



Cast Iron drainage,
rainwater pipe
and gutter systems

• Ensign • EEZI-FIT • Timesaver • VortX • Classical Rainwater



Saint-Gobain PAM is the premier supplier of ductile iron and cast iron products to the UK's key utilities, telecoms, highways, civil engineering, construction and housing companies.

We lead markets in the supply of:

- Ductile iron water and sewer pipes, fittings, valves and couplings and adaptors
- Ductile iron access covers & gratings
- Cast iron soil and drainage and rainwater systems

Across each of these categories we can provide:

- Innovative products and processes
- Specialist engineering services
- Total technical support

With Saint-Gobain PAM UK and the PAM brand, you can be assured of Quality, Innovation and Technical Expertise at all times.

TECHNICAL ADVISORY SERVICE

Saint-Gobain PAM offers a comprehensive technical advisory service. The technical team can provide:

- Complete CAD drawing take-off detailing bill of materials
- Installation advice
- Site support
- Tool-box training

Telephone hotline: 01952 262529

Fax: 01952 262592

Email: technical.soildrain.uk.pam@saint-gobain.com

NEW SAINT-GOBAIN PAM UK BIM LIBRARY PORTAL IS NOW LIVE!

Access to Saint Gobain PAM UK's Soil & Drain Parametric Pipe systems. Generic & Manufacturers content available to download.



- NEW REGISTRATION REQUIRED TO KEEP UP TO DATE WITH NEW CONTENT/REVISED
- FULL PARAMETRIC PIPE SYSTEMS GENERIC AND FULL DATA
- ACCESS TO DESIGN AID PLUGINS
- ACCESS TO GUIDANCE VIDEOS AND 'HOW TO?' FAQ'S



For more information and to register for access for the BIM content please go to www.saint-gobain-pam.co.uk

BS EN 877 BS 437 ENSIGN EEZI-FIT ENSIGN DRAIN TIMESAVER DRAIN

SEE PAGES 6-7

Contents



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Ensign



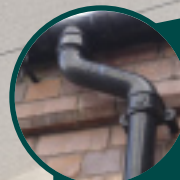
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EEZI-FIT



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Timesaver



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VortX



Page 72
**Classical
Rainwater**

Saint-Gobain PAM UK specialises in the manufacture of cast iron above and below ground drainage systems, for Commercial, Public and Residential buildings.

LEADING DRAINAGE PRODUCTS

We lead markets in the supply of:

- **Cast iron soil and rainwater systems, and suspended pipework in basements and car parks and buried under building drainage**
- Ductile iron water and sewer pipes, fittings, valves & couplings & adaptors
- Ductile iron access covers & gratings

Across each of these categories we can provide:

- Innovative products and processes
- Specialist engineering services
- Total technical support

INNOVATION

With Saint-Gobain PAM UK and the PAM brand, you can be assured of Quality, Innovation and Technical Expertise at all times.

QUALITY ASSURANCE

All parts of our operation have audited quality management systems and fully satisfy ISO 9001:2015. The majority of products are third-party assessed and approved against all relevant worldwide regulations and standards.

SUSTAINABILITY

We continually invest time, energy and expertise to create an extensive range of innovative solutions which are easy to install, simple to joint and simply offer better value for money in terms of total life costs.

COMPLETE SERVICE GLOBAL EXPERTISE

Complete service integration.

Saint-Gobain PAM UK is the UK arm of Saint-Gobain PAM, the international pipelines company, which employs around 9000 people and generates annual sales of £1.2 billion in over 120 countries. Together they form part of the Saint-Gobain group, one of the world's leading multinational organisations.

TECHNICAL SUPPORT

With the international support of parent company Saint-Gobain, we are able to offer unrivalled technical support, a total solution approach and unparalleled quality and innovation. A UK-based business, with two foundries and a distribution centre in the Midlands, we combine international reach with local, specific solutions across all of our customers.

Proud of our UK Manufacturing Heritage

Saint-Gobain PAM UK at its foundry in Telford, Shropshire, the birthplace of cast iron production in the UK, remains at the forefront of design and manufacturing of high-performing cast iron above and below ground drainage systems for commercial, public and residential buildings. PAM France manufactures the 3m pipes and the Telford site manufactures the fittings and ductile iron couplings and brackets to complete the ranges.



SYSTEM, PRODUCT AND SUSTAINABILITY ACCREDITATION

BS EN ISO 5001:2018

Energy Management Systems
Programme of Continual Improvement
exceeding targets for energy reduction
Certificate Number: ENMS710926

BS EN ISO 9001:2015

Quality Management Systems
Kitemark Licence: FM12908

BS EN ISO 14001:2004

Environmental Management Systems
Kitemark Licence: EMS83973

OHAS 18001

Health & Safety Management Systems
Kitemark Licence: OHS 570684

CEMARS

Certified Emissions Measurement And Reduction Scheme
Certificate Number: 2016053J

CEMARS certification demonstrates the Company's commitment to measuring, managing and reducing greenhouse gas emissions in a robust and credible way.

BES6001

Responsible Sourcing of Construction Materials
Kitemark Licence: BES600635

Product Certification

BS EN877: 1999 +A1:2006

Ensign/EEZI-FIT

Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings. Requirements, test methods and quality assurance.
Kitemark Licence: KM51733

BS416 part 2: 1990

Timesaver Soil

Discharge and ventilating pipes and fittings, sand-cast or spun in cast iron. Specification for socketless systems
Kitemark Licence: KM06979

BS437: 2008

Timesaver Drain

Specification for cast iron drain pipes, fittings and their joints for socketed and socketless systems
Kitemark Licence: KM06980





Saint-Gobain PAM UK aims to ease the burden on developers, specifiers and contractors in the early stages of construction by providing two levels of BIM library and supporting elements.

The new releases include a full-data object library, a platform that provides supporting information and free individual BIM files of all products and systems.

These include a BS EN877 'Generic Cast Iron' content package for use in early design stages, with fittings parametrically modelled, and in standard geometric settings. The files contain only the most vital information, reducing the time and effort required to create early stage plans. These 'data-light' designs can also be overwritten with the full data specification libraries without issue, speeding up later stages of development that require more detailed plans streamlining conversion from design to as built work flow.

The PAM BIM Libraries are designed to aid the data transition between Public Health consultant's and Main Contract MEP design engineers, creating a leaner process that reduces design time. As the transitions usually require more explicit data being added to models, Saint-Gobain PAM are also currently creating plugins to quickly add the full data, either automatically by system type, or through floor level and manual area selection.

By providing small file sizes in the generic content, it will make it easier for early stage specification in BIM and will speed up the whole planning process; this in turn will create measurable cost and time savings for our customers.

Available content



**BS EN 877
CAST IRON
GENERIC BIM
LIBRARY**



**BS 437
CAST IRON
GENERIC BIM
LIBRARY**



**ENSIGN SOIL
& EEZI-FIT BIM
LIBRARY
EN877**



**ENSIGN
DRAIN BIM
LIBRARY
EN877**



**TIMESAVER
DRAIN BIM
LIBRARY
BS437**

BIM SERVICES

PAM UK has been developing BIM level 2 libraries in Revit for its ranges of soil and drain products.

Contact the PAM UK BIM manager:

Matthew Hassall

Telephone: 01952 262561

Mobile: 07815 800304

Email: matthew.hassall@saint-gobain.com



NEW REGISTRATION REQUIRED
TO KEEP UP TO DATE WITH NEW
CONTENT/REVISED



FULL PARAMETRIC PIPE SYSTEMS
GENERIC AND FULL DATA



ACCESS TO DESIGN AID PLUGINS



ACCESS TO GUIDANCE VIDEOS
AND 'HOW TO?' FAQs



Coming Soon—New Converter Plugin



BS EN 877 CAST IRON GENERIC LIBRARY

- Generic cast iron content
 - > Full range of Cast Iron fittings
 - > All families have 'real geometry'
 - > Generic coupling with 'fixing zone' visibility
 - > All fittings have constrained couplings which can be turned on/off
 - > No 'Manufacturer' data
 - > All files are lightweight 500KB max.

SG PAM UK CAST IRON ENSIGN SOIL LIBRARY

- Ensign soil full data content
 - > The Saint-Gobain Conversion Plugin will overwrite the generic content to the Ensign content
 - > Minor modifications to project design stages
 - > Time saving design for main contract BIM Engineers.

In development please check for availability.



Ensign cast iron drainage system



Ensign is the market leading cast iron above and below ground drainage system kitemark approved to BS EN 877, providing complete drainage solutions, transporting fluid waste and rainwater through the building out and beyond.

Above Ground Applications: Red coated

- Sanitary soil (Foul) drainage
- Vent & waste
- Rainwater pipework

The Ensign cast iron system is first choice for commercial, public and residential buildings, particularly medium to high rise buildings which require robust and safe solutions for basements and lower levels to the vertical risers.



Ensign Above Ground Pipe



Major Benefits:

Fire Safety

- Ensign is fire rated to the safest level possible = A1 in accordance with BS EN 13501-1
- New Requirement B4: External fire spread
 - > Full compliance with the latest Building Regulations Doc B (Fire Safety)
 - > On any residential building over 18m high. All materials which become part of an external wall or specified attachment
 - > To be classified minimum of non-combustible level A2 s1,do.
- Ensign cast iron requires no special fire protection saving time and cost
 - > Non-combustible—will not fuel a fire
 - > A1 rating = minimal smoke emission—the biggest killer in the first 30 minutes of any fire
 - > Installed using iron or steel brackets cast iron stacks will not collapse
 - > Cast iron will not produce molten droplets unlike HDPE that can potentially spread fire down a building

Acoustics

- Acoustically cast iron is the quietest material on the market
 - > Outperforms acoustic plastic systems by up to 8 dB(A)
 - > Saves on acoustic insulation
- Expansion co-efficient is virtually the same as concrete
 - > No requirement for expansion joints like for HDPE
 - > Simplifies installation
- Less bracketary saving installation cost
 - > Simple brackets—no complicated rail systems
- The best material in consideration to the Environment
 - > Longevity to last the life of the building averaging 70 years for sanitary soil and rainwater systems.
 - > Manufactured from up to 97% recycled content
 - > 100% recyclable at the end of its long life—continually.



Why Ensign Cast Iron?

- 50–600mm diameter range
- High quality pipes manufactured by PAM in France using the De Lavaud process
 - > Pipe has greater impact and crush resistance
 - > Its surface hardness is reduced making it much easier to cut on site.
- High performing mechanical joint solutions that can perform from 0.5 bar to in excess of 10 bar
 - > Ductile iron couplings red epoxy coated with continuity ribs
 - > Stainless steel single bolt couplings for speed and simplicity of installation
 - > Grip collars that can over-clamp the iron and steel coupling to give additional pressure performance at sensitive areas.
- > High pressure couplings comprising of all stainless steel components:
 - > PAM Grip—with grip for up to 10 bar without restraint
 - > PAM Flex—Non grip for up to 10 bar but fully restrained
- Strong robust ductile iron brackets
 - > Acoustic dampeners can be fitted for the ultimate acoustic performance
- The most comprehensive range of swept branches in compliance with **BS EN 12056 part 2** and Public Health best practice
- The most optimised range in cast iron for waste connection fittings
 - > Compression fit or BSP threaded boss pipes
 - > Single and double swept long tail branches with boss options
 - > Multi-waste manifold connectors in 100 and 150mm
 - > Short standard manifold
 - > New multi-waste manifold for low level connection 6 x 2" BSP inlets in 100 and 150mm diameter with extended spigots
 - > New corner manifold with 3 x 2" BSP inlets with extended spigot in 100mm



For more information on the NEW Fabrication Service see page 31



Below Ground Applications: Grey coated

- Underbuilding drainage often requiring to be encased in concrete
- First choice in areas: Unstable land/Soil containing methane gases/Shallow trenches
- Bridge drainage.

Benefits

- Robust proven material—fit and forget
 - > Superior crushing strength of cast iron
 - > The best material to cope with the high temperatures of the concrete curing process during encasement
- Flexible mechanical couplings—to accommodate ground movement
- Natural longevity.

Why Ensign Cast Iron?

- 100mm to 600mm diameter range
- Range of couplings
 - > Ductile iron mechanical up to 300mm
 - > Cast iron push-fit couplings in 100 and 150mm for fast pipe laying
 - > High performance Stainless Steel couplings 400-600mm
- Ensign drain pipes have an external Zinc coat applied in line with BS EN 877. Internally, the Ensign pipes are epoxy lined to an average thickness of 250 microns—virtually twice that of competitor systems.
- New range of inspection chambers with rectangular access (See page 28)



Ensign Below Ground Pipe



Ensign Drain Couplings



Ensign Drain Push-fit Couplings

Performance Standards



BS EN 877: 1999 +A1:2006

- KM 51733 kitemark certification for above and below ground use
- Below ground pipe to standard BS EN 877—require the application of an external Zinc layer of 130gr/m².

CE MARK

- Ensign is manufactured to BS EN 877—a European harmonised standard and as such under the construction products directive must be CE marked by Law. The manufacturer must make a product declaration of performance in conjunction with BS EN 877 (DoP), and must be fire rated after a test carried out at an accredited Fire Research establishment. Ensign has been tested at EXOVA in Warrington and rated A1

The Ensign DoP is available on the PAM website.



BS EN 14366:2004

- Laboratory measurement of noise from waste water systems
- Ensign has been tested at the Fraunhofer Institute in Germany and has the lowest level of acoustic measurement when using PAM acoustic brackets.



Ensign acoustic bracket



Pipework being acoustically tested

Fire Performance



- Reaction to fire category A1
- Fire resistance
 - > Building Regulations Document B—No special protection required
 - > ASFP Red Book guidance—Pipe penetration between floors and walls made with a mortar based material.



For more information on performance standards and safety guidance visit our website: www.saint-gobain-pam.co.uk
Alternatively contact technical enquiries on **01952 262529**
or email technical.soildrain.uk.pam@saint-gobain.com

System Installation Guidance

- BS EN 12056 parts 2 & 3
 - > Use of swept branches particularly for foul discharge stacks
 - > Long radius bends at the base of stacks

- Pipe pressures

- > Ensign is a gravity drainage system
- > Any references to coupling performance pressures are based on accidental hydrostatic tests centred around coping with accidental blockages

Also note the relevance of '*restrained and unrestrained*' terminology. Example: 100mm diameter Ensign couplings under BS EN877 standard must be capable of withstanding 5 bar accidental static pressure '*restrained*'—which means fully bracketed. Check Ensign catalogue

- BS EN 752

- > Underbuilding drainage for Ensign Drain.

Installation tools and guidance

- Recommended Pipe Cutters

- > Scorp 220 cutter type (accuracy/lower noise/reduced sparks)
- > Standard Chop saw

- Coupling assembly

- > Hand-held cordless impact driver
- > Ratchet spanner EF100
- > Torque wrench set at 20 Nm

Guidance:

The ductile iron couplings should be tightened until a suitable resistance is achieved—note they do not need to be completely tightened until the two halves are touching—usually leave a 2-3mm gap (see page 29)

- Overpainting

- > The coating for Ensign is regarded as a primer, therefore when installed in exposed external areas the system should be overpainted. The system should be gently rubbed down with a suitable abrasive paper to provide a good adhesive key for the finished coat

- Coating cut ends

- > In most cases it is not necessary to re-coat the pipe ends with touch-up paint. However, where there may be potentially a higher risk of more aggressive fluids passing through the cast iron drainage system (i.e. Coca Cola, acid rain, acids or strong alkaline) it is recommended the cut ends be protected to the same standard as the internal coating of the pipe. In this instance PAM recommend:
 - > EXTREM 1K—Supplied in 0.5kg tins— a new quick drying touch up paint air dry in 15 minutes to ensure time is not wasted. (See page 29)

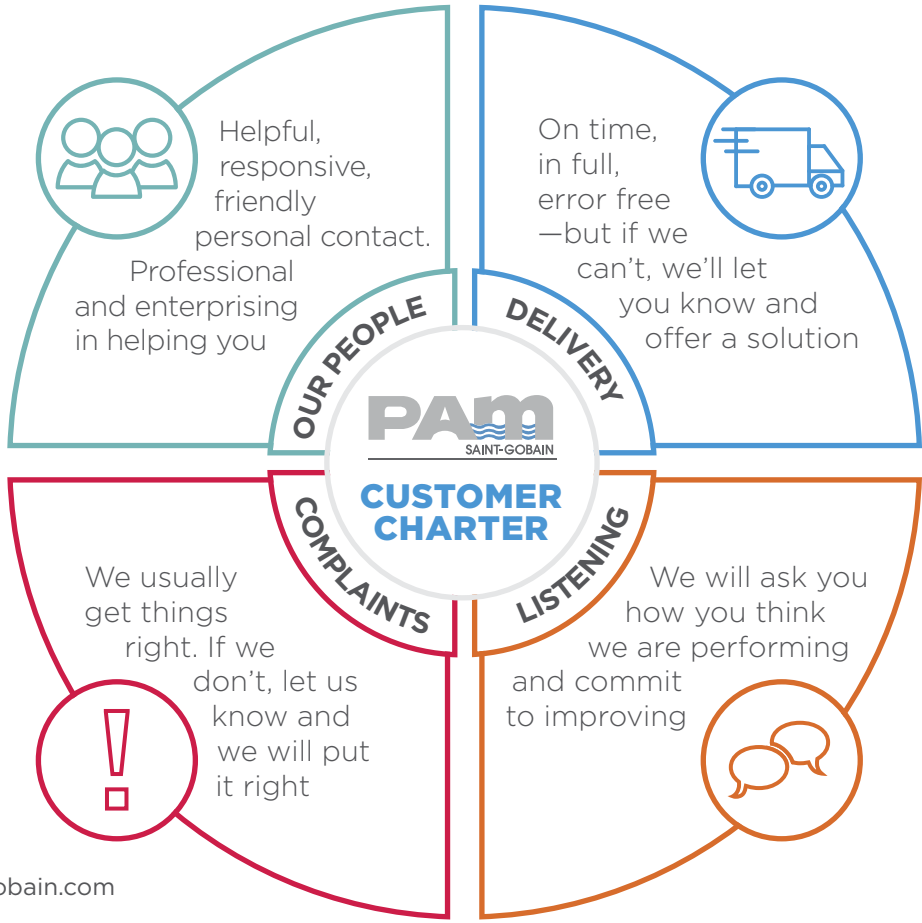


Customer Service

SAINT-GOBAIN PAM UK—CUSTOMER CHARTER

Your 1st Choice
through the
actions of
our people

- Passionate about customer satisfaction
- Enterprising in support of our customers' aims
- Trustworthy by keeping our promises



SALES ENQUIRIES

Telephone: 0115 930 0681
Fax: 0115 930 0648
Email: sales.uk.pam@saint-gobain.com

CUSTOMER SERVICE TEAM

Email: customerorders.uk.pam@saint-gobain.com
Website: www.saint-gobain-pam.co.uk

TECHNICAL SERVICES

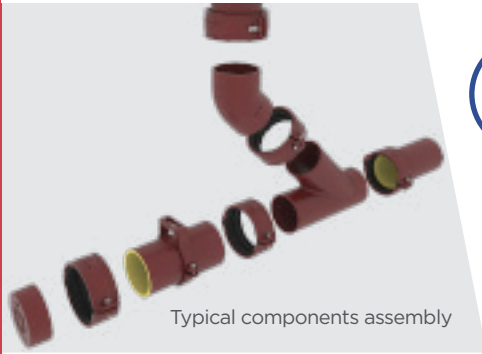
See page 48

Delivery Service Category (DSC) timescales

Saint-Gobain PAM UK provide a product availability structure for all its products, by product ranges, to enable contractors and distributors to plan supply more effectively on projects.

The products are categorised as follows and are shown against each product in the price list tables.

Category	Description	Within (working) Days
A	Products manufactured for ex-stock availability. Any out-of-stock situation should be quickly resolved.	5
B	Products manufactured and a stock level will be held based on average demand.	5-15
C	Products generally of lower demand—some stock may be held or made to order.	15-30



Typical components assembly



Ensign Rodding Branches EF009

(Patent applied for)

The new value engineered one piece solution—Ensign Rodding Branches have been developed to simplify and save significant installation time when installing horizontal cast iron pipework.

Features and Benefits

- Minimum 50% quicker installation time to complete the section
- Integrated rodding eye cap (capable up to 5 bar pressure)
- Integrated fixing lugs for self supported brackets
- Available in 100mm diameter in 88° and 45° variances

Developed through collaboration with plumbing installers the new rodding branches combine up to 8 components into one fitting.

The rodding branches would be installed at particular points in the pipe run:

1. At changes in direction
2. When the Vertical pipe stack connects to the horizontal run under the floor below.

Traditionally, at the end of the pipe run, just after the change in direction, or connection to the vertical pipe stack, a short length of pipe (typically 200mm in length) would be added and then blanked off to allow rodding access. Essentially this added length of pipe would allow a fixing bracket to support the pipework and be positioned the other side of the vertical pipework core hole. (Illustrated in the 'in situ' bottom image)

Here is a typical list of Ensign components when the vertical pipework connects to the horizontal pipe run (see top left image or see typical assembly components):

- 1 x 100mmØ x 100mm x 45° single branch EF006
- 1 x 100mmØ x 200mm long section of pipe EP000
- 1 x 100mmØ blank end EF070
- 3 x 100mmØ couplings EC002
- 1 x 100mmØ x 45° bend EF002
- 1 x 100mmØ fixing bracket EF048

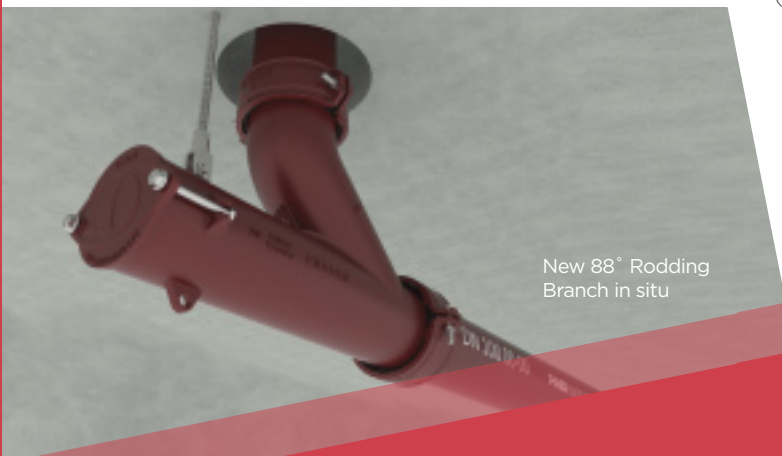
The new 88° rodding branch combines all into one unit—significantly saving installation time: Couplings assembly and cutting a short length of pipe. Labour time saved would be approx 1 hour per section (subject to level of skill and source of labour rates e.g. Luckins). Typically, in multi-story buildings with basements this arrangement would be repeated throughout the horizontal sections, presenting the installer with significant labour saving potential.



Components assembled



New 88° Rodding Branch



New 88° Rodding Branch in situ

In addition, the end cap to the new rodding branch has been designed to withstand up to 5 bar static pressure to accommodate end thrust pressures which are sometimes required. This saves further the requirement for a grip collar fitting that would overclamp the standard blank end installed to allow rodding.

Finally, the fitting includes a fixing lug to be able to secure the unit to the slab without the need for a full bracket component. **SEE PAGE 22** ➡

Ensign Corner Manifold

The new 100mm diameter corner manifold will be introduced early in 2020 to complete the range of manifold fittings that will strengthen the Ensign cast iron solution for residential applications.

- The manifold can be fitted in tight corners where space is limited
- The manifold provides up to 3 x 2" BSP waste inlets
- Horizontal entry for low level waste connection
- Extended spigot to allow full penetration of the floor slab without a joint.

SEE PAGE 26 ➡



Ensign Vent Branches

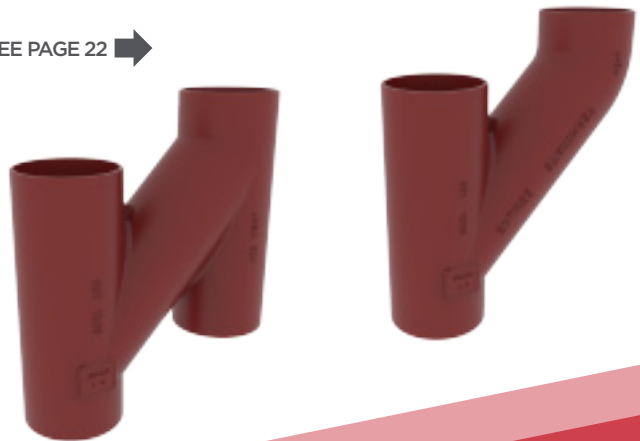
NEW

Other new products developed through collaboration with plumbing installers are the new vent branch fittings for the Ensign soil range that provide innovative solutions for where the vent pipe starts and terminates back to the main stack, and inter-connects at various points in-between.

The vent branch fittings provide the following benefits:

- One fitting solutions that replace multiple components
 - > Entry/Terminating vent branch replaces (1 x branch, 1 x coupling, 1 x bend)
 - > Intersection vent branch replaces (2 x branch, 1 x coupling)
- Automatically positions the vent pipe in parallel to the main soil waste stack at 200mm centre line placement
 - > Simplifies the pipe positioning through the core hole for the vertical stacks
 - > Ensures space is kept to a minimum
- Cost effective solution
 - > Lower material costs
 - > Labour time saved—fewer joints

SEE PAGE 22 ➡



**WHAT'S
NEW?**


Look out for **NEW** throughout this price list to find the new products

Trade Price List December 2019—Cast Iron drainage, rainwater pipe & gutter systems

DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼		
				ΔDSC.	PRODUCT CODE	UNIT PRICE £	ΔDSC.	PRODUCT CODE	UNIT PRICE £
3m Pipe									
   Pipe caps available for onsite storage				EP000			ED000		
	50	35	12.5	A	156363	72.34	—	—	—
	70	41	17.0	A	156455	83.70	—	—	—
	100	38	24.5	A	156563	99.59	A	155349	130.01
	125	23	34.3	C	156736	159.78	—	—	—
	150	20	41.0	A	156827	197.30	A	155414	259.03
	200	10	67.4	B	156951	329.70	C	155448	437.87
	250	8	97.3	B	157049	460.64	B	155476	643.73
	300	6	126.8	C	157114	573.65	B	155493	801.72
	400	1	177.7	C	157171	1,126.61	C	155508	1,298.87
	500	1	244.9	C	157187	1,401.11	C	155511	1,508.17
600	1	321.9	C	157203	1,708.35	C	175630	1,853.90	

Pipe caps available
for onsite storage

Two Piece Iron Ductile Couplings (*No Continuity Nibs on ED001 Couplings) (EPDM Gaskets)

				EC002			ED001*		
	50	32	0.6	A	156398	10.84	—	—	—
	70	27	0.7	A	156493	11.95	—	—	—
	100	20	1.1	A	156634	15.53	A	155369	21.92
	125	12	0.9	C	156777	19.28	—	—	—
	150	8	1.7	A	156888	31.14	A	155433	44.78
	200	4	3.7	A	156998	69.60	A	155462	99.79
	250	1	4.4	B	175552	99.68	B	175591	127.04
	300	1	6.5	B	175510	115.36	B	175592	145.51
	300mm diameter is 4 piece 400mm, 500mm, 600mm diameter couplings see below EC002HP								

Push-fit Cast Iron Drain Couplings

							ED004		
	100	1	1.5	—	—	—	A	175622	24.01
	150	1	2.5	—	—	—	B	175623	47.13


Grip Collars Stainless Steel

				EC002GC					
	50	10	0.5	B	221261	34.78	—	—	—
	70	10	0.7	B	221267	40.65	—	—	—
	**100	10	0.9	B	220750	53.93	—	—	—
	**150	4	1.2	B	221270	77.00	—	—	—
	**200	3	1.7	C	221271	105.96	—	—	—
	250	1	1.7	C	227039	175.56	—	—	—
	300	1	1.7	C	227040	197.32	—	—	—

**To overlamp
ductile iron
coupling EC002
To give 5 bar
unrestrained


Will overlamp all sizes Stainless Steel
EC002NG Couplings

NEW PAM-GRIP Stainless Steel High Performance Coupling with Grip (EPDM Gaskets)

				EC002HP-G			EC002HP-G		
	50	1	0.6	B	269439	125.56	B	269439	125.56
	70	1	1.0	B	269440	164.97	B	269440	164.97
	100	1	1.1	B	269441	191.31	B	269441	191.31
	150	1	2.3	B	269442	315.89	B	269442	315.89
	200	1	5.6	B	269443	427.45	B	269443	427.45
	250	1	6.5	B	269444	578.52	B	269444	578.52
	300	1	7.2	B	269445	591.67	B	269445	591.67
	400	1	10.3	B	269446	656.73	B	269446	656.73
	500	1	16.9	C	269447	968.09	C	269447	968.09
	600	1	19.6	C	269448	1,033.74	C	269448	1,033.74

All steel components are
Grade 316 EPDM gasket
Nitrile available on request

NEW PAM-FLEX High Performance Coupling Non-Grip (EPDM Gaskets)

				EC002HP			EC002HP		
	50	1	0.6	B	269450	105.83	B	269450	105.83
	70	1	1.0	B	269451	143.60	B	269451	143.60
	100	1	1.1	B	269452	169.15	B	269452	169.15
	150	1	2.3	B	269453	200.85	B	269453	200.85
	200	1	4.1	B	269454	262.55	B	269454	262.55
	250	1	4.6	B	269455	296.24	B	269455	296.24
	300	1	5	B	269456	322.82	B	269456	322.82
	400	1	5.8	B	269457	394.77	B	269457	394.77
	500	1	6.6	C	269458	466.13	C	269458	466.13
	600	1	7.4	C	269459	484.26	C	269459	484.26









All steel components are
Grade 316 EPDM gasket
Nitrile available on request









Note - Coupling requires restraining to perform to higher pressures

Technical Enquiries: +44 (0)1952 262529 Email: technical.soildrain.uk.pam@saint-gobain.com

Prices exclude VAT *Made to order
⁴Delivery Service Category DSC (see page 13)


Ensign • EEZI-FIT • Timesaver • VortX • Classical Rainwater

DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼		
				ΔDSC.	PRODUCT CODE	UNIT PRICE £	ΔDSC.	PRODUCT CODE	UNIT PRICE £
Stainless Steel couplings Rapid NG (EPDM Rubber Gasket)									
	EC002NG								
	50	100	0.2	A	210424	10.84	—	—	—
	70	140	0.3	A	210425	11.95	—	—	—
	100	100	0.5	A	210427	15.53	—	—	—
	125	50	0.6	C	210428	19.28	—	—	—
	150	50	0.7	A	210429	31.14	—	—	—
	200	20	0.8	B	210430	69.60	—	—	—
	250	4	0.9	B	228759	99.68	—	—	—
Nitrile Gaskets available on request									
300	4	1.0	B	228771	115.36	—	—	—	
Ductile Iron Pipe Brackets									
	EF048								
	50	48	0.3	A	156408	9.80	—	—	—
	70	30	0.5	A	156505	9.80	—	—	—
	100	30	0.6	A	156646	11.32	B	175593	13.11
	150	16	0.8	A	156898	20.96	B	175594	24.83
	200	8	1.5	B	177745	77.74	C	177743	94.61
Ductile Iron Pipe Bracket Fitted with Acoustic Dampener—Tested to BS EN 14366:2004									
	EF048AD								
	50	48	0.5	B	199881	19.05	—	—	—
	70	30	0.6	B	199882	19.05	—	—	—
	100	30	0.7	A	199883	20.32	—	—	—
150	16	1.0	B	199884	25.40	—	—	—	
Ductile Iron Pipe Bracket (Double Braced)									
	EF049								
	100	1	0.8	B	177744	12.40	—	—	—
Vertical Mild Steel Bracket									
	EF048MS								
	125	1	1.1	B	192259	19.74	—	—	—
Stand Off Mild Steel Brackets									
	EF048MS								
	200	1	2.0	B	192414	31.20	—	—	—
	250	1	2.5	B	192260	43.00	—	—	—
	300	1	2.7	C	192261	47.37	—	—	—
400	1	3.3	C	192362	69.80	—	—	—	
NEW Split Band Mild Steel Brackets									
	EF048SMBS								
	400	1	2.3	C	261761	59.91	—	—	—
	500	1	2.9	C	261762	85.75	—	—	—
Rubber Lined Steel Brackets									
	EF048MSL								
	50	50	0.1	B	251197	5.22	—	—	—
	70/75	50	0.2	B	251198	7.97	—	—	—
	100	25	0.3	B	251199	9.54	—	—	—
	150	20	0.4	B	251201	13.93	—	—	—
	200	10	0.6	C	251202	24.68	—	—	—
	250	10	1.6	C	251203	40.82	—	—	—
	300	10	1.8	C	251204	81.45	—	—	—




DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼		
				ΔDSC.	PRODUCT CODE	UNIT PRICE £	ΔDSC.	PRODUCT CODE	UNIT PRICE £
88° Short Radius Bends									
	EF002								
	50	1	0.7	A	191437	18.75	—	—	—
	70	1	1.3	A	191442	21.10	—	—	—
	100	1	1.9	A	191447	24.99	—	—	—
	125	1	3.2	C	191454	36.82	—	—	—
	150	1	4.4	A	191459	44.88	—	—	—
	200	1	9.8	C	191462	143.41	—	—	—
	250	1	17.3	C	191463	260.73	—	—	—
	300	1	27.4	C	191431	429.37	—	—	—
	400	1	72.7	C	265224	1,200.95	—	—	—
69° Short Radius Bends									
	EF002								
	50	1	0.6	C	191436	18.75	—	—	—
	70	1	1.2	C	191441	21.10	—	—	—
	100	1	2.1	C	191446	24.99	—	—	—
	150	1	4.2	C	191458	44.88	—	—	—
67° Short Radius Bends									
	EF002								
	200	1	7.8	C	156968	133.63	—	—	—
	250	1	14.7	C	157067	260.73	—	—	—
	300	1	20.0	C	157132	366.76	—	—	—
45° Short Radius Bends									
					EF002		ED002		
	50	1	0.6	A	191435	18.75	—	—	—
	70	1	0.9	A	191440	21.10	—	—	—
	100	1	1.4	A	191445	24.99	A	191765	29.44
	125	1	2.3	C	191452	36.82	—	—	—
	150	1	3.0	A	191457	44.88	B	191766	52.81
	200	1	6.8	B	191461	133.63	C	191767	153.67
	250	1	10.9	B	191464	260.73	C	191879	305.67
	300	1	18.7	C	191432	366.76	C	191880	414.83
	400	1	35.0	C	192335	946.91	C	192370	988.08
	500	1	53.0	C	192376	1,884.35	C	192382	2,001.09
	600	1	92.0	C	192377	1,962.61	C	192383	2,139.62
30° Short Radius Bends									
					EF002		ED002		
	50	1	0.5	C	191434	18.75	—	—	—
	70	1	0.7	C	191439	21.10	—	—	—
	100	1	1.5	A	191444	24.99	A	191768	29.44
	150	1	3.2	C	191456	44.88	B	191769	52.81
	200	1	7.0	C	155933	133.63	C	265382	160.35
	250	1	9.7	C	155948	260.73	C	265380	312.88
	300	1	15.5	C	155960	366.76	C	265379	476.78
	400	1	34.6	C	264752	946.91	C	266308	988.08
15° Short Radius Bends									
					EF002		ED002		
	50	1	0.4	C	191433	18.75	—	—	—
	70	1	0.7	C	191438	21.10	—	—	—
	100	1	1.3	A	191443	24.99	A	191770	29.44
	150	1	2.5	C	191455	44.88	B	191771	52.81
	200	1	4.6	C	155932	133.63	C	265381	160.35
	400	1	19.3	C	269726	946.91	C	270324	988.08
45° Medium Radius Bends									
					ED02M				
	100	1	3.5	—	—	—	B	191772	50.12
	150	1	5.9	—	—	—	C	191773	124.72

Prices exclude VAT *Made to order
^ΔDelivery Service Category DSC (see page 13)

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DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼			
				ΔDSC.	PRODUCT CODE	UNIT PRICE £	ΔDSC.	PRODUCT CODE	UNIT PRICE £	
88° Medium & Long Radius Bends										
					EF02L			ED02L		
	100 LR	1	4.8	A	191549	63.52	A	191774	68.75	
	150 MR	1	8.7	B	191550	182.08	B	191775	206.18	
22° Long Radius Bends										
					EF02L			ED02L		
	100 LR	1	2.0	C	191548	46.84	C	191776	50.49	
88° Heel Rest Bends										
								ED007		
	100	1	5.7	—	—	—	B	192289	85.43	
	150	1	9.9	—	—	—	C	192290	210.16	
88° Short Radius Bends with Rear Access										
					EF005					
	70	1	1.8	C	156472	40.92	—	—	—	
	100	1	3.3	A	156589	59.77	—	—	—	
	150	1	4.5	B	156845	105.15	—	—	—	
88° Long Radius Bend with Rear Access										
					EF05L			ED05L		
	100	1	5.7	B	156607	77.32	C	191777	90.96	
88° Medium Radius Bend with Rear Access										
					EF05M			ED05M		
	150	1	10.7	C	192357	187.83	C	192358	210.16	
88° Long Tail Bend										
					EF055					
	100	1	4.4	C	191567	48.35	—	—	—	
45° Long Tail Bend										
					EF055			ED055		
	100	1	4.0	C	191566	48.35	C	191778	51.49	
88° Long Tail Double Bend										
					EF054					
	70	1	3.1	C	191837	67.87	—	—	—	
	100	1	4.4	C	191838	74.87	—	—	—	

Trade Price List December 2019—Cast Iron drainage, rainwater pipe & gutter systems










DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼		
				ΔDSC.	PRODUCT CODE	UNIT PRICE £	ΔDSC.	PRODUCT CODE	UNIT PRICE £
88° Single Tee Branches (equal and unequal)									
	EF006								
	50x50	1	1.0	B	191469	30.07	—	—	—
	70x50	1	1.5	C	191472	31.78	—	—	—
	70x70	1	1.7	B	191475	31.78	—	—	—
	100x50	1	2.0	B	191479	43.57	—	—	—
	100x70	1	2.3	C	191482	43.57	—	—	—
	100x100	1	2.7	A	191485	40.47	—	—	—
	125x100	1	4.0	C	191490	81.18	—	—	—
	125x125	1	4.2	C	191492	87.36	—	—	—
	150x100	1	4.6	B	191497	93.82	—	—	—
	150x125	1	5.8	C	191499	108.47	—	—	—
	150x150	1	6.0	C	191501	96.83	—	—	—
	200x200	1	13.3	C	191505	331.62	—	—	—
	250x250	1	22.6	C	191508	585.28	—	—	—
	300x300	1	35.5	C	191466	753.08	—	—	—
69° Single Branches (equal and unequal)									
	EF006					ED006			
	50x50	1	1.0	C	191468	30.07	—	—	—
	70x50	1	1.4	C	191471	31.78	—	—	—
	70x70	1	1.7	C	191474	31.78	—	—	—
	100x50	1	2.2	C	191478	43.57	—	—	—
	100x70	1	2.7	C	191481	43.57	—	—	—
	100x100	1	2.7	C	191484	40.47	C	191781	47.53
	150x100	1	5.1	C	191496	95.01	C	191851	111.71
45° Single Branches (equal and unequal)									
	EF006					ED006			
	50x50	1	1.3	A	191467	30.07	—	—	—
	70x50	1	1.8	C	191470	31.78	—	—	—
	70x70	1	2.3	B	191473	31.78	—	—	—
	100x50	1	2.4	A	191477	43.57	—	—	—
	100x70	1	2.7	B	191480	43.57	—	—	—
	100x100	1	3.7	A	191483	40.47	A	191782	47.53
	125x70	1	4.0	C	191488	87.36	—	—	—
	125x100	1	5.3	C	191489	81.18	—	—	—
	125x125	1	5.6	C	191491	87.36	—	—	—
	150x70	1	5.1	B	191494	95.01	—	—	—
	150x100	1	5.7	B	191495	95.01	B	191783	111.71
	150x125	1	8.0	C	191498	117.10	—	—	—
	150x150	1	8.4	B	191500	96.83	C	191784	113.86
	200x100	1	9.6	C	191502	243.79	C	191785	286.71
	200x150	1	14.2	C	191503	250.74	C	191786	286.71
	200x200	1	19.4	C	191504	271.51	C	191787	307.59
	†250x100	1	13.6	C	157073	311.53	C	259817	358.26
	†250x150	1	17.3	C	157075	311.53	C	259816	358.26
	†250x200	1	24.3	C	157078	389.43	C	265383	467.32
	250x250	1	32.2	C	191507	583.92	C	191881	686.08
	†300x100	1	19.3	C	157138	514.03	C	264870	616.83
	†300x150	1	23.2	C	157140	514.03	C	264869	616.83
	†300x200	1	28.4	C	157141	545.18	—	—	—
	†300x250	1	37.2	C	157142	545.18	—	—	—
	300x300	1	54.8	C	191465	753.08	C	191882	989.62
	400x300	1	60.0	C	192339	1,803.87	C	192384	1,699.76
	400x400	1	94.7	C	192336	2,140.89	C	192373	1,838.62
	†500x500	1	175.0	C	192378	3,185.05	C	192385	2,945.18
	†600x600	1	215.0	C	192379	3,254.16	C	192386	3,615.74

Prices exclude VAT *Made to order
^ΔDelivery Service Category DSC (see page 13)

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DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼		
				ΔDSC.	PRODUCT CODE	UNIT PRICE £	ΔDSC.	PRODUCT CODE	UNIT PRICE £
88° Single Branch (Swept Radius) (see BS EN 12056 part 2)									
					EF06R			ED06R	
	70x70	1	2.2	B	156539	38.70	—	—	—
	100x50	1	2.4	B	156611	50.93	—	—	—
	100x70	1	2.9	C	156612	50.93	—	—	—
	100x100	1	3.3	A	156696	46.23	B	191788	52.60
	150x100	1	7.6	B	156869	110.16	C	191789	177.34
	150x150	1	11.7	C	156926	170.89	C	191790	178.78
	200x150	1	13.0	C	156985	310.03	C	191791	364.65
200x200	1	21.0	C	157025	326.46	C	191792	384.05	
88° Single Branch (Swept Radius) with Rear Access (see BS EN 12056 part 2)									
					EF07R			ED07R	
	70x70	1	3.0	C	156540	56.73	—	—	—
	100x50	1	3.2	C	156614	76.94	—	—	—
	100x70	1	3.5	C	156621	76.94	—	—	—
	100x100	1	4.3	B	156697	79.85	C	191793	90.53
	150x100	1	8.9	C	156875	183.66	C	191794	191.06
150x150	1	13.0	C	156927	224.05	C	191795	224.20	
88° Double Tee Branches (equal and unequal)									
					EF010				
	100x50	1	2.2	C	155825	42.89	—	—	—
	†100x70	1	2.7	C	155826	51.40	—	—	—
	100x100	1	3.3	B	191511	58.21	—	—	—
150x100	1	5.7	C	155907	130.23	—	—	—	
69° Double Branches									
					EF010			ED010	
	100x100	1	3.4	C	191510	63.99	C	191796	75.34
45° Double Branches (equal and unequal)									
					EF010			ED010	
	100x100	1	4.7	B	191509	60.41	C	191798	68.48
	150x100	1	8.0	C	191512	179.12	C	191799	198.87
	150x150	1	12.6	C	191513	240.85	C	191800	268.96
200x200	1	25.3	C	191514	333.81	C	191801	346.02	
88° Double Branches (Swept Radius) (equal and unequal)									
					EF010R			ED010R	
	100x100	1	4.2	B	157643	59.09	C	185373	69.47
	150x100	1	7.6	C	156862	265.21	C	191803	240.37
88° Long Tail Tee Branch									
					EF056				
	100x100	1	5.1	C	191568	142.13	—	—	—
45° Long Tail Branches (equal and unequal)									
					EF056				
	100x100	1	5.9	C	156723	142.13	—	—	—
	150x150	1	18.3	C	156938	266.53	—	—	—

Trade Price List December 2019—Cast Iron drainage, rainwater pipe & gutter systems



DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼		
				ΔDSC.	PRODUCT CODE	UNIT PRICE £	ΔDSC.	PRODUCT CODE	UNIT PRICE £
NEW 88° Corner Branch (Swept Radius) (equal)					EF035R				
	100x100	1	4.4	B	264739	105.99	—	—	—
88° Corner Branches (equal and unequal)					EF035				
	100x100	1	3.5	C	191558	105.99	—	—	—
	150x100	1	7.1	C	155919	123.75	—	—	—
45° Corner Branch					EF035				
	100x100	1	5.9	C	156716	105.99	—	—	—
88° Long Tail Corner Branch					EF036				
	100x100	1	7.5	C	191559	166.99	—	—	—
88° Single Long Arm Branch					EF008				
	100	1	6.0	C	156726	103.57	—	—	—
NEW 45° Interconnecting Venting Branch					EF013				
	100X100	1	6.7	A	270320	75.30	—	—	—
NEW 45° Entry/Terminal Venting Branch					EF013				
	100X100	1	5.6	A	270303	63.25	—	—	—
NEW 45° Rodding Branch					EF009				
	100	1	7.0	A	266138	103.85	—	—	—
NEW 88° Rodding Branch					EF009				
	100	1	7.6	A	266135	139.28	—	—	—

Prices exclude VAT *Made to order
⁴Delivery Service Category DSC (see page 13)

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DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼		
				ΔDSC.	PRODUCT CODE	UNIT PRICE £	ΔDSC.	PRODUCT CODE	UNIT PRICE £
Access Pipes with Round Door									
					EF014			ED014	
	50	1	1.6	B	191516	49.98	—	—	—
	70	1	2.0	B	191517	52.88	—	—	—
	100	1	3.1	A	191518	58.11	C	191805	65.44
	150	1	6.2	B	191519	105.19	C	191806	108.91
Access Pipes with Rectangular Door									
					EF015			ED015	
	100	1	7.2	B	191840	112.37	C	191807	130.59
	125	1	9.0	C	191521	116.93	—	—	—
	150	1	12.7	B	191841	175.95	C	191808	204.23
	200	1	21.5	C	191522	349.48	C	191809	411.09
	250	1	38.5	C	191523	549.90	C	191883	666.24
300	1	50.0	C	191520	685.95	C	191884	795.42	
Offsets									
					EF024				
	100x75	1	2.3	C	191526	38.43	—	—	—
	50x130	1	1.5	C	191524	31.79	—	—	—
	70x130	1	2.2	C	191525	48.22	—	—	—
100x130	1	3.8	C	191527	63.35	—	—	—	
Taper Pipes									
					EF028			ED028	
	70x50	1	0.5	B	191532	28.85	—	—	—
	100x50	1	0.9	A	191533	33.93	—	—	—
	100x70	1	0.9	A	191534	33.93	—	—	—
	125x50	1	1.2	C	191842	34.12	—	—	—
	125x70	1	1.5	C	191536	34.12	—	—	—
	125x100	1	1.6	C	191537	34.12	—	—	—
	150x50	1	1.7	C	191538	65.12	—	—	—
	150x70	1	1.8	C	191539	65.12	—	—	—
	150x100	1	2.2	B	191540	65.12	B	191810	70.29
	150x125	1	2.0	C	191541	65.12	—	—	—
	200x100	1	3.5	C	191542	105.76	C	191811	124.42
	200x125	1	3.4	C	191543	105.76	—	—	—
	200x150	1	3.9	C	191544	105.76	C	191812	124.42
	250x100	1	5.9	C	191545	218.45	C	191889	256.08
	250x150	1	6.1	C	191546	218.45	C	191886	256.08
	250x200	1	6.1	C	191547	218.45	C	191892	256.08
	300x150	1	10.4	C	191529	300.28	C	191890	356.46
	300x200	1	11.0	C	191530	300.28	C	191891	356.46
	300x250	1	12.7	C	191531	300.28	C	191885	356.46
†PAM can manufacture large diameter tapers to most sizes i.e. 500x200 on a made to order basis (Price on application)	400x300	1	20.0	C	157163	375.81	C	155504	445.90
	500X150	1	26.5	C	270326	882.72	C	265404	969.40
	500x400	1	27.9	C	157184	882.72	C	270327	969.40
'P' Trap Plain (Supplied with support lug)									
					EF034			ED034	
	100	1	4.5	A	156666	46.37	C	191815	54.60
'P' Trap with Head Access (*Supplied without support lug only)									
					EF037			ED037	
	50*	1	2.0	B	156419	70.84	—	—	—
	70	1	2.7	C	156518	70.84	—	—	—
	100	1	5.2	B	156667	76.70	C	182482	89.39
	150	1	11.6	B	156911	137.19	C	182483	152.22

Trade Price List December 2019—Cast Iron drainage, rainwater pipe & gutter systems

DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼		
				ΔDSC.	PRODUCT CODE	UNIT PRICE £	ΔDSC.	PRODUCT CODE	UNIT PRICE £
Branch Trap									
	EF080								
	100	1	10.2	C	191587	168.13	—	—	—
Stench Trap									
	EF081								
	100	1	17.4	C	155841	349.19	—	—	—
	150	1	38.0	C	155921	736.92	—	—	—
Asphalt Roof Connector									
	EF073								
	100	1	2.1	C	191581	70.42	—	—	—
Movement Connector									
	EF058								
	100	1	4.4	B	192304	89.45	—	—	—
	150	1	7.8	C	156235	165.58	—	—	—
Expansion Plugs									
	EF074					ED074			
	50	1	0.2	C	156374	32.98	—	—	—
	70	1	0.4	C	191582	19.92	—	—	—
	100	1	0.7	B	191583	24.81	C	191823	33.09
	150	1	1.5	C	191584	44.51	C	191824	60.92
	200	1	4.1	C	156961	145.74	—	—	—
	250	1	6.0	C	157060	138.77	—	—	—
	300	1	9.1	C	157125	282.54	—	—	—
Blank Ends Plain									
	EF070					ED070			
	50	1	0.2	A	191570	7.54	—	—	—
	70	1	0.4	B	191571	7.97	—	—	—
	100	1	0.8	A	191572	9.28	B	191818	10.94
	125	1	1.1	C	191573	11.15	—	—	—
	150	1	2.0	B	191574	13.40	B	191819	15.67
	200	1	3.2	B	191575	59.18	C	191820	69.65
	250	1	5.7	C	191576	120.94	C	191887	141.77
	300	1	11.0	C	191569	248.11	C	191888	219.00
	400	1	17.3	C	261894	258.28	C	265190	309.93
	500	1	24.0	C	261892	301.65	C	267710	361.98
Blank Ends with 50mm Push-fit Connector									
	EF071					ED071			
	70	1	0.4	C	191577	17.78	—	—	—
	100	1	1.0	C	191578	19.18	C	191821	22.54
	150	1	1.6	C	191580	23.05	C	191822	27.13
Blank Ends D/T 2" BSP									
	EF071T								
	100	1	0.9	B	191579	22.53	—	—	—
Universal Connector EPDM									
	EF071R								
	50x56/48/40 (OD Dimensions)	1	0.1	B	155759	15.43	—	—	—

Prices exclude VAT *Made to order
⁴Delivery Service Category DSC (see page 13)

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DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼		
				ΔDSC.	PRODUCT CODE	UNIT PRICE £	ΔDSC.	PRODUCT CODE	UNIT PRICE £
Blank End with Waste Push-fit Connector									
	EF077								
	100x38/32	1	0.4	C	191585	17.22	—	—	—
NEW Strap On Boss									
	EF133								
	70	1	1.1	C	265078	79.21	—	—	—
	100	1	1.4	B	262891	64.21	—	—	—
	150	1	1.6	C	262890	79.21	—	—	—
Single Boss Pipes 50mm Compression									
	EF090								
	50	1	1.2	B	156371	42.24	—	—	—
	70	1	1.6	B	156460	42.24	—	—	—
	100	1	2.1	A	156573	51.65	—	—	—
	150	1	3.8	C	156836	84.20	—	—	—
Single Boss Pipe D/T 2" BSP									
	EF090T								
	100	1	1.7	B	191847	54.06	—	—	—
Double Boss Pipes 50mm Compression Opposed									
	EF091								
	100	1	2.7	B	156575	66.73	—	—	—
	150	1	4.4	C	192359	129.15	—	—	—
Double Boss Pipe D/T 2" BSP Opposed									
	EF091T								
	100	1	2.2	C	191848	69.13	—	—	—
Double Boss Pipe 50mm Compression at 90°									
	EF092								
	100	1	2.9	C	191849	66.73	—	—	—
Double Boss Pipes D/T 2" BSPT at 90°									
	EF092T								
	100	1	2.0	C	191850	69.13	—	—	—
	NEW 70	1	1.4	C	245545	78.38	—	—	—
Plastic Moulded Plug to blank off Boss Pipes (Supplied to merchants in bags of 10)									
	EF093								
	50	10	—	C	192255	27.89	—	—	—
Manifold Connectors									
	EF094								
	100	1	3.2	C	175626	103.01	—	—	—
	150	1	6.0	C	175629	143.50	—	—	—
NEW Multi-Waste Manifold Connector 6 x 50mm BSP Inlets									
	EF095								
	100	1	12.8	B	261138	193.67	—	—	—
	150	1	17.3	C	261434	247.49	—	—	—

DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼		
				ΔDSC.	PRODUCT CODE	UNIT PRICE £	ΔDSC.	PRODUCT CODE	UNIT PRICE £

**Corner Multi-Waste Manifold Connector 3 x 50mm BSP Inlets**

EF099

100	1	10.4	C	270321	102.39	—	—	—
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88° Single Long Tail Boss Branch Swept Radius with 4 x 50mm Push-fit Bosses (2 Left Hand, 2 Right Hand)

EF096

100	1	10.0	C	208644	245.39	—	—	—
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Bosses require drilling out using a 51mm hole saw.
Rubber grommets supplied in bags of 10. Product code 208205 (see page 35)
See Page 35 for hole saw accessories.

88° Double Long Tail Boss Branch Swept Radius with 4 x 50mm Push-fit Bosses

EF097

50	1	11.0	C	208653	255.61	—	—	—
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Bosses require drilling out using a 51mm hole saw.
Rubber grommets supplied in bags of 10. Product code 208205 (see page 35)
See Page 35 for hole saw accessories.

Stack Support Pipes

EF050

70	1	1.8	C	191856	40.21	—	—	—
100	1	2.8	B	191562	44.74	—	—	—
125	1	3.6	C	191563	49.62	—	—	—
150	1	4.8	C	191564	70.80	—	—	—

Stack Support Brackets supplied with rubber seal

EF051

70	1	1.1	C	191857	26.02	—	—	—
100	1	1.5	B	191843	35.74	—	—	—
125	1	1.7	C	191844	38.22	—	—	—
150	1	2.6	C	191845	51.80	—	—	—

Stack Support Pipes Complete with Bracket and Seal

EF050/51

200	1	10.0	C	157014	320.50	—	—	—
250	1	18.5	C	157097	485.86	—	—	—
300	1	30.8	C	157160	627.05	—	—	—
400	1	64.8	C	269859	1,776.23	—	—	—
500	1	89.8	C	269733	2,060.14	—	—	—

Stack Support Pipe Cantilever Arm Bracket

EF052

—	1	2.0	C	192329	29.99	—	—	—
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Stack Support Pipe Cantilever Arm Bracket with Support (for stack support pipes 200–300mm in diameter)

EF052

—	1	4.3	C	192330	78.16	—	—	—
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Prices exclude VAT *Made to order
⁴Delivery Service Category DSC (see page 13)

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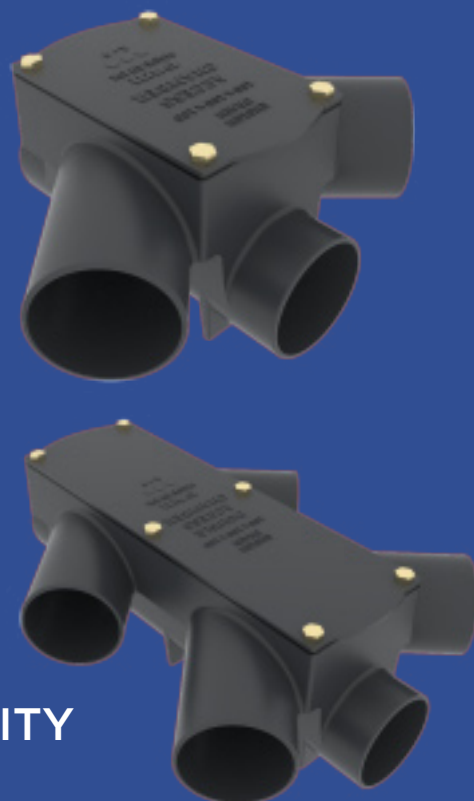
DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼		
				ΔDSC.	PRODUCT CODE	UNIT PRICE £	ΔDSC.	PRODUCT CODE	UNIT PRICE £
Stack Support Pipe Console Bracket									
	EF052								
	—	1	4.6	C	192331	71.80	—	—	—
Clamp to suit 192329 (Stack Support Pipe Cantilever Arm Brackets) and 192331 (Stack Support Pipe Console Bracket)									
	EF052								
	—	1	0.3	C	192332	1.23	—	—	—
Transitional Connectors									
	EF059								
	100	1	1.8	C	156650	52.90	—	—	—
	150	1	4.2	C	156902	97.30	—	—	—
Ensign to Supersleve Connectors									
	ED076								
	100	1	1.8	—	—	—	C	191813	43.11
	150	1	4.6	—	—	—	C	191814	75.43
Bellmouth Gully Inlet Body Only									
	ED060								
	100	1	2.4	—	—	—	C	191825	60.13
Shown with plain grating, code is for body only									
Bellmouth Gully Inlet Body with fitted Sealing Plate									
	ED066								
	100	1	4.4	—	—	—	C	191852	81.49
(Grey only)									
Bellmouth 150mm Gully Inlet Body Only									
	ED060								
	150	1	2.9	—	—	—	C	191826	98.98
Shown with plain grating, code is for body only									
Bellmouth 150mm Gully Inlet Body with fitted Sealing Plate									
	ED066								
	150	1	5.2	—	—	—	C	191853	139.13
(Grey only)									
200mm Plain Grating to suit Bellmouth Gully Inlet									
	ED065								
	200	1	1.6	—	—	—	C	191828	14.02
Puddle Flanges									
	ED078								
	(Grey only) 100	1	4.6	—	—	—	C	191829	75.83
	(Grey only) 150	1	6.6	—	—	—	C	191830	93.60
	(Black only) 250	1	13.0	—	—	—	C	192318	120.55
	(Black only) 300	1	20.0	—	—	—	C	192319	145.22

DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼		
				ΔDSC.	PRODUCT CODE	UNIT PRICE £	ΔDSC.	PRODUCT CODE	UNIT PRICE £
Multi-clamp Puddle Flange									
				—			ED078		
	(Grey only) 200	1	6.1	—	—	—	C	191831	238.39
45° Inspection Chamber Circular Access									
							ED012		
	100x100	1	17.4	—	—	—	C	191832	300.01
	150x100	1	18.8	—	—	—	C	191833	388.60
	150x150	1	20.6	—	—	—	C	191834	493.31
	45° Inspection Chamber Rectangular Access One Branch each side								
							ED016		
	100X100	1	9.3	—	—	—	C	269013	334.40
	150X100			Coming early 2020 check availability					
	150X150			Coming early 2020 check availability					
	45° Inspection Chamber Rectangular Access Two Branches each side								
							ED017		
	100X100	1	16.8	—	—	—	C	270301	640.00
	150X100			Coming early 2020 check availability					
	150X150			Coming early 2020 check availability					

NEW INSPECTION CHAMBERS FOR 2020

Saint-Gobain PAM will be developing a range of rectangular chambers in standard sizes 100-150mm diameter and looking to develop larger diameter solutions 200-300mm.

**CHECK WITH MANUFACTURER
FOR INFORMATION & AVAILABILITY
TEL: 01952 262529**



Prices exclude VAT *Made to order
^ΔDelivery Service Category DSC (see page 13)

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DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼		
				^Δ DSC.	PRODUCT CODE	UNIT PRICE £	^Δ DSC.	PRODUCT CODE	UNIT PRICE £

TOOLS & ANCILLARY PRODUCTS

T-Box Spanner



			EF098			EF098		
—	1	—	B	191200	8.62	B	191200	8.62

Ratchet Spanner



			EF100			EF100		
—	1	—	B	191201	78.95	B	191201	78.95

13mm Deep Socket



			EF101			EF101		
13mm	1	—	B	191202	19.85	B	191202	19.85

Allen Key Socket Adaptor



			EF102			EF102		
—	1	—	B	191753	19.85	B	191753	19.85

TOUCH-UP PAINTS

NEW

Ensign 'Extrem 1K' (Cut-ends treatment)—Acrylic Resin Touch-up Paint for Red and Grey Systems (Quick-dry, non drip, brush applied)



—	1	0.5	C	226962	34.61	—	—	—
---	---	-----	---	--------	-------	---	---	---

Two-part, touch-up Paint spray for Red System



0.4L	1	—	C	216317	51.15	—	—	—
------	---	---	---	--------	-------	---	---	---

Two-part, touch-up Paint spray for Grey System



0.4L	1	—	—	—	—	C	216318	51.65
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RECOMMENDED TOOLS



Extrem 1K
Touch-up paint



Cordless Drill

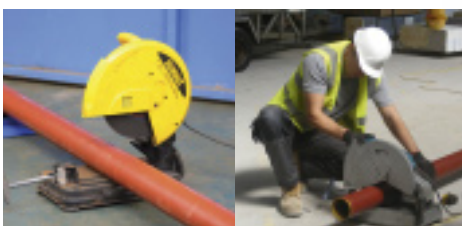


- A. Lubricant for push-fit joints
- B. T-Box Spanner **EF098**
- C. 13mm Deep Socket **EF101**
- D. Allen Key Socket Adaptor **EF102**
- E. Ratchet Spanner **EF100**

Recommended to cut the pipe:



Scorp 220 Cutter



Chop saw

For more information contact the technical department on 01952 262529

Technical—Couplings—Jointing Method

Couplings are supplied pre-assembled. The new Ensign coupling has been designed to allow assembly without dismantling the coupling.*

*Applies to 100 and 150mm coupling at time of print.



1. Slacken bolts on coupling to fullest extent to ease assembly.



2 Push coupling over the end of the pipe or fitting ensuring the central register is abutted against the spigot edge.



3 Push the second pipe or fitting into the coupling again ensuring that the spigot is abutted against the central register.



4. Check alignment of assembly before tightening the bolts. Coupling bolts on all sizes are M8 and require special Allen socket adaptor (6mm) EF102, together with a ratchet spanner EF100. Alternatively use a time saving power tool.



Note: Bolts should be tightened until a suitable resistance is achieved if using a torque wrench minimum setting 20Nm.

The couplings do not need to be completely tightened until both halves are touching. Guidelines: 2-3mm gap.

Overtightening the couplings can apply excessive stress to the coupling bolts.

Technical—Couplings—PAM Ensign Grip Collars

INTERNAL PRESSURE RESISTANCE

Excessive internal pressure in drainage networks is always accidental. However, in specific areas—changes of direction, gradient or some components like branches and plugs—the junctions are exposed to end thrust forces that have to be addressed.

The grip collar is an added device used in these specific areas to lock the coupling and ensure both water tightness and mechanical stability of the pipework.



1. Position the two half parts of the PAM Ensign grip collar so to encircle the coupling uniformly. The grip collars must be positioned so that the apertures fit over the fixing bolts of the coupling and the teeth are directly located onto the pipe.



2. Insert the four screws to fix the two parts together loosely.



3. Tighten the screws crosswise alternatively so that the two plates are put in parallel with the same spacing.

NEW PRE-FABRICATION SERVICE AVAILABLE

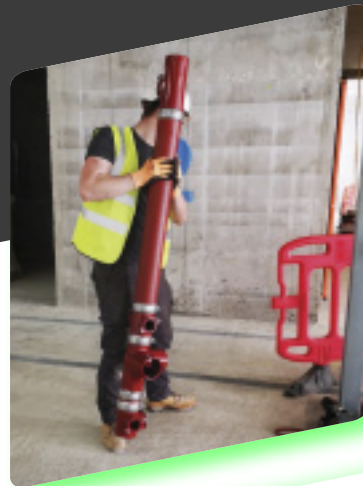
Saving install time and cost



PAM now offer a pre-fabrication service to the construction market, enabling contractors and installers to benefit from this more modern cost effective way of installation with a material that is already recognised for its many traditional advantages.

Services available:

- Full design support for stack arrangements—BIM take-off
- Pre-assembled stacks—fully air tested in compliance with EN 12056
- Standard stack arrangement product listing
- Assemblies supplied in purpose made stillages that can be manoeuvred on site



Please contact your regional technical sales manager for details.



Ensign EEZI-FIT

cast iron drainage systems



Cast iron mechanically jointed drainage systems are already one of the simplest to install—by having no extras (fire collars, expansion joints, thermal limiters, fewer brackets, no acoustic insulation etc). One of the only ways to simply the install further is to offer push-fit assembly—EEZI-FIT.

Featuring a range of socketed fittings and couplings to BS EN877, EEZI-FIT uses standard Ensign double spigot pipe and is compatible with all Ensign 100mm and 150mm diameter fittings to cope with the most complex of installations.

Applications

- Sanitary soil system

EEZI-FIT is intended for use for gravity above ground sanitary applications in accordance with BS EN 12056 part 2 (0.5 bar performance—kite mark approved).

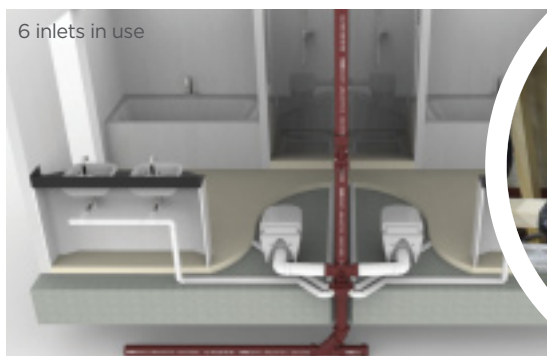
Ideal for multi-floor applications EEZI-FIT is the ideal system for projects with long vertical soil stacks, such as flats and apartments, hotels, office blocks etc; where the main stack will remain unchanged over time.

Features

- 100mm and 150mm diameter couplings and fittings range
- Comprehensive range of fittings for waste connection
 - > Boss branches, single and double swept radius
 - > Short boss pipes with single option to three boss options
 - > Traditional manifold 2 x 50mm waste connection with long spigot
 - > New 100 and 150mm low level multi-waste manifolds with 6 x 2" BSP inlets with long tail spigots.
- Red epoxy coated fittings

Benefits

- All the benefits of cast iron with the advantages of push-fit assembly. The system utilises a new gasket design that makes jointing simple, and completed in seconds. Electrical continuity can be accommodated.
- EEZI-FIT connects to standard Ensign double spigot pipe and is fully compatible with all Ensign plain-ended fittings.
- The installation of an Ensign mechanical joint positioned in the system can allow dismantling for future retro-fit.
- The EEZI-FIT range includes many options to connect to waste pipes providing even greater system flexibility:
 - > Branches, single and double swept radius with four boss options.
 - > Short boss pipes with single option to three boss positions.
- Multi-waste manifold connectors:
 - > Traditional with 2 x 50mm waste connections but with an extended spigot which avoids the need for a joint in the floor slab.



- Low level multi-waste manifold
 - > Up to 6 x 2" BSP inlets
 - > Internal baffle to maximise all inlets
 - > Long tail spigots with penetrate up to 400mm floor slab without the need of a joint connection.



New Low Level Multi-Waste Manifold



Speed of Installation

Ensign EEZI-FIT provides genuine opportunities for the installer to significantly reduce installation time—proven in a study endorsed by the BRE (*British Research Establishment*).

In a 9m vertical run the EEZI-FIT push-fit system in 100mm and 150mm proved virtually 50% quicker to install than HDPE using fusion welded joints.

Superior Acoustic Performance

EEZI-FIT has been tested to BS EN 14366 criteria and recorded acoustic levels even lower than Ensign, 4dB(A) at 2 l/s and 9dB(A) at 4 l/s.

The acoustic difference between Ensign EEZI-FIT and standard HDPE is vast, the difference between acoustic HDPE and other acoustic plastic systems still significant by up to 8dB(A).












EEZI-FIT when installed with acoustic brackets is the quietest system on the market—the ideal solution for flats and apartments.



EEZI-FIT JOINTING METHOD







1. Apply a small amount of jointing lubricant on the lip of the rubber gaskets at both ends to ease insertion of pipe and fittings
2. Push the coupling over the end of the pipe, ensuring the central register is abutted against the spigot edge evenly.
3. Apply a small amount of lubricant. Push the second pipe or fitting into the gasket again ensuring that the spigot is abutted against the central register.
4. After a reassuring 'clunk' the joint is complete.



DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	^A DISC.	PRODUCT CODE	UNIT PRICE £
3m Pipe						
					EP000	
	100	38	24.5	A	156563	99.59
	150	20	41.0	A	156827	197.30
EEZI-FIT Couplings						
					EZ001	
	100	12	1.3	A	208191	16.94
	150	1	2.0	C	216312	33.85
If continuity required see accessories (page 33)						
88° Short Radius Bends						
					EZ002	
	100	1	2.4	B	208192	33.83
	150	1	5.0	C	216313	63.58
45° Short Radius Bends						
					EZ002	
	100	1	1.8	B	208193	33.83
	150	1	3.8	C	216319	63.58
88° Short Radius Bends with Back Door						
					EZ005	
	100	1	3.1	C	208194	61.33
	150	1	5.7	C	216315	114.05
88° Large Radius Bend						
	100	1	4.5	C	215953	67.59
88° Large Radius Bend with Back Door						
	100	1	5.6	B	215952	79.36
88° Single (Swept) Branches						
					EZ06R	
	100 x 100	1	5.0	B	208195	65.14
	150 x 100	1	7.0	C	216342	131.25
45° Single Radius Branches						
					EZ006	
	100 x 100	1	4.4	B	208196	58.08
	150 x 100	1	6.5	C	216320	118.57
	150 x 150	1	8.9	C	216341	133.10
88° Single (Swept) Branches with Back Door						
					EZ07R	
	100 x 100	1	6.7	C	208197	91.77
	150 x 100	1	8.0	C	216314	196.23
88° Double (Swept) Branch						
					EZ010R	
	100 x 100	1	6.0	C	208198	78.55

Prices exclude VAT *Made to order
⁴Delivery Service Category DSC (see page 13)

Ensign • **EEZI-FIT** • Timesaver • VortX • Classical Rainwater

DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	⁴ DSC.	PRODUCT CODE	UNIT PRICE £
Boss Pipe Push-Fit with Single 50mm Waste (Supplied with grommets)						
	100	1	2.1	B	EZ090 208199	53.80
Boss Pipe Push-Fit with Double 50mm Waste (Supplied with grommets)						
	100	1	2.3	C	EZ091 208200	67.09
Boss Pipe Push-Fit with Double 90° 50mm Waste (Supplied with grommets)						
	100	1	2.3	C	EZ092 208201	67.09
Boss Pipe Push-Fit with Triple 90° 50mm Waste (Supplied with grommets)						
	100	1	2.5	C	EZ093 208202	67.09
50mm Waste Manifold Connector						
	100	1	6.6	C	EZ094 208203	102.39
NEW Multi-Waste Manifold Connector						
	100	1	12.6	C	EZ095 261139	194.75
	150	1	16.8	C	261435	248.56

SPARES RANGE—EEZI-FIT ACCESSORIES

100mm Gaskets (Bag of 10)						
	100	10	—	C	208204	26.48
150mm Gaskets (Bag of 10)						
	150	10	—	C	216316	28.03
Continuity Clip to suit 100 & 150 diameter (Bag of 30)						
	—	30	—	C	223541	39.73
Rubber Grommets Boss Connections (Bag of 10)						
	—	10	—	C	208205	26.48
51mm Hole Saw for Cast Iron						
	—	—	—	C	208206	37.19
Hole Saw Arbour with Drill for EEZI-FIT & Timesaver						
	—	—	—	C	192327	46.15
Pilot Drill for EEZI-FIT & Timesaver						
	—	—	—	C	192328	11.62
Lubricant for push-fit assembly (500g Tub)						
	—	500g Tub	—	C	199037	22.02