

Cast Iron drainage, rainwater pipe and gutter systems

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



TRADE PRICE LIST



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



SEE PAGES 6-7

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

Contents



Page 08
Ensign



Page 30
EEZI-FIT



Page 34
Timesaver



Page 56
VortX



Page 70
**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 9001:2008. 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 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



FM12908



EMS83973





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 early 2019—New Converter Plugin



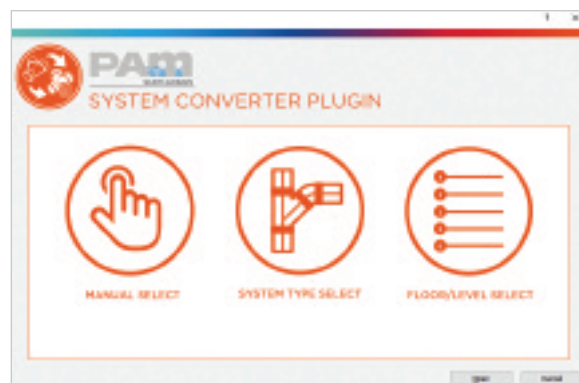
BS EN 877 CAST IRON GENERIC LIBRARY

- 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.

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 EN877, providing complete drainage solutions, transporting fluid waste and rainwater through the building out and beyond.

Above Ground Applications: Red coated

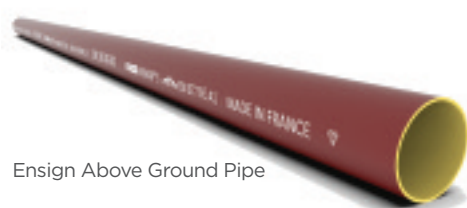
- Sanitary soil (Foul) drainage
- Vent & waste
- Rainwater pipework

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.

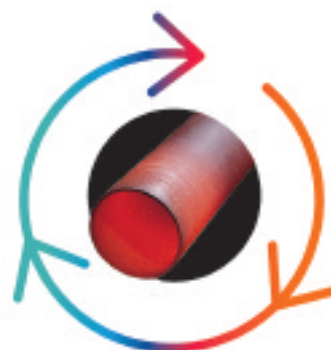


Major Benefits:

- Ensign is fire rated A1—the safest rating achievable
- Ensign requires no special fire protection saving time and cost
 - > Will not fuel a fire
 - > Minimal smoke
 - > Will not collapse
 - > Will not produce molten droplets unlike HDPE
- Acoustically cast iron is the quietest material on the market
 - > Out performs 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:
 - > Sanitary soil use in excess of 60 years
 - > Rainwater systems in excess of 80 years
 - > Manufactured from up to 97% recycled content
 - > 100% recyclable at the end of its long life—continually.



Ensign Above Ground Pipe





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 ductile iron couplings with built-in electrical continuity
 - > New grip collars that can overclamp the iron coupling to give additional pressure performance at sensitive areas (see page 29)
- 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 comprehensive range of fittings in cast iron for waste connection
 - > Compression fit and BSP threaded boss pipes
 - > Single and double swept long tail branches with boss options
 - > Multi-waste manifold connectors
 - > New multi-waste manifold for low level connection
 - > 6" x 2" BSP inlets
 - > Long spigot that accommodates up to 400mm floor slab.





Below Ground Applications: Grey coated

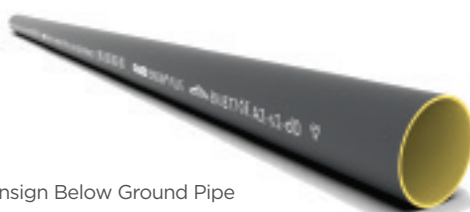
- Underbuilding drainage often requiring to be encased in concrete
- First choice in areas: Unstable land/Soil containing methane gases/Shallow trenches
- Bridge drainage.

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 couplings 400-600mm
- Ensign drain pipes have an external Zinc coat applied in line with BS EN877. Internally, the Ensign pipes are epoxy lined to an average thickness of 250 microns—virtually twice that of competitor systems.



Ensign Below Ground Pipe



Ensign Drain Couplings



Ensign Drain Push-fit Couplings

Performance Standards



BS EN877: 1999 +A1:2006

- KM 51733 kitemark certification for above and below ground use
- Below ground pipe to standard BS EN877—require the application of an external Zinc layer of 130gr/m².

CE MARK

- Ensign is manufactured to BS EN877—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 EN877 (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.

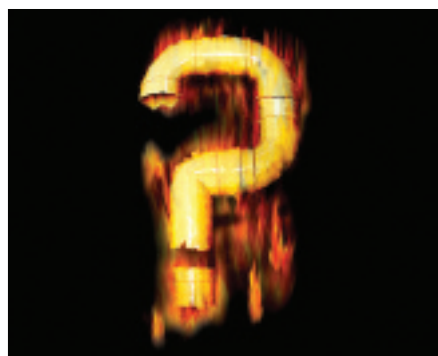


Ensign acoustic bracket



Pipework being acoustically tested

Fire Performance



- Reaction to fire category A1 and will give up to 4 hours integrity
- 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.co.uk

System Installation Guidance

- BS EN12056 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 based 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 EN752

- > 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.



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

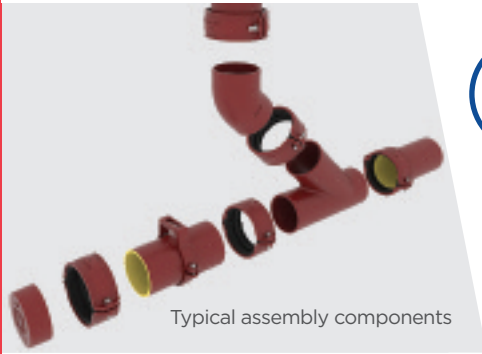


Delivery timescales

Saint-Gobain PAM UK are planning to 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 first phase is now being introduced on the **Ensign Soil** and **EEZ-FIT** above ground ranges which 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 assembly components



Ensign Rodding Branches

(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

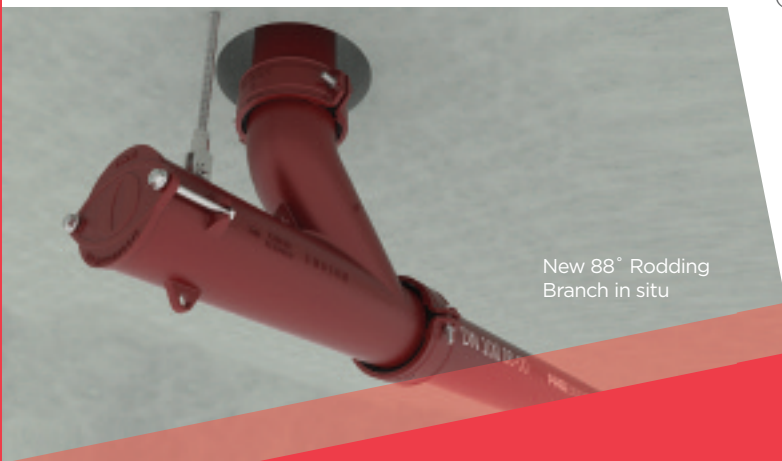
The new 88° rodding branch combines all into one unit—significantly saving installation time: Couplings assembly and cutting a short length of pipe. Labour time saved would be approx 1 hour per section (subject to level of skill and source of labour rates). Typically, in multi-story buildings with basements 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 20** ➡

NEW Ensign Strap-on-Boss fittings

The strap-on-boss provides a simple solution for fitting a 50mm copper or plastic waste pipe to an existing cast iron soil pipe in 70mm, 100mm and 150mm diameter BS EN 877 pipework. The strap-on-boss fitting can also provide a cost effective solution for low waste connections at floor level without the need for a special fitting. **SEE PAGE 24** ➡



NEW Ensign Corner branch swept radius

The double radius corner branch is commonly used to service WC connections in corner sanitary system applications. This new fitting also ensures Ensign fully conforms to the design guidance of BS EN 12056-2 to utilise swept radius branches when servicing foul discharge stacks. **SEE PAGE 22** ➡



NEW Ensign corner manifold

New corner manifold coming early 2019


- capable of corner installations
- extend spigot up to 400mm
- 3 x 2" BSP direct waste inlets



WHAT'S NEW?

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

Trade Price List December 2018—Cast Iron drainage, rainwater pipe & gutter systems

DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼	
				▲DELIVERY SERVICE CAT.	PRODUCT CODE	UNIT PRICE £	PRODUCT CODE	UNIT PRICE £
3m Pipe								
   Pipe caps available for onsite storage					EP000		ED000	
	50	35	12.5	A	156363	70.58	—	—
	70	41	17.0	A	156455	81.66	—	—
	100	38	24.5	A	156563	97.16	155349	126.84
	125	23	34.3	C	156736	155.88	—	—
	150	20	41.0	A	156827	192.49	155414	252.71
	200	10	67.4	B	156951	321.66	155448	427.19
	250	8	97.3	B	157049	449.40	155476	628.03
	300	6	126.8	C	157114	559.66	155493	782.17
	400	1	177.7	C	157171	1,099.13	155508	1,267.19
	500	1	244.9	C	157187	1,366.94	155511	1,471.39
600	1	321.9	C	157203	1,666.68	175630	1,808.68	

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

 <p>300mm diameter is 4 piece 400mm, 500mm, 600mm diameter couplings see below EC002HP</p>	50	32	0.6	A	EC002 156398	10.58	ED001* —	—
	70	27	0.7	A	156493	11.66	—	—
	100	20	1.1	A	156634	15.15	155369	21.39
	125	12	0.9	C	156777	18.81	—	—
	150	8	1.7	A	156888	30.38	155433	43.69
	200	4	3.7	A	156998	67.90	155462	97.36
	250	1	4.4	B	175552	97.25	175591	123.94
	300	1	6.5	B	175510	112.55	175592	141.96

Push-fit Drain Couplings



							ED004	
100	1	1.5	—	—	—	—	175622	23.42
150	1	2.5	—	—	—	—	175623	45.98

Grip Collars



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

Will overclamp all sizes Stainless Steel EC002NG Couplings

					EC002GC			
50	1	0.5	B	221261	33.93	—	—	—
70	1	0.7	B	221268	39.66	—	—	—
**100	1	0.9	B	220750	52.61	—	—	—
**150	1	1.2	B	221270	75.12	—	—	—
**200	1	1.7	C	221271	103.38	—	—	—

High Performance Stainless Steel Grip Couplings (Capable of withstanding 5 bar pressure) EC002HP



Type 1 304 Stainless Steel casing alloy steel fasteners
Type 2 304 stainless steel casing 316 stainless steel fasteners For use above and below ground










					Type 1		Type 2	
100	1	1.4	B	266168	115.30	227336	186.64	
150	1	3.2	B	265570	180.30	227338	308.19	
200	1	5	B	265573	349.95	227339	417.02	
250	1	8.6	B	265575	396.60	227340	564.41	
300	1	10	B	265576	515.10	227351	577.24	
400	1	14	B	266169	575.00	227352	640.71	
500	1	16	B	266170	825.00	227353	944.48	
600	1	19	B	266171	925.00	227354	1,008.53	

High Performance Stainless Steel W5 Non-Grip Couplings (Capable of withstanding 5 bar pressure) EC002HP




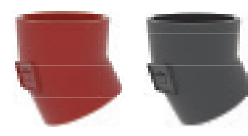
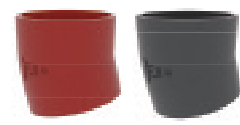





Type 1 304 Stainless Steel casing alloy steel fasteners
Type 2 304 stainless steel casing 316 stainless steel fasteners For use above and below ground

					Type 1		Type 2	
100	1	1.6	B	266172	100.00	228257	165.02	
150	1	2.5	B	266173	150.00	228259	195.95	
200	1	3	B	266174	200.00	228260	256.15	
250	1	3.5	B	266175	250.00	228271	289.01	
300	1	7	B	266176	300.00	228272	314.95	
400	1	9	B	266177	350.00	226261	385.14	
500	1	11	B	266178	400.00	226262	454.76	
600	1	13	B	266179	450.00	228273	472.45	









DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼	
				ΔDELIVERY SERVICE CAT.	PRODUCT CODE	UNIT PRICE £	PRODUCT CODE	UNIT PRICE £
Stainless Steel couplings								
	EC002NG							
	50	1	0.2	B	210424	10.58	—	—
	70	1	0.3	B	210425	11.66	—	—
	100	1	0.5	B	210427	15.15	—	—
	125	1	0.6	C	210428	18.81	—	—
	150	1	0.7	B	210429	30.38	—	—
	200	1	0.8	B	210430	67.90	—	—
	250	1	0.9	B	228759	97.25	—	—
	300	1	1.0	B	228771	112.55	—	—
Ductile Iron Pipe Brackets								
					EF048		ED048	
	50	48	0.3	A	156408	9.56	—	—
	70	30	0.5	A	156505	9.56	—	—
	100	30	0.6	A	156646	11.04	175593	12.79
	150	16	0.8	A	156898	20.45	175594	24.22
	200	8	1.5	B	177745	75.84	177743	92.30
Ductile Iron Pipe Bracket Fitted with Acoustic Dampener—Tested to BS EN 14366:2004								
	EF048AD							
	50	1	0.5	B	199881	18.59	—	—
	70	1	0.6	B	199882	18.59	—	—
	100	1	0.7	A	199883	19.82	—	—
	150	1	1.0	B	199884	24.78	—	—
Ductile Iron Pipe Bracket (Double Braced)								
	EF049							
	100	1	0.8	B	177744	12.10	—	—
Vertical Mild Steel Bracket								
	EF048MS							
	125	1	1.1	B	192259	19.26	—	—
Stand Off Mild Steel Brackets								
	EF048MS							
	200	1	2.0	B	192414	30.44	—	—
	250	1	2.5	B	192260	41.95	—	—
	300	1	2.7	C	192261	46.21	—	—
	400	1	3.3	C	192362	68.10	—	—
Rubber Lined Steel Brackets								
	EF048MSL							
	50	1	0.1	B	251197	5.09	—	—
	70/75	1	0.2	B	251198	7.78	—	—
	100	1	0.3	B	251199	9.31	—	—
	150	1	0.4	B	251201	13.59	—	—
	200	1	0.6	C	251202	24.08	—	—
	250	1	1.6	C	251203	39.82	—	—
	300	1	1.8	C	251204	79.46	—	—
88° Short Radius Bends								
	EF002							
	50	1	0.7	A	191437	18.29	—	—
	70	1	1.3	A	191442	20.59	—	—
	100	1	1.9	A	191447	24.38	—	—
	125	1	3.2	C	191454	35.92	—	—
	150	1	4.4	A	191459	43.79	—	—
	200	1	9.8	C	191462	130.37	—	—
	250	1	17.3	C	191463	254.37	—	—
	300	1	27.4	C	191431	357.81	—	—
	 400	1	72.7	C	265224	665.32	—	—

Trade Price List December 2018—Cast Iron drainage, rainwater pipe & gutter systems


DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼	
				DELIVERY SERVICE CAT.	PRODUCT CODE	UNIT PRICE £	PRODUCT CODE	UNIT PRICE £
69° Short Radius Bends								
	EF002							
	50	1	0.6	C	191436	18.29	—	—
	70	1	1.2	C	191441	20.59	—	—
	100	1	2.1	C	191446	24.38	—	—
	150	1	4.2	C	191458	43.79	—	—
67° Short Radius Bends								
	EF002							
	† 200	1	7.8	C	156968	130.37	—	—
	† 250	1	14.7	C	157067	254.37	—	—
	† 300	1	20.0	C	157132	357.81	—	—
45° Short Radius Bends								
					EF002	ED002		
	50	1	0.6	A	191435	18.29	—	—
	70	1	0.9	A	191440	20.59	—	—
	100	1	1.4	A	191445	24.38	191765	28.72
	125	1	2.3	C	191452	35.92	—	—
	150	1	3.0	A	191457	43.79	191766	51.52
	200	1	6.8	B	191461	130.37	191767	149.92
	250	1	10.9	B	191464	254.37	191879	298.21
	300	1	18.7	C	191432	357.81	191880	404.71
	400	1	35.0	C	192335	923.81	192370	963.98
	500	1	53.0	C	192376	1,449.50	192382	1,539.30
	600	1	92.0	C	192377	1,635.51	192383	1,783.02
30° Short Radius Bends								
					EF002	ED002		
	50	1	0.5	C	191434	18.29	—	—
	70	1	0.7	C	191439	20.59	—	—
	100	1	1.5	A	191444	24.38	191768	28.72
	150	1	3.2	B	191456	43.79	191769	51.52
	200	1	7.0	C	155933	130.37	265382	156.44
	† 250	1	9.7	C	155948	254.37	265380	305.25
	† 300	1	15.5	C	155960	357.81	265379	465.15
15° Short Radius Bends								
					EF002	ED002		
	50	1	0.4	C	191433	18.29	—	—
	70	1	0.7	C	191438	20.59	—	—
	100	1	1.3	A	191443	24.38	191770	28.72
	150	1	2.5	C	191455	43.79	191771	51.52
	200	1	4.6	C	155932	130.37	265381	156.44
45° Medium Radius Bends								
					ED02M			
	100	1	3.5	—	—	—	191772	48.90
	150	1	5.9	—	—	—	191773	121.68
88° Medium & Long Radius Bends								
					EF02L	ED02L		
	100 LR	1	4.8	A	191549	61.97	191774	67.07
	150 MR	1	8.7	B	191550	177.64	191775	201.15
22° Long Radius Bends								
					EF02L	ED02L		
	100 LR	1	2.0	C	191548	45.70	191776	49.26

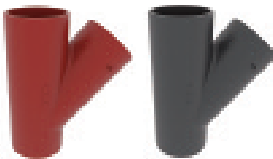
Prices exclude VAT *Made to order
^ΔAbove Ground Only (see page 13)

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DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼	
				ΔDELIVERY SERVICE CAT.	PRODUCT CODE	UNIT PRICE £	PRODUCT CODE	UNIT PRICE £
88° Heel Rest Bends								
							ED007	
	100	1	5.7	—	—	—	192289	83.35
	150	1	9.9		—	—	192290	205.03
88° Short Radius Bends with Rear Access								
					EF005			
	70	1	1.8	C	156472	39.92	—	—
	100	1	3.3	A	156589	58.31	—	—
	150	1	4.5	B	156845	102.59	—	—
88° Long Radius Bend with Rear Access								
					EF05L		ED05L	
	100	1	5.7	B	156607	75.43	191777	88.74
88° Medium Radius Bend with Rear Access								
					EF05M		ED05M	
	150	1	10.7	C	192357	183.25	192358	205.03
88° Long Tail Bend								
					EF055			
	100	1	4.4	C	191567	47.17	—	—
45° Long Tail Bend								
					EF055		ED055	
	100	1	4.0	C	191566	47.17	191778	50.23
88° Long Tail Double Bend								
					EF054			
	70	1	3.1	C	191837	66.21	—	—
	100	1	4.4	C	191838	73.04	—	—
88° Single Tee Branches (equal and unequal)								
					EF006			
	50x50	1	1.0	B	191469	29.34	—	—
	70x50	1	1.5	C	191472	31.00	—	—
	70x70	1	1.7	B	191475	31.00	—	—
	100x50	1	2.0	B	191479	42.51	—	—
	100x70	1	2.3	C	191482	42.51	—	—
	100x100	1	2.7	A	191485	39.48	—	—
	125x100	1	4.0	C	191490	79.20	—	—
	125x125	1	4.2	C	191492	85.23	—	—
	150x100	1	4.6	B	191497	91.53	—	—
	150x125	1	5.8	C	191499	105.82	—	—
	150x150	1	6.0	C	191501	94.47	—	—
	200x200	1	13.3	C	191505	255.09	—	—
	250x250	1	22.6	C	191508	571.00	—	—
	300x300	1	35.5	C	191466	734.71	—	—

Trade Price List December 2018—Cast Iron drainage, rainwater pipe & gutter systems

DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼	
				▲DELIVERY SERVICE CAT.	PRODUCT CODE	UNIT PRICE £	PRODUCT CODE	UNIT PRICE £
69° Single Branches (equal and unequal)								
	50x50	1	1.0	C	EF006 191468	29.34	—	—
	70x50	1	1.4	C	191471	31.00	—	—
	70x70	1	1.7	C	191474	31.00	—	—
	100x50	1	2.2	C	191478	42.51	—	—
	100x70	1	2.7	C	191481	42.51	—	—
	100x100	1	2.7	C	191484	39.48	191781	46.37
	150x100	1	5.1	C	191496	92.69	191851	108.99

45° Single Branches (equal and unequal)								
	50x50	1	1.3	A	EF006 191467	29.34	ED006 —	—
	70x50	1	1.8	C	191470	31.00	—	—
	70x70	1	2.3	B	191473	31.00	—	—
	100x50	1	2.4	A	191477	42.51	—	—
	100x70	1	2.7	B	191480	42.51	—	—
	100x100	1	3.7	A	191483	39.48	191782	46.37
	125x70	1	4.0	C	191488	85.23	—	—
	125x100	1	5.3	C	191489	79.20	—	—
	125x125	1	5.6	C	191491	85.23	—	—
	150x70	1	5.1	B	191494	92.69	—	—
	150x100	1	5.7	B	191495	92.69	191783	108.99
	150x125	1	8.0	C	191498	114.24	—	—
	150x150	1	8.4	B	191500	94.47	191784	111.08
	200x100	1	9.6	C	191502	237.84	191785	279.72
	200x150	1	14.2	C	191503	244.62	191786	279.72
	200x200	1	19.4	C	191504	264.89	191787	300.09
	†250x100	1	13.6	C	157073	303.93	—	—
	†250x150	1	17.3	C	157075	303.93	—	—
	†250x200	1	24.3	C	157078	379.93	265383	455.92
	250x250	1	32.2	C	191507	569.68	191881	669.35
	†300x100	1	19.3	C	157138	501.49	264870	601.79
	†300x150	1	23.2	C	157140	501.49	264869	601.79
	†300x200	1	28.4	C	157141	531.88	—	—
	†300x250	1	37.2	C	157142	531.88	—	—
	300x300	1	54.8	C	191465	734.71	191882	965.48
	400x300	1	60.0	C	192339	1,202.58	192384	1,307.51
	400x400	1	94.7	C	192336	1,646.84	192373	1,793.78
	†500x500	1	175.0	C	192378	2,450.04	192385	2,873.35
	†600x600	1	215.0	C	192379	3,174.79	192386	3,527.55

NEW

45° Rodding Branch



45° Rodding Branch								
	100	1	7.0	A	EF009 266138	101.32	—	—

NEW





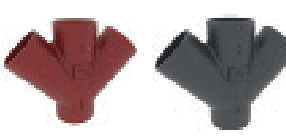
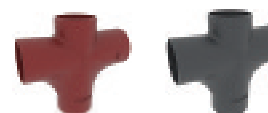


88° Rodding Branch




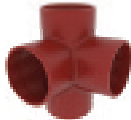



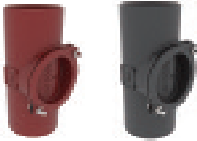


88° Rodding Branch								
	100	1	7.6	A	EF009 266135	135.88	—	—








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DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼	
				ΔDELIVERY SERVICE CAT.	PRODUCT CODE	UNIT PRICE £	PRODUCT CODE	UNIT PRICE £
88° Single Branch (Swept)								
					EF06R		ED06R	
	70x70	1	2.2	B	156539	37.76	—	—
	100x50	1	2.4	B	156611	49.69	—	—
	100x70	1	2.9	C	156612	49.69	—	—
	100x100	1	3.3	A	156696	45.10	191788	51.32
	150x100	1	7.6	B	156869	107.47	191789	173.01
	150x150	1	11.7	C	156926	166.72	191790	174.42
	200x150	1	13.0	C	156985	302.47	191791	355.76
200x200	1	21.0	C	157025	318.50	191792	374.68	
88° Single Branch (Swept) with Rear Access								
					EF07R		ED07R	
	70x70	1	3.0	C	156540	55.35	—	—
	100x50	1	3.2	C	156614	75.06	—	—
	100x70	1	3.5	C	156621	75.06	—	—
	100x100	1	4.3	B	156697	77.90	191793	88.32
	150x100	1	8.9	C	156875	179.18	191794	186.40
150x150	1	13.0	C	156927	186.71	191795	186.83	
88° Double Tee Branches (equal and unequal)								
					EF010			
	100x50	1	2.2	C	155825	41.84	—	—
	†100x70	1	2.7	C	155826	50.15	—	—
	100x100	1	3.3	B	191511	56.79	—	—
	150x100	1	5.7	C	155907	127.05	—	—
69° Double Branches								
					EF010		ED010	
	100x100	1	3.4	C	191510	62.43	191796	73.50
45° Double Branches (equal and unequal)								
					EF010		ED010	
	100x100	1	4.7	B	191509	58.94	191798	66.81
	150x100	1	8.0	C	191512	174.75	191799	194.02
	150x150	1	12.6	C	191513	234.98	191800	262.40
	200x200	1	25.3	C	191514	325.67	191801	337.58
88° Double Branches (Swept) (equal and unequal)								
					EF010R		ED010R	
	100x100	1	4.2	B	157643	57.65	185373	67.78
150x100	1	7.6	C	156862	221.01	191803	234.51	
88° Long Tail Tee Branch								
					EF056			
	100x100	1	5.1	C	191568	138.66	—	—
45° Long Tail Branches (equal and unequal)								
					EF056			
	100x100	1	5.9	C	156723	138.66	—	—
150x150	1	18.3	C	156938	260.03	—	—	

Trade Price List December 2018—Cast Iron drainage, rainwater pipe & gutter systems











DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼	
				▲DELIVERY SERVICE CAT.	PRODUCT CODE	UNIT PRICE £	PRODUCT CODE	UNIT PRICE £
<div><div><div>NEW</div></div>88° Corner Branch (Swept) (equal)</div>								
	100x100	1	4.4	B	EF035R 264739	103.40	—	—
88° Corner Branches (equal and unequal)								
	100x100	1	3.5	C	EF035 191558	103.40	—	—
	150x100	1	7.1	C	155919	120.73	—	—
45° Corner Branch								
	100x100	1	5.9	C	EF035 156716	103.40	—	—
88° Long Tail Corner Branch								
	100x100	1	7.5	C	EF036 191559	162.92	—	—
90° Single Long Arm Branch								
	100	1	6.0	C	EF008 156726	101.04	—	—
Access Pipes with Round Door								
	50	1	1.6	B	EF014 191516	48.76	ED014	—
	70	1	2.0	B	191517	51.59	—	—
	100	1	3.1	A	191518	56.69	191805	63.84
	150	1	6.2	B	191519	102.62	191806	106.25
Access Pipes with Rectangular Door								
	100	1	7.2	B	EF015 191840	109.63	191807	127.40
	125	1	9.0	C	191521	114.08	—	—
	150	1	12.7	B	191841	171.66	191808	199.25
	200	1	21.5	C	191522	340.96	191809	401.06
	250	1	38.5	C	191523	536.49	191883	649.99
	300	1	50.0	C	191520	669.22	191884	776.02
Offsets								
	100x75	1	2.3	C	EF024 191526	37.49	—	—
	50x130	1	1.5	C	191524	31.01	—	—
	70x130	1	2.2	C	191525	47.04	—	—
	100x130	1	3.8	C	191527	61.80	—	—

DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼	
				ΔDELIVERY SERVICE CAT.	PRODUCT CODE	UNIT PRICE £	PRODUCT CODE	UNIT PRICE £
Taper Pipes								
					EF028		ED028	
	70x50	1	0.5	B	191532	28.15	—	—
	100x50	1	0.9	A	191533	33.10	—	—
	100x70	1	0.9	A	191534	33.10	—	—
	125x50	1	1.2	C	191842	33.29	—	—
	125x70	1	1.5	C	191536	33.29	—	—
	125x100	1	1.6	C	191537	33.29	—	—
	150x50	1	1.7	C	191538	63.53	—	—
	150x70	1	1.8	C	191539	63.53	—	—
	150x100	1	2.2	B	191540	63.53	191810	68.58
	150x125	1	2.0	C	191541	63.53	—	—
	200x100	1	3.5	C	191542	103.18	191811	121.39
	200x125	1	3.4	C	191543	103.18	—	—
	200x150	1	3.9	C	191544	103.18	191812	121.39
	250x100	1	5.9	C	191545	213.12	191889	249.83
	250x150	1	6.1	C	191546	213.12	191886	249.83
	250x200	1	6.1	C	191547	213.12	191892	249.83
	300x150	1	10.4	C	191529	292.96	191890	347.77
	300x200	1	11.0	C	191530	292.96	191891	347.77
	300x250	1	12.7	C	191531	292.96	191885	347.77
	400x300	1	20.0	C	157163	366.64	155504	435.02
	500x400	1	27.9	C	157184	861.19	†	P.O.A.
600x500	1	—	C	†	P.O.A.	†	P.O.A.	
†PAM can manufacture large diameter tapers to most sizes i.e. 500x150 on a made to order basis (Price on application)								
'P' Trap Plain (Supplied with support lug)								
					EF034		ED034	
	100	1	4.5	A	156666	45.24	191815	53.27
'P' Trap with Head Access (*Supplied without support lug only)								
					EF037		ED037	
	50*	1	2.0	B	156419	69.11	—	—
	70	1	2.7	C	156518	69.11	—	—
	100	1	5.2	B	156667	74.83	182482	87.21
150	1	11.6	B	156911	133.84	182483	148.51	
Branch Trap								
					EF080			
	100	1	10.2	C	191587	164.03	—	—
Stench Trap								
					EF081			
	100	1	17.4	C	155841	340.67	—	—
	150	1	38.0	C	155921	718.95	—	—
Asphalt Roof Connector								
					EF073			
	100	1	2.1	C	191581	68.70	—	—
Movement Connector								
					EF058			
	100	1	4.4	B	192304	87.27	—	—
	150	1	7.8	C	156235	161.54	—	—







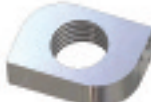


DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼	
				^A DELIVERY SERVICE CAT.	PRODUCT CODE	UNIT PRICE £	PRODUCT CODE	UNIT PRICE £
Expansion Plugs								
					EF074		ED074	
	50	1	0.2	C	156374	32.18	—	—
	70	1	0.4	C	191582	19.43	—	—
	100	1	0.7	B	191583	24.20	191823	32.28
	150	1	1.5	C	191584	43.42	191824	59.43
	200	1	4.1	C	156961	142.19	—	—
	250	1	6.0	C	157060	135.39	—	—
300	1	9.1	C	157125	275.65	—	—	
Blank Ends Plain								
					EF070		ED070	
	50	1	0.2	A	191570	7.36	—	—
	70	1	0.4	B	191571	7.78	—	—
	100	1	0.8	A	191572	9.05	191818	10.67
	125	1	1.1	C	191573	10.88	—	—
	150	1	2.0	B	191574	13.07	191819	15.29
	200	1	3.2	B	191575	57.74	191820	67.95
	250	1	5.7	C	191576	117.99	191887	138.31
	300	1	11.0	C	191569	190.85	191888	213.66
400	1	17.3	—	265190	302.37	265190	302.37	
Blank Ends with 50mm Push-fit Connector								
					EF071		ED071	
	70	1	0.4	C	191577	17.35	—	—
	100	1	1.0	C	191578	18.71	191821	21.99
	150	1	1.6	C	191580	22.49	191822	26.47
Blank Ends D/T 2" BSP								
					EF071T			
	100	1	0.9	B	191579	21.98	—	—
Universal Connector EPDM								
					EF071R			
	50x56/48/40 (OD Dimensions)	1	0.1	B	155759	15.05	—	—
Blank End with Waste Push-fit Connector								
					EF077			
	100x38/32	1	0.4	C	191585	16.80	—	—
NEW Strap On Boss								
					EF133			
	70	1	1.1	C	265078	77.28	—	—
	100	1	1.4	B	262891	62.64	—	—
	150	1	1.6	C	262890	77.28	—	—
Boss Pipes 50mm Compression								
					EF090			
	50	1	1.2	B	156371	41.21	—	—
	70	1	1.6	B	156460	41.21	—	—
	100	1	2.1	A	156573	50.39	—	—
	150	1	3.8	C	156836	82.15	—	—
Boss Pipe D/T 2" BSP								
					EF090T			
	100	1	1.7	B	191847	52.74	—	—

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^ΔAbove Ground Only (see page 13)

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DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼		
				^Δ DELIVERY SERVICE CAT.	PRODUCT CODE	UNIT PRICE £	PRODUCT CODE	UNIT PRICE £	
Boss Pipes 50mm Compression Opposed									
					EF091				
	100	1	2.7	B	156575	65.10	—	—	
	150	1	4.4	C	192359	126.00	—	—	
Boss Pipe D/T 2" BSP Opposed									
					EF091T				
	100	1	2.2	C	191848	67.44	—	—	
Boss Pipe 50mm Compression at 90°									
					EF092				
	100	1	2.9	C	191849	65.10	—	—	
Boss Pipes D/T 2" BSPT at 90°									
					EF092T				
	 100	1	2.0	C	191850	67.44	—	—	
	70	1	1.4	C	245545	76.47	—	—	
Plastic Moulded Plug to blank off Boss Pipes (Supplied to merchants in bags of 10)									
					EF093				
	50	10	—	C	192255	27.21	—	—	
Manifold Connectors									
					EF094				
	100	1	3.2	C	175626	100.50	—	—	
	150	1	6.0	C	175629	140.00	—	—	
	Multi-Waste Manifold Connector 6 x 50mm BSP Inlets								
					EF095				
	100	1	12.8	B	261138	188.95	—	—	
	150	1	17.3	B	261434	241.45	—	—	
88° Single Long Tail Boss Branch Swept with 4 x 50mm Push-fit Bosses (2 Left Hand, 2 Right Hand)									
					EF096				
	50	1	10.0	C	208644	239.40	—	—	
	Bosses require drilling out using a 51mm hole saw. Rubber grommets supplied in bags of 10. Product code 208205 (see page 25) See Page 25 for hole saw accessories.								

Trade Price List December 2018—Cast Iron drainage, rainwater pipe & gutter systems

DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼	
				DELIVERY SERVICE CAT.	PRODUCT CODE	UNIT PRICE £	PRODUCT CODE	UNIT PRICE £
88° Double Long Tail Boss Branch Swept with 4 x 50mm Push-fit Bosses								
	EF097							
	50	1	11.0	C	208653	249.38	—	—
	Bosses require drilling out using a 51mm hole saw. Rubber grommets supplied in bags of 10. Product code 208205 (see page 25) See Page 25 for hole saw accessories.							
Stack Support Pipes								
	EF050							
	70	1	1.8	C	191856	39.23	—	—
	100	1	2.8	B	191562	43.65	—	—
	125	1	3.6	C	191563	48.41	—	—
	150	1	4.8	C	191564	69.07	—	—
	200*	1	10.0	C	157014	312.68	—	—
	250*	1	18.5	C	157097	474.01	—	—
	300*	1	30.8	C	157160	611.76	—	—
Stack Support Brackets supplied with rubber seal								
	EF051							
	70	1	1.1	C	191857	25.39	—	—
	100	1	1.5	B	191843	34.87	—	—
	125	1	1.7	C	191844	37.29	—	—
	150	1	2.6	C	191845	50.54	—	—
Stack Support Pipe Cantilever Arm Bracket								
	EF052							
	—	1	2.0	C	192329	29.26	—	—
Stack Support Pipe Cantilever Arm Bracket with Support (for stack support pipes 200–300mm in diameter)								
	EF052							
	—	1	4.3	C	192330	76.25	—	—
Stack Support Pipe Console Bracket								
	EF052							
	—	1	4.6	C	192331	70.05	—	—
Clamp to suit 192329 (Stack Support Pipe Cantilever Arm Brackets) and 192331 (Stack Support Pipe Console Bracket)								
	EF052							
	—	1	0.3	C	192332	1.20	—	—
Transitional Connectors								
	EF059							
	100	1	1.8	C	156650	51.61	—	—
	150	1	4.2	C	156902	94.93	—	—
Ensign to Supersleve Connectors								
	ED076							
	100	1	1.8	—	—	—	191813	42.06
	150	1	4.6	—	—	—	191814	73.59

Prices exclude VAT *Made to order
 ^Above Ground Only (see page 13)

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

DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼	
				DELIVERY SERVICE CAT.	PRODUCT CODE	UNIT PRICE £	PRODUCT CODE	UNIT PRICE £
Bellmouth Gully Inlet Body Only								
	100	1	2.4	—	—	—	ED060	
							191825	58.66
Shown with plain grating, code is for body only								
Bellmouth Gully Inlet Body with fitted Sealing Plate								
	100	1	4.4	—	—	—	ED066	
							191852	79.50
(Grey only)								
Bellmouth 150mm Gully Inlet Body Only								
	150	1	2.9	—	—	—	ED060	
							191826	96.57
Shown with plain grating, code is for body only								
Bellmouth 150mm Gully Inlet Body with fitted Sealing Plate								
	150	1	5.2	—	—	—	ED066	
							191853	135.74
(Grey only)								
200mm Plain Grating to suit Bellmouth Gully Inlet								
	200	1	1.6	—	—	—	ED065	
							191828	13.68
Puddle Flanges								
	ED078							
	(Grey only) 100	1	4.6	—	—	—	191829	73.98
	(Grey only) 150	1	6.6	—	—	—	191830	91.32
	(Black only) 250	1	13.0	—	—	—	192318	117.61
	(Black only) 250	1	20.0	—	—	—	192319	141.68
Multi-clamp Puddle Flange								
	ED078							
	(Grey only) 200	1	6.1	—	—	—	191831	232.58
45° Inspection Chamber								
	ED012							
	100x100	1	17.4	—	—	—	191832	292.69
	150x100	1	18.8	—	—	—	191833	379.12
	150x150	1	20.6	—	—	—	191834	481.28



FOR 2019

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 and
 availability Tel:
 01952 262529

Trade Price List December 2018—Cast Iron drainage, rainwater pipe & gutter systems

DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	ABOVE GROUND ▲			BELOW GROUND ▼	
				^A DELIVERY SERVICE CAT.	PRODUCT CODE	UNIT PRICE £	PRODUCT CODE	UNIT PRICE £

TOOLS & ANCILLARY PRODUCTS

T-Box Spanner								
	—	1	—	B	EF098 191200	8.41	EF098 191200	8.41
Ratchet Spanner								
	—	1	—	B	EF100 191201	77.02	EF100 191201	77.02
13mm Deep Socket								
	13mm	1	—	B	EF101 191202	19.37	EF101 191202	19.37
Allen Key Socket Adaptor								
	—	1	—	B	EF102 191753	19.37	EF102 191753	19.37

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	33.77	—	—
Two-part, touch-up Paint spray for Red System								
	0.4L	1	—	C	216317	49.90	—	—
Two-part, touch-up Paint spray for Grey System								
	0.4L	1	—	C	—	—	216318	50.39

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. 50mm and 70mm couplings will be replaced later 2014 onwards.



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.

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).

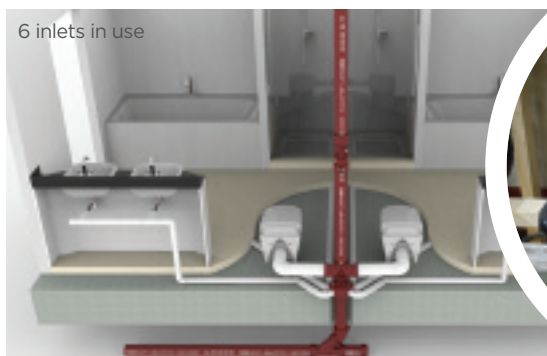
Ideal for multi-floor applications EEZI-FIT is the ideal system for projects with long vertical soil stacks, such as flats and apartments, hotels, office blocks etc; where the main stack will remain unchanged over time.

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	^Δ DELIVERY SERVICE CAT.	PRODUCT CODE	UNIT PRICE £
3m Pipe						
					EP000	
	100	38	24.5	A	156563	97.16
	150	20	41.0	A	156827	192.49
EEZI-FIT Couplings						
					EZ001	
	100	12	1.3	A	208191	16.53
	150	1	2.0	C	216312	33.02
If continuity required see accessories (page 25)						
88° Short Radius Bends						
					EZ002	
	100	1	2.4	B	208192	33.00
	150	1	5.0	C	216313	62.03
45° Short Radius Bends						
					EZ002	
	100	1	1.8	B	208193	33.00
	150	1	3.8	C	216319	62.03
88° Short Radius Bends with Back Door						
					EZ005	
	100	1	3.1	C	208194	59.83
	150	1	5.7	C	216315	111.27
88° Large Radius Bend						
	100	1	4.5	C	215953	65.94
88° Large Radius Bend with Back Door						
	100	1	5.6	B	215952	77.42
88° Single (Swept) Branches						
					EZ06R	
	100 x 100	1	5.0	B	208195	63.55
	150 x 100	1	7.0	C	216342	128.05
45° Single Radius Branches						
					EZ006	
	100 x 100	1	4.4	B	208196	56.66
	150 x 100	1	6.5	C	216320	115.68
	150 x 150	1	8.9	C	216341	129.85
88° Single (Swept) Branches with Back Door						
					EZ07R	
	100 x 100	1	6.7	C	208197	89.53
	150 x 100	1	8.0	C	216314	191.44
88° Double (Swept) Branch						
					EZ010R	
	100 x 100	1	6.0	C	208198	76.63

DESCRIPTION	SIZE Ø mm	PACK SIZE	NOMINAL WEIGHT KG	^Δ DELIVERY SERVICE CAT.	PRODUCT CODE	UNIT PRICE £
Boss Pipe Push-Fit with Single 50mm Waste (Supplied with grommets)					EZ090	
	100	1	2.1	B	208199	52.49
Boss Pipe Push-Fit with Double 50mm Waste (Supplied with grommets)					EZ091	
	100	1	2.3	C	208200	65.45
Boss Pipe Push-Fit with Double 90° 50mm Waste (Supplied with grommets)					EZ092	
	100	1	2.3	C	208201	65.45
Boss Pipe Push-Fit with Triple 90° 50mm Waste (Supplied with grommets)					EZ093	
	100	1	2.5	C	208202	65.45
50mm Waste Manifold Connector					EZ094	
	100	1	6.6	C	208203	99.89
NEW Multi-Waste Manifold Connector					EZ095	
	100	1	12.6	C	261139	190.00
	150	1	16.8	C	261435	242.50

SPARES RANGE—EEZI-FIT ACCESSORIES

100mm Gaskets (Bag of 10)						
	100	10	—	C	208204	25.83
150mm Gaskets (Bag of 10)						
	150	10	—	C	216316	27.35
Continuity Clip to suit 100 & 150 diameter (Bag of 30)						
	—	30	—	C	223541	38.76
Rubber Grommets Boss Connections (Bag of 10)						
	—	10	—	C	208205	25.83
51mm Hole Saw for Cast Iron						
	—	—	—	C	208206	36.28
Hole Saw Arbour with Drill for EEZI-FIT & Timesaver						
	—	—	—	C	192327	45.02
Pilot Drill for EEZI-FIT & Timesaver						
	—	—	—	C	192328	10.80
Lubricant for push-fit assembly (500g Tub)						
	—	500g Tub	—	C	199037	21.48