenance.

Please note that extra care should be given where cast iron is being installed in exposed coastal areas.

Always consult paint manufacturer's recommendations. Some exterior paints may not be suitable for painting over the water based primer.

**Saint-Gobain PAM UK do not accept any responsibility for the performance of any customer applied finished coat systems.**

**It is the responsibility of the installer/purchaser to examine and repair any coating damage to the factory applied primer coating, before applying further primer, and top coats prior to installation.**

## Classical PLUS (finish coat)

- Product is supplied wrapped to protect from physical damage
- Install as Classical
- ✎ Following installation it is important that any slight installation damage to the coating is repaired with the appropriate quick drying touch up paints available. Product code 192549 (primer) and 192550 (top coat).

## Rise and fall brackets

Those that are supplied in a black coated mild steel and will require painting after installation.

# Standard specification



1. The cast iron rainwater and gutter systems shall comply to the dimensional requirements of BS460, and conform to a British Board of Agrément certificate (where applicable ie. standard half round gutter and fittings, and circular downpipe systems).
2. The cast iron rainwater and gutter systems shall be manufactured under a BS EN ISO 9001:2000 Quality Assurance scheme.
3. The gutter system should be jointed using a mechanical gutter clip from Saint-Gobain PAM Classical Express range (for use with express gutters only).
4. Circular downpipes
  - a) 65, 75 and 100mm rainwater downpipes shall be installed with a fixed/or loose socket head, incorporating the Classical 'C' rosette 'The Mark of Quality'.
  - b) Where the pipe is required to be projected from the wall, cast iron wall spacer plates shall be used.
5. The cast iron rainwater and gutter systems shall be supplied to site protected with a black primer coating, ready for on site painting, or with factory applied top coat. Follow the manufacturers' painting instructions. It is the responsibility of the installer to examine and repair any coating damage prior to further primer coats being applied. Final coatings should be applied prior to installation by the installer/purchaser\*.
6. Where pipes and gutters are cut on site, the ends shall be cut clean and square with burrs removed. All cut ends shall be made good/re-coated strictly in accordance with manufacturer's recommendations.
7. Where there is a wooden fascia, the gutter systems shall be supported by cast iron fascia brackets.

8. The cast iron rainwater and gutter system to be from Saint-Gobain PAM 'Classical' range.
9. The metal used for the manufacture of cast iron rainwater pipes, gutters and fittings shall meet the requirements specified for cast iron in BS EN 1561 Grade EN-JL 1020, ISO 185 Grade 15.
10. The cast iron rainwater and gutter system shall be installed in accordance with the relevant health and safety regulations, to standard of workmanship BS 8000, and to the recommendations from the Classical installation guide.
11. The cast iron rainwater and gutter system shall be supplied to site coated in a factory applied polymer alloy powder coat PPA 571 Saint-Gobain Classical Plus individually protected by plastic wrapping.

**\*A 4 coat system would be considered an ABSOLUTE MINIMUM protection for an external system, ie. 1 primer, 1 undercoat and 2 gloss coats, (or 2 undercoats and 1 gloss coat) giving a minimum coating of 90 microns.**

**ALTERNATIVELY, the cast iron rainwater gutter system is to be supplied in a factory-applied finished coating – Saint-Gobain Classical Plus.**

How to order	Product code	Description	Quantity
Example	192191	100 x 1829 H.R. Classical gutter G800	50

Other products and services available from Saint-Gobain PAM UK:



Please visit our website:

[www.saint-gobain-pam.co.uk](http://www.saint-gobain-pam.co.uk)  
to download electronic version  
or to request hard copies of any  
of our brochures

Technical Enquiries

Tel: +44 (0)1952 262529  
Fax: +44 (0)1952 262592  
Email: [technical.soildrain.uk.pam@saint-gobain.com](mailto:technical.soildrain.uk.pam@saint-gobain.com)

Sales Enquiries

Tel: +44 (0)115 930 0681  
Fax: +44 (0)115 930 0648  
Email: [sales.uk.pam@saint-gobain.com](mailto:sales.uk.pam@saint-gobain.com)

Head Office

Lows Lane, Stanton-by-Dale, Ilkeston,  
Derbyshire, DE7 4QU  
Tel: +44 (0)115 930 5000  
Fax: +44 (0)115 932 9513

## UK market

Classical Rainwater products are widely distributed via reputable builders' merchants throughout the U.K.

Many of these merchants have been dealing with cast iron rainwater systems for many years and can offer help with the selection of styles to suit the local architecture, details of local installers and other invaluable practical advice.

## Sales contacts

Regional Sales Managers	Tel-Mobile
Scotland	07766 776636
Northern Region: North East, Cumbria, Yorks, Lancs, Cheshire	07710 803126
Midlands Region:	07711 097202
East/West Midlands, North/Mid Wales, Lincs	
East Region	07801 316966
South West, South Wales	07766 776634
South East	07850 810373
Northern Ireland	07803 956487
UK Sales Manager	07803 956487

## Natural™

A range of potable water pipeline products available DN80 to DN800 with a new revolutionary system of external protection, fully compliant with the requirements of BS EN 545.

## Large diameter water pipes

Large diameter water pipeline products available DN900 to DN2000, fully compliant with the requirements of BS EN 545.

## Integral and Integral Plus™

A complete range of sewerage pipeline products available from DN80 to DN2000, fully compliant with the requirements of BS EN 598.

## Directional

A ductile iron pipe solution for horizontal directional drilling applications. Available from DN100 to DN700 and fully compliant with BS 545 and BS 598.

## Couplings and flange adaptors

Accommodating a wide range of external diameters and pipe materials in accordance with British, European Standards and ISO 9001 requirements. A diversified range from wide tolerance fittings to dedicated products.

## Valves

A comprehensive range of valves and accessories suitable for water and sewerage applications. All valves are supplied in compliance with WRAS requirements where applicable, and manufactured in accordance with ISO 9001.

- Gate valves, resilient and metal faced DN50 to DN300
- Non return valves DN80 to DN300
- Tidal flap valves DN80 to DN600
- Air valves
- Fire hydrants
- Butterfly valves DN50 to DN2000
- Control valves

## RapidFlange™

A business unit dedicated to offering fast and flexible service to M&E and pump market sectors – specialising in providing high quality flanged products and offering technical support and rapid response.

## Induct Plus™

An installation accreditation scheme, designed to give peace of mind and confidence to water utilities and contractors in the knowledge that the ductile iron pipeline that they have purchased will be installed effectively and in its optimum condition.

## Ensign™

Cast iron above and below ground drainage system BSI Kitemark approved to BS EN 877. Used for soil and waste, rainwater, suspended, buried and bridge drainage applications, providing lifetime service for commercial and public buildings.

## Ensign EEZI-FIT™

A new range of cast iron push-fit fittings and couplings in 100, and 150mm diameter, Kitemarked to BS EN 877 for gravity sanitary installations.

## Timesaver™

Cast iron above ground system BSI Kitemark approved to BS 416 part 2, used for soil and waste refurbishment, and external soil stacks for traditional appearance. Cast iron below ground system BSI Kitemark approved to BS 437, favoured for under building drainage, and unstable ground conditions due to its superior strength performance.

## Classical – Classical Plus™

Cast iron rainwater and gutter systems to BS 460 BBA certified. Eight gutter profiles and circular, square and rectangular downpipes systems supplied in a black primer coat. Classical Plus is a standard range of gutters and downpipes available in a factory applied semi-gloss black finished coat for immediate installation.

## EPAMS™

A complete syphonic rainwater system, consisting of steel syphonic roof outlets and cast iron pipework to BS EN 877 BBA certified.

## Access covers and gratings

A comprehensive range of ductile iron access covers and gratings. For high performance products which meet the increasing demands from traffic to a purpose designed range for low density applications, Saint-Gobain PAM access cover products provide targeted solutions for the key civil engineering, utility and infrastructure sectors.

Your local stockist is:

## Quality Assurance



Quality Management Systems BS EN ISO 9001:2000  
(Registered firm: 12908)

## Environmental Standard



Environmental Management Systems BS EN ISO 14001:2004

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