

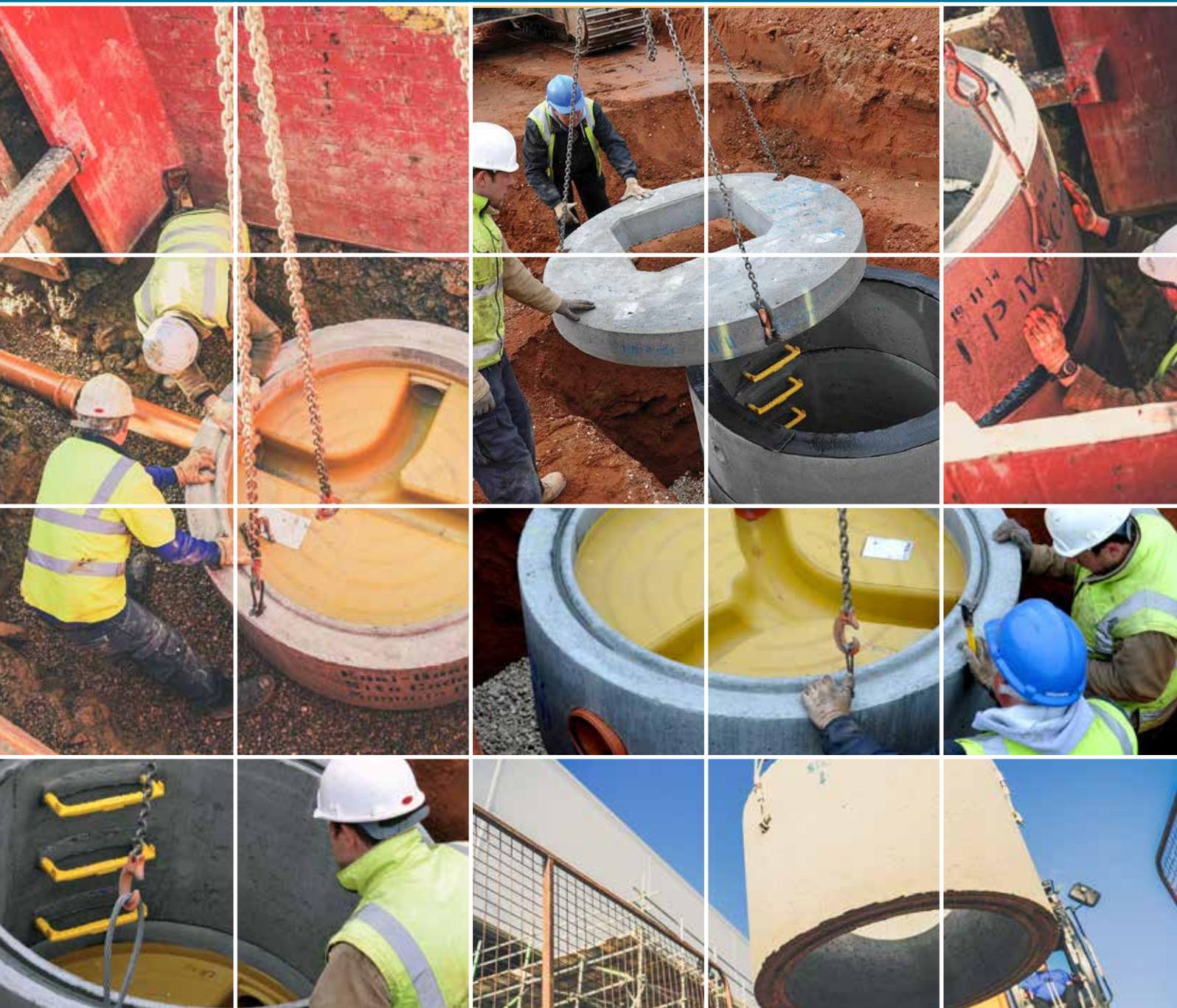


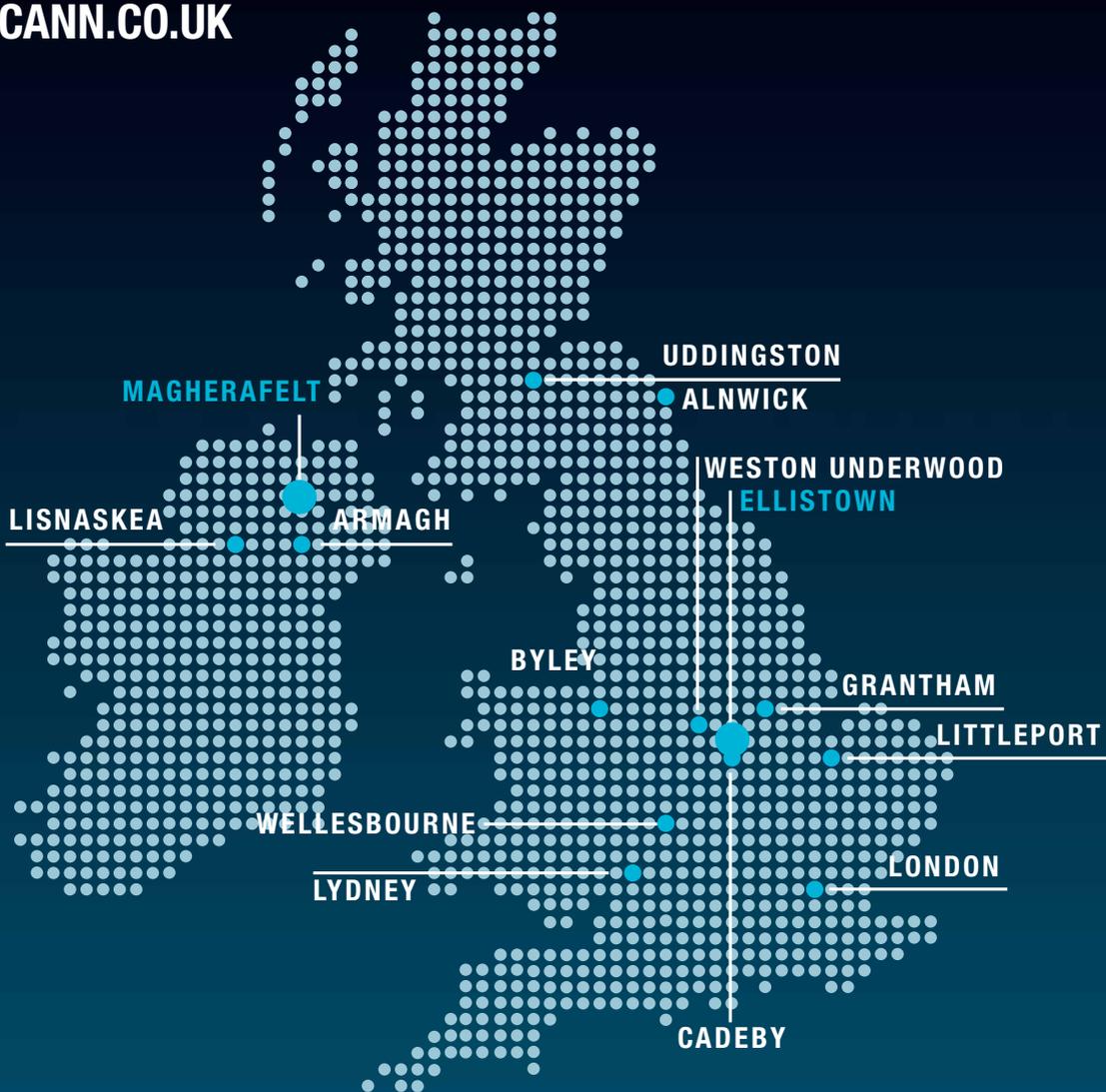
THINKING PRECAST?
THINK FP MCCANN

EASI-BASE™

DRAINAGE & WATER MANAGEMENT

v2.1





FP McCann is the UK's market leader in the manufacture, supply and delivery of precast concrete solutions. Our comprehensive precast concrete business extends to include:

**AGRICULTURE | ARCHITECTURAL PRECAST | BOX CULVERTS | BUILDING PRODUCTS
DOCK LEVELLERS | DRAINAGE | FENCING | FILTER BED SYSTEMS | FLOORING
POWER & INFRASTRUCTURE | RAIL | SPECIALIST PRECAST | STRUCTURAL PRECAST
TANKS & CHAMBERS | TUNNELS & SHAFTS | WALLING**

Modern manufacturing plants at Alnwick (Northumberland), Armagh (Northern Ireland), Byley (Cheshire), Cadeby (Warwickshire), Ellistown (Leicestershire), Grantham (Lincolnshire), Lisnaskea (Northern Ireland), Littleport (Cambridgeshire), Lydney (Gloucestershire), Magherafelt (Northern Ireland), Uddingston (Lanarkshire) and Weston Underwood (Derbyshire) incorporate the latest computerised batching, distribution, casting, curing and handling systems and are operated by skilled and experienced workforces to ensure consistency of quality. Their geographical spread gives us an unrivalled ability to serve the construction industry throughout the UK and Ireland.

By applying the DFMA principles, FP McCann's design engineers are able to evaluate individual precast concrete products part by part, in addition to documenting the assembly process step by step. This allows them to generate the cost, part count and assembly time to provide a benchmark to measure its success and identify the parts and process improvement opportunities. In turn, this has allowed FP McCann to design and manufacture more cost-effective and efficient high-quality precast concrete products with less wastage and greater on-site recycling. As a result, increased productivity, combined with a reduction in production time and costs, allows FP McCann to be more competitive within the marketplace.

INTRODUCTION

The FP McCann Easi-Base™ manhole system addresses a long-standing problem associated with traditional methods of manhole construction. Labour intensive, in-situ practices typically taking up to 36 hours are eliminated by the fully integrated unit, which can be installed and connected in a matter of minutes.

The DN1200 precast concrete base, complete with channels and benching formed into a polypropylene liner, is placed on a formation comprising of compacted granular material. Pipe connection is made simple with connection bells cast into the base for the specific pipe in use, thus allowing the pipe to be pushed into the base via the sealed connector. A watertight seal is instantly achieved. Water flows through the unit via a 1% preformed fall in the channel exiting at the outlet point. Conventional methods of installing the manhole above the base are then followed, with precast concrete chamber rings placed directly on top. DN1200, DN1500, DN1800, DN2100 and DN2400 Easi-Bases™ are manufactured wholly from concrete. They accommodate concrete, clay, twin-wall, ductile iron and uPVC pipes from DN150 to DN1200.

EASI-BASE™

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BENEFITS OF EASI-BASE™



- An extremely fast, efficient and economical method of installing manhole bases on-site
- Accepted by all UK water companies
- Significant health and safety benefits
- An immediate watertight structure, allowing other trades to instantly follow on
- Factory prefabrication provides a quality finish to channelling and benching, and enables accurate combinations and variations for entry/exit pipes
- Connects with any type of pipe and is compatible with our 130mm wide wall chamber rings - which eliminates the need for backfilling
- Easy maintenance of channels and benches, aided by clean access for inspection
- Eliminates the risk of water pollution that is associated with traditional methods of manhole construction such as concrete base formation integrity failures due to bad weather conditions, which results in groundwater being contaminated with polluting raw sewerage and clean groundwater infiltrating the already overloaded raw sewerage system of pipelines and treatment plants
- Easi-Bases™ are now accepted under 'Sewers for Adoptions' 7th edition
- Easi-Base™ is a kitemark product, manufactured and tested to BS EN1917
- WRc tested and approved
- An 80 year guaranteed system

EASI-BASE™ RANGE



The FP McCann Easi-Base™ range can be supplied in 5 main diameters:

- DN1200
- DN1500
- DN1800
- DN2100
- DN2400

PIPE SIZES ACCOMMODATED BY FP MCCANN EASI-BASE™ RANGE:

Pipe Size (mm)	DN1200	DN1500	DN1800	DN2100	△ DN2400
150	✓	✓	✓	✓	✓
* 200	✓	✓	✓	✓	✓
225	✓	✓	✓	✓	✓
* 250	✓	✓	✓	✓	
300	✓	✓	✓	✓	✓
375		✓	✓	✓	✓
450		✓	✓	✓	✓
525		✓	✓	✓	✓
600		✓	✓	✓	✓
675			✓	✓	✓
750			✓	✓	✓
900			✓	✓	✓
1050				** ✓	✓
1200				✓	✓

* Shipped from NI

△ DN2400 easi-bases manufactured in NI is only a starter base and has no benching.

** DN2100 easi-bases manufactured in NI can accommodate pipes up to 1050mm only.

DN1200 EASI-BASE™

FP McCann's DN1200 Easi-Base™ is a prefabricated manhole base unit with integral benching, channels and connectors, that provides an immediate and long-lasting watertight solution in the management of waste water.

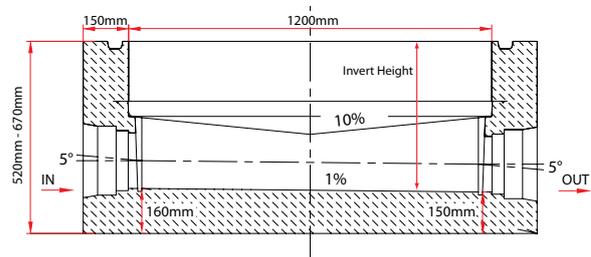
PRODUCT BENEFITS

- An extremely fast, efficient and economical method of constructing manhole bases on-site
- Accepted by all UK water companies
- Significant health and safety benefits
- An immediate watertight structure, allowing other trades to instantly follow on
- Factory prefabrication provides a quality finish to channelling and benching, and enables accurate combinations and variations for entry/exit pipes
- Connects with any type of pipe and is compatible with the DN1200 130mm thick wide wall chamber ring which eliminates the need for backfilling.
- Maintenance of channels and benches are aided by clean access for inspection
- Eliminates the risk of water pollution that is associated with traditional methods of manhole construction, such as concrete base formation integrity failures due to bad weather conditions, which results in groundwater being contaminated with polluted raw sewerage and clean groundwater infiltrating the already overloaded raw sewerage system of pipelines and treatment plants
- The 7th Edition of Sewers for adoption has now been published to include precast bases; Easi-Base™s are in full accordance with the guidance provided.
- Easi-Base™ is a kitemark product, manufactured and tested to BS EN1917
- WRc tested and approved
- An 80 year guaranteed base

The unique DN1200 Easi-Base™ utilises a polypropylene liner with prefabricated benching and channels. Pipe connection bells are pushed into the inlet and outlet points and the liner is then encased and embedded in concrete to provide its structural strength and integrity. The DN1200 Easi-Base™ is manufactured as a monolithic precast unit; it utilises the standard manhole tongue and groove joint and is ready for immediate use, in combination with either a standard 90mm thick manhole chamber or the new 130mm thick wide wall chamber ring.

The Easi-Base™ system connects with most type of pipe including Single wall uPVC, Twin wall, Concrete, Ductile Iron and Clay.

The DN1200 unit allows connection to channel diameters DN150 to DN300. FP McCann has developed a selection of adaptors to increase the range of pipe types accommodated. The type of pipe must be disclosed prior to placing the order, so that the correct adaptors and seals are fitted.



SMALL EASI-BASE UNITS					
Diameter	Internal Diameter	Size	Invert Level (for take off)	Depth	Weight
DN1200	150	SMALL	370	520	1.7
DN1200	150w	MEDIUM	445	595	1.8
DN1200	150	LARGE	520	670	1.9
DN1200	225	SMALL	470	620	2.2
DN1200	225	MEDIUM	545	695	2.4
DN1200	225	LARGE	620	770	2.5
DN1200	300	SMALL	520	670	2.4
DN1200	300	MEDIUM	595	745	2.5
DN1200	300	LARGE	670	820	2.7

All sizes are in mm

PRODUCT FEATURES

- The DN1200 Easi-Base™ is made to an internal diameter of 1200mm with a tongue and groove joint profile to match standard DN1200 manhole chamber rings
- Wall thickness is 150mm
- The base has a 150mm floor thickness with the outlet invert at approximately 150mm from ground level
- A 1% fall exists across the channel toward the outlet (1:100)
- A gradient of 1:10 is present at the benching with the run-off toward the channel
- The height of the DN1200 Easi-Base™ unit varies in accordance with the diameter of the main channel running through the unit. (Please refer to the above table for heights)



DN1200 RANGE OF LINER ORIENTATIONS

Pipe Size (mm)	PREDL REFERENCE
150	P1, P13, P135, P13579, P14, P147, P149, P15, P157, P158, P159, P16, P169 P17, P18, P19, P2-, P2, P24, P248, P25, P258, P259, P26, P268, P27, P28, P29 P3-, P3, P35, P357, P358, P359, P36, P37, P38, P39, P4-, P4, P45, P46, P469 P47, P48, P49, P5-, P5, P5+, P56, P57, P579, P58, P59, P6, P6+, P68, P69, P7, P7+, P79, P8, P8+, P9
200 *	P1, P15, P159, P19, P2, P3, P4, P5, P59, P6, P7, P8, P9
225	P1, P14, P149, P15, P157, P158, P159, P16, P169, P17, P18, P19, P2-, P2, P248, P25, P257, P258, P259, P26, P27, P28, P29, P3-, P3, P35, P357, P358, P359, P37, P38, P39, P4-, P4, P46, P48, P49, P5-, P5, P5+, P57, P58, P59, P6, P6+, P69, P7, P7+, P8, P8+, P9
250 *	P1, P15, P159, P19, P2, P25, P3, P35, P4, P5, P57, P58, P59, P6, P7, P8, P9
300	P1, P15, P159, P17, P18, P19, P2-, P2, P25, P27, P28, P29, P3-, P3, P35, P37, P38, P39, P4-, P4, P5-, P5, P5+, P57, P58, P59, P6, P7, P7+, P8, P8+, P9

150 Pipe: PVC (EN1401), Polysewer, Marley Quantum, Twinwall, Ultra Rib, Supersleve Clay, Naylor Clay

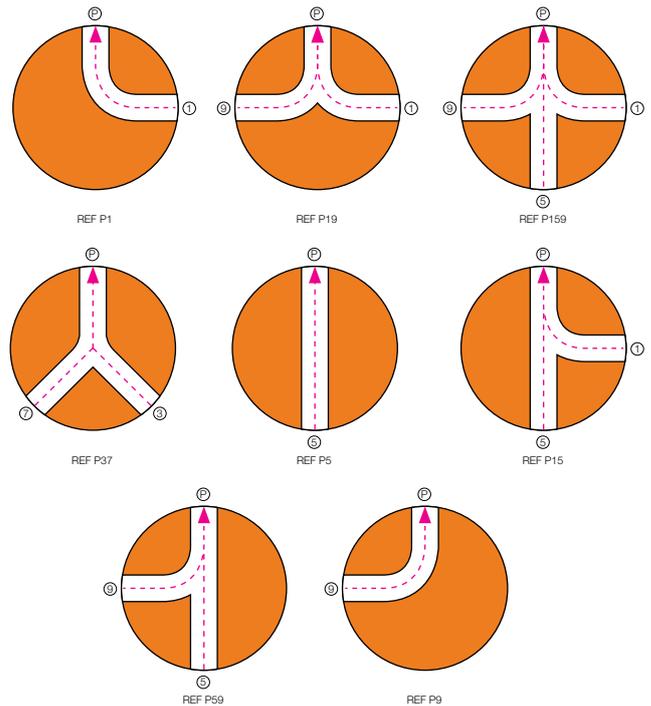
200 Pipe: PVC (EN1401)

225 Pipe: Polysewer, Marley Quantum, Twinwall, Ultra Rib, Supersleve Clay, Naylor Clay

250 Pipe: PVC (EN1401)

300 Pipe: PVC (EN1401), Polysewer, Marley Quantum, Twinwall, Ultra Rib, Supersleve Clay, Naylor Clay, Concrete

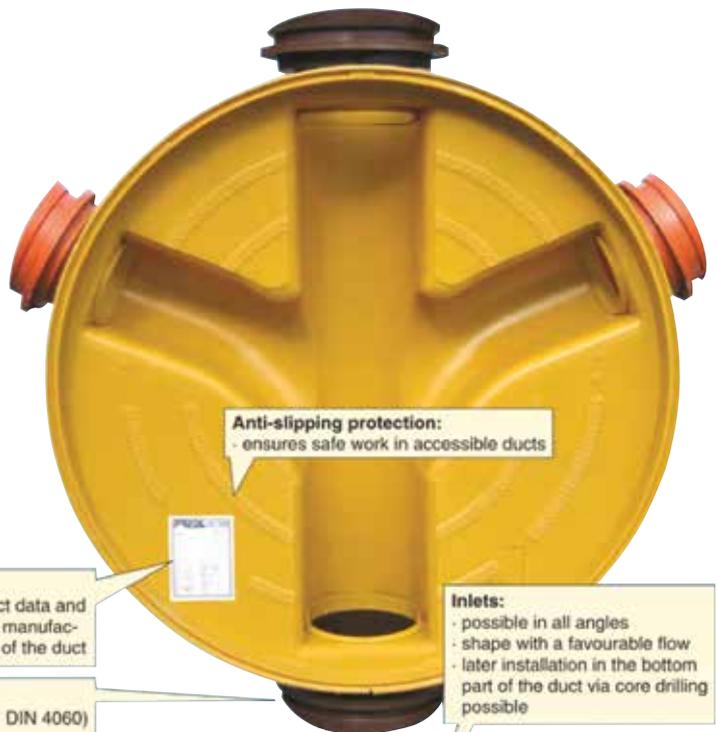
EXAMPLES OF PREDL LINERS STANDARD STOCK



Bonding bridges:
- ensure close adhesion with the concrete encasement of the duct



Anti-slipping protection:
- ensures safe work in accessible ducts



Inlets:
- possible in all angles
- shape with a favourable flow
- later installation in the bottom part of the duct via core drilling possible

Manhole papers:
- the "ID card" of each duct - contains all duct data and ensures complete documentation from the manufacturing of the manhole liner up to the laying of the duct

Manhole lining:
- tight and flexible installation (according to DIN 4060) of all commercial types of drops
- water barrier and silica sand coating prevent lateral water infiltration
- upon request with convex face of the cut functioning as formwork aid

Channel:
- smooth and without any joints, ensures best hydraulics, thereby little effort regarding maintenance and inspections

PREDL® liners are currently used in Germany, Austria, France, Spain, Portugal, Italy, Norway, Denmark and Poland and have achieved accredited quality standards within Europe. FP McCann with franchise partner PREDL® are the first in the British Isles to introduce this new technology to manhole construction. There are over 1500 basic forms of the PREDL® manhole liner that can be delivered in more than 100,000 variants.



EASI-BASE™ ORDER FORM

ORDER DETAILS

Merchant:

Merchant Contact:

Contractor:

Contact Name:

Contact Tel:

Job Details / Address:

Manhole Ref:

Chamber Dia (mm):

Order your Easi-Base™ using the PREDL Clock diagram. The outlet is 'P' with inlets available in any combination from 1-9. Any angles from 90°- 270° are available in accordance with the latest sewers for adoption compliance.

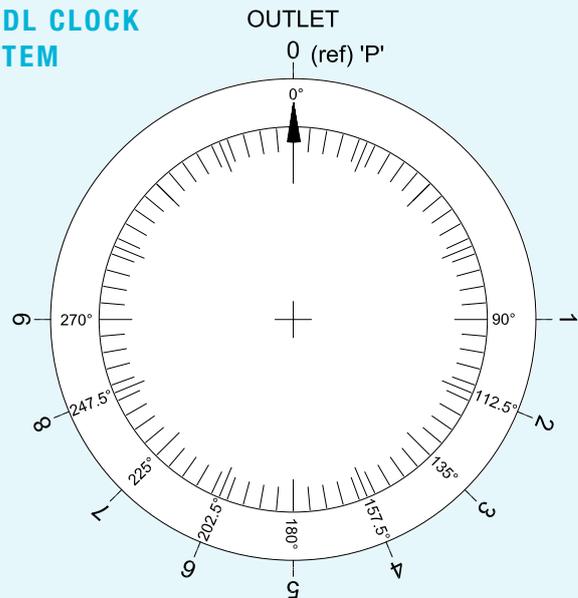
Please consider the example, and use the table below to place your order. One form is required per Easi-Base.

We can offer a bespoke take-off service on all manholes upon placement of order.

NOTES

1. One form required per Easi-Base
2. It is essential the pipe type is given correctly to ensure the correct pipe seals are provided.

PREDL CLOCK SYSTEM



SPECIFYING AND ORDERING YOUR EASI-BASE™ UNIT

Combinations and variants in entry pipe diameters and orientations can be chosen from the PREDL Clock diagram.

When ordering, it is important to remember that the 'P' refers to the position of the outlet leading from the manhole. All other orientations are specified as a reference from the 'P' position; the next reference is then given as the main channel; each inlet is then referenced firstly by the largest diameter, then by numerical order.

Please see the examples below.

- P5 is a DN1200 Easi-Base™ with straight-through inlet at 180° from the outlet position. Note a 1% fall in the channel exists towards the outlet position 'P'.
- P59 refers to a DN1200 Easi-Base™ with the main channel inlet at 180° from the outlet 'P' position and an additional second inlet at 270°.

Using the PREDL clock reference system, FP McCann can ensure the accuracy of each channel connection.

	Outlet	Inlet 1	Inlet 2	Inlet 3	Inlet 4	Inlet 5
PREDEL Ref.	P					
Angle	0°					
Pipe Size						
Pipe Type						
Add. Info.						

EXAMPLE - P519

PREDEL Ref.	P	1	5	9	-	-
Angle	0°	90°	180°	270°	-	-
Pipe Size	300mm	150mm	300mm	150mm	-	-
Pipe Type	Wavin Ultrarib	Wavin Ultrarib	Wavin Ultrarib	Wavin Ultrarib	-	-
Add. Info.						

DN1500 - DN3000 EASI-BASES™

FP McCann's bespoke Easi-Bases™ from DN1500 to DN3000 complement our existing manhole ranges and are produced as monolithic units, utilising standard manhole tongue and groove joints for connection with standard manhole chambers. These units are produced wholly from concrete and provide a variety of connection orientations using the Pred Clock System. They can accommodate concrete, clay, twinwall, ductile iron and uPVC pipes from 150mm to 1200mm.

The table below gives the dimensions associated with each size, including the overall height of the unit, the invert level for each different pipe diameter and the combination of pipe diameters accommodated. All Easi-Base™s are made level to soffit, (i.e. level-benching).



MEDIUM / LARGE / EXTRA LARGE EASI-BASE™ UNIT SIZES				
Diameter	Internal Diameter	Invert Level (for take off)	Finished Height	Weight Tonnes
DN1500	150	470	750	3.5
DN1500	225	545	750	3.5
DN1500	300	600	750	3.5
DN1500	375	705	1000	4.6
DN1500	450	810	1000	4.4
DN1500	525	920	1250	4.7
DN1500	600	1000	1250	4.75
DN1800	150	470	750	6
DN1800	225	545	750	6
DN1800	300	600	750	6
DN1800	375	705	1000	6.5
DN1800	450	810	1000	6.5
DN1800	525	920	1250	7
DN1800	600	1000	1250	6.5
DN1800	675	1150	1400	8
DN1800	750	1200	1500	7.75
DN1800	825	1300	1500	7.5
DN1800	900	1300	1500	6.75
DN2100*	150 - 1200	1900	2436	Δ 10.5
DN2400*	†150 - 1200	1900	2436	Δ 10.5
DN2400*	150 - 450	675	1175	Δ 7.8
DN2400*	525	775	1275	Δ 8.1
DN2400*	600	925	1425	Δ 8.5
DN2400*	675 - 825	1185	1685	Δ 7
DN2400*	900	1435	1935	Δ 7
DN2400*	1050	1685	2185	Δ 7.8
DN2400*	1200	1935	2435	Δ 8.5
DN2700*	150 - 450	675	1175	Δ 9.7
DN2700*	525	775	1275	Δ 10.1
DN2700*	600	925	1425	Δ 10.6
DN2700*	675 - 825	1185	1685	Δ 8.8
DN2700*	900	1435	1935	Δ 8.8
DN2700*	1050	1685	2185	Δ 9.7
DN2700*	1200	1935	2435	Δ 10.6
DN3000*	150 - 450	675	1175	Δ 10.8
DN3000*	525	775	1275	Δ 11.1
DN3000*	600	925	1425	Δ 12
DN3000*	675 - 825	1185	1685	Δ 9.6
DN3000*	900	1435	1935	Δ 9.6
DN3000*	1050	1685	2185	Δ 10.8
DN3000*	1200	1935	2435	Δ 12

* 2 part unit / max Δ per unit

All sizes are in mm

† 1 unit ex Knockloughrim depot

WEIGHTS AND LIFTING MECHANISM DETAIL

Easi-Base™ (DN)	Lifting Mechanism	Quantity of Lifters Used per unit	Safe Working Load (S.W.L) per lifter (Tonnes)	Easi-Base™ Unit Max. weight (Tonnes)
1200	M24	3	2.5	1.5 - 2.5
1500	M36	3	6.3	3.5 - 5.0
1800	M36	3	6.3	6.0 - 8.0
2100	M36	3	6.3	6.5
* 2100	Utility Anchors & M36	3 & 3	5 & 6.3	11.0
2400	M36	3	6.3	7.8
* 2400	Utility Anchors	3	5.0	14.0
2700	M36	3	6.3	9.7
3000	M42	3	8.0	11.0

* Manufactured in NI
(Please note, weights will vary dependent upon pipe size and number of inlets/outlets.)

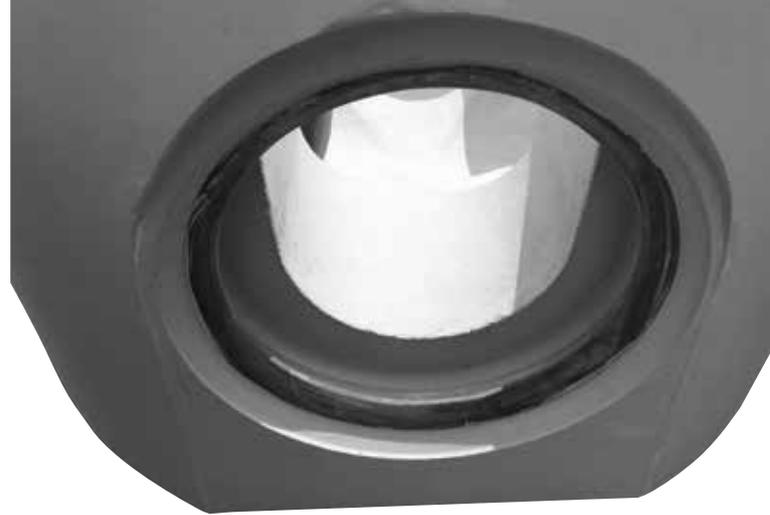
Our Easi-Base™ manhole systems are manufactured with cast-in lifting sockets to allow chains to be hooked on to lift the base in a safe manner, which will prevent damage during handling. It also negates the requirement to drill holes through the Easi-Base, thus ensuring absolute water tightness when installing in wet ground.



EASI-BASE™ WITH INTEGRAL SEAL

FP McCann's integral seal is a simple, reliable rubber compression connector which is embedded in the concrete when the manhole is cast. The seal is compressed between the pipe and the concrete, creating a flexible watertight seal.

FP McCann is the first precast concrete manufacturer in the UK to offer an integral seal on our Easi-Base™ DN1500 and DN1800 units. Our new integral seal system is a simple, reliable rubber compression connector which is embedded in the concrete when the manhole is cast. The seal is compressed between the pipe and the concrete, creating a flexible watertight seal.



FEATURES

- Connector is placed in the sealing position at the precast plant
- Manhole arrives at the jobsite ready to receive the pipe
- Pipe is beveled and lubricated, and then inserted through connector
- Manhole may be back filled immediately

BENEFITS

- Integrally cast into the *structure when the concrete is poured
- Requires low insertion force
- No clamps to tighten or forget
- Fast and easy installation
- Less time in the excavation
- Durable, reusable casting forms
- Reusable tooling holds connector in position during casting process.

* 1050mm and above pipe sizes require grouting using a e-proxy resin or similar approved product

SEALANT

DN1200	12mm x 120mm x 4.2m
DN1500	12mm x 120mm x 5.2m
DN1800/DN2100	12mm x 120mm x 6.0m

EASI-BASE ADAPTORS AND SEALS

Part No.	Size	Pipe O/D	Type	Description
FPM 101	225	250	Adaptor	PVC TW & Ultra Rib
FPM 102	225	N/A	Adaptor	End cap Stock
FPM 103	225	263	Adaptor	Clay (SuperSleeve)
FPM 104	225/150	N/A	Adaptor	Level Invert Reducer
FPM 105	225	268	Adaptor	PE Twin Wall
FPM 106	225	N/A	Seal	Uni bell Seal
FPM 107	225	263	Seal	Clay Adaptor Seal
FPM 108	150	170	Adaptor	Ultra Rib
FPM 109	150	N/A	Adaptor	End Cap
FPM 110	150	178	Adaptor	Twin Wall PE
FPM 111	150	178	Adaptor	Clay (SuperSleeve)
FPM 112	300	335	Adaptor	Ultra Rib
FPM 113	150	188	Adaptor	Naylor Densleeve
FPM 114	300	353	Adaptor	Twin Wall
FPM 115	150	160	Adaptor	Twin Wall PVC
FPM 116	225	278	Adaptor	Naylor Densleeve

Please note: all adaptors and seals are available from stock



FPM TOOLS AUTOCAD

Designed for AutoCAD, the FPM AutoCAD toolbar is a set of commands to aid civil engineers, quantity surveyors and estimators in producing quick and accurate drainage take offs.

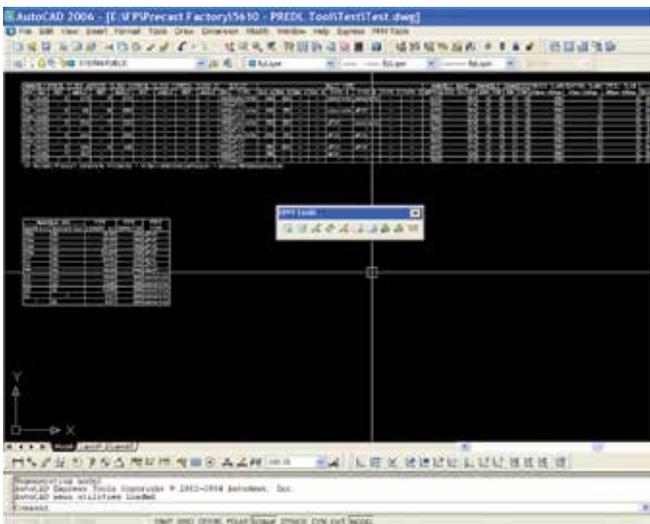
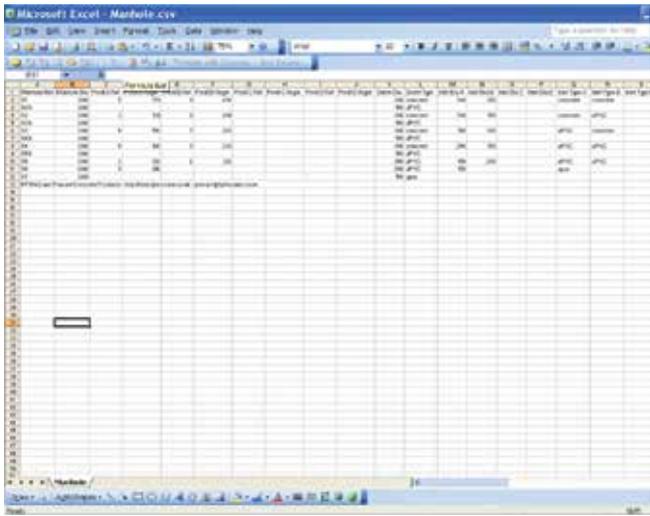
It provides tabular data for the drainage layout, and specifies the relevant FP McCann Easi-Bases automatically.

The FPM Tools toolbar is used to work through the drainage plan in sequence, specifying each manhole in turn. Manhole references, invert levels, cover levels, pipe types and pipe lengths are all recorded. When complete, a table is generated within the actual plan. This table can then be exported as a .csv file and opened in MS Excel or other similar supporting program.

The screen shot above shows the drainage table generated within AutoCAD and, to the right, the exported Excel table ready for the quantity surveyor / buyer / estimator to send out for pricing.

From within AutoCAD, the Manhole Edit tool can be used to assemble the manhole and pipe data at a particular manhole reference within the plan.

Subscribers to Micro Drainage's WinDes 2013.1 sustainable drainage software can incorporate Easi-Base™ into quick and accurate drainage scheduling, in accordance with the Predl clock notation.



WIDE WALL MANHOLE CHAMBERS

FP McCann’s precast concrete wide wall manholes have been designed with a tongue and groove dimension to accommodate the use of bituminous sealant. FP McCann’s approved sealant should be used at all times. The sealant requirement for wide wall manholes is 12mm x 120mm x 6m. When placing the sealing strip into position during installation, the ends of the strips must be overlapped by a minimum of 30mm and cut at an angle of 60 degree. The cut ends must then be pressed together. Full installation guidelines can be provided upon request or obtained from our website www.fpmccann.co.uk

DN1200, 1500 AND 1800MM WIDE WALL MANHOLE CHAMBERS

A 130mm thick wide wall chamber, in combination with the Easi-Base™ unit, provides a sealed watertight manhole system. This robust design means that the requirement for a concrete surround is eliminated.

PRODUCT BENEFITS

- Quick and easy installation
- Watertight structure
- Safe anchor lifting system (spherical head lifting system)
- Greater cost savings associated with using precast concrete over a traditional system
- No concrete back fill required, in accordance with ‘Sewers for Adoption’ 7th edition
- More environmentally friendly than a traditional system, almost 40% less carbon omitted during the concrete casting process
- Significant reduction in health and safety risks associated with using precast concrete



Nominal Size (DN)	Available Depth of Section				Wall Thickness mm	Barrel Diameter mm	Approx Weight Kg. (p/ metre)	Approx. Products per load Qty. (p/metre)	Lifting Point Qty/dia (p/Unit)	36mm Lifting Pin 0.75 t SWL	42mm Lifting Pin 3.5 t SWL	3 leg Lifting Chain SWL 3.1t
	1000mm (±50mm)	750mm (±50mm)	500mm (±25mm)	250mm (±25mm)								
1200	✓	✓	✓	✓	130	1460	1520	16	3x45mm dia	Lifting clutches. FP McCann stocks recommended and approved lifting clutches.		P
1500	✓	✓	✓	✓	130	1760	1645	14	3x45mm dia		P	
1800	✓	✓	✓	✓	130	2060	1970	12	3x45mm dia		P	

Please note: Wide Wall Manhole Chambers are manufactured with 3 x 45mm diameter lifting points to facilitate the safe anchor lifting system (spherical head lifting system).

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AGRICULTURE

Lydney 01594 847500 Grantham 01476 562277

ARCHITECTURAL PRECAST

London 020 3905 7640

BOX CULVERTS

Weston Underwood 01335 361269

BUILDING PRODUCTS

Cadeby 01455 290780

DOCK LEVELLERS

Weston Underwood 01335 361269

DRAINAGE

Ellistown 01530 240000 (England/Wales) Magherafelt 028 7954 9026 (Scotland/NI)

FENCING

Cadeby 01455 290780

FILTER BED SYSTEMS

Wellesbourne 01789 336960

FLOORING

Weston Underwood 01335 361269 Uddingston 01698 803300

POWER & INFRASTRUCTURE

Littleport 01353 861416

RAIL

Littleport 01353 861416

SPECIALIST PRECAST

Littleport 01353 861416

STRUCTURAL PRECAST

Byley 01606 843500 Grantham 01476 562277

TANKS & CHAMBERS

Wellesbourne 01789 336960

TUNNELS & SHAFTS

Cadeby 01455 290780

WALLING

Grantham 01476 562277 Lydney 01594 847500
Uddingston 01698 803 300 (Scotland) Magherafelt 028 7954 9026 (NI)

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