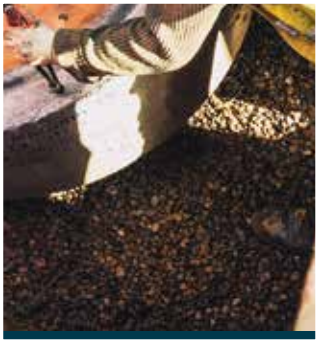
NI/ROI

PRODUCT PORTFOLIO

v2.1

QUARRY STONE

PRECAST DRAINAGE PRODUCTS



DRY SILO MORTAR

PRECAST WALLING

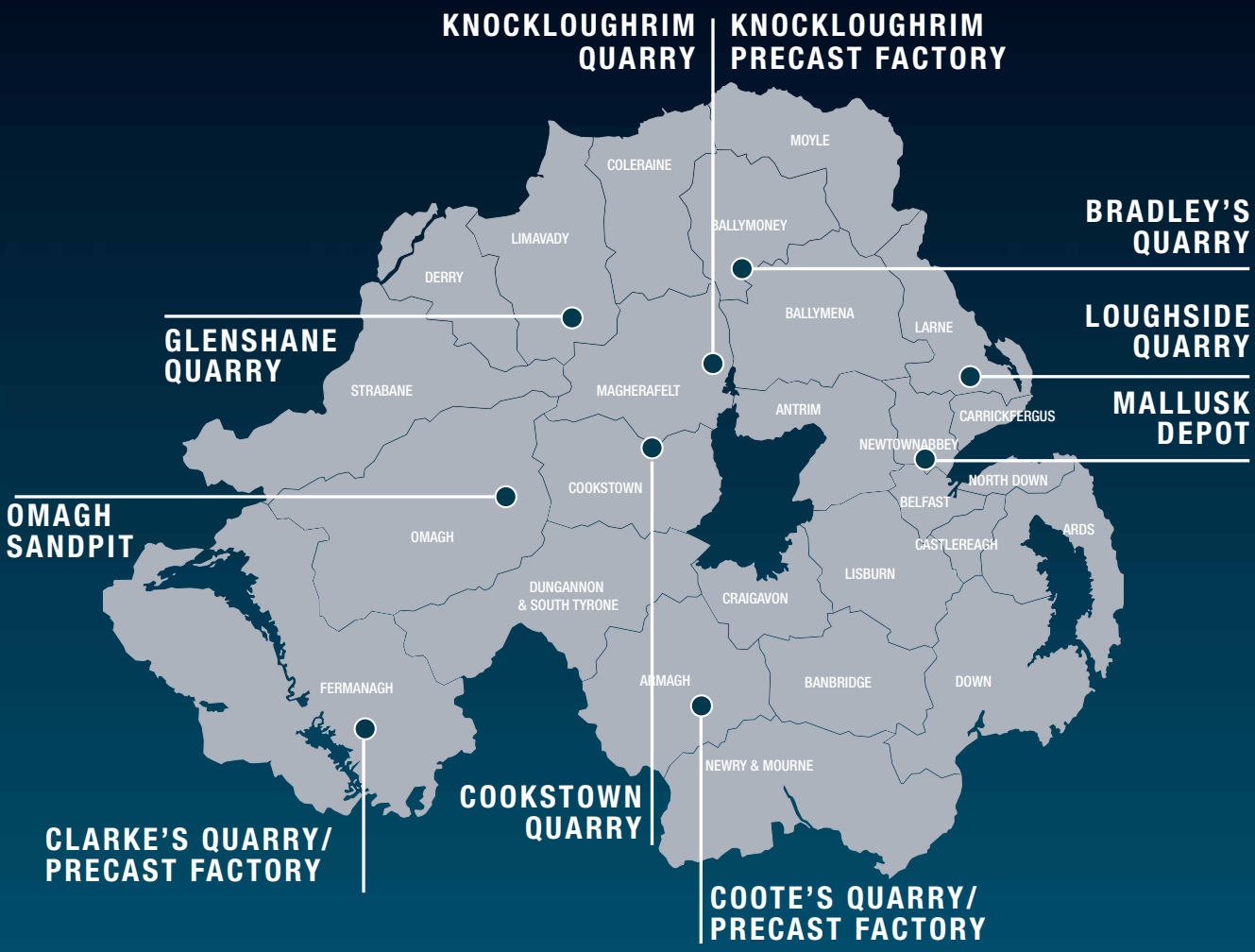
BUILDING PRODUCTS

READY-MIX CONCRETE

SURFACING

PRECAST AGRICUL-TURAL PRODUCTS

FPMCCANN.CO.UK



With seven quarries, six ready mix concrete plants, three precast concrete manufacturing plants and a sandpit situated across Northern Ireland, the geographical spread of FP McCann's facilities gives us the ability to meet the building material and concrete needs of a variety of industrial sectors.

FP McCann provides the following product categories: ready mix concrete, quarry stone and aggregates, building products, precast concrete walling, agricultural and drainage products and surfacing products.

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.

Please note: all information is correct at time of going to print.

Established in 1945, FP McCann is a family-run company with its headquarters in Knockloughrim, outside Magherafelt. With thirteen precast manufacturing plants, eight in England, four in Northern Ireland and one in Scotland, FP McCann is the UK's largest precast concrete manufacturer.

In Northern Ireland, FP McCann is spread over the following seven divisions: Ready Mix Concrete, Quarrying, Precast Concrete, Dry Silo Mortar, Surfacing, Construction and FP McCann Homes. FP McCann is committed to providing high-quality, cost-effective and sustainable building material and concrete solutions tailored to meet clients' budgets and expectations.

All our operations are carried out under the auspices of our Integrated Management System, which includes a quality management system accredited to ISO 9001, an environmental management system accredited to ISO 14001 and an occupational health and safety management system accredited to OHSAS18001. Our products comply with European and British Standards. We hold BSI kitemark accreditation for all products manufactured to BS 5911, BS EN 1916 and BS EN1917. Other accreditations include QSRMC certification, Achilles RISQS and UVDB Verify Category B2 and WRc approvals.

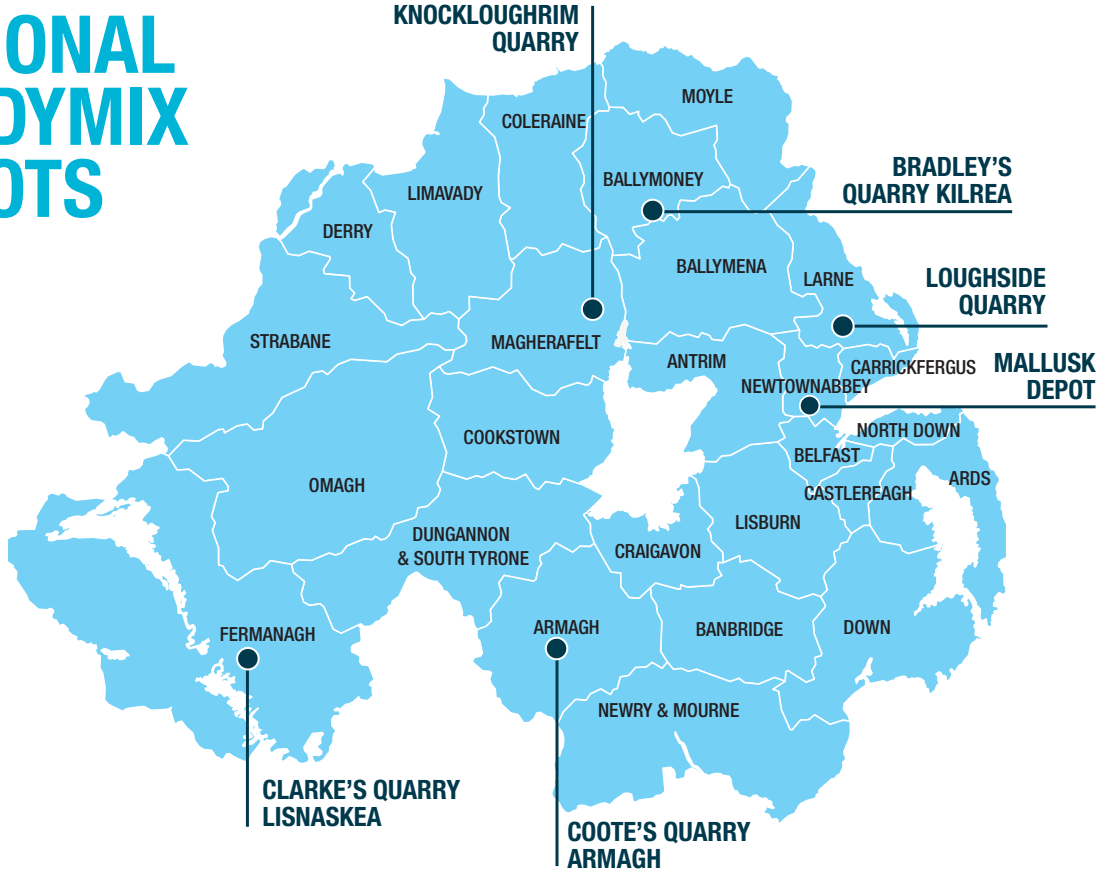
FP McCann is a member of many trade associations including Mineral Products Association Northern Ireland (MPANI), British Precast Concrete Federation, British Precast Drainage Association, British Precast Architectural & Structural Association, Pipe Jacking Association, Achilles RISQS, Achilles UVDB, National House Building Council (NHBC) and the British Precast Flooring Federation.

READYMIX CONCRETE

FP McCann supplies ready mixed concrete, mortar and screed solutions to the construction industry. All products are specifically designed for a wide range of applications including house building, industrial, commercial and agricultural applications. Our modern Ready Mix facilities use the very latest in computerised batching systems and are operated by a skilled and experienced workforce to ensure a consistent quality. FP McCann is a QSRMC registered company and holds a current a QSRMC certificate. The QSRMC regulations incorporate all the requirements of ISO 9001:2008, BS EN 206-1 and BS 8500.

A full range of concrete mixes are available, including our popular Easi-Flow Liquid Floor Screed. This specially formulated calcium sulphate self-levelling floor screed is specifically designed for use with underfloor heating systems. The liquid screed fully encapsulates the heating pipes without voids and only needs to cover the pipes by 25mm, resulting in a much more responsive heating system, which in turn is more economical to run.

REGIONAL READYMIX DEPOTS



KNOCKLOUGHRIM QUARRY
3 Drumard Road, Knockloughrim, Magherafelt BT45 8QA | 028 7964 2558

MALLUSK DEPOT
140 Mallusk Road, Newtownabbey, BT36 4QN | 028 9083 0005

LOUGHSIDE QUARRY
146 Belfast Road, Larne, BT40 2PN | 028 2826 0824

COOTE'S QUARRY ARMAGH
56 Redrock Road, Armagh, BT60 2BL | 028 3755 1126

CLARKE'S QUARRY LISNASKEA
105 Nutfield Road, Slush Hill, Lisnaskea BT92 0HP | 028 6772 1286

BRADLEY'S QUARRY KILREA
84 Cullyrammer Road, Kilrea, Coleraine, BT51 5YF | 028 2954 0285

Readymix Concrete	
BS EN 206 Equivalent Strength	Example Applications
C8/ 10	Foundations
C12/ 15	Kerbs
C16/ 20	Internal Floors
C20/ 25	Internal Floors
C25/ 30	Light Industrial Use
C28/ 35	General Industrial Use
C32/ 40	Slurry Pits/ Walls
Gen 1, 2, 3	Foundations
C35/ 45	Heavy Industrial Use
C40/ 50	Specialised Mixes e.g. Wind farms

Further information can be viewed on our website: fpmccann.co.uk/ready-mix-concrete including the Readymix Calculator. You can also download the FP McCann Readymix Calculator App from the App Store.

EASI-FLOW LIQUID FLOOR SCREED

BENEFITS

- Maximises underfloor heating performance
- Quicker to lay
- Reduced drying out times
- Enables earlier start date for follow on trades due to reduction in drying time
- Less labour intensive/improved health & safety benefits
- Thinner screed depth
- Produced from recycled and sustainable materials
- Lower shrinkage
- Apply up to 1000m² per day
- Maximise insulation thickness
- Reduced load-bearing due to thinner screed depth

mpa Northern Ireland essential materials sustainable solutions

Concrete Built IS Better Built

QSRMC Compliance with BS 8500-2

FP McCann's Readymix Lorry

QUARRY STONE/ AGGREGATES

FP McCann's quarries supply a wide range of aggregate solutions to the construction industry within Northern Ireland. We supply loose aggregate for industrial, technical and aesthetic applications.

OUR RANGE OF QUARRY AGGREGATES INCLUDE:

- 3mm dust
- 6 / 10 / 14 / 20 / 32mm aggregate including Type 3
- 40 / 65 / 100mm Drainage Stone
- 40 / 50 / 65 / 100 / 150mm Crusher Run
- Blinding material
- 150-200mm Gabion Stone
- Rock Pitchers
- Recycled fill - crushed & uncrushed
- Concrete mix range

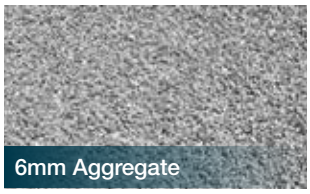
A full range of unbound granular material is excavated from our quarries and processed into various grades. A selection of bagged aggregate is available on request. Building and plastering sands and decorated coloured pebble are also available.

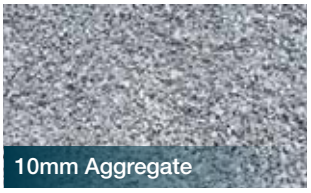
Our waste blocks, concrete, asphalt and stone are crushed and reprocessed to create a recycled product in compliance with 'The Quality Protocol for the production of Aggregates from Inert Waste'.

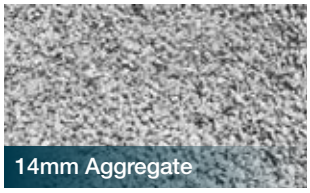
FP McCann's Loughside Quarry

QUARRY STONE / AGGREGATES


3mm Quarry Dust


6mm Aggregate


10mm Aggregate


14mm Aggregate


20mm Aggregate


32mm Aggregate


Type 3 Aggregate


40mm Drainage Stone


65mm Drainage Stone


100mm Drainage Stone


40mm Crusher Run


65mm Crusher Run


100mm Crusher Run


20mm Blinding


150-200mm Gabion Stone


Rock Pitchers


Recycled Fill Uncrushed

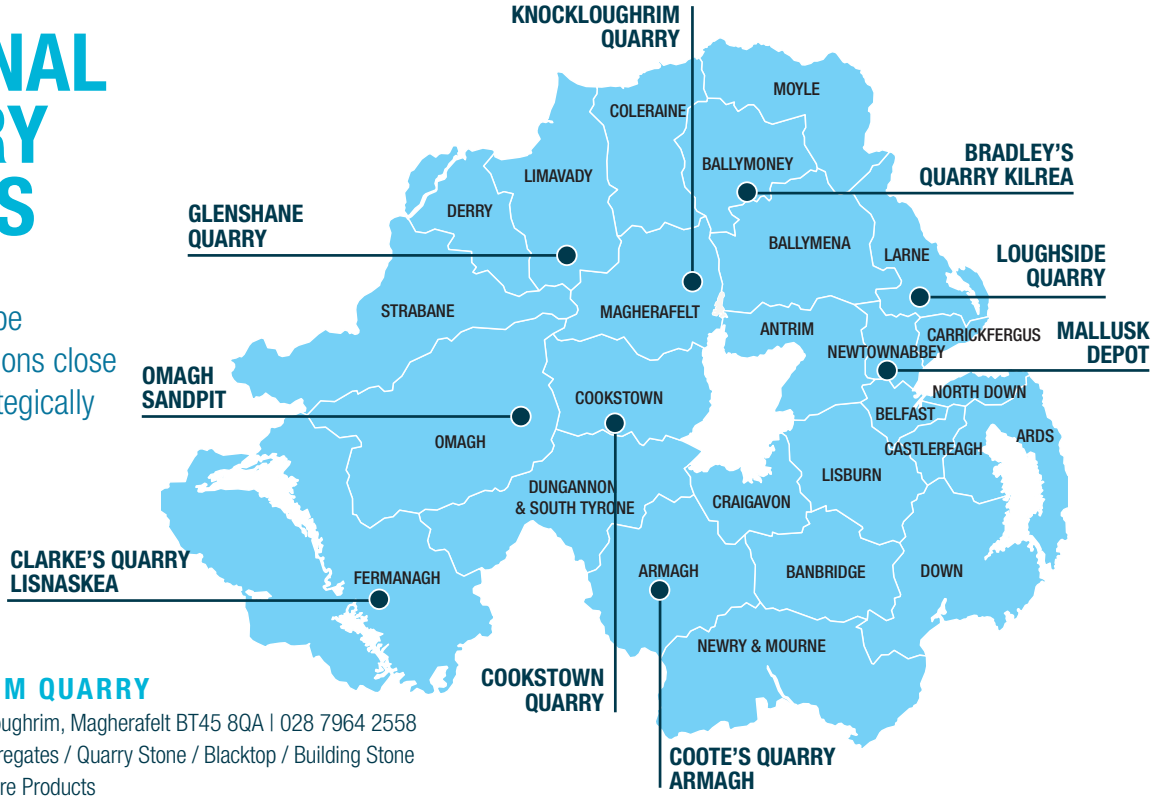

Recycled Fill Crushed

Due to limitations in the printing process, the colours shown may not match exactly the colour of your actual stone.

FP McCann's Knockloughrim Quarry and Precast Factory

REGIONAL QUARRY DEPOTS

All products can be delivered to locations close to any of our strategically based depots.



KNOCKLOUGHRIM QUARRY

3 Drumard Road, Knockloughrim, Magherafelt BT45 8QA | 028 7964 2558
Products Available: Aggregates / Quarry Stone / Blacktop / Building Stone (Ennis) / Recycled Hardcore Products

BRADLEY'S QUARRY KILREA

84 Cullyrammer Road, Kilrea, Coleraine BT51 5YF | 028 2954 0285
Products Available: Aggregates / Quarry Stone / Blacktop / Building Sand / Building Stone (Ennis) / Decorative Pebble / Gabion Stone / Recycled Hardcore Products / Rock Armour / Rock Boulders

LOUGHSIDE QUARRY

146 Belfast Road, Larne BT40 2PN | 028 2826 0824
Products Available: Aggregates / Quarry Stone / Decorative Pebble / Railway Ballast / Recycled Hardcore Products / Rock Armour / Rock Boulders

MALLUSK DEPOT

140 Mallusk Road, Newtownabbey BT36 4QN | 028 9083 0005
Products Available: Blacktop

COOTE'S QUARRY ARMAGH

56 Redrock Road, Armagh BT60 2BL | 028 3755 1126
Products Available: Aggregates / Quarry Stone / Recycled Hardcore Products / Rock Armour / Rock Boulders

COOKSTOWN QUARRY

Feegarron Road, Cookstown BT80 9QS | 028 8676 4803
Products Available: Aggregates / Quarry Stone / Railway Ballast

CLARKE'S QUARRY LISNASKEA

105 Nutfield Road, Slush Hill, Lisnaskea BT92 0HP | 028 6772 1286
Products Available: Aggregates / Quarry Stone / Blacktop / Building Sand / Building Stone (Ennis) / Decorative Pebble / Gabion Stone / Recycled Hardcore Products / Rock Armour / Rock Boulders

OMAGH SANDPIT

97 Spring Road, Omagh, BT79 0LA | 028 8077 1667
Products Available: Sand / Gravel

GLENSHANE QUARRY

946 Glenshane Road, Dungiven BT47 4SD | 028 7774 0533
Products Available: Aggregates / Quarry Stone

ROCK BOULDERS

FP McCann's rock boulders can be used in applications where large voids need to be filled. Particularly applicable in natural settings for non-interruption of the landscape. Suitable in situations where foundations are not good. Advantages are that the rock boulders are economical and are suitable for rapid construction.

ROCK ARMOUR

FP McCann's stone is renowned for its quality, purity and durability, hence its demand in commercial projects, such as rock armour and bridge construction.

GABION STONE

FP McCann's gabion stone is made from limestone and is used to construct free-draining walls by filling large galvanised steel baskets* with broken stone.

The permeability and flexibility of gabion stone makes it ideal to use as a retaining wall and for erosion control, typically running next to rivers etc when the retained material is likely to be saturated and where the bearing quality of the soil is poor. Our processes conform to the most stringent quality standards to ensure maximum strength and durability is achieved and resistance to weathering of the stone fill.

*** Steel baskets are not supplied by FP McCann**

PRODUCT AVAILABILITY

DEPOT	Rock Boulders	Gabion Stone	Rock Armour
Bradley's, Kilrea	•	•	•
Clarke's, Lisnaskea	•	•	•
Coote's, Armagh	•		•
Loughside	•	•	•

BUILDING STONE

FP McCann provides two types of high quality building stone:

ENNIS STONE

This unique, blue-grey limestone building stone offers a timeless elegance and a guaranteed appearance and structure, harvested from our Clarke's Quarry in Lisnaskea. It can be supplied in one tonne bags, equivalent to approximately 3m², and delivered loose (bulk), bagged, random picked or guillotined. For further details, please contact our Clarke's Quarry sales team.

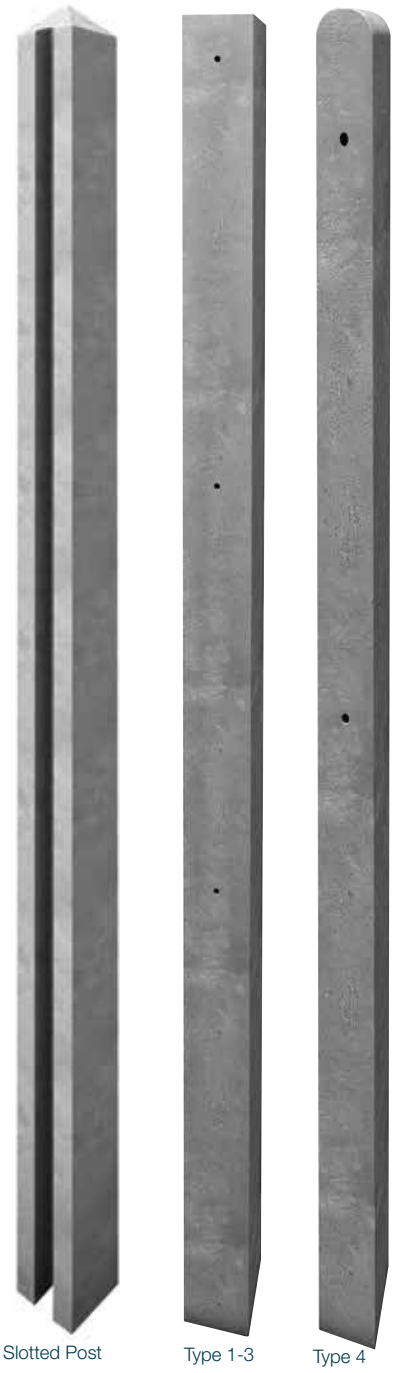
BASALT STONE

FP McCann's basalt building stone is un-guillotined and is available from our Bradley's Quarry in Kilrea. For further details, please contact our Bradley's Quarry sales team.

BUILDING STONE APPLICATIONS

- External walls for homes
- Buildings
- Garden features
- Internal design elements
- Feature fireplaces

FENCING POSTS & GRAVEL BOARDS



Slotted Post | Type 1-3 | Type 4

FP McCann's concrete post range is designed to support timber clad or chain-link wire fencing. All posts are reinforced and manufactured using C32/40N concrete. Three sides of the post have a smooth steel mould finish, the back side is trowel finished.

Our concrete slotted posts are sturdy, long-lasting and maintenance-free, and can be used with either Rockface or Plain gravel boards. The posts can also form a very decorative and long-lasting fence when used in conjunction with lattice or close board wooden fencing and a concrete gravel board to form the fence base.

Type	Dimensions (mm)	Holes front (mm)	Holes side (mm)	Weight (kg)
Type 1	2250 x 125 x 125	3no. x 10	3no. x 10	79
Type 2	2240 x 100 x 100	3no. x 10	5no. x 10	51
Type 3	1810 x 100 x 100	3no. x 10	4no. x 10	42
Type 4	1390 x 100 x 100	2no. x 10	4no. x 10	33

Slotted Post Sizes (mm)
125 x 100 x 1800
125 x 100 x 2100
125 x 100 x 2400
125 x 100 x 2700

Rock Face & Plain Gravel Board (mm)
1820 x 300 x 50

Rockface High Profile Wet Cast Gravel Board

Plain Gravel Board

DRY SILO MORTAR

FP McCann's silo mortar provides an efficient mortar solution to a wide range of external and internal works, dependent on structural requirements.

The dry mortar mix consists of cement, sand and admixtures and is delivered in bulk tankers to site and stored in our portable, sealed silo that has a built-in automated mixing system. Once water and power has been connected to the mixing unit on-site, the dry mortar is mixed with water at the push of a button, resulting in a consistent high-quality mix that is easy to use.

THE BENEFITS

QUALITY ASSURED

- FP McCann's mortar silos produce a consistent mix that delivers a constant high quality finish and conforms to BS EN 998-2 standard mortar strength.

COST-EFFECTIVE

- Reduced long-term costs - Potential for zero waste, fewer deliveries and less manpower required.
- Less space required on-site in comparison to traditional mixing methods with covered cement and fine aggregate storage.

INCREASED PRODUCTIVITY

- Ready-made mortar means less time mixing and more time applying.
- No need to retard mix.

CONSISTENT STRENGTH AND WORKABILITY

- Computer-controlled mixing provides a constant reliable consistency.

ENVIRONMENTALLY FRIENDLY

- The large silo capacity means fewer deliveries and less environmental impact.
- Less noise pollution compared to using traditional mixers.
- Zero packaging on-site.
- Reduced use of plastic packaging from manufacturing to point of use.
- No risk of leakage of liquid mortar mix as opposed to traditional mixing methods. Eliminates risks of storing chemical admixtures on-site.

APPLICATIONS

- Brick, block, stone, paving slab laying
- Bedding
- Repointing
- General masonry repairs

Product Information	
Form	Granular
Colours	Grey
Maximum Aggregate Size	3mm
Safety Information	Irritant – read Health & Safety information prior to use
Cleaning	Clean equipment using water or, if the product has set, using mechanical means, as necessary
Shelf Life	Up to 3 months in site silos

Technical Information		
Proportions	Equivalent Strength Class	M4
	Typical Compressive Strength	4 MPa
	Prescribed Proportions by volume	1:5 – 6 Cement: Sand
	Prescribed Proportions by weight	Portland Cement 13.5% Aggregates 86.5% Air Entraining Agent 0.025%
Working Time	Typically remains usable for up to 4 hours, depending on conditions	

APPROXIMATE SPREAD RATES

Building Mortar	
1 tonne of building mortar when mixed will lay (10mm joint):	
Approx 1300no.	Standard bricks
Approx 650no.	100mm standard block on edge
Approx 350no.	100mm standard block on flat

DIRECTIONS FOR USE:

HEALTH & SAFETY

Avoid contact with skin. Mortar is an irritant that could potentially cause contact dermatitis or serious burns. Suitable protective clothing and eye protection should be worn. If contact with the skin occurs, immediately wash the affected area with soap and water. If contact with the eyes occurs, immediately wash the eyes with plenty of clean water. If the mixture is accidentally swallowed, thoroughly wash mouth out with clean water, followed by drinking plenty of water to help flush out any remaining particles.

MIXING

Prior to application, this easy-to-use general purpose mortar only requires water to be added to the mix. An appropriate mechanical mixing station should be used in combination with a steady pressure/flow of water to achieve the desired consistency. Provided that the mixed mortar is stored in a covered non-porous container, it will remain usable for up to 4 hours. Extra water should not be added passed its working life, nor should the mortar be reworked. Excessive water will weaken the mix, adversely affect its strength and delay setting times. All required plasticisers are already incorporated into the mix. Further admixtures, cement or lime should not be added to the mix.

APPLICATION

All work should be carried out using industry best practices, national standards and the guidance of the Mortar Industry Association. As a general rule of thumb, mortar joints should be trowelled to around 10mm thickness. In the case of high air temperatures and/or high absorbency masonry units, rapid moisture loss from the mortar should be prevented by pre-wetting the masonry units.

Since extreme summer and winter weather can affect the integrity and appearance of mortar, suitable protection should be used on the newly erected masonry. For example, polythene sheeting or Hessian should be used to protect the mortar from the effects of frost and rain, and to prevent rapid drying in excessively dry or windy conditions. Building in cold conditions or with wet blocks may slow down the mortar setting process. Building work should be checked to ensure it has set and is suitable to receive further courses.

QUALITY

This dry silo mortar is manufactured in a factory controlled environment under an integrated management system and is third party certified to BS EN ISO 9001 and BS EN ISO 14001 using fine aggregates conforming to the requirements of BS EN 13139, cements conforming to BS EN 197-1 and admixtures to BS EN 934-3.

RESTRICTIONS

Cold weather will adversely affect the setting of mortar, which will proceed more slowly. Therefore, it is not recommended to continue with the construction of masonry whilst the temperature is below 3°C. Frozen materials should never be used. In order to prevent damage, masonry and site temperatures should be between 5°C and 35°C during application until the mortar has set. Efflorescence and lime bloom can occur naturally on all cementitious material, especially during cold and damp conditions. Good site practice will minimise their occurrence. FP McCann will accept no responsibility for the occurrence of efflorescence or limebloom.

For further information on our dry silo solutions, contact our sales team at Knockloughrim on **028 7964 2558** or Email **sales@fpmccann.co.uk**

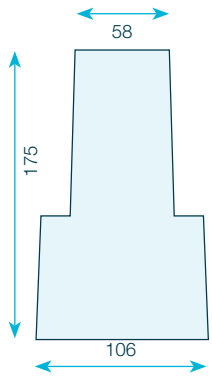
BEAM AND BLOCK SOLUTIONS

The traditional beam and block flooring system involves laying precast, prestressed concrete beams across or between walls, which are then infilled with concrete blocks. FP McCann manufactures 175mm deep floor beams, with a width of 106mm and spans up to 6 metres can be achieved, depending on loading conditions.

This dry construction method can be used to produce high quality economic ground and upper floors in residential and other building types.

KEY BENEFITS

- Quick installation
- Helps to eliminate problems associated with soil heave and shrinkage
- Excellent acoustic performance and fire resistance properties

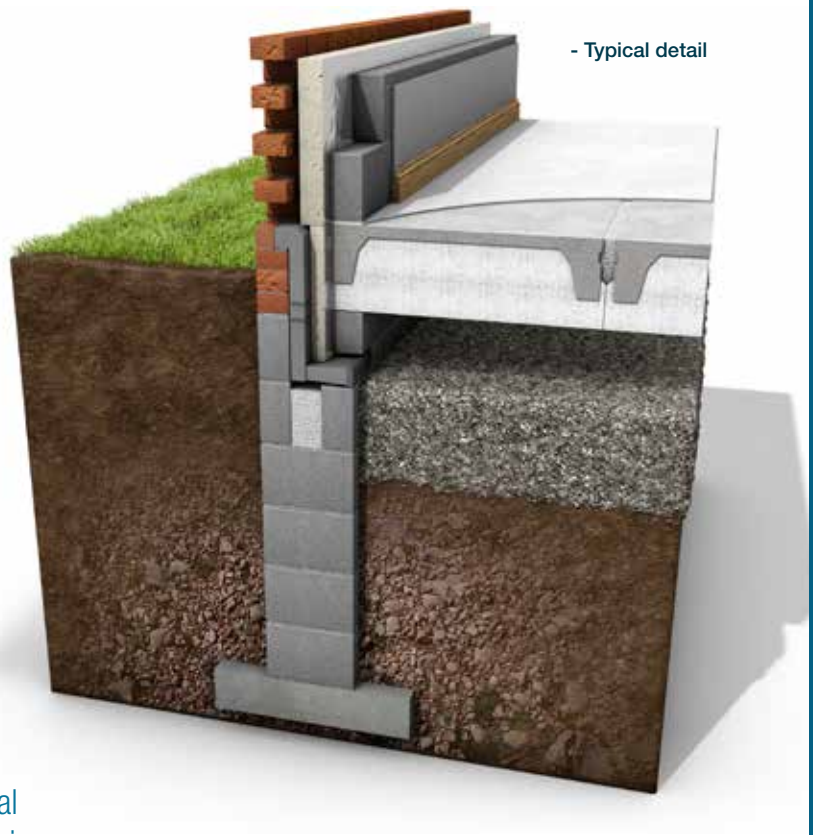


175MM DEEP T BEAM

Span Load Table - 175mm Deep T Beam		Finishes = 1.74kN/m²					
		Superimposed load in kN/m²					
Floor case (based on 1950kg/m³ block density)	Floor self weight kN/m²	1.5	2	2.5	3	4	5
		Maximum clear span (m)					
Single beam - full block	2.36	4.092	3.575	3.295	2.846	2.502	3.24
Single beam - full block/narrow block, alternate	2.49	4.605	4.239	4.086	3.64	3.208	3.65
Single beam - narrow block	2.71	5.367	4.957	4.783	4.484	4.234	4.26

THERMABEAM™

THE INNOVATIVE ALTERNATIVE TO BEAM AND BLOCK FLOORING



- Typical detail

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 19/5618

WHAT IS THERMABEAM™?

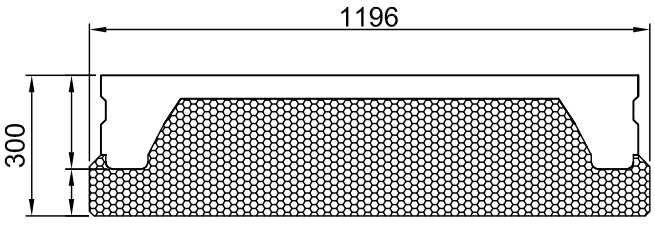
Thermabeam™ is an insulated precast flooring system that combines both high performance expanded polystyrene (EPS) insulation and reinforced concrete, forming a continuous layer of insulation across the whole floor. The structural concrete is cast onto the insulation, eliminating air gaps, thereby minimising heat loss.

Thermabeam™ units are available in a standard depth of 300mm, each with a choice of two insulation types - poly or platinum poly. All Thermabeam™ units are grouted on-site using C25/30 sand cement mortar.

Thermbeam unit	Perimeter/ Area Ratio	U-Value (W/m²K)
300mm	0.6	*0.14W/m²K

* Figures based on the Platinum Poly Insulation

300mm Thermabeam



1200mm Wide Unit

APPLICATIONS

Residential ground floors.

As well as offering excellent insulating properties, and a significant reduction in cold bridging, the Thermabeam™ system helps to reduce CO^2 emissions by decreasing the amount of non-renewable energy required to heat the building.

BENEFITS

- Low on-site costs and space required since units are manufactured off-site
- Fast installation, enabling a safe platform for follow-on trades within a few hours
- Excellent thermal performance due to its insulating properties. A reduction in cold bridging is achieved, resulting in better Psi (ψ) values
- U-Values as low as 0.14W/m² K, based on a P/A ratio of 0.6 can be achieved
- Helps building to achieve a higher energy-efficiency rating
- Reduced safety issues – reduced on-site working
- High quality units are designed in accordance with relevant BS EN standards: BS EN 1992-1-1:2004 (Eurocode 2: Design of concrete structures) and BS EN 13224:2001 (Precast Concrete Products – Ribbed Floor Elements
- Low carbon footprint – since less energy is required to heat building
- Spans up to 6.5m (depending on load)

CONCRETE BLOCKS

Concrete blocks are manufactured at our Armagh, Kilrea and Lisnaskea depots to the highest regulatory standards.

We manufacture:

- 4" / 6" / 12" Blocks
- 12" Short Blocks
- Cavity Blocks
- Fair Faced Block
- Soap Bars
- Concrete Brick

9 x 4 Solid Concrete Block*:
Dimensions: 440x215x100mm
Unit weight: 20kg
Comp Strength 5n /mm²
Available in 7n /mm² /
10n /mm² 21n /mm²

*Lightweight options available

9 x 6 Solid Concrete Block:
Dimensions: 440x215x150mm
Unit weight: 28kg
Comp Strength 7n /mm²
Available in 7n /mm² /
10n /mm²

12 x 4 Solid Concrete Block:
Dimensions: 440x300x100mm
Unit weight: 27.5kg
Comp Strength 7n /mm²
'Short' 12 x 4 Concrete Block
Dimensions: 350x300x100mm
Unit weight: 21kg
Comp Strength 7n /mm²

9 x 9 Cavity Block:
Dimensions: 440x215x215mm
Unit weight: 26kg
Comp Strength 5n /mm²
Available in 7n /mm² /
10n /mm²

6 x 4 Soap Bar:
Dimensions: 440x150x100mm
Unit weight: 12.5kg
Comp Strength 7n /mm²

4 x 4 Soap Bar:
Dimensions: 440x100x100mm
Unit weight: 9kg
Comp Strength 7n /mm²
Available in 10n /mm²

Concrete Brick:
Dimensions: 215x100x65mm
Unit weight: 3kg
Comp Strength 15n /mm²
Available in 21n /mm²

Fairfaced 9 x 4
Solid Concrete Block:
Dimensions: 440x215x100mm
Unit weight: 20kg
Comp Strength
As per customer specifications

Our blocks are manufactured in 7N, 10N, 15N and 21N strengths. We also manufacture high-strength blocks at customer specification.

PRESTRESSED CONCRETE LINTELS & PADSTONES

Our range of prestressed concrete lintels and padstones are designed to provide a low cost and resilient masonry support for door and window openings. The prestressed casting system used to develop lintels ensures consistent high quality and a smooth finish, providing safer manual handling. Our lintels and padstones are manufactured to British and Irish Standards.

Lintel Dimensions		
Length	Flat	Upright
450 - 3600	65x100	100x65
450 - 3600	65x140	140x65
450 - 3600	100x140	140x100
450 - 3600	*100x215	*215x100
450 - 3600	65x215	215x65
450 - 3600	*140x140	*140x140
450 - 3600	*140x215	*215x140

*High strength available

Padstone Sizes (mm)
215 x 140 x 100
215 x 215 x 140
300 x 100 x 140
300 x 215 x 100
440 x 140 x 100
440 x 215 x 100
440 x 215 x 140

FP MCCANN LTD.

BS EN 845-2: 2013 CE

***Lintel Type:** 100mm x 65mm x 1650mm, intended to be used in masonry walls and partitions*
Loading capacity on flat: 7.67kN
Loading capacity on edge: 12.7kN
Deflection on flat: 4.77mm @ 7.67kN
Deflection on edge: 4.77mm @ 12.7kN
Water absorption: <6%
Water vapour permeability: 50/150
Mass per unit area: 149kg/m2
Thermal resistance: Thermal conductivity λ10, dry 1.72 W / (m.K).
Resistance to fire: Class A1
Durability (against corrosion): 40N Concrete
Durability against freeze thaw: Not to be left exposed.
Dangerous Substances: N.P.D.
* Sample CE certification for 1650 PS lintel

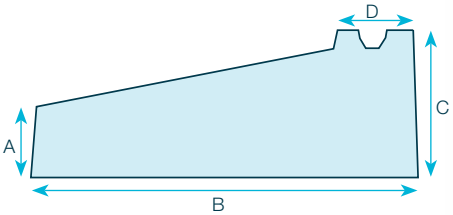
CONCRETE CILLS

FP McCann's high quality cills are manufactured in accordance with BS standards and are available in increments of 150mm from 0.5m to 3m. Bespoke sizes can also be designed and manufactured on request. Standard finish only.

PRODUCT DIMENSIONS

Cill Description	A	B	C	D
55mm face	55	265	85	60
90mm face	90	240	140	65
50mm South Cill	50	255	100	50

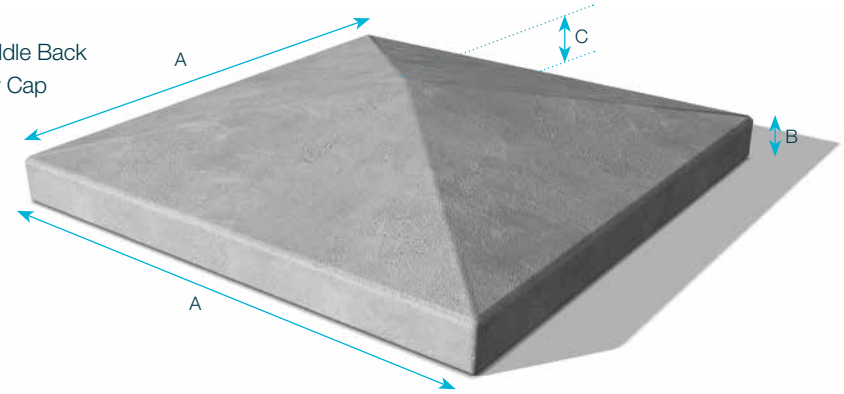
Please note: all measurements are in mm.



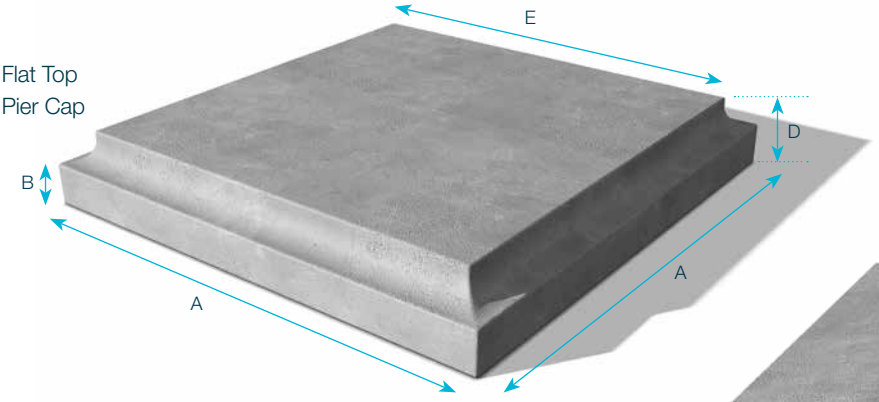
PIER CAPS & WALL COPINGS

FP McCann's precast concrete wall copings and pier caps provide an eye-catching and economical finish to various wall designs. The high calibre of these products helps prevent potential wall erosion or discolouring caused by adverse weather conditions. Pier caps and wall copings are available in Saddleback or Flat Top. Standard finish only.

Saddle Back
Pier Cap



Flat Top
Pier Cap

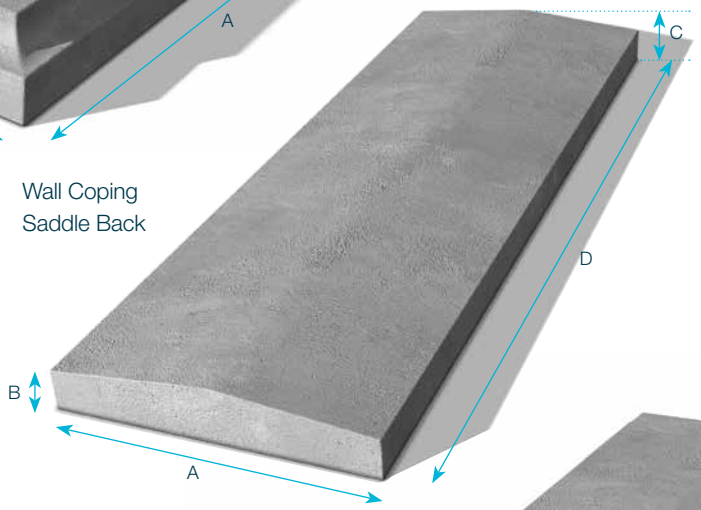


PIER CAP DIMENSIONS

Description	A	B	C	D	E
8.5" Saddle back	215	30	55		
12" Saddle Back	300	40	70		
16" Saddle Back	400	50	85		
18" Saddle Back	450	50	100		
22" Saddle Back	560	50	120		
27" Saddle Back	685	50	140		
34" Saddle Back	850	75	170		
22" Flat Top	559	50		100	459
27" Flat Top	680	50		100	585
34" Flat Top	870	75		130	775

All measurements are in mm, unless otherwise stated.

Wall Coping
Saddle Back

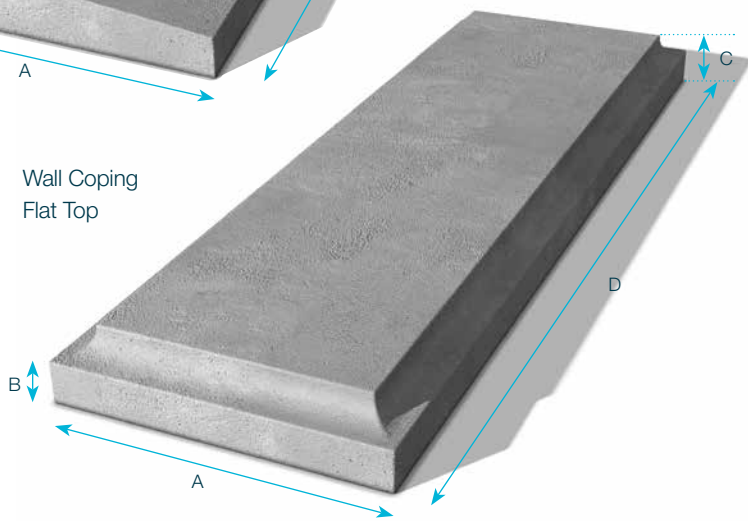


WALL COPING DIMENSIONS

Description	A	B	C	D
5" Saddle Back	125	30	45	600
6" Saddle Back	150	40	48	590
7" Saddle Back	175	50	75	900
9" Saddle Back	225	40	60	900
11" Saddle Back	275	30	50	600
12" Saddleback	300	40	55	900
12" Saddle Back	300	70	50	600
9" Flat Top	225	35	65	900
12" Flat Top	300	40	65	900
12" Once Weathered	300	70	50	915
13" Once weathered	325	60	50	915
14" Twice weathered	355	75	50	610
16" Twice weathered	405	75	50	915

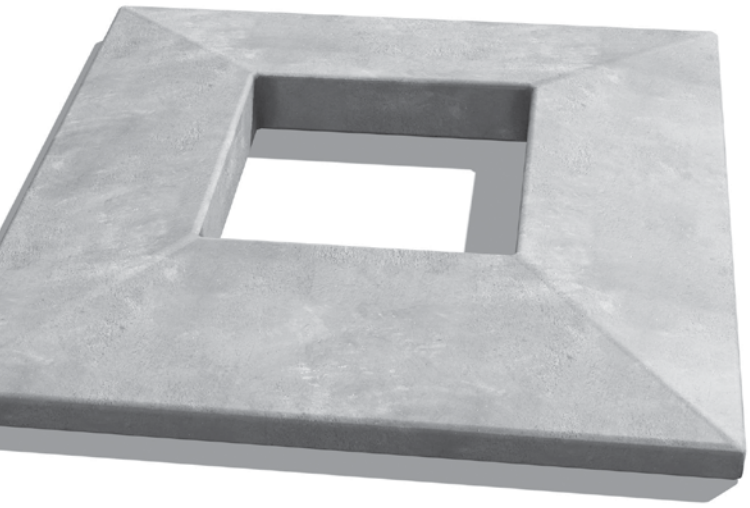
All measurements are in mm, unless otherwise stated.

Wall Coping
Flat Top

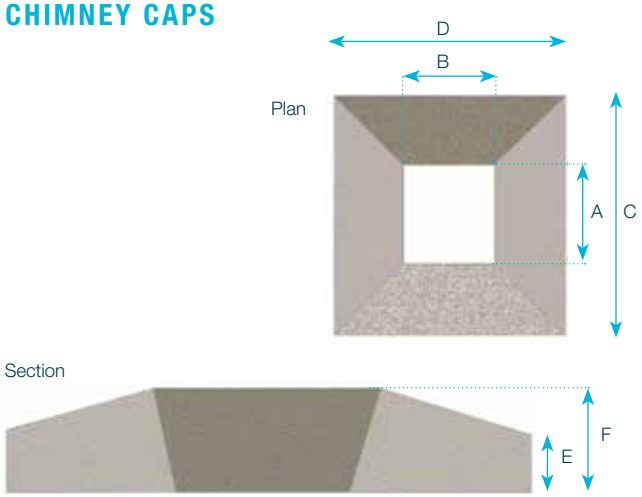


CHIMNEY CAPS & FLUE GATHERERS

The precast concrete chimney caps and flue gatherings allow for the speedy construction of a high quality and safe chimney system. Chimney caps are available in various sizes. Standard finish only.



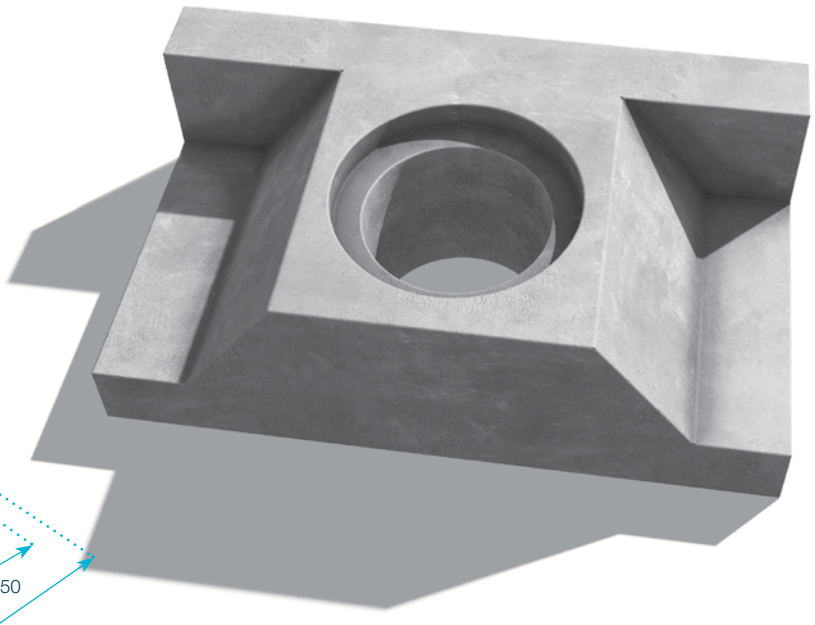
CHIMNEY CAPS

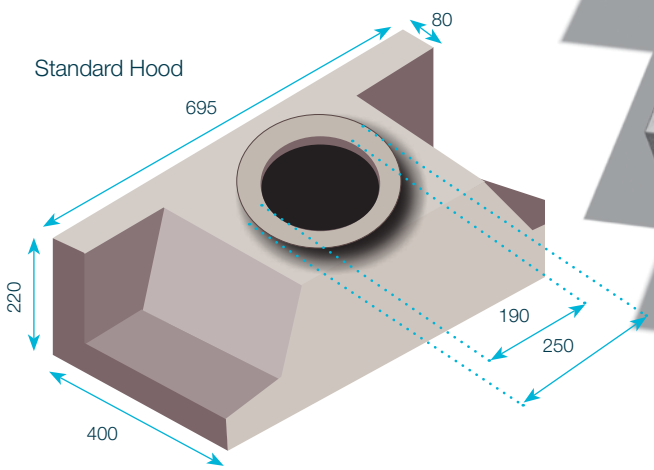


Description	A	B	C	D	E	F
710 x 710 (28" x 28")	300	300	711	711	51	76
710 x 1050 (28" x 42")	300	648	711	1050	51	76
710 x 1150 (28" x 45")	300	730	711	1145	51	76
710 x 1200 (28" x 47")	300	790	711	1200	51	76

All measurements are in mm unless otherwise stated.

FLUE GATHERERS





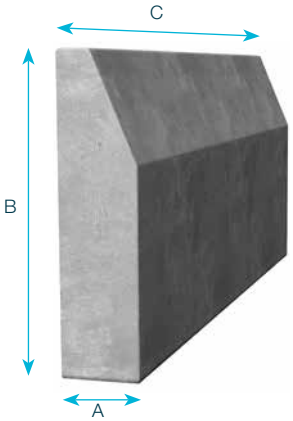
GARDEN EDGING & KERBING

FP McCann manufactures a complete kerb and channel range to fully satisfy all construction and infrastructure requirements. Standard finish only.

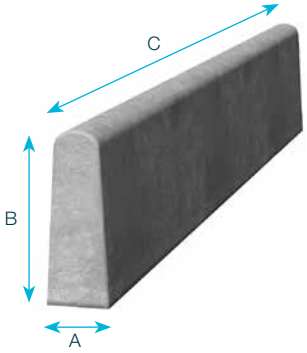
Description	A Width	B Height	C Length	No. (per lift)
10 x 5 Bull Nose	125	255	915	16
6 x 5 Bull Nose	125	150	915	14
10 x 5 Full Batter	125	255	915	16
10 x 6 Full Batter	150	255	915	14
6 x 4 Half Batter	100	150	915	16
6 x 5 Half Batter	125	150	915	16
8 x 4 Half Batter	100	200	915	20
10 x 5 Half Batter	125	255	915	16
10 x 5 Channel	125	255	915	16
6 x 2 Garden Edge Flat Top	50	150	915	60/100
6 x 2 Garden Edge Round Top	50	150	915	60/100
15" Dwarf Wall	90	380	915	24
24" Dwarf Wall	90	600	915	16
Dropper Kerb HB	125	255-150	915	16
10 x 5 Quadrant Kerb	125	255	915	16

Please note: A-C measurements are in mm.

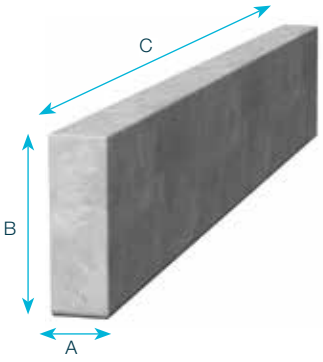
KERB & CHANNEL RANGE



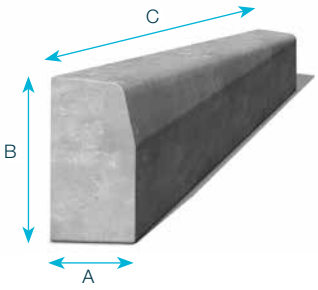
15" / 24" Dwarf Walls



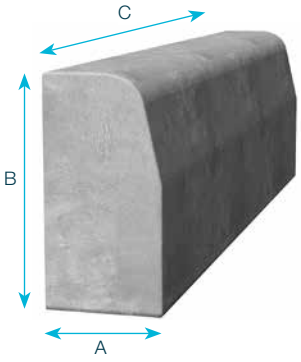
6x2 Round Top Garden Edge



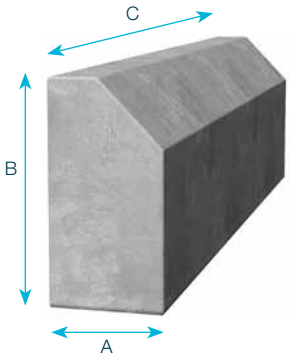
6x2 Flat Top Garden Edge



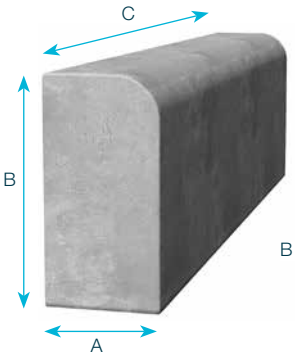
Dropper Kerb HB



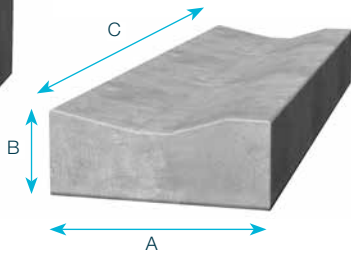
6x4 / 6x5 / 8x4 / 10x5 Half Batter



10x5 / 10x6 Full Batter



10x5 / 6x5 Bull Nose



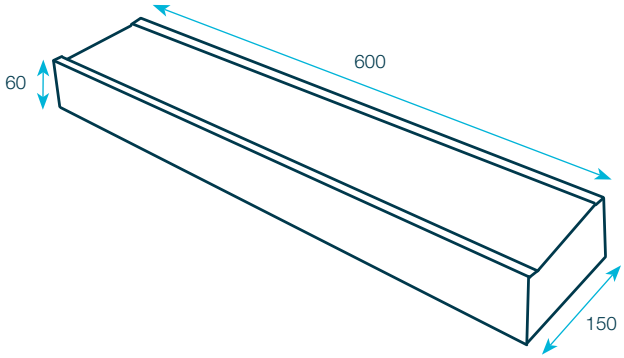
10x5 Channel Kerb

For details on FP McCann's slot drain StormChannel™, go to page 58

QUADRANT RADIUS KERB

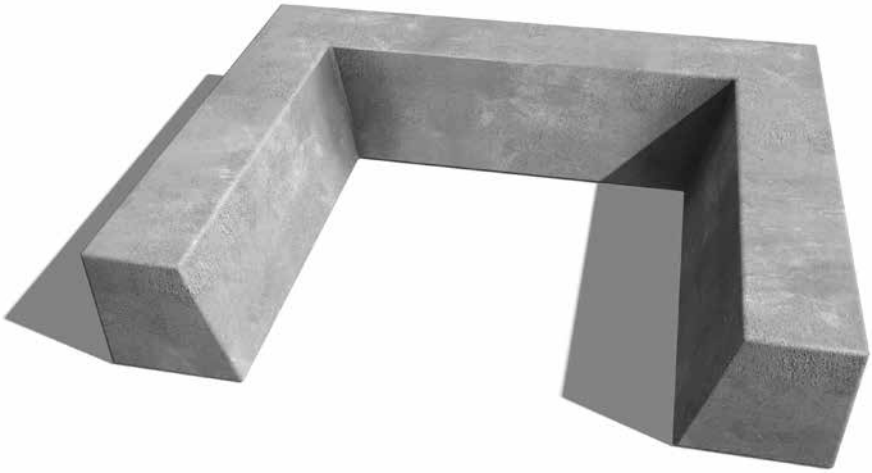
Quadrant radius kerbs are designed for going around bends with ease, a flexible solution for some design detailing projects.

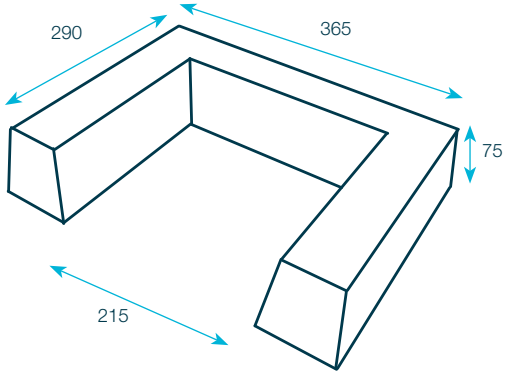
DRAINAGE KERB



Please note: Kerb finish to front and back as from mould, to bottom as from steel float. All dimensions in mm.

BELFAST GULLY SURROUND





Please note: Kerb finish to front and back as from mould, to bottom as from steel float. All dimensions in mm.

BT COMMS BOXES

Unique cable and junction protection boxes are made from reinforced concrete and can be installed in minutes, with the one piece construction design providing easy access for cable jointing and maintenance.

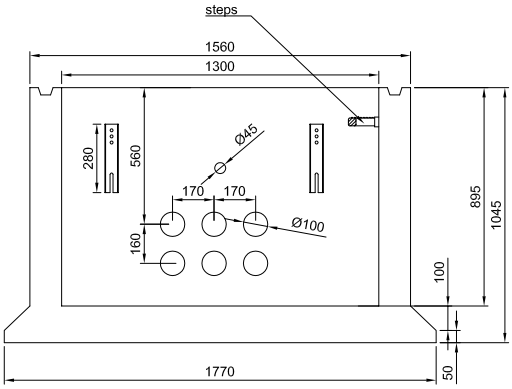
Communications boxes are mainly used in infrastructure works to include airports, railway projects, roads and housing developments. Cable pit chambers and other units for street lighting are also available in different sizes.

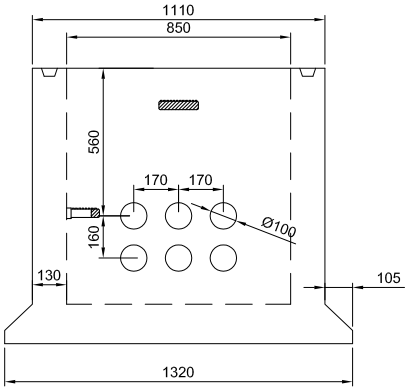
FEATURES

- Reinforced concrete walls
- Integrated reinforced base*
- Base incorporating sump*
- Splayed base to aid stability*
- Preformed cable entry points
- Easily manoeuvred with lifting eyes
- Suitable for up to 30 units HB loading
- Ironmongery fitted^
- Plastic encapsulated steps fitted*^
- Complementary lids are available from good Builders Merchants
- Bespoke duct arrangements available on request

* Comms J4 has no base, sump or steps
^ Comms DP has no ironmongery or steps fitted

COMMS MCX



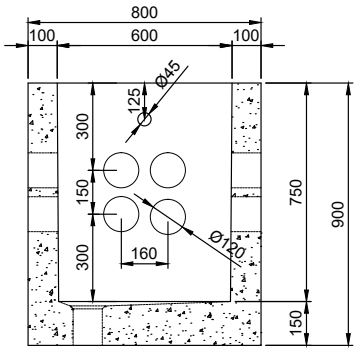


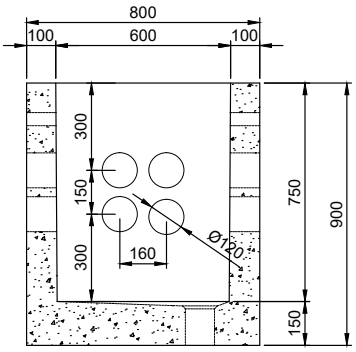
Dimensions	Length mm	Width mm	Height mm	Weight kg
Chamber	1300	850	900	2100
Riser	1300	850	300	300
Concrete Cover Slab*	1570	1120	150	300

COMMS MCX ADDITIONAL FEATURES

- Highway construction details MCX compliant
- *Complementary reinforced concrete riser and cover slab are available from FP McCann

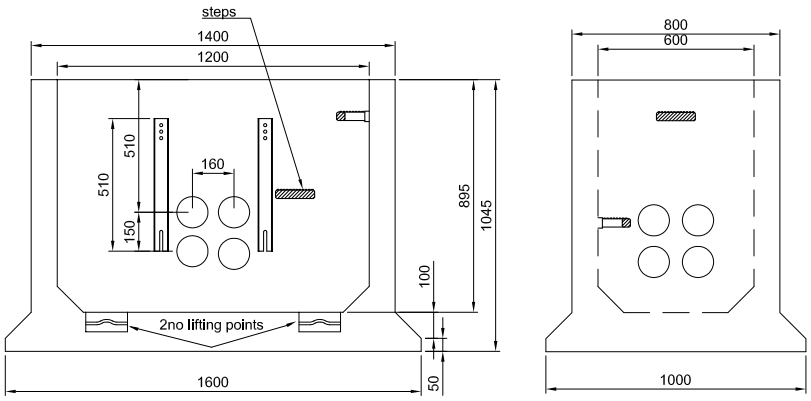
COMMS 600





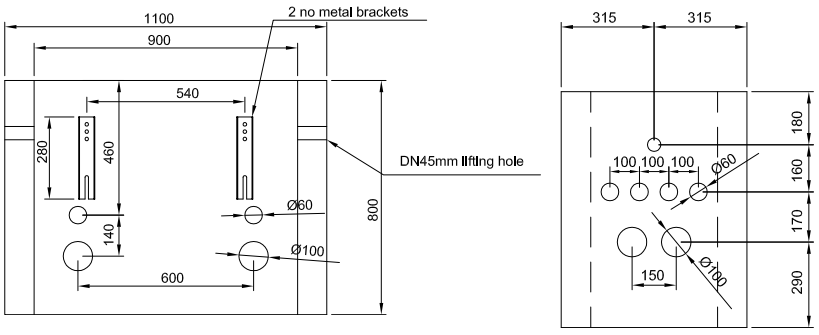
Length mm	Width mm	Height mm	Weight kg
600	600	750	806

COMMS C2



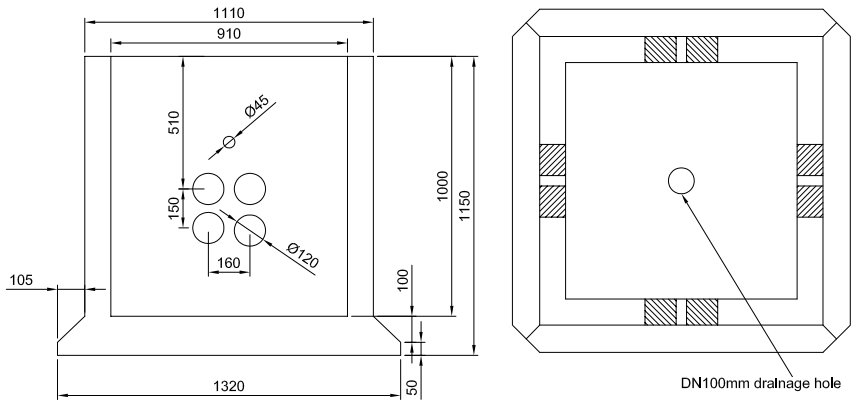
Length mm	Width mm	Height mm	Weight kg
1200	600	895	1440

COMMS J4



Length mm	Width mm	Height mm	Weight kg
910	440	800	590

COMMS DP



Length mm	Width mm	Height mm	Weight kg
910	890	1000	1390

CONCRETE SAFETY BARRIERS

FP McCann's interlocking precast concrete modular, jersey barriers are suitable for a variety of applications, including many types of temporary works.

PRODUCT APPLICATIONS

- Segregation
- Temporary road blocks
- Security barricades
- Traffic management
- Flood defence
- Rockfall

PRODUCT BENEFITS

- Cost-effective
- Easy to handle and install
- Durable
- Interlocking design for easy alignment and added security
- Free-standing unit
- Provides a high level of containment
- Absorbs the impact of a moving vehicle
- Slows down the impacting vehicle quickly
- Product can be painted on request
- Reusable product

PRODUCT DIMENSIONS

Length (mm)	Width (mm)	Height (mm)	Weight (kg)
1500	500	800	900

L-WALLS

FP McCann's precast L wall units are ideal for forming both retaining and containing structures in residential, commercial, industrial and waste developments.

PRODUCT FEATURES

- L Wall units are an ideal product where speed of installation is necessary
- They offer a fast, cost-effective solution to constructing retaining and containing developments
- Standard sizes range from 1m high up to 3.66m high, with a width of 1m for all units

PRODUCT BENEFITS

- Large range of sizes available
- Quick and easy installation
- Create storage bays without imposing a load to the building frame
- No specialist trades required
- Can be loaded either side or both sides of the stem
- Retain material up to 18kN/m³
- Stability
- Corner units available
- Available with heel feature to reverse

PRODUCT APPLICATIONS

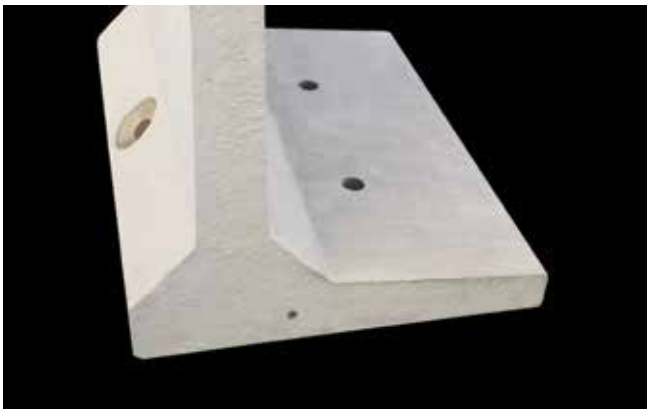
- Storage facilities
- Division walls
- General soil retention
- Waste recycling bunkers
- Making up levels within buildings
- Bunker walls
- Retaining walls

STANDARD SIZES

The loading 18 kN/m³ is approximately a bulk density of 1835 kg/m³

Height (mm)	Width (mm) straight unit	Width (mm) corner unit	Weight (kg) straight unit	Weight corner unit (kg)
1500	1000	1000	631	1046
2400	1000	1100	1230	3000
3000	1000	*1500	1740	*2070
3660	1000	N/A	2500	N/A

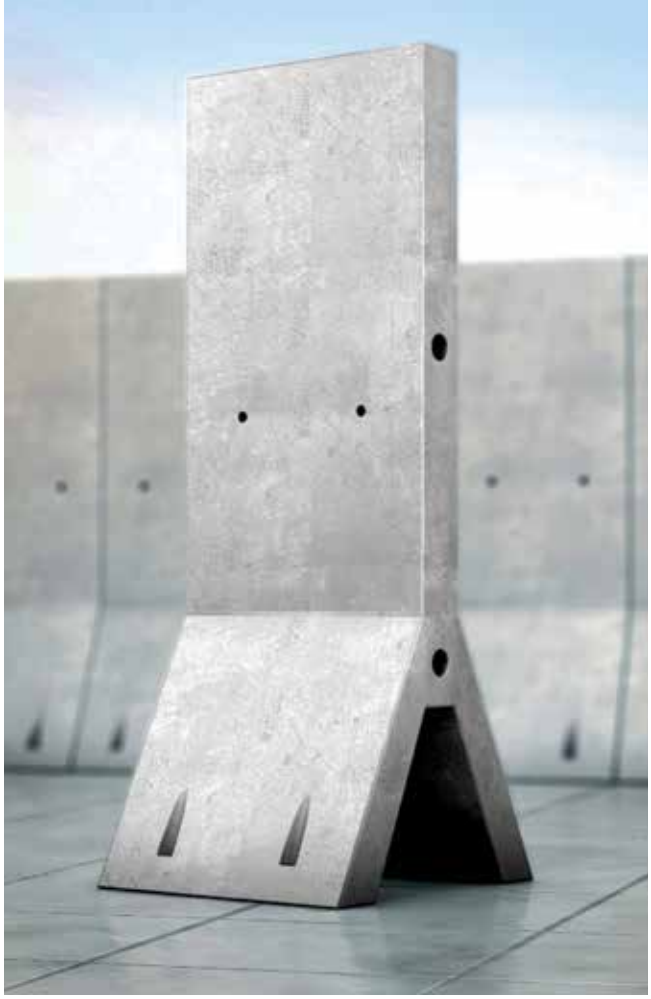
* 2 sections



L Wall with heel feature

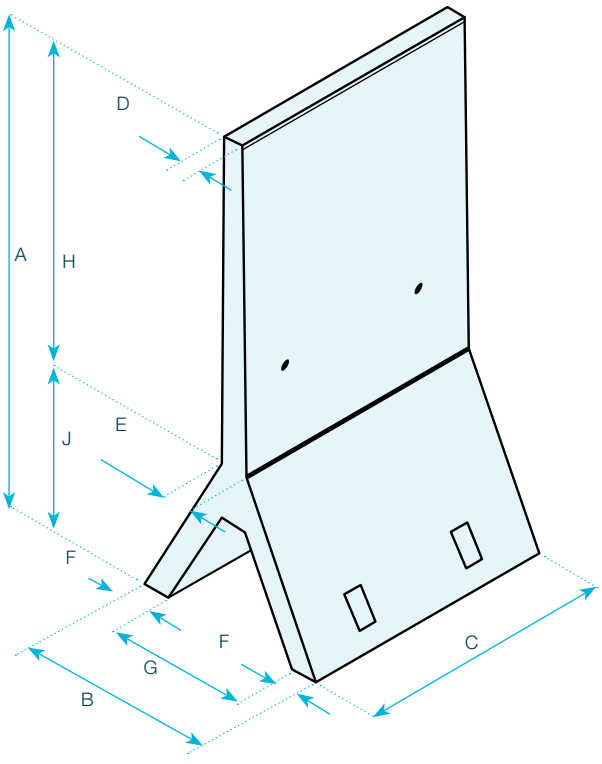
ROCKET WALLS™

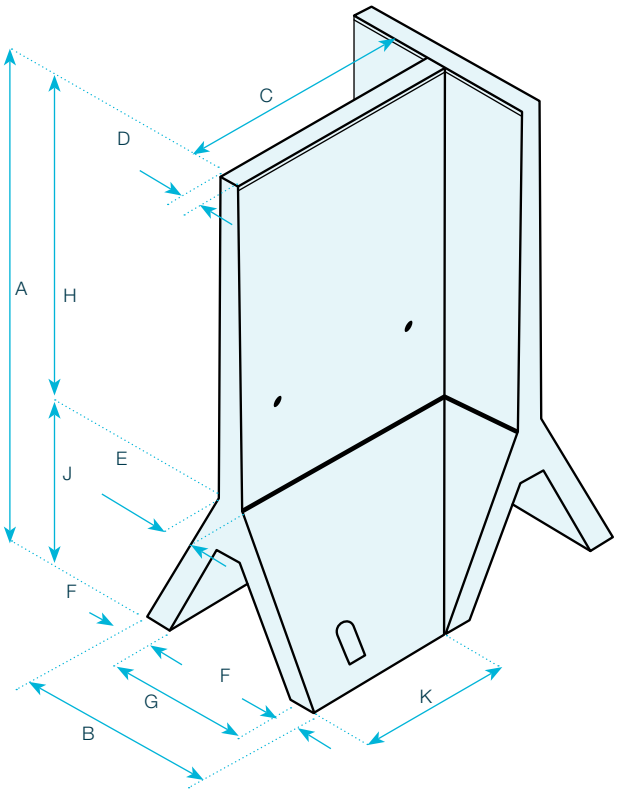
Our Rocket Walls™ are high quality, freestanding, precast concrete units. They are designed to be sited on an existing concrete floor slab or foundation and bolted down using fixing bolts to prevent movement, for improved site safety and maximum efficiency. It is this uniqueness that makes them suitable for a variety of uses.



PRODUCT BENEFITS

- Simply installed and easily moved
- Designed for materials up to 16kN/m³
- Manufactured to ISO quality and environmental standards
- Inverted Y shape design provides high capacity
- Value engineering means less concrete than typical alternatives
- Engineered to allow for up to 4m high units and 1.25m wide (for straight units)





Dimensions - Rocket Wall™ (Straight)										
Height (m)	Weight (kg)	a	b	c	d	e	f	g	h	j
2.4	1100	2400	970	1250	100	131	131	710	1600	800
3.0	1860	3000	1200	1250	110	150	165	870	2000	1000
4.0	2820	4000	1650	1250	110	170	185	1280	2600	1400

Please note: A-J measurements are in mm.

Dimensions - Rocket Wall™ (Corner)											
Height (m)	Weight (kg)	a	b	c	d	e	f	g	h	j	k
2.4	1091	2400	970	1200	100	131	131	710	1600	800	759
3.0	1842	3000	1200	1200	110	150	165	870	2000	1000	680
4.0	GA Drawing available upon request										

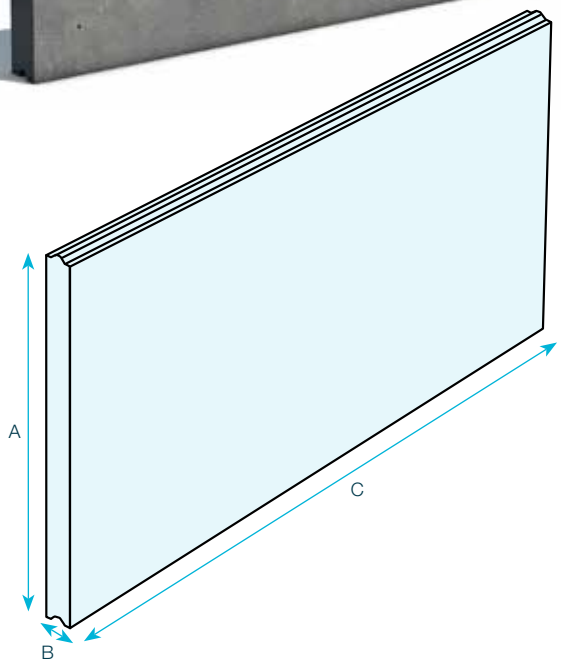
Please note: A-K measurements are in mm.

PRESTRESSED HORIZONTAL PANELS

FP McCann's prestressed horizontal panels allow you to construct walls quickly and efficiently with the future-proof option of re-siting, if required; providing the ideal solution where the adaptability of buildings is important since our wall panels are manufactured using prestressed concrete, it gives them in-built strength and resilience.

PRODUCT BENEFITS

- Tongue and grooved joints for easy alignment and positive sealing
- Smooth impervious surface which is easily washed down
- Prestressed panels absorb minor accidental damage
- More cost-effective – more versatile than blockwork
- Tailor-made lengths and a variety of widths
- Simplistic and quick installation
- No foundation required



Dimensions - Horizontal Panel				
(a) Panel Height	600mm	1200mm		
(b) Panel Thickness	80mm	120mm	160mm	200mm
(c) Panel Length	To suit the project, limited by load/span and handling considerations			

EASI-BLOC™

Easi-Bloc™ is a precast concrete block offering solutions where limited space is available for containment. They are simplistic in design allowing for effortless handling and speed of installation. Easi-Bloc™ comes in two sizes making them ideal for a variety of applications.

Easi-Bloc™ contains a central cast-in lifting loop for ease of handling and installation. Products are manufactured to comply with the requirements of BS EN 1992-1-1:2004.

PRODUCT BENEFITS

- Cost-effective
- Interlocking design for easy alignment and added security
- Quick installation
- Durable
- Cast-in lifting pin makes them easy to lift
- Reusable product

PRODUCT APPLICATIONS

- Segregation
- Temporary road blocks
- Security barricades
- Storage bays
- Agricultural bays suitable for grain, silage, etc.
- Earth retention
- Aggregate bays
- Partition walling
- Landscaping
- Waterways / Shoreline defences
- Highways
- Retaining wall

Length (mm)	Width (mm)	Height (mm)	Weight (kg)
1400	700	700	1700
700	700	700	850

CATTLE SLATS

FP McCann produces a range of agricultural cattle slats, ideal for use over slurry channels, underground tanks or as part of a suspended floor system.

All cattle slat products are manufactured in accordance with BS 5502 and ISO 9001, ensuring that quality, durability and animal welfare are at the heart of the design and manufacture.

The cattle slat products are suitable for use as floors for livestock and are made from high-strength reinforced concrete, designed to withstand the pressure and demands associated with livestock management over a considerable time period. These products are suitable for use with all classes of livestock loading, shown in Table 5 of BS5502: Part 22, including the maximum vehicle loadings.

PRODUCT BENEFITS

- Axle bearing load of 4.5 tonnes
- Edges designed to prevent injury to cattle
- Tapered sides to allow easy access for slurry tank
- Excellent space to surface ratio
- One-man operation for safe mixing or slurry removal from effluent tank
- Hardwearing non-slip surface
- Gang slats
- Cattle and multi-purpose slats available
- Access slat with manhole
- Diagonal slat to cover slurry channels

PRODUCT APPLICATIONS

Cellars / Channels / Dairy farms

Support beams						
Length (ft)	8ft	9ft	10ft	11ft	12ft	13ft
Width (mm)	305	305	305	305	305	305
Depth (mm)	305	305	305	305	305	305
Weight (Kg)	518	583	648	713	778	842

Cubicle bases				
Length (ft)	7ft	8ft	14ft	15ft
Width (mm)	1150	1200	1140	1200
Depth (mm)	270-200	225-170	280-200	225-170
Weight (Kg)	880	1479	2500	2773

Passage covers									
Length (ft)	8ft	9ft	10ft	11ft	12ft	13ft	14ft	15ft	16ft
Width (mm)	1200	1200	1200	1200	1200	1200	1200	1200	1200
Depth (mm)	160	160	160	160	160	160	160	160	160
Weight (Kg)	1218	1370	1523	1672	1827	1972	2097	2246	2446

Gang slats									
Length (ft)	8ft	9ft	10ft	11ft	12ft	13ft	14ft	15ft	16ft
Width (mm)	1265	1265	1265	1265	1265	1265	1255	1255	1255
Depth (mm)	195	195	195	195	195	195	225	225	225
Axle loading	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Weight (Kg)	1040	1220	1320	1480	1560	1620	2188	2345	2500

Safety slats									
Length (ft)	8ft	9ft	10ft	11ft	12ft	13ft	14ft	15ft	16ft
Width (mm)	1265	1265	1265	1265	1265	1265	1255	1255	1265
Depth (mm)	195	195	195	195	195	195	225	225	225
Axle loading	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Weight (Kg)	900	1020	1160	1240	1400	1520	1852	1985	2117
Opening size	1000mm x 830mm wide								

Multi-purpose slats						
Length (ft)	8ft	9ft	10ft	11ft	12ft	13ft
Width (mm)	1265	1265	1265	1265	1265	1265
Depth (mm)	175	175	175	175	175	175
Axle loading	4.5	4.5	4.5	4.5	4.5	4.5
Weight (Kg)	840	920	1020	1180	1260	1420

Diagonal slats						
Length (ft)	8ft	9ft	10ft	11ft	12ft	13ft
Width (mm)	1265	1265	1265	1265	1265	1265
Depth (mm)	195	195	195	195	195	195
Axle loading	4.5	4.5	4.5	4.5	4.5	4.5
Weight (Kg)	1040	1220	1320	1480	1560	1620

WATER TROUGHS

FP McCann offers a range of high-quality precast water troughs for the agricultural sector. They provide a strong, reliable and quick fit solution for livestock drinking requirements.

Due to the weight of the concrete water troughs, less time is required to fit and install them as they are able to sit under their own weight. Unlike plastic troughs, the robustness of the precast water trough removes the risk of the trough losing shape or being pushed around by livestock. Our water troughs are available in four sizes.

Water Trough Dimensions				
Capacity	Length (M)	Width (M)	Height (M)	Weight (T)
75 Gallons / 340 Litres	1.7	0.8	0.5	0.75
150 Gallons / 680 Litres	2.1	0.9	0.7	1.10
200 Gallons / 909 Litres	2.2	1.1	0.7	1.30
300 Gallons / 1365 Litres	2.5	1.2	0.8	1.73

PRODUCT BENEFITS

- Versatile - can be easily moved to a different location using the correct lifters
- Durable - maintains shape in all conditions and centre core pipe is protected from frost etc.
- Safe - no sharp edges and centre core pipe is protected from livestock
- Drainage - can be easily drained to allow for cleaning and transportation
- Indoor or outdoor – the strength of our water troughs means they can be used indoor or outdoor in any weather conditions

DIRTY WATER/ EFFLUENT TANK

The precast dirty water tank is used to store all forms of dirty water and is available in a range of sizes, depending on the estimated volume of effluent produced. All tanks come complete with solid lids.

PRODUCT BENEFITS

- Speedy installation, no ready-mixed concrete backfill required
- Unobtrusive (buried underground)
- Low maintenance

VOLUME CAPACITY OF STORAGE CHAMBERS

Internal Diameter (x1000mm)	Litres
DN1500	1767
DN1800	2544
DN2100	3464
DN2400	4514
DN2700	5726
DN3000	7069

DRIVEWAY SURFACING

As a leading civil engineering and asphalt contractor, FP McCann has many years of experience in surfacing driveways in the North and South of Ireland.

FP McCann provides extensive residential and commercial surfacing solutions and specialises in the provision of bitmac and asphalt. The latter is available in red chip and black chip. As well as offering a bespoke service, we can also manage each project from start to finish. This includes preparation, supply and installation of material to ensure you get the best service and quality throughout. All work conforms to relevant British and European Standards.

FP McCann is a CDM compliant contractor and can protect our clients from potential high risk incidents. For further information, please go to: **www.hse.gov.uk/pubns/cis80.pdf**

For further information on FP McCann's surfacing solutions, contact the sales team based at any of the following locations:

LOCATION	TELEPHONE
Kilrea	028 2954 0285
Knockloughrim	028 7964 2558
Lisnaskea	028 6772 1286


Red Chip Asphalt


Black Chip Asphalt


Bitmac


Stone Mastic Asphalt

CONCRETE EXPOSED

FP McCann's Concrete Exposed is an exposed aggregate concrete that combines the beauty of natural coloured aggregate with the strength and durability of readymix concrete. A number of different styles are available. It can be used in a wide range of domestic and commercial applications.

PRODUCT APPLICATIONS

- Domestic driveways
- Patios and pathways
- Pavements and footpaths
- Public spaces and commercial areas

PRODUCT BENEFITS

- Aesthetic appearance – utilises the beauty of natural aggregate to achieve a highly decorative effect
- Choice – lots of colours and textures to choose from, which allows you to customise your look
- Durability – as the product is concrete, it is extremely hardwearing and is designed to withstand heavy traffic and extreme weather conditions without sinking or heaving
- Low maintenance – prohibits the development of weeds and moss, so is easy to keep clean. Tyre marks are not visible due to the coloured stones, allowing stains to be hidden
- Safety – more slip resistant than brushed/floated concrete, which means that cars are unlikely to slide on the surface, even when it is wet. Laid as a continuous surface, minimises the likelihood of trip hazards
- Minimal joints, except for expansion joints
- No weeds/moss within joints (paving)
- Long-life with minimal aftercare
- Stain resistant
- Can be installed indoors and outdoors and areas with restricted access
- Our ready-mixed concrete conforms to the QSRMC Quality and Product Conformity Regulations
- Please note: Other aggregates and styles can be sourced on request

For further information on FP McCann's Concrete Exposed, contact the sales team based at any of the following locations:

LOCATION	TELEPHONE
Armagh	028 3755 1126
Kilrea	028 2954 0285
Knockloughrim	028 7964 2558
Lisnaskea	028 6772 1286
Loughside/Larne	028 2826 0824
Mallusk	028 9083 0005


Pink Granite


Forest Flint


Lite Gold

8 GOOD REASONS WHY YOU SHOULD USE CONCRETE DRAINAGE

1 SUSTAINABILITY

Concrete pipes outperform other types of pipeline solutions in a number of the environmental impact categories, such as human toxicity levels and chemical / hazardous waste generated. The CO2 emissions from concrete and cement production are relatively small compared to other building materials. Some 95 to 99% of ingredients used in the production of concrete pipes are sourced locally, so a considerable positive impact on the carbon footprint and fuel consumption associated with transporting these materials can be achieved.

2 STRENGTH

Concrete is much more durable than any other kind of pipe. Hence, it can carry more load at any given time and gains strength over time. It cannot be weakened by heat, moisture, mould or pests, nor will it rust. Underground concrete pipes have the ability to resist chemical attacks and massive impacts such as jetting, so blockages can be cleared easily.

3 QUALITY

Since precast concrete pipes are produced in highly controlled plant environments under rigid production standards and testing specifications, they achieve consistent high quality levels of performance.
The pipe production process will normally include computer-controlled mixing systems, computer-controlled weighing and proportioning systems, absorption testing and automated recording systems.
FP McCann's concrete pipes are manufactured in accordance with BS EN 1916 and BS 5911, and certified by Quality Assessment under the Kitemark Scheme and ISO 9001.

4 WHOLE LIFE VALUE

Due to its amazing structural properties and functional benefits, precast concrete pipes tend to attract lower insurance premiums than those built from other construction materials. The natural strength of precast concrete pipes enables recycled aggregate to be used as a bedding material, significantly reducing installation costs and the elimination of waste disposal costs.

5 FIRE-RESISTANCE

Being naturally fire-resistant, concrete forms a highly effective barrier to fire spread and it does not emit any toxic fumes when affected by fire. It will not produce smoke or drip molten particles. Therefore, in the majority of applications, concrete can be described as virtually 'fireproof'. Due to its inbuilt fire resistant properties, concrete not only maintains an airtight construction that stops smoke spreading, but also has the ability to keep its strength during a fire.

6 BEDDING PERFORMANCE

The superior strength of concrete pipes enables recycled aggregate to be used as a bedding material, thus reducing costs and environmental impact during installation. Since a full trench depth of granular material can actually be more expensive than the pipe, significant pipe bedding savings can be achieved when using a concrete pipe instead. FP McCann can advise on the optimum soil and ground conditions from geotechnical reports, to establish when this sustainable and cost-efficient solution can be deployed.

7 CHEMICAL RESISTANCE

Concrete pipes and manholes are resistant to sulphate and chemical attack. Concrete pipeline products with higher design chemical classes of DC3 and DC4 are capable of withstanding attack from the vast majority of aggressive ground environments in the UK.

8 HYDRAULIC EFFICIENCY

The rigidity and mass of concrete pipes (both within the pipe and pipe joints) allows it to retain its shape over its long service life, preserving structural integrity and hydraulic efficiency, by minimising the resistance to water flow that often occurs when the shape or integrity of a flexible pipe is compromised through deformation.

fpmccann DRAINAGE

SPIGOT AND SOCKET PIPES

All of our spigot and socket pipes are manufactured and CE marked in accordance with European Standard BS EN 1916, the specification for unreinforced and reinforced concrete pipes (including jacking pipes) and fittings with flexible joints. They are also designed to meet BS 5911 for concrete pipes and ancillary products.

STANDARD PIPES

Nominal Size	DN	300	375	450	525	600	675	750	900	1050	1200	*1350	*1500	*1800	*2100	*2400
Internal Diameter (A)	MM	300	375	450	525	600	675	750	900	1050	1200	1350	1500	1800	2100	△2380
Barrel Diameter (B)	MM	416	505	590	685	790	901	996	1080	1266	1460	1620	1800	2130	2460	2750
Socket Diameter (C)	MM	497	575	665	760	852	960	1060	1235	1420	1590	1800	2010	2380	2650	2750
Effective Length	MM	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Actual Weight	KG	454	616	812	996	1252	1856	2194	2060	2760	3630	4290	5330	7300	9160	10070
Reinforced		N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Approx. Pipes per load		61	45	34	28	22	15	12	13	10	8	6	5	4	3	2
Chamber Ring to suit †		1200	1350	1350	1500	1500	1500	1800	1800	2100	2100	2400	2400	2700	3000	3600
MOL Availability		Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N
Crushing Strengths	Kn/M	36	45	54	63	72	81	90	108	126	144	162	180	216	252	288
Nominal Joint Gap	MM	4	4	4	4	4	4	4	4	5	5	5	7	7	7	-
Maximum Joint Gap	MM	34	34	34	34	34	34	34	34	34	36	36	36	41	41	-
Maximum Deflection	°Degrees	2	2	2	2	2	2	1	1	1	1	0.5	0.5	0.5	0.5	-

† Minimum chamber ring size to suit pipe = DN size of pipe + 900

* Lifting anchors available
△ Please note internal dimensions

PIPE LUBRICANT

Pipes should only be joined using an FP McCann lubricant

Nominal size	DN	300	375	450	525	600	675	750	900	1050	1200	1350	1500	1800	2100
No. of joints per	KG	27	22	18	15	13	12	10	9	8	7	6	5	4	4

Sold in 2.5kg Tubs

ROCKER PIPES

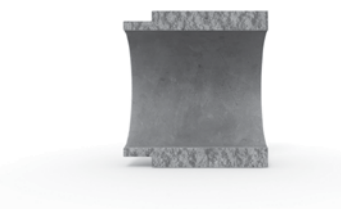
Nominal Size	DN	300	375	450	525	600	675	750	900	1050	1200	*1350	*1500	*1800	*2100
Effective Length	MM	600	600	600	600	600	1000	1000	1250	1250	1250	1250	1250	1250	1250
Approx. Weight	KG	145	180	220	300	365	800	950	1020	1200	1605	2020	2755	4440	4620

* Lifting anchors available

SOCKET BUTT PIPES

Nominal Size	DN	300	375	450	525	600	675	750	900	1050	1200	*1350	*1500	*1800	*2100
Effective Length	MM	600	600	600	600	600	1250	1250	1250	1250	1250	1250	1250	1250	1250
Approx. Weight	KG	145	174	230	270	370	960	1175	1105	1500	1930	2435	3100	4300	5400

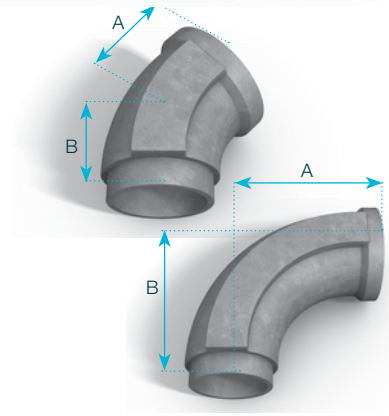
* Lifting anchors available



SPIGOT BUTT PIPES

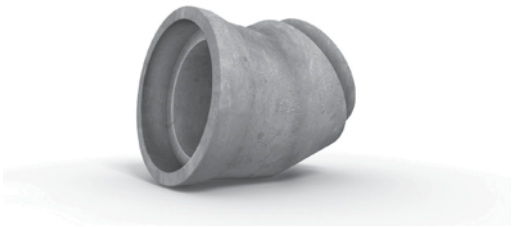
Nominal Size	DN	300	375	450	525	600	675	750	900	1050	1200	*1350	*1500	*1800	*2100
Effective Length	MM	600	600	600	600	600	1250	1250	1250	1250	1250	1250	1250	1250	1250
Approx. Weight	KG	100	135	155	205	270	870	980	910	1170	1585	1850	2230	3005	3800

* Lifting anchors available



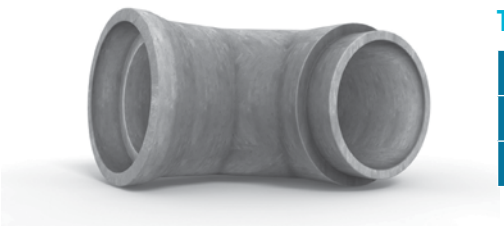
ONE PIECE BEND

Degree	11.25º			22.5º			45º			90º		
Nominal size (DN)	Length (mm)		Weight (kg)	Length (mm)		Weight (kg)	Length (mm)		Weight (kg)	Length (mm)		Weight (kg)
	a	b		a	b		a	b		a	b	
300	115	103	66	160	148	79	257	245	112	618	509	167
375	239	140	117	294	195	142	413	314	199	735	636	270
450	127	79	109	196	148	139	344	296	232	745	698	352
525	97	194	140	179	276	200	335	436	400	828	965	750
600	149	137	188	240	228	289	437	425	513	973	961	898
750	384	115	502	499	230	661	744	475	1087	1412	1143	1810



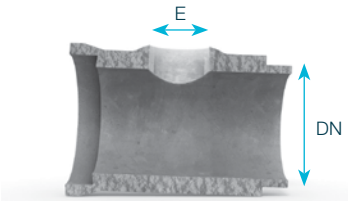
TWO PIECE BENDS - 11.25º, 22.5º & 45º

Nominal Size	DN	675	900	1050	1200	1350	1500	1800
Effective Length	MM	1000	1250	1250	1250	1250	1250	1250
Approx. Weight	KG	775	1140	1515	1955	2425	2965	4105



THREE PIECE BENDS - 90º

Nominal Size	DN	675	900	1050	1200	1350	1500	1800	2100
Effective Length	MM	1750	1750	2500	2500	2500	2500	2500	3000
Approx. Weight	KG	850	2000	2600	3500	4200	5100	6800	7100



FASTFIT JUNCTIONS

Nominal Size	DN	300	375	450	525	600	675	750	825	900	1050	1200	1350	1500	1800
Branch Size	E	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Effective Length	MM	600	600	600	600	600	1000	1000	1250	1250	1250	1250	2500	2500	2500
Approx. Weight	KG	132	169	211	277	350	750	905	800	1140	1513	2427	4416	5120	7360

All junctions are to be fitted on their side. Junctions are not designed for vertical surface compaction and need to be surrounded in concrete.

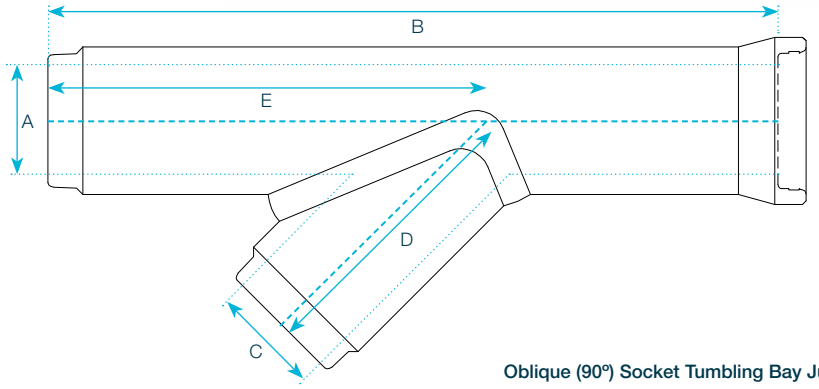
CONVERT TO OTHER PIPE TYPES

OBLIQUE (45º) TUMBLING JUNCTIONS

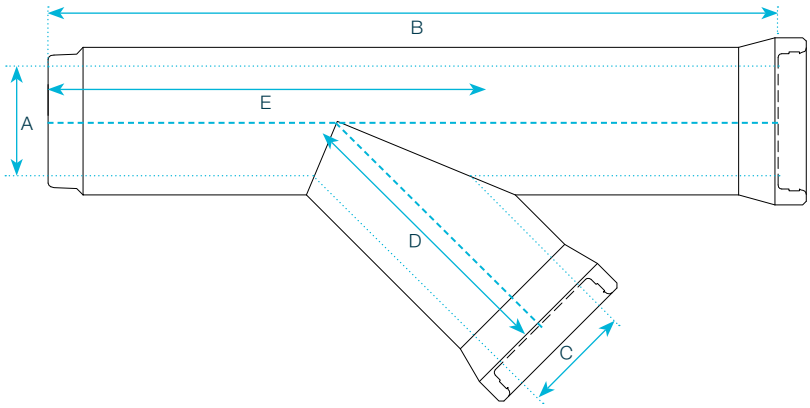
Oblique (90º) tumbling junction (spigot)

For illustration purposes only

Oblique (90º) Spigot Tumbling Bay Junction



Oblique (90º) Socket Tumbling Bay Junction



All bends are manufactured to ±4° tolerance

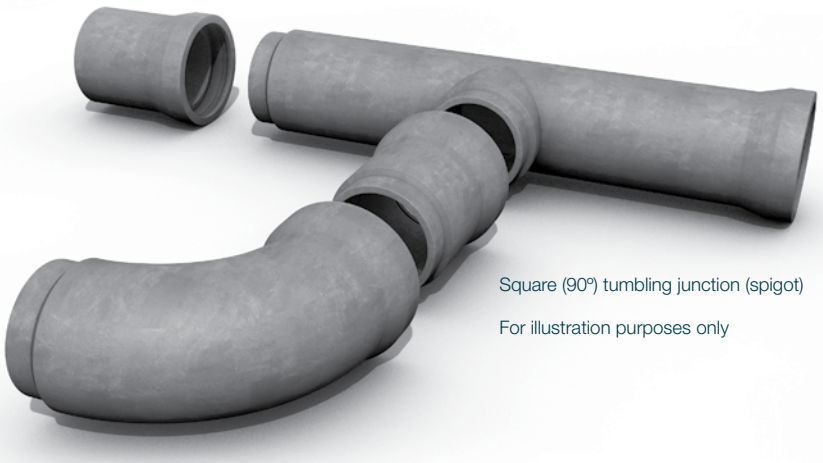
INSTRUCTIONS FOR USE

Please supply pipe diameter and invert levels only. FP McCann will complete the remaining details and return by email for customer approval.

Oblique (45°) Spigot Tumbling Bay Junction											
Main Pipe	Nominal Size	A	300	375	450	525	600	675	750	900	1050
	Effective Length	B	2500	2500	2500	2500	2500	2500	2500	2500	2500
Branch Pipe	Nominal Size	C	300	375	450	525	600	675	750	900	1050
	Effective Length	D	870	985	1087	1177	1329	1433	1558	1679	1896
	Effective Length	E	1424	1495	1533	1533	1652	1790	1739	1703	1795
	Approx Weight	Kg	520	696	873	1350	1458	2311	2828	3654	3875

Oblique (45°) Socket Tumbling Bay Junction											
Main Pipe	Nominal Size	A	300	375	450	525	600	675	750	900	1050
	Effective Length	B	2500	2500	2500	2500	2500	2500	2500	2500	2500
Branch Pipe	Nominal Size	C	300	375	450	525	600	675	750	900	1050
	Effective Length	D	870	985	1087	1329	1329	1433	1558	1679	1896
	Effective Length	E	1014	989	943	864	862	819	759	623	535
	Approx Weight	Kg	572	748	940	1450	1550	2400	3090	3885	4199

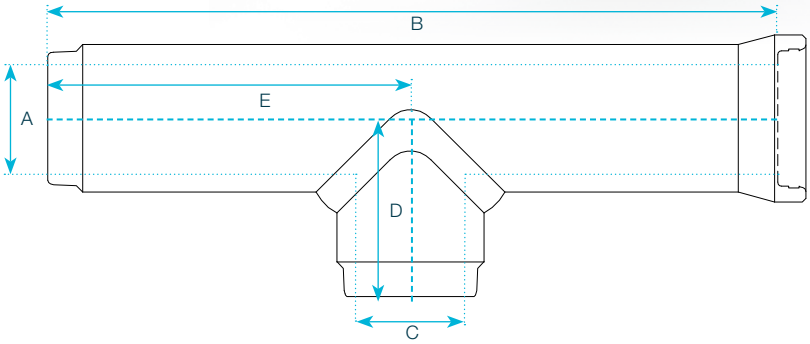
SQUARE (90º) TUMBLING JUNCTIONS



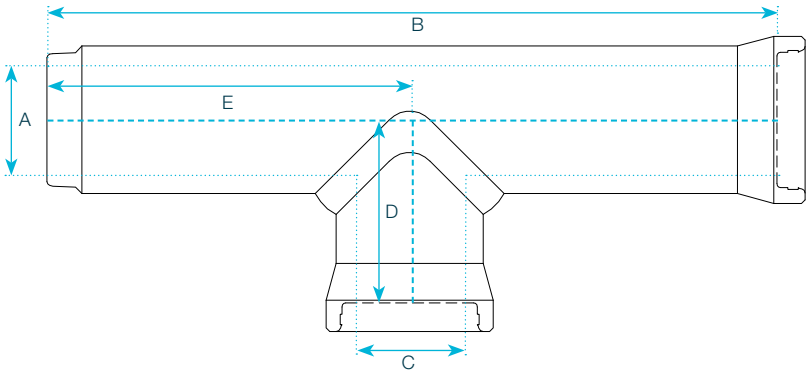
Square (90º) tumbling junction (spigot)

For illustration purposes only

Square (90º) Spigot Tumbling Bay Junction



Square (90º) Socket Tumbling Bay Junction



All bends are manufactured to ±4° tolerance

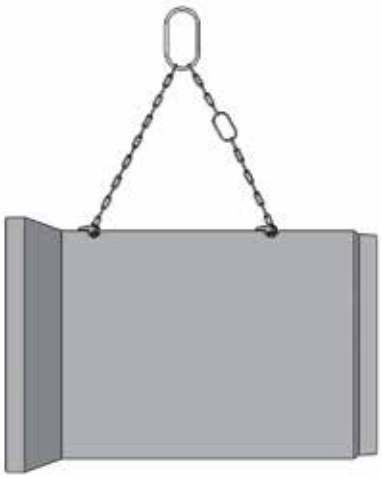
INSTRUCTIONS FOR USE

Please supply pipe diameter and invert levels only. FP McCann will complete the remaining details and return by email for customer approval.

Square (90°) Spigot Tumbling Bay Junction												
Main Pipe	Nominal Size	A	300	375	450	525	600	675	750	900	1050	1200
	Effective Length	B	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Branch Pipe	Nominal Size	C	300	375	450	525	600	675	750	900	1050	1200
	Effective Length	D	580	628	670	708	770	818	865	1163	1005	1100
	Effective Length	E	1219	1242	1238	1229	1257	1250	1250	915	1165	1165
	Approx Weight	Kg	484	640	827	1098	1396	1453	2457	2964	3370	4374

Square (90°) Socket Tumbling Bay Junction												
Main Pipe	Nominal Size	A	300	375	450	525	600	675	750	900	1050	1200
	Effective Length	B	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Branch Pipe	Nominal Size	C	300	375	450	525	600	675	750	900	1050	1200
	Effective Length	D	580	628	670	708	770	710	865	915	1005	1100
	Effective Length	E	1219	1242	1238	1229	1257	1250	1249	1163	1165	1165
	Approx Weight	Kg	540	685	854	1098	1453	1550	2542	3144	3398	4582

PIPE HANDLING/ LAYING INSTRUCTIONS



Recommended site work practice - open cut flexible jointed pipes

HANDLING & STORING PIPES

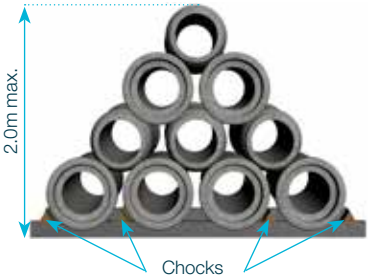
1. Time and place of off-loading should be agreed before the units arrive at site. The contractor should provide suitable equipment for off-loading, stacking and stringing out of pipes on-site.
2. Off-loading should take place at the nearest hard road to the point of installation. To ensure the safety of all personnel, units must be left in a stable position, well clear of the edge of the trench.
3. Pipes should be inspected before off-loading to ensure that materials delivered correspond with the order placed.
4. Pipes should be carefully checked during off-loading to ensure no units are damaged. Any discrepancies should be recorded on the delivery docket.
5. Where stacking is necessary, this should be done on level ground and the bottom layer of pipes securely chocked to prevent the stack from collapsing. Pipes should be supported under the barrel so that the socket is free of load and to prevent the jointing faces from getting damaged. Preferably, they should be stacked barrel to barrel with sockets hanging over alternative sides.
6. For safety reasons and to prevent damage to the lower layers of pipe in the stack, pipes should not be loaded or stacked in a greater number of layers than is shown in the table below.
7. Avoid damage when handling, especially to ends of concrete pipes. Never drag or roll pipes over the ground.

Note: FP McCann's spigot and socket pipes from DN1350 can be handled using our purpose-built Anchor System. Special lifting anchors can be cast into pipes at manufacture. A Universal Head Link (available from FP McCann) can then be hooked onto the exposed anchor heads to lift the pipe. Lifting anchors are fitted to order.

LAYING PIPES

1. **Trench Excavation** The trench should be excavated to the line, gradient and width, as indicated in the contract documents or as agreed with the engineer. The safety of the public and site personnel is of paramount importance. Care should be taken to ensure personal safety at all times.
2. **Trench Width** Any increase in trench width above that specified could increase the load on the pipe, increasing the quantity of excavation and the bedding material required. A trench narrower than the specified width may impede the proper placing of bedding or backfill material, or the correct jointing of pipes.
3. **Formation** Uniform support along the pipeline is essential. Rock outcrops and soft zones, which can cause differential settlement, should be dug out and replaced with compacted specified backfill material. De-watering may be necessary during pipe laying and subsequent backfilling operations. The specified bedding material should be placed as detailed in the contract specification, and trimmed to ensure uniform support of the pipe throughout the length of its barrel. Recesses should be prepared for the pipe sockets.
4. **Pipe Laying** Before being lowered into the trench, pipes and fittings should be inspected to ensure that they have not been damaged during handling and storage on-site. Units should be lowered carefully into the trench using a recognised lifting tackle, such as a concrete mechanical pipe lifter.
5. **Jointing** Using our pipe jointing instruction guide, all pipe spigots must be fully lubricated with the pipe lube supplied, just prior to being lowered into the trench. Please note: pipes should only be jointed using a FP McCann lubricant. The socket of the laid pipe should, at this stage, be prepared by removing the polystyrene forming ring to leave a clean seal, free from debris. The adjoining pipe should be lowered into position, as level as possible, centring the pipe spigot with the seal of the laid pipe so that the pipes are in line. On achieving this, apply pressure to the socket end of the adjoining pipe using a substantial piece of timber to protect the pipe from damage when pushing the pipe home. (see page 47 for details)
6. **Testing** Acceptance tests on the completed pipeline give an indication of the level of control of workmanship and materials during construction.
7. **Visual Testing** Check for obstructions and debris within the pipe, the structural soundness of pipes, that joints are properly sealed and that the pipe invert is even. Note: pipes smaller than DN750 may be inspected from manholes or by means of TV cameras.
8. **Watertightness** The watertightness of a pipeline may be checked using a water or air test. Such tests will reveal the existence of cracked or porous pipes or faulty joints. These tests should be made during and after laying and before backfilling. The test method will be detailed in the contract specification or referenced to an appropriate code of practice. In certain circumstances (e.g. where the distance between manholes is great, or when site conditions are such that backfilling must take place immediately or when laying small diameter pipelines), it is recommended that the pipeline is tested at regular intervals (say every 2/3 pipes) during construction (s ee page 47).
9. **Backfilling** This should take place after inspection and testing. The attention given to the backfill selection is of great importance. The placing and compaction of inappropriate backfill may cause damage to a new pipeline. The structural strength of the completed pipeline depends as much on good site workmanship as on the strength of individual pipes. Consequently, all backfill material must be selected and placed as detailed in the contract specification or recognised code of practice.

Note: For additional information on laying and testing pipes, please refer to the BPDA website: precastdrainage.co.uk



DN	No of layers
300 - 375	4
450 - 600	3
750 - 900	2
> 1050	1

ONE PIECE INTEGRAL RUBBER SEAL




FP McCann now provide a new type of integral seal for their precast concrete pipes. This new integrated seal is a simple, one-piece rubber compression connector which is embedded in the concrete when the pipe is cast. The seal is compressed between the pipe and the concrete, creating a flexible watertight seal.

FEATURES

- The seal complies with all relevant European standards, including EN 681-1, ISO 90001 and QR 4060
- Durable synthetic EPDM rubber seal with over 100 years shelf life
- Seal is cast accurately and stable at the precast factory
- Pipe is cast with numerous holding parts to keep the seal in place
- Clean, high quality sockets
- Ideal for use with mechanical laying techniques such as pipelifter
- Pipes arrive at site ready to be connected

Please note: During the changeover phase, our new integral seal is fully compatible with our current seal

BENEFITS

- Integrally cast into the structure of the pipe
- Environmentally friendly as it eliminates the need for the polystyrene strip
- Reduction in waste on site
- No cavities or steps in joints
- Almost zero push back
- Requires low insertion force
- Seal not sensitive to weather
- No clamps required to tighten or forget
- Fast and easy installation
- Pipes may be backfilled immediately
- Less time in excavation
- Durable, reusable casting forms

Important Jointing Information
The integral pipe-seal jointing system used in FP McCann's drainage products requires the use of a FP McCann proprietary lubricant, which can be supplied with all pipeline orders from us. Failure to use the proprietary lubricant in accordance with the instructions provided by the pipe-seal manufacturer / FP McCann, may give rise to problems with pipe jointing and seal performance and invalidate any warranty, implied or otherwise. FP McCann accepts no responsibility whatsoever for problems or loss of performance arising from any such failure.

AIR TEST ONLY (A.T.O.)

INFLATABLE PIPE STOPPER

Air testing is a quick and easy way of checking a pipeline following installation. Correct assembly of joints, workmanship and the prevention of site handling damage can be identified by this test. FP McCann recommends the use of inflatable stoppers when air testing concrete pipes. Associated test equipment should be in good condition and in full working order. FP McCann recommends that this test is done every 2-3 pipes before backfilling, regularly following backfill during the installation and then at the finish; preferably before both manholes have been constructed.

The pipeline should be pressurised with air until the 'U' guage (manometer) indicates 100mm. Allow a minimum of 5 minutes for stabilisation of the air pressure, longer may be needed in cold or very hot weather. Observe the fall in indicated pressure over a 5 minute test period. The test is successful if the residual pressure does not fall below 75mm within the 5 minute test period.

If the pressure falls sharply and the pipeline appears to have failed, the following checks should be carried out:

- Inspect the seal of the inflatable stopper against the inside of the pipe using soapy water. Use pipe lubricant or industrial soap to assist in providing a seal where necessary
- Check the connections, rubber tube and stoppers for leaks
- Temperature and humidity changes can significantly affect the test. It may be necessary to allow more time for stabilisation or repeat the test in extreme weather conditions

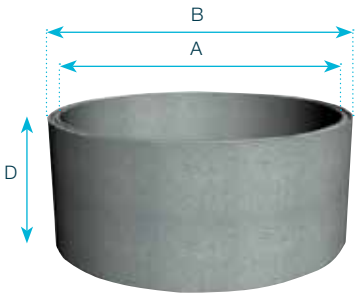
If difficulties are still being experienced following these checks, please contact FP McCann for further assistance.

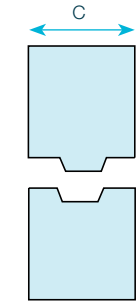
Please note that failure to adhere to the advice given above and on the FP McCann website may result in any subsequent claims being invalid. Call-out charges may also apply if FP McCann's technical personnel have to attend on site.

Failure to successfully pass an air test does not prohibit the acceptance of pipeline if a successful water test can be obtained in accordance with BS EN 1610.

MANHOLE CHAMBERS

MANHOLE CHAMBERS (TONGUE & GROOVE JOINT)





Tongue and Groove Joint Profile

Nominal Size (A) (DN) (mm)	Available Depth of Section (D)				Wall Thickness (C) mm	Litres per metre	Barrel Diameter (B) mm	Approx Weight Kg. (per metre)	Approx. Products per load Qty. (metre)	Lifting Hole Qty/Dia. (per /unit) (mm)
	250mm (±25mm)	500mm (±25mm)	750mm (±50mm)	1000mm (±50mm)						
900	✓	✓	✓	✓	70	656	1040	520	38	3 x 45
1050	✓	✓	✓	✓	80	894	1210	690	34	3 x 45
1200	✓	✓	✓	✓	90	1167	1380	880	26	3 x 45
1350		✓	✓	✓	95	1478	1540	1050	22	3 x 45
1500		✓	✓	✓	100	1824	1710	1300	16	3 x 45
1800		✓	✓	✓	115	2544	2030	1750	12	3 x 45
2100		✓	✓	✓	125	3464	2350	2040	10	3 x 45
2400		✓	✓	✓	140	4514	2680	2790	8	3 x 45
2700		✓	✓	✓	150	5725	3000	3370	8	3 x 45
3000		✓	✓	✓	190	7069	3360	3830	5	3 x RD36
3600		✓	✓	✓	185	10179	3970	5400	5	△ 3 x RD36
4000			✓	✓	200	12566	4400	*7200	4	△ 4 x RD36
										Dia ± 5mm

MOL from 900-1500 / * 2 piece chamber ring - 3600kg per piece (4m diameter)

△ 570 long wavy tail anchors

PRODUCT INFORMATION

- FP McCann's manhole chamber rings are manufactured with tongue and groove joints and comply with BS EN 1917 / BS 5911-3
- DN3000, DN3600 and DN4000 are outside of the scope of the British Standard (Non-Kitemark), but comply with all relevant provisions of the European Standard. DN4000 is supplied in two halves

WARNING
When Lifting ≥45°
Inclined pull only

RECOMMENDED SITE WORK PRACTICE - MANHOLE CHAMBERS

RECOMMENDED LIFTING EQUIPMENT

Nominal Size DN (mm)	Lifting Hole Qty/dia (p/Unit)	36mm lifting pin 3.5 t SWL	42mm lifting pin 3.5 t SWL	3 leg lifting chain 3.1t	4 leg lifting chain SWL 6.7 t
900	3 x 45mm dia	✓		✓	
1050	3 x 45mm dia	✓		✓	
1200	3 x 45mm dia	✓		✓	
1350	3 x 45mm dia	✓		✓	
1500	3 x 45mm dia	✓		✓	
1800	3 x 45mm dia	✓		✓	
2100	3 x 45mm dia		✓		✓
2400	3 x 45mm dia		✓		✓
2700	3 x 45mm dia		✓		✓
3000	3 x RD36 (Loops)		✓		✓
3600	3 x RD36 (Loops)			✓	
4000	4 x RD36 (Loops)				✓

Dia + 5mm

Handling & Installing Manholes

1. Time and place of off-loading should be agreed before the units arrive at site. The contractor should provide suitable equipment for off-loading. For safety reasons, all chamber sections are loaded and delivered chimney fashion.
2. Off-loading should take place at the nearest hard road to the point of installation. When off-loaded, units should never be stored on their side (on the roll) but always be laid in the 'as installed' upright position.
3. Carefully inspect units during off-loading to verify that products are undamaged and comply with order placed. Note any discrepancies on the delivery docket and advise accordingly.

Construction

To ensure that the manhole structure is vertical, accurate levelling of the formation or the in-situ concrete foundation is essential. Please note: the depths of each manhole can vary and are subject to tolerances; it is recommended that each unit installed has it's depth measured prior to installation, to ascertain if the levelling requirements are satisfactorily met. Tongue and groove joints should be installed with the groove facing upward. Manhole sections fitted with double steps can be used at any depth. However, it is recommended that the deepest section of manhole units should be used whenever possible, in order to minimise the number of joints and costs. Precast cover slabs can be laid directly onto the shaft or chamber rings. To allow for any differential settlement between manhole and pipeline, a flexible joint incorporating short length rocker pipes should be constructed as close as possible to the outside of the manhole or the concrete surround, if used. Extra care must be taken to ensure that joints are properly made.

Jointing

Precast manhole components are provided with joints formed within the wall section. These are sealed with cement and sand mortar, or with proprietary FP McCann mastic sealants. Precast concrete manhole units, well jointed, provide an adequate seal under normal conditions.

Reinstatement

An in-situ concrete surround to precast concrete manholes is not necessary because a well-constructed precast manhole is a strong, durable structure with its own inherent strength and would only require a surround for exceptional structural reasons. However, under some specifications, a concrete surround is required where the depth from ground level to the base of the concrete chamber ring exceeds 4.5m. In this case, the surround should be of 150mm thickness. Backfilling should take place as each precast manhole section is placed. It must be brought up evenly and compacted around the manhole to prevent displacement.

Testing

It is generally unnecessary to apply water tests to manholes. In normal working conditions, manholes are not normally full of water. Prevention of infiltration is of more relevance than exfiltration. If infiltration does occur, it can be seen and remedied by sealing using an appropriate method.

Note: When handling precast products on site, it is recommended that the contractor has the correct lifting equipment in place and adheres to the relevant lifting guidelines and standards.

Refer to the BPDA website for further information:
https://www.precastdrainage.co.uk/page/pipe-laying-lifting

MANHOLE SOAKAWAYS

MANHOLE SOAKAWAY CHAMBERS

Nominal Size DN (mm)	No. of 75mm holes per chamber			Wall Thick-ness mm	Litres per metre ring	Barrel Dia. mm	Approx Weight Kg. (p/metre)	Approx. Products per load Qty. (metre)
	500 mm	750 mm	1000 mm					
900	5	8	10	70	656	1040	520	46
1050	6	9	12	80	894	1210	690	34
1200	7	10	14	90	1167	1380	880	26
1350	8	11	15	95	1478	1540	1050	22
1500	8	13	17	100	1824	1710	1300	18
1800	10	15	20	115	2544	2030	1750	12
2100	12	18	24	125	3464	2350	2040	10
2400	14	20	27	140	4514	2680	2790	8
2700	15	23	31	150	5725	3000	3370	6
3000	17	25	34	190	7069	3360	3830	5
*3600	20	31	41	185	10179	3970	5400	5
*4000	23	34	45	200	12566	4400	6800	1.5

* DN3600/4000 see Manhole Chambers / DN3600/4000 Manhole Soakaways made to order

SEALING STRIP

Nominal Size DN (MM)	Sealant Size (metres)	No. of rolls p/joint (metres)	Rolls required Quantity
900	20 x 20 x 4	0.88	1
1050	20 x 20 x 4	1.00	1
1200	20 x 40 x 4	1.13	2
1350	20 x 40 x 4	1.25	2
1500	20 x 40 x 4	1.38	2
1800	20 x 40 x 4	1.63	2
2100	20 x 40 x 4	1.88	2
2400	20 x 40 x 4	2.13	3
2700	20 x 40 x 4	2.38	3
3000	12 x 120 x 6	1.75	2
3600	12 x 120 x 6	2.08	3
4000	12 x 120 x 6	2.33	3

Please note this is a guideline based on sealant supplied by FP McCann only.

DN4000 MANHOLE CHAMBER

The DN4000 manhole chamber sections can be used in a variety of applications such as:

- Water treatment plants
- Storage tanks
- Stormwater attenuation systems
- Catchpits

The DN4000 chamber ring is supplied with a standard tongue and groove joint, connecting bolts and butyl rubber sealant for jointing purposes. The units are designed for use with the FP McCann ladder system. Single units (half ring) are lifted using 3 no. threaded lifting loops connected into threaded lifting sockets that are cast into the units, all of which must be used. Assembled units (full ring) are then lifted using 4 threaded lifting loops.

The 4 metre chamber section comes as a two part unit, which allows for ease of transport and handling.

DN4000 CHAMBER SECTION

Nominal Size (mm)	Section Depth (mm)	Wall Thickness (mm)	Approx. weight per section (kg)	Approx. weight per section when jointed (kg)
4000	1000	200	3400	6800
4000	750	200	2550	5100

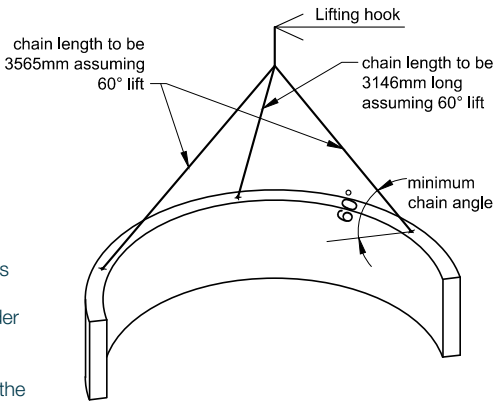
DN4000 COVER SLAB – 2 PIECE UNIT (DETAIL FOR STANDARD 600 & 675 OPENINGS)

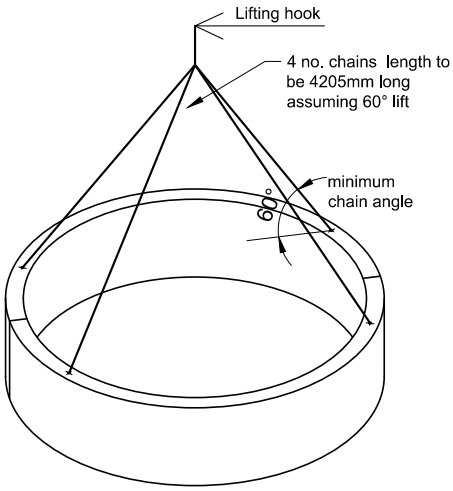
Nominal Size (mm)	Section Depth (mm)	Overall Thickness (mm)	Overall Diameter (mm)	Approx. weight of half section (mm)	Approx. weight of combined sections (kg)
4000	300	300	4500	6450	11,700

Cover slabs are manufactured in two sections, supplied with standard openings. Standard cover slabs are designed to withstand 30 units of Type HB loading, applied in accordance with BS 5911. If required, cover slabs can be designed to withstand 45 units of Type HB loading. For special opening cover slabs, an engineering drawing and steel specification may be required in order to achieve the desired loading requirement.

FP McCann will provide a technical installation sheet which must be adhered to when installing DN4000 manhole chambers. This is available online or from our sales team.

DN4000 LIFTING/HANDLING & INSTALLATION GUIDE





1. Lifting

Single units (half ring) are lifted using 3 no. threaded lifting loops connected into threaded lifting sockets that are cast into the units, all of which must be used. The chain angle should not be less than 60 degrees to the horizontal. In order to lift without tilt, the chain lengths will differ. Refer to the diagram opposite for explanation of minimum chain angle and lengths. Alternatively, a spreader beam may be used. Complete units (full ring) are lifted using 4 threaded lifting loops attached to threaded lifting sockets cast into the units. Refer to the diagram opposite for explanation of the location of the lifting sockets to be used. The chain angle should not be less than 60 degrees to the horizontal. Alternatively, a spreader beam may be used. Note: Using 3 chains to lift a full ring will put unnecessary stress on the concrete and may cause the concrete around the join to crack.

Unit weight and identification of lifting points will be marked on each casting for information.

2. Handling & Installation

It is recommended that the two piece chamber ring is jointed before lifting into place:

- Place the two units on a level surface, ideally on 2 skids to reduce resistance when jointing and also to maintain a clean joint
- Place both halves side by side, ensuring both are at the correct orientation i.e. with bolt holes in line with threaded sockets
- Insert the M24x200 threaded pins with the 60mm threaded side placed into the cast-in sockets
- Place a strip of bituminous sealant along the small recess of the vertical joint on both halves of the ring
- Once bolts and sealant are in position, the 2 halves of the unit must be pulled together using a ratchet system e.g. a chain block fixed to the cast-in M24 x 80 sockets on opposite ends of the units. (Do not use the wall end bolting system to pull the units together as this may crack the concrete and damage the joint)
- The completed ring can then be manoeuvred into place, as detailed above

Half-rings can be lifted into final position and the chamber can be built up, a half unit at a time.

Please note it is the end-user's responsibility to ensure safe access and lifting procedures are followed at all times.

WIDE WALL MANHOLE CHAMBER

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

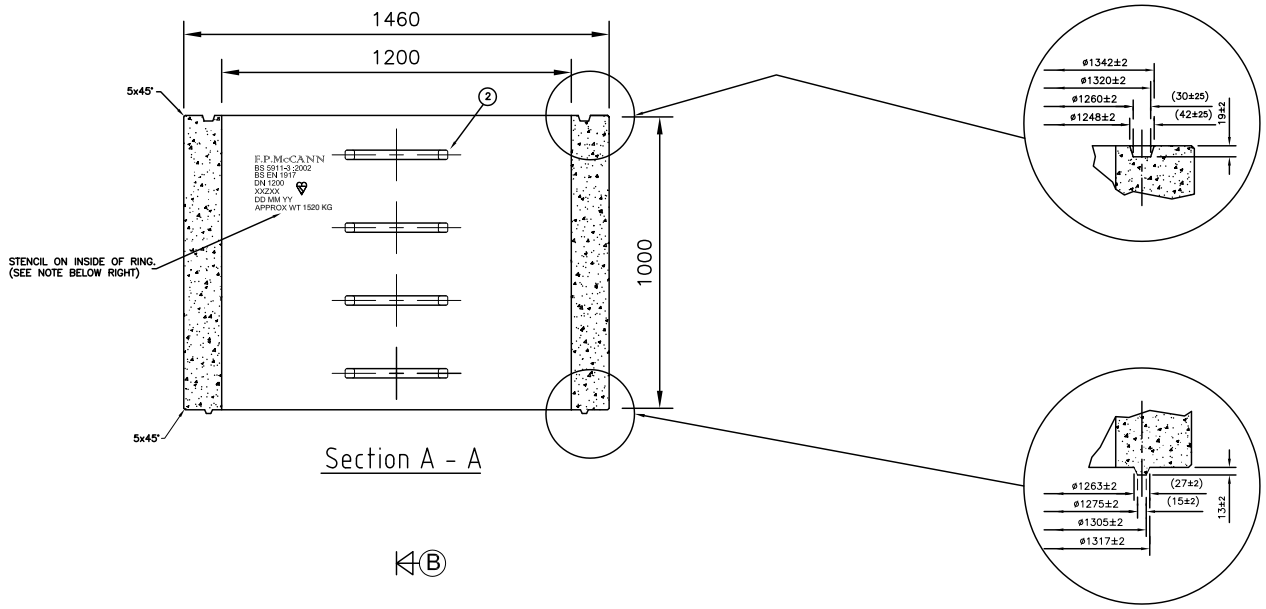
A 130mm thick wide wall chamber, in combination with the Easi-Base™ unit, provides a sealed watertight manhole system. This robust design means that the requirement for a concrete surround is eliminated.

PRODUCT BENEFITS

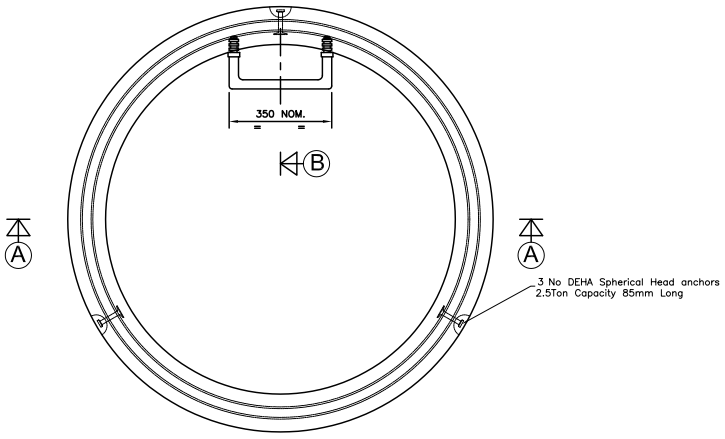
- Quick and easy installation
- Watertight structure
- Safe anchor lifting system (spherical head lifting system)
- Greater cost savings associated with using precast concrete over a traditional system
- No concrete back fill required, in accordance with 'Sewers for Adoption' 7th edition
- More environmentally 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

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).

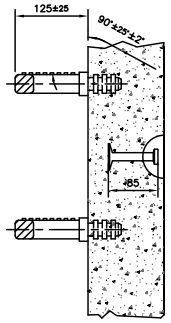
WIDE WALL MANHOLE CHAMBER DIMENSIONS



Section A - A



Plan View



Enlarged Section B-B

Nominal Size DN (mm)	Available Depth of Section				Wall Thickness (mm)	Barrel Diameter (mm)	Approx Weight Kg. (p/metre)	Approx. Products per load Qty. (metre)	36mm Lifting Pin 0.7t SWL	42mm Lifting Pin 3.5t SWL	3 leg lifting chain SWL 3.1t
	250mm (±25mm)	500mm (±25mm)	750mm (±50mm)	1000mm (±50mm)							
1200	✓	✓	✓	✓	130	1460	1520	16	Lifting clutches. FP McCann supplies recommended and approved lifting clutches.		✓
1500	✓	✓	✓	✓	130	1760	1645	14			✓
1800	✓	✓	✓	✓	130	2060	1970	12			✓

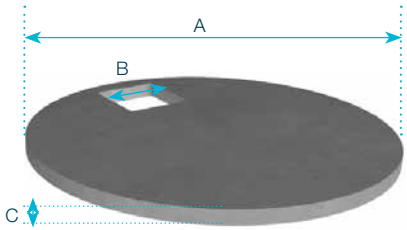
MANHOLE COVER SLABS & ACCESSORIES

STANDARD LANDING SLABS				
Chamber Section (DN)	Outside Diameter (A)	Opening Diameter (B)	Slab Thickness (C)	Approx. Weight (Kg)
1500	1730	900	200	826
1800	2050	900	200	1292
2100	2375	900	200	2030
2400	2705	900	200	2600
2700	3025	900	200	3880
3000	3330	900	200	4500

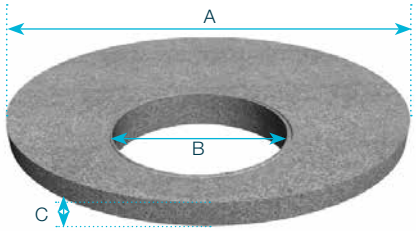
NB: All dimensions are in mm, unless stated otherwise

			STANDARD COVER SLABS			STANDARD REDUCING SLABS		
			Opening Configuration B					
Chamber DN (mm)	Outside Diameter (A) (mm)	Slab Thickness (C) (mm)	Size (mm)	Location	Approx. Weight (kg)	Opening Diameter B (mm)	Effective Depth (mm)	Approx. Weight (kg)
900	1080	150	600x600 675x675	CENTRAL	215			
1050	1240	150	600x600 675x675	ECCENTRIC	315			
			750x750	CENTRAL				
1200	1450	150	600x600 675x675 750x600	ECCENTRIC	455	900	200	385
1350	1580	170	600x600 675x675 750x600	ECCENTRIC	650	1050	200	695
			1200x675	CENTRAL		1200	200	550
1500	1740	175	600x600 675x675 750x600	ECCENTRIC	980	900 1050 1200	200 200 200	981 835 680
			1200x675	CENTRAL				
1800	2070	175	600x600 675x675 750x600 1200x675	ECCENTRIC	1460	900 1050 1200	200 200 200	1495 1350 1220
2100	2380	200	600x600 675x675 750x600 1200x675	ECCENTRIC	2180	900 1050 1200	200 200 200	2130 2690 2540
2400	2710	200	600x600 675x675 750x600 1200x675	ECCENTRIC	2800	900 1050 1200	200 200 200	2815 2690 2540
2700	3030	230	600x600 675x675 750x600 1200x675	ECCENTRIC	3750	900 1050 1200	200 200 250	3695 3550 3410
3000	3420	215	600x600 675x675 750x600 1200x675	ECCENTRIC	4970	900 1050 1200	200 200 200	4970 4970 4970
*3600 Two Piece	4000	300	600x600 675x675 750x600 1200x675	ECCENTRIC	9250	Covers to suit Manholes greater than or equal to 1.5m deep cover level to pipe soffit. *3600mm and 4000mm diameter cover slabs come in a 2 piece unit		
*4000 Two Piece	4500	300	600x600 675x675 750x600 1200x675	ECCENTRIC	11700			

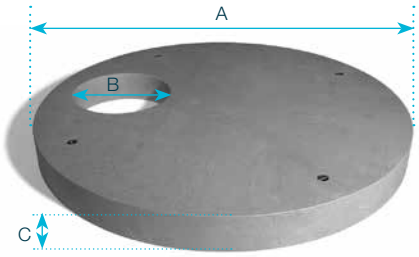
COVER SLABS



REDUCING SLABS



LANDING SLABS



Multiple access/other access sized cover slabs can be made to order

Note:
Cover Slab sizes 900-3000 are manufactured in accordance with BS 5911-3. DN3600 and 4000 cover slabs are generally designed in accordance with BS EN 1992-1-1, (for 30 units of Type HB loading, can also be designed to withstand 45 units of Type HB loading).
* Weights for DN3600 and DN4000 are estimated weights based on solid slabs.

ADJUSTING UNITS & CORBEL SLABS

Manhole Type	Diameter (mm)	Opening Size (mm)	No. per Pack	Thickness (mm)	Weight (kg)
Type 2	1050	600 x 600	15	65	70
Type 2	1050	675 x 675	15	65	55
Type 2	1050	750 x 600	15	65	60
Type 2	1575 x 1050	1200 x 675	6	75	160

Note: A 600 x 600 eccentric corbel slab is also available when using a ladder BS EN 1917 and BS 5911

FP McCann manufactures a full range of adjusting units and corbel slabs that have the following advantages:

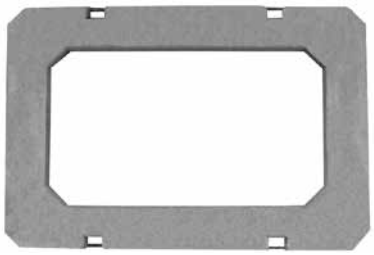
- Designed as seating for manhole cover
- Eliminates laying engineering bricks on-site
- Quicker to lay, ensuring reduced labour costs
- 65mm thick – similar to brickwork
- Sits on top of the manhole cover slab
- Eliminates brickwork vertical joint weakspots
- Quality product produced by vibration process
- Comprehensive strength, similar to Class B.Eng bricks

Type 2 600x600

Type 2 675x675

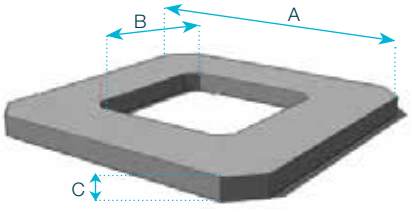
Type 2 750x600

Type 2 1200x675



LOTHIAN SLAB

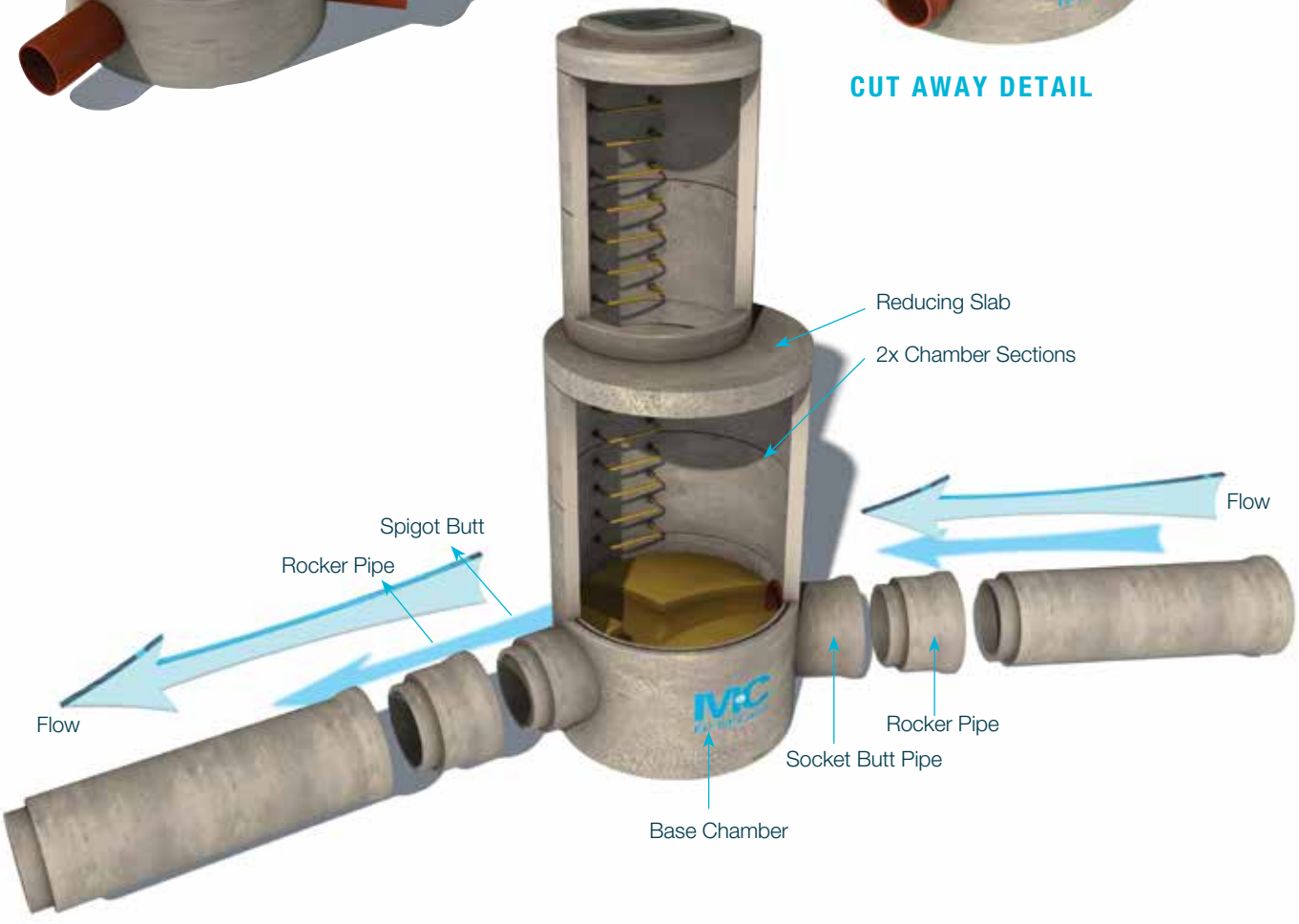
Size (A) (mm)	Slab Thickness (C) (mm)	Openings (B) (mm)	Approx. Weight (kg)
1125x1125	75	600x600/675x675/750x600	140
1125x1125	150	600x600/675x675/750x600	290



MANHOLE CONSTRUCTION

DETAIL OF MANHOLE CONSTRUCTION

CUT AWAY DETAIL



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.

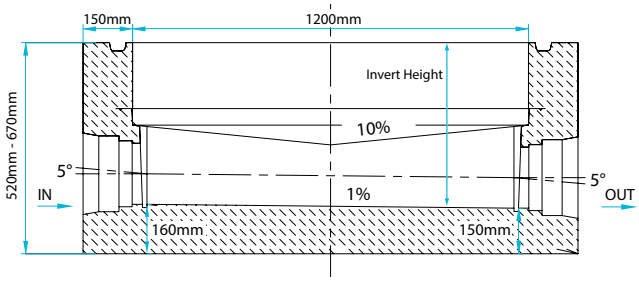
PRODUCT BENEFITS

- 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 adapters and seals are fitted.



DN1200 EASI-BASE™ UNITS				
Easi Base Diameter	Internal Channel Diameter	Invert Level (for take off)	Finished Height Base Unit	Easi-Base Weight Tonnes
DN1200	150	370	520	1.62
DN1200	200	420	570	1.62
DN1200	225	470	620	2.2
DN1200	250	470	620	2.2
DN1200	300	520	670	2.2

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)

SEALANT

DN1200	22mm x 22mm x 3.6m
DN1500	22mm x 44mm x 4.5m
DN1800	32mm x 38mm x 5.7m
DN2100	32mm x 38mm x 6.7m

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

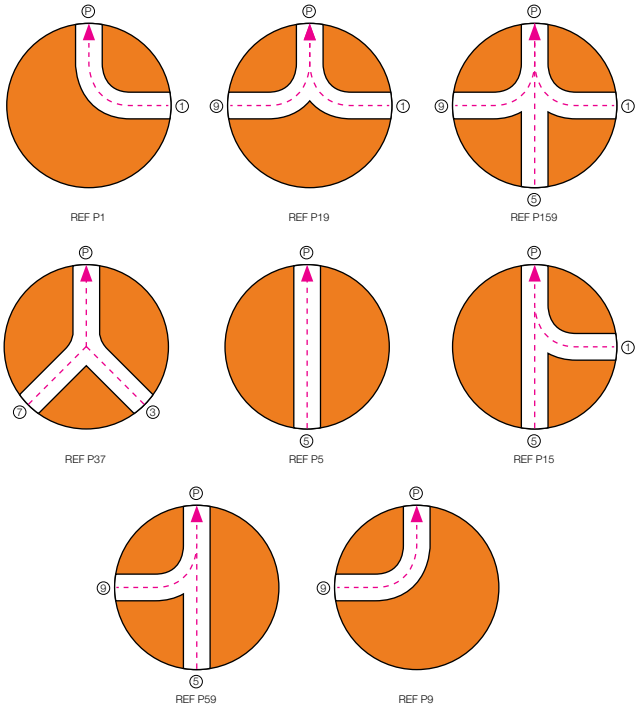
200 Pipe: PVC (EN1401)

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

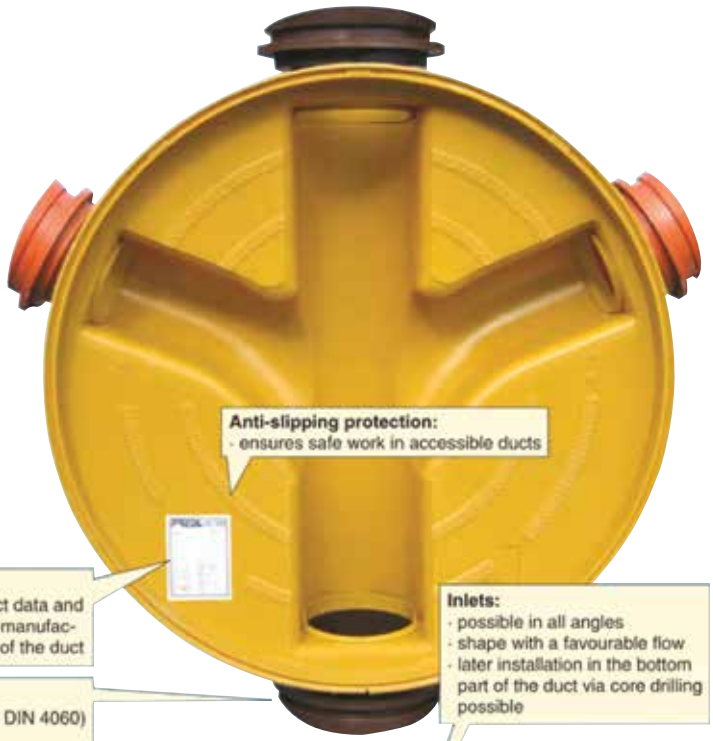
250 Pipe: PVC (EN1401)

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

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

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

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.

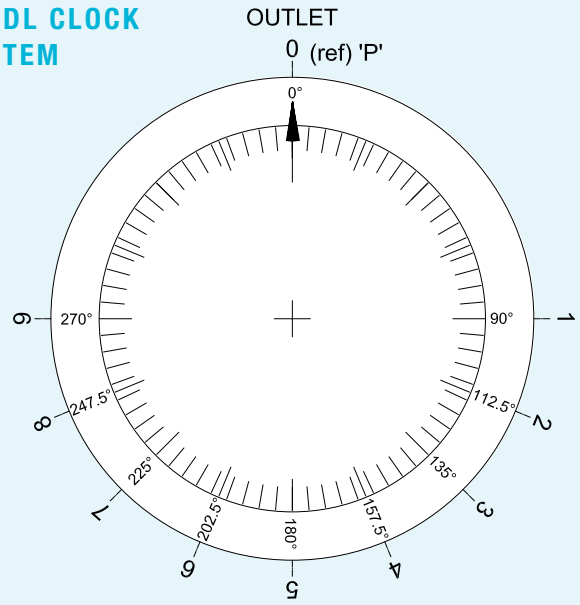
Please consider the example, and use the table below to place your order. One form is required per Easi-Base™.

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 - DN2100 EASI-BASES™

FP McCann's bespoke Easi-Bases™ from DN1500 to DN2100 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 Predl Clock System. They can accommodate concrete, clay, twinwall, ductile iron and uPVC pipes from 150mm to 1200mm.

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

DN1500 - DN2100 EASI-BASE™ UNIT SIZES				
Diameter	Pipe Size	Invert Level to top of base	Finished Height	Weight (T)
DN1500	100	470	750	3.50
DN1500	150	470	750	3.50
DN1500	200	575	760	3.50
DN1500	225	575	760	3.50
DN1500	250	575	760	3.90
DN1500	300	705	950	3.90
DN1500	375	755	1000	4.60
DN1500	450	825	1100	4.60
DN1500	525	945	1200	4.70
DN1500	600	1015	1310	4.75
DN1800	100	470	750	6.00
DN1800	150	470	750	6.00
DN1800	200	575	760	6.10
DN1800	225	575	760	6.10
DN1800	250	575	760	6.10
DN1800	300	705	950	6.10
DN1800	375	755	1000	6.50
DN1800	450	825	1100	6.70
DN1800	525	945	1200	7.00
DN1800	600	1015	1310	6.50
DN1800	675	1175	1450	8.00
DN1800	750	1195	1450	7.75
DN1800	825	1255	1500	7.50
DN1800	900	1345	1560	6.85
DN2100*	150-1200	1900	2435	10.50

* 2 part unit / max Δ per unit

All sizes are in mm

WEIGHTS AND LIFTING MECHANISM DETAIL

Easi-Base™ (DN)	Lifting Mechanism	Lifters Used per unit	Safe Working Load (S.W.L) per lifter (Tonnes)	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	Utility Anchors & M36	3 & 3	5 & 6.3	11.0

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 (SuperSleve)
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 (SuperSleve)
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

CATCHPIT

The catchpit effectively provides a sealed sump manhole, a monolithic precast concrete unit fitted with connector seals, which can be used to connect to the following types of pipe: uPVC, twinwall, clay, ductile iron and concrete. The catchpit is designed to accommodate pipe sizes DN150 to DN1800 and is in line with highway specification.

PRODUCT BENEFITS

- Creates an immediate watertight structure
- Prefabricated off-site (minimising on-site labour and costs)
- Quick and efficient to install
- Accommodates connection to all types of pipe used in road and manhole construction
- Safety benefits gained in the construction of manholes as the pre-formed sump and connect seals eliminate on-site construction, thus greatly reducing labour activity within the manhole
- Quality is greatly increased as construction is within the factory environment and complies with BS EN 1917 and BS 5911
- Eliminates material wastage associated with current in-situ method
- Yields environmental benefits such as lower carbon footprint, less concrete used on-site and less excavated material removed from site
- Bespoke designs available

Catchpit Chamber

Nominal Size (dn)	Height (mm)	+ Max. Pipe Size (mm)	Chamber OD (mm)	Wall Thickness (mm)	Capacity (l)	**Approx. Weight (kg)	Lifting Hole Qty/ da/ per unit
DN1050	* 1000	375	1210	80	650	1380	3no. ø45 lifting holes
DN1200	* 1000	375	1380	90	870	1600	3no. ø16 sockets and loops
DN1500T1	* 1400	525	1800	150	1800	4700	3no. utility anchors
DN1500T2	* 2400	750	1800	150	3300	7700	3no. utility anchors
DN1800T1	* 1500	525	2100	150	2700	Δ 6300	3no. utility anchors
DN1800T2	* 2400	900	2100	150	5100	8300	3no. utility anchors
DN2100	* 2400	1350	2400	150	7000	Δ 11000	3no. utility anchors
DN2400	* 2700	1800	2700	150	10,500	Δ 14000	3no. utility anchors

* Height can be reduced, contact technical department for further details. Based on 300mm sump. If a non-standard invert level is required, please specify when ordering

** Maximum weight of a solid, full height unit with no holes

\+ Based on a standard catchpit only. If larger pipe sizes are required, please contact FP McCann

Δ Lightweight catchpits available on request

VALVE CHAMBER

FP McCann designs and manufactures a bespoke range of reinforced valve chambers capable of housing any size and type of valve/pump. Valve chambers consist of a precast concrete sealed sump manhole with factory-fitted saddles to house the pump, and are used in the management of water, oils and chemicals.

Chamber Diameter	1200 - 3000mm
Chamber Height	900mm
Stool	Bespoke to project requirements
Pipe Size	150 - 375mm
Inlets / Outlets	Will vary to accommodate pipe size
Cover Slab Thickness	Will vary in accordance with chamber diameter
Base Thickness	250mm

PRODUCT BENEFITS

- Immediate watertight structure
- Reduced installation time/costs
- Accommodates connection to all types of pipe, including concrete, metallic, HDPE and clay
- Pump is raised off the ground and sits on a preformed concrete stool
- Easy and clean access for operation and inspection

STORMBRAKE™

A NEW FORCE IN VORTEX FLOW TECHNOLOGY

Vortex Flow Controls are commonly used in drainage schemes to regulate the stormwater runoff from urban areas. Through the use of vortex flow technology, FP McCann's StormBrake™ provides a solution to a variety of stormwater management problems. These include accurately controlling stormwater flow, minimising upstream storage requirements and reducing the risk of blockages compared to traditional orifice plates.

FP McCann's StormBrake™ flow control chamber combines an integral base and side walls with provision for inlet and outlet connections.

It can be used in a number of applications, including:

- As a silt-trap
- As a valve chamber
- As a flow rate controller (requires installation of FP McCann's StormBrake™ flow control device, sold separately)

SIZES AVAILABLE

StormBrake™ flow control chambers are available between DN1200 - DN2400 Bespoke larger units can be manufactured to client specification.

FLOW RATE CONTROL

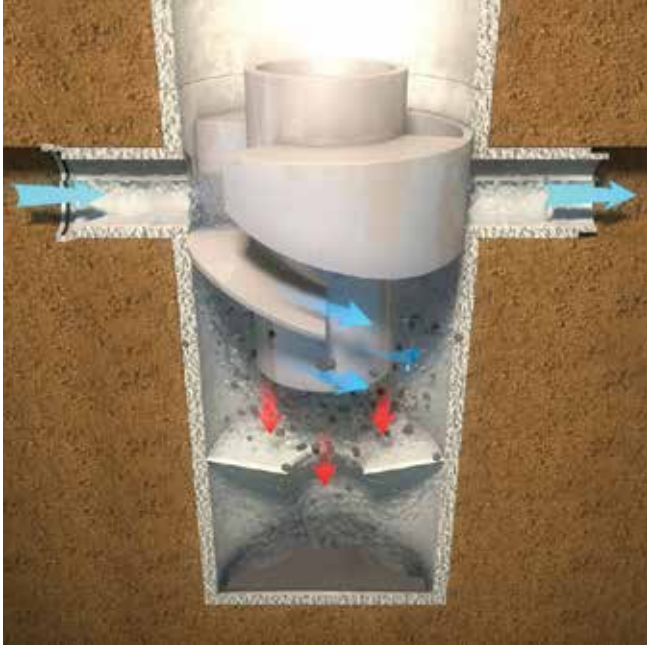
FP McCann's StormBrake™ vortex flow control device is designed to limit stormwater outflow to a specific discharge rate. For further details, contact our drainage sales team.

PRODUCT BENEFITS

- Minimal maintenance required after installation. FP McCann's StormBrake™ is self-activating and functions without any mechanical components
- Outlet areas of up to 6 times larger than an equivalent orifice plate, significantly reducing the risk of blockages and the associated maintenance costs
- Reduces the amount of upstream storage required, minimising the cost of providing attenuation facilities
- Accurately designed to meet a wide range of design conditions. For design conditions outside of this range, please contact FP McCann directly
- Contains a bypass door which can be manually opened at ground level using a pull cable to allow easy access for inspection or blockage removal
- Provides minimal flow restriction at low upstream heads to allow fast discharge of water during the initial stages of a storm

STORMCLEANSER™

HYDRODYNAMIC SEPARATOR



FP McCann has designed and developed a new range of hydrodynamic separators for the treatment of urban catchment stormwater run-off. StormCleanser™ provides a cost-effective solution for designers, engineers and contractors involved in the provision of Sustainable urban Drainage Systems (SuDS). The unit has no moving parts, requires no power and is constructed within standard precast reinforced concrete chamber rings. All internal flow components are manufactured in GRP, ensuring long life performance.

INDEPENDENT TESTING

FP McCann's StormCleanser™ (1200mm diameter model) has been independently tested by WRc at their research and development centre and achieved excellent total solids and hydrocarbon removal at design flow rates.

Total solid removal rates ranging from 85% to 92% have been recorded. The StormCleanser™ has demonstrated high level removal rates when design flows were exceeded.

The system is also effective in the removal of hydrocarbons, litter and other stormwater debris.

OPERATION

The StormCleanser™ is specifically designed to remove suspended solids, hydrocarbons and floatable debris from the stormwater run-off. Water and pollutants enter the system via the inlet pipe and launder channel arrangement. Low energy vortex flow patterns allow the floatables to gather and solids to settle to the bottom of the treatment chamber for subsequent removal. Resuspension of the solids is minimised by the provision of a GRP baffle plate, positioned above the solids storage sump. Floatable debris is retained within the StormCleanser™, allowing easy access for suction cleansing. Stormwater surges in excess of the maximum flow rate, overflow the weir, bypass the treatment zone and are directly discharged through the outlet pipe. This helps to minimize the effects of scour within the treatment compartment and optimises the performance of the hydrodynamic separator.

PRODUCT BENEFITS

- WRc tested and easy to install and maintain
- Effectively removes and treats wide flow range
- Complies with SuDS legislation
- Cost-effective downstream defense mechanism

PRODUCT APPLICATIONS

- Housing developments
- Highway drainage projects
- Commercial/Industrial sites
- Leisure facilities
- Existing surface water sewer discharges
- Pre-treatment for pond and wetland areas
- Sustainable Urban Drainage Schemes (SuDS)

SELECTION CHART

Part Number	PRE EHS/1200	PRE EHS/1500	PRE EHS/1800	PRE EHS/2100
Chamber Diameter (mm)	1200	1500	1800	2100
Treatment Flow Rate (l/sec)	25	35	50	75
Maximum Flow Rate (l/sec)	35	50	100	150
Inlet Pipe Diameter (mm)	300	375	450	525
Outlet Pipe Diameter (mm)	300	375	450	525
Minimum Sediment Storage Sump (m^3)	0.82	1.24	1.64	2.17

STORMCHANNEL™

THE HEAVY DUTY PRECAST DRAINAGE CHANNEL DESIGNED TO REMOVE SURFACE WATER

WHAT IS STORMCHANNEL™?

FP McCann's StormChannel™ is a heavy duty, precast concrete slotted drainage channel designed to remove surface water from many areas, including roads, motorways, car parks, industrial, commercial and residential areas. This helps to prevent flooding and run-off.

FP McCann offers two types of StormChannel™:

1. A precast concrete bullnosed kerb drainage channel has a linear slot drain and a profiled, oblong drainage channel.
2. A standard precast concrete drainage channel with an interrupted slot and stabiliser bars for increased stability.

StormChannel™	Length (mm)	Height (mm)	Weight (kg)	Width (mm)
300 Standard	2500	550	1400	520
400 Standard	2500	740	1700	520
400 Kerb	2500	790	1700	520
500 Standard	2500	805	2300	700
600 Standard	2500	990	2600	700

BENEFITS:

- Quick installation
- Minimal maintenance
- Excellent flow rates even at zero or shallow gradients
- Modular system
- Robust product
- Economical product
- Integrated watertight seal
- No concrete surround required
- Conforms to EN 1433

FEATURES:

- Resilient up to classes D400kN
- 2% surface slope to the slot
- Supplied with interrupted slot only – slot width 30mm
- Standard inner diameter: 480mm x 300mm
- Drainage cross section: 0.125m²
- Spigot and socket end for correct alignment and joining

Additional connections can be provided on request. Junction box sump unit also available in all sizes.

300 Standard | 400 Standard | 400 Kerb | 500 Standard | 600 Standard

GULLIES & SLABS RANGE

GULLY LIFTER

GULLIES

Dimensions (mm)			Nominal Weight (Kg)	Approx. Capacity (litres)	No. per load
Diameter Internal	Depth	Outlet			
375	750	150	180	51	66
375	900	150	200	67	66
450	750	150	215	71	60
450	900	150	255	95	60
450	1050	150	270	118	60
450	1200	150	280	142	60

GULLY COVER SLABS

Dimensions (mm)	Standard		Horseshoe	
Length (A)		750		600
Width (B)		650		650
Thickness (C)		100		100
Weight (kg)		70		58
Hole Size (D)	375	450	375	450
Qty/Pack		12		12

The Gully Cover Slab is designed as seating for a gully grate

PRODUCT BENEFITS

- The seal has been cast-in, thus preventing loss or damage on-site
- An integral seal and rodding eye for universal sealing characteristics
- The rodding eye closure has been recessed into the concrete to help eliminate dislodgment
- Reduced thickness, giving reduced weight and a smaller footprint for better vehicle utilisation
- Improved system that helps prevent any discharge of oil
- The gully is fully universal, suitable for all plastic and clay drainage products from 160mm to 186mm diameter
- Does not lose shape
- Does not float (self weight inhibits flotation)

PRODUCT BENEFITS

- Quicker to lay, ensuring reduced labour costs
- Use on top of 450mm diameter gully
- Eliminates laying engineering bricks on-site
- Sits flush to kerb for enhanced stability
- 100mm thick single piece unit
- Eliminates brickwork vertical joint ‘weakspots’
- Greater stability than brickwork
- Quality product produced by vibration process
- Compressive strength similar to Class B.Eng. bricks

STANDARD GULLY COVER

HORSESHOE GULLY COVER

Note: Gullies and Gully cover slabs manufactured in accordance with BS 5911-6

ADD-A-STEP®

MODULAR MANHOLE LADDER

ADD-A-STEP® modular ladders are designed to allow easy access to chambers and are approved for use in potable water, waste water, highly corrosive and general construction applications. They are a cheaper, safer and a more user-friendly alternative to traditional stainless steel ladders.

The ADD-A-STEP® modular ladder system is designed to provide a product that can be supplied off-the-shelf for next day delivery. Each module of the ADD-A-STEP® ladder consists of two stiles, one rung and two retaining clips. Each stile measures 360mm long, 80mm wide and 32mm thick maximum dimension. The ladder width outside the stiles (upright) is 435mm.

The ADD-A-STEP® ladder has 30mm diameter rungs at 300mm centre spacing and the width or foot space inside the stiles is 375mm. Two types of wall brackets are supplied as standard, one for circular and one for square chambers. The ladder can be assembled on-site using the number of modules to achieve any length and can be trimmed to length using a standard hand saw without the need for expensive cutting equipment.

ASSEMBLED IN MINUTES

STAINLESS STEEL PULL-UPS AVAILABLE TO SUIT EX STOCK

BENEFITS

The modular design allows for more economical transportation than fully assembled ladders. The ADD-A-STEP® ladder requires no maintenance other than occasional cleaning with a pressure hose, if desired. The ladder has excellent insulation properties so it can be used in applications where electrical cables are present. Constructed from polybutylene (PBT), which is UV tolerant, it is a non-corrosive and a fully recyclable material; it can easily be cut on-site with no harmful shards or dust given off.

The ADD-A-STEP® ladder helps to reduce potential health and safety risks. At approximately 5kg per linear metre, the ladder is significantly lighter than galvanized or stainless steel alternatives and its yellow colour gives it high visibility properties, making it clearly visible when the manhole cover is raised. It is also a cheaper and more user-friendly alternative to traditional stainless steel manhole ladders. The ADD-A-STEP® system is fully compliant and tested to BS EN 14396, and is the only CE marked modular ladder system in the UK.

PLASTIC ENCAPSULATED LADDERS & RUNGS

This ladder system gives the user benefits of a durable plastic encapsulated ladder without the need to specify an exact length or fit on-site. In addition, a single specification can be used for all depths of access.

PRODUCT SPECIFICATIONS

BS EN 13101	Plastic Encapsulated Steps
WIS 4-33-01: 1990	Polypropylene Encapsulated Steps

PRODUCT APPLICATIONS

Concrete manholes and inspection chambers.
Renovation of existing structures.

MATERIALS

The plastic encapsulated ladder has a bright yellow coating and is made from high impact virgin polypropylene copolymer plastic. If the ladder is to be subject to prolonged exposure to daylight then black or UV stabilised material should be specified. It is reinforced with structural steel.

PERFORMANCE

Pull out load:	7.5kN minimum, when fitted in accordance with manufacturer's instructions
Deflection under load:	5mm maximum at 2.5kN
Permanent Set:	0 mm at 2.5kN
Impact:	20kg weight from 1 metre, no cracking
Chemical Resistance:	At least pH2 to 12
Integrity of plastic:	2M ohm at 500 volts DC
Thickness of plastic:	3mm minimum
Minimum cross section:	25mm diameter

PRODUCT BENEFITS

- Excellent corrosion resistance
- Visibility
- No sharp edges
- Eliminates need to specify exact length or fit on-site
- Steel reinforcement gives predictable deflection under load without causing brittle failure

HANDHOLD ENTRY POLE SYSTEM

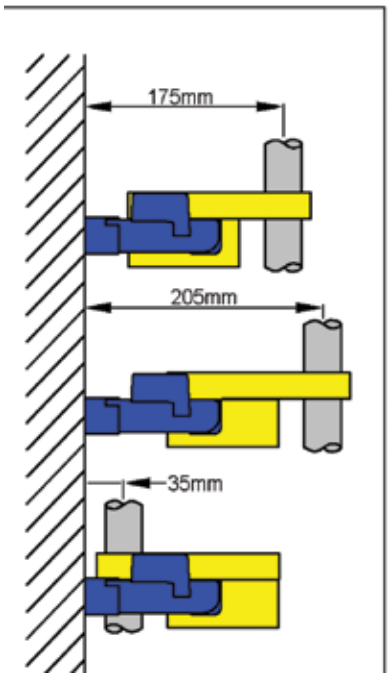
The handhold entry pole system is suitable for aiding maintenance engineers in the initial entry into a manhole from the surface level. Once fitted, the entry pole is a permanent fixture within the manhole, which is stored in the lowered position beneath the level of the cover. When required, the entry pole can be easily extended by simply hooking the easy-to-reach loop located at the top of the pole, pulling the handle upwards and twisting, locking into position. The handhold then provides a stable support to aid the entrance of the manhole, as well as a clear visual indication of the location of the manhole, when open. This helps prevent injury of other people in the area. Once the engineer has used the entry pole to aid their return to the surface, the pole is simply twisted to unlock it from the raised position and lowered back into the manhole, ready for the next time it is needed.

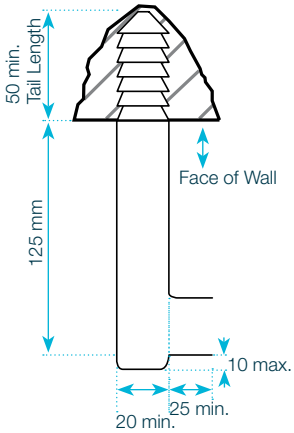
SPECIFICATION

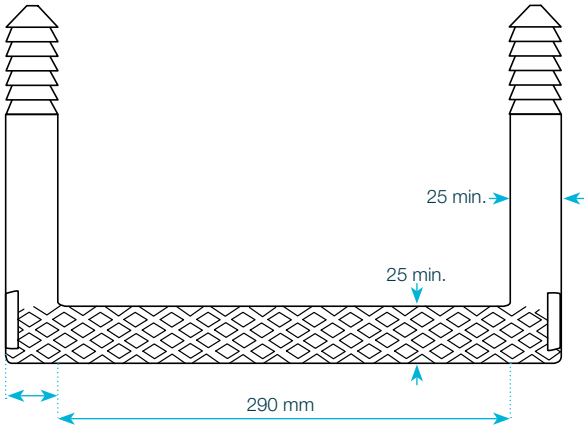
The handhold has a pole length of 1200mm and can be assembled to give three different distances from the pole to the wall. This is designed to accommodate different cover positions.

PRODUCT BENEFITS

- Helps the user find the first step safely
- Creates visual aid to indicate location of manhole to other people in the area
- Easy to fit
- Easy to raise and lower
- High strength for ultimate safety
- Low cost
- Can be fitted to any Caswick step
- Two projections for round or flat walled manholes







HEADWALLS

FP McCann's precast concrete headwalls provide an ideal end connection point to outfall pipes into open watercourses such as rivers, culverts, collection and balancing ponds. They are a very efficient alternative to intrusive shuttering of soil embankments and costly on-site formwork with ready-mixed concrete, making them particularly suitable for use in hard-to-reach locations and in environmentally sensitive areas.

Where time constraints exist such as in tidal flow situations, concrete headwalls can be quickly positioned, secured and backfilled, providing immediate stability around the point of water discharge.

The FP McCann headwall range can accommodate pipe sizes from DN150 to DN2100 and is suitable for usage with box culverts. Additionally, accessories such as flap valves, penstocks, silt traps, handrails and safety grating can be added as part of the specification.

A front weir wall can be fabricated onto any of the standard headwall range, on request, and installation is quick and easy.

KEY SITE SAFETY BENEFITS

Safety hand rails can be used with our full range of headwalls. Health and safety risks are minimised because the construction work takes place off-site and installation is quick and easy.

Please note: Bespoke grates and handrails are available on request. Please contact FP McCann for information on correct installation

Small Headwall

Medium Headwall

Large Headwall

XL-T4 Headwall

XXL-T2 Headwall

PRODUCT BENEFITS

- Headwalls are designed to EC2 and manufactured to BS EN 13369. (Full design calculations available to illustrate design assumptions).
- Prefabricated off-site
- Speedy and efficient to install
- Durable, long-lasting and low maintenance
- No on-site shuttering or formwork required
- Provides immediate stability and reduces soil erosion
- Valve and safety accessories available
- Cost-effective solution
- Significantly reduces the potential for floating debris to block the watercourse
- Installation with 2 or 3 lifting anchors
- Flap valves and grates available
- Reduces carbon footprint as no need to bring in lorries to site to pour in-situ
- The extended toe unit is available for all sizes making the entire headwall range compliant with Sewers for Adoption (SFA) and Sewers for Scotland
- Headwalls meet the requirements indicated in Fig. C.5 (typical details) of Sewers for Adoption

Headwall Range	Up to & including Pipe Sizes	Max Pipe O.D. mm	Approx. Weight (Kg)
HW Small 100	300	450	1100
HW Small 150	300	450	1390
HW Medium 100	450	630	1540
HW Medium 150	450	630	2020
HW Large 100	900	1080	3020
HW Large 200	900	1080	4740
HW XL-T1	1500	1800	Part A / B 4725
HW XL-T2	1050	1260	Part A / B 4095
HW XL-T3	675	885	Part A / B 3465
HW XL-T4	375	505	Part A / B 2646
HW XXL-T1	2100	2460	Part A / B 10,150
HW XXL-T2	1500	1800	Part A / B 9205
HW XXL-T3	1050	1260	Part A / B 8421
HW XXL-T4	525	675	Part A / B 6915

NB: The above dimensions are in mm.

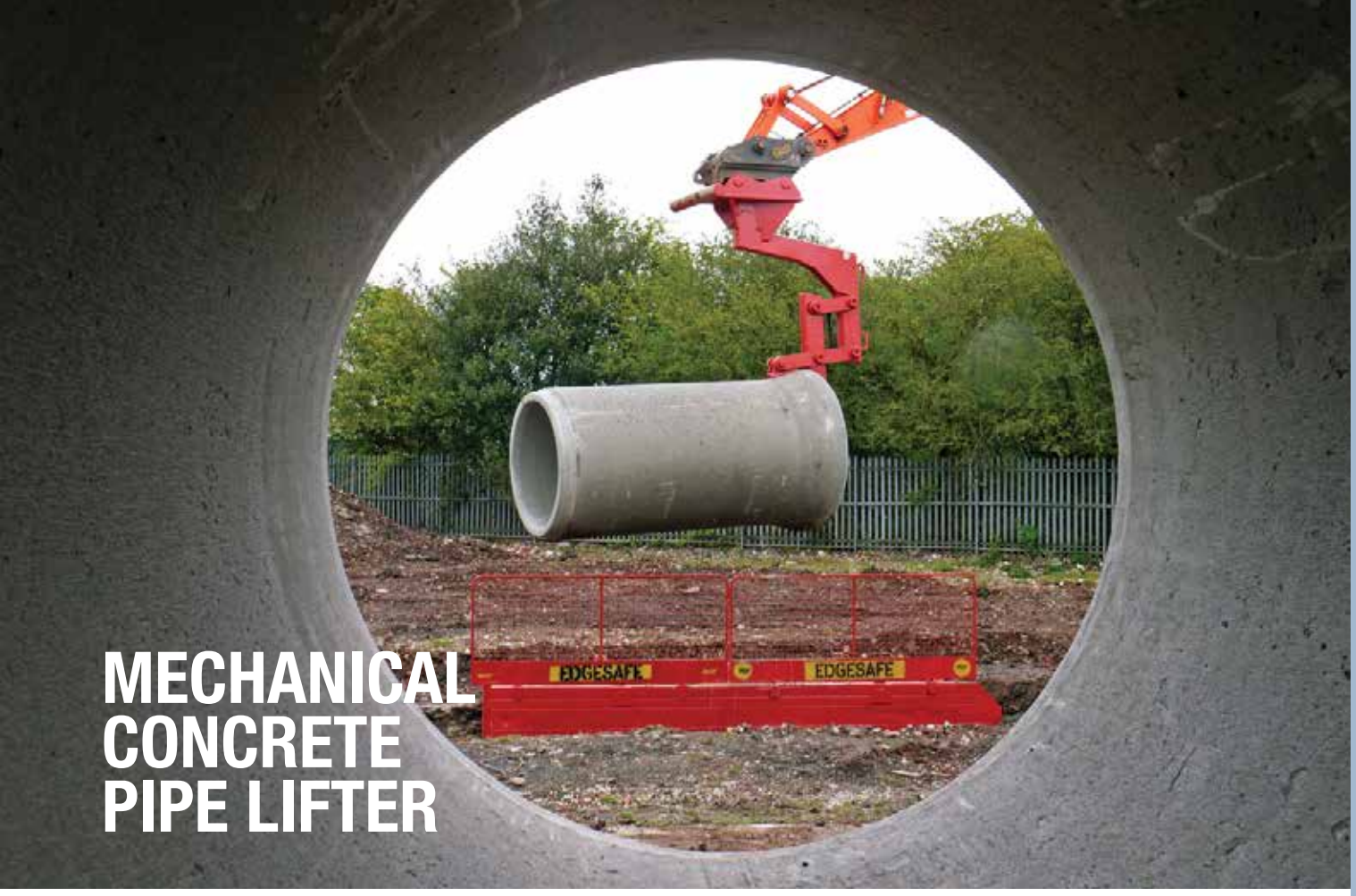
ACCESSORIES

Please note: Bespoke grates and handrails are available on request. Please contact FP McCann for information on correct installation

Typical
Front Wall Grate

Typical Basket Grate

Typical
Handrail



MECHANICAL CONCRETE PIPE LIFTER

Fit a pipe lifter to your excavator and you can lay concrete pipes in around half the time with less cost and less hassle – but with greater safety.

Safer. No operative needed on vehicle during off-loading or in trench during pipe laying.

Easier. Simple to use. No special equipment & minimal training required.

Faster. Around 50% saving on installation time.

Cheaper. Fewer operatives plus greater productivity.

The Concrete Pipe Lifter makes light work of the installation of waste water pipelines. Within seconds, it can be attached to your excavator using a quick-hitch coupling. There are no hydraulic links or additional energy requirements.

There is no need for anyone to stand on the bed of the vehicle during off-loading (the biggest cause of accidents during pipe laying). There's no need for anyone to stand in the trench during installation and there are no slings or chains to trap hands and fingers. The whole operation is around 50% faster and you can reduce the size of your pipe laying team, so costs are lower too.

The Concrete Pipe Lifter is suitable for standard UK specification BS EN1916 concrete pipes from DN300 to DN1200.

The Manhole Lifter is a companion device that makes lifting manhole rings a safe and easy, one-man operation. It eliminates the risk of vehicle falls during off-loading. There are two versions available for precast concrete manhole rings from DN900 to DN1800 and from DN2100 to DN3000. It's capable of lifting rings from 250 mm to 1000 mm deep.

To buy or rent the Pipe Lifter, contact BPDA's supply partners visit: concretepipelifter.co.uk for details

KNOW YOUR LIFTERS

All of the precast concrete drainage products manufactured by FP McCann feature a lifting system to allow safe off-loading and installation in an efficient manner. Each system is suited to each type of product.

The information below will allow you to determine what lifting attachments are required. This list is not exhaustive and may be subject to change. Please contact FP McCann's technical department if you are unsure about any aspect of lifting. Please be aware that it is the contractor's responsibility to ensure all lifts are safe and compliant with legal requirements.

If you do not have the correct lifting equipment, please contact our sales department who will be happy to assist. Please ensure you have ordered lifting equipment to arrive on-site, ready for when your load is delivered!

Unless otherwise stated, FP McCann will only supply the eyes or attachments. Correct chains will need to be sourced by the contractor. Unless otherwise specified, access to the trailer will be required to insert the attachments.

PRODUCT	LIFTERS REQUIRED		NOTES
900 to 1800 Standard Chamber Rings and Soak-away	3No M24 Lifting Eye Pins inserted into holes through the ring wall.		Eyes should be on the INSIDE of the ring.
2100 to 3000 Standard Chamber Rings and Soak-away	4No M30 Lifting Eye Pins inserted into holes through the ring wall.		Eyes should be on the INSIDE of the ring.
3600 Standard Chamber Rings	3No RD30 Lifting Loops screwed into the top face of the ring		Please be aware that the loops are not intended for prolonged use.
4000 Standard Chamber Rings (2 part)	4No RD36 Lifting Loops screwed into the top face of the ring		Please be aware that the loops are not intended for prolonged use. Instructions for handling are shown on the product itself.
1200 to 1800 Wide-Wall Chamber Rings	3No 5t Spherical Head Clutch		Attach to the OUTSIDE of the ring.
300 to 1200 Standard Pipes and Fittings	Pipe Grab (below) or Slings		Slings are not supplied by FP McCann. **DO NOT USE HOOKS!** These can damage the pipes and can be dangerous!
1350 to 2100 Standard Pipes and Fittings	10t Spherical Head Clutch and Chain Sling Set		Clutches and chains allow safe lift and easy installation of units.
2400 Standard Pipes and Fittings	20t Spherical Head Clutch and Chain Sling Set		12-20 tonne shackle 2 leg lifting chain only
All Diameters of Standard Cover Slabs	None		Chain Hooks can be attached directly to all of our standard slabs without further equipment required.
Small Headwalls	2 No. 24mm Lifting Loops		Please be aware that the loops are not intended for prolonged use. Instructions for handling are shown on the product itself.
Medium & Large Headwalls	3 No. 24mm Lifting Loops		

MECHANICAL GRABS - The quicker, easier and safer option for handling rings and pipes. These attachments connect to site plant and allow off-loading and installation without any need for access to the trailer bed. Mechanical grabs are available for pipe diameters DN300 to 1200 and for ring diameters of DN900 to 3000. For further information, contact your sales representative. Easi-bases, headwalls and flow-control chambers come supplied with the correct lifters ready for use. Catchpits should be handled with a mechanical grab. All lifters supplied by FP McCann come with appropriate certification and are ready for use. Lifters should be incorporated into the contractors lifting equipment inspection regime under LOLER regulations or disposed of after use.

SAFE LIFTING OF STANDARD PRECAST CHAMBER RING SECTIONS

When lifting chamber ring sections with lifting eyes, it is important that the eyes are passed from the inside of the ring and the nut is attached to the outside of the ring to secure the pin. Hooks must be attached to the eyes on the inside of the chamber and lifted in a safe and controlled manner.

Lifting with the pins installed in any other way is dangerous and should not be attempted in any circumstances.

Lifting with the eyes on the outside is NOT safe and can crush the concrete section. When using lifting eye bolts with the nut not attached, the ring can become damaged or the eyes can pull out of the concrete.

Please be aware that precast concrete rings are fragile. They have thin walls and are not reinforced, and can be easily broken when handled incorrectly.

INCORRECT

Eyes passed through from the outside with hooks connected to the outer face of the ring. Pins can come loose if nuts not applied or the self-locking mechanism has not engaged and the concrete can be crushed by the chains.

CORRECT

Eyes passed through from the inside with the plate and nut applied to the thread on the outside, or self-locking mechanism engaged. Hooks are connected to the inside of the ring to allow for a safe lift with straight chains.

For safe lifting in situations when access to the product is restricted (i.e. when stacked high or on a trailer bed, a mechanical grab should be employed). Wide wall chamber rings are lifted via a different method (see page 18).

Bespoke chamber components such as Easi-Bases™ and StormBrake™ Flow Control Chambers will feature a separate handling method. Reference should be made to appropriate drawings or handling information.

STORM-HOLD™

LARGE DIAMETER PIPE STORMWATER MANAGEMENT SYSTEM

The production of water-impermeable surfaces in construction is inevitable. This includes roof areas on buildings, car parks, loading bays and road pavements. The provision of these surfaces interrupts the natural drainage process, creating increased stormwater run-off in respect of both volume and flow rate.

In many cases, this increase in stormwater flow and volume is a problem as the local sewer or watercourse does not have the sufficient capacity to cope. This problem could be alleviated by an increase in the size of the stormwater sewer or watercourse, thus providing the capacity within the drainage system to cope with the increased surface water. This, however, may be expensive, cause major infrastructure disruption, and can often be completely unfeasible.

Legislation under Planning Policy Statement 25 and Building Regulations approved Document H3 for flood risk assessment (SuDS), has created the need for planners and developers to design and install effective stormwater management systems.

The types of systems that can be employed to overcome these issues are well documented and varied. Quite often they can be very technically demanding in their operation, maintenance and construction. The selection of a system will depend on site constraints, position, expected loading, geographical limitations and inevitably cost.

The Storm-Hold system offers a complete solution to the stormwater attenuation problem and utilises a tried, tested and approved method of stormwater storage. FP McCann can provide the complete package of design, product specification and supply of products and installation advice.

PRODUCT FEATURES

- Available in a range of sizes
- Can use and combine a number of techniques and products such as pipes, culverts, tanks, manifold systems and soakaways
- A complete solution with all connections
- Established and familiar products
- Can be laid in short lengths
- The system can be adapted to load-bearing and non-load bearing applications
- 120 year design life
- Adoptable by water companies
- Manufactured in accordance with a BSI accredited quality management system conforming to ISO 9001
- Available straight from stock

STRUCTURAL

The inherent structural strength of concrete is well documented and can be designed to meet the severest of loading criteria.

Storm-Hold systems can be tailored to suit low load situations, for example, when the tank is to be situated below verges or gardens.

BENEFITS

- System can be designed specifically to suit the application
- Quick construction using a standard joint
- No need for fabrication on-site or external specialist contractors
- Straightforward installation using known techniques, no need to retrain
- Can be installed under roads and car parks
- Can cope with construction plant loading
- Flotation is not a concern – no need for geotechnical anchors when located below the water table
- Long term solution

DESIGN

The design of the system can be tailored to suit most structural and hydraulic criteria.

RELEVANT LEGISLATION/ INFORMATION

- Planning Policy Statement 25 (PPS25) December 2009
- Department of Communities and Local Government (DCLG)
- Future Water February 2008, Department for Environment, Food and Rural Affairs (DEFRA)
- The Pitt Review, Learning Lessons from the 2007 floods by Sir Michael Pitt
- The Code for Sustainable Homes February 2008, Department for Communities and Local Government (DCLG)
- The SuDS Manual 2007, CIRIA C697
- Sustainable drainage systems - Hydraulic, structural and water quality advice 2004, CIRIA C609
- Flood and Water Management Act 2010

FP McCann's Storm-Hold systems can be designed to suit a wide range of construction projects and drainage schemes. Precast concrete attenuation components include products such as side entry manholes, stop end bends and spigot and socket end wall pipes.

These products can either be engineered into an on-line sewer pipe system or utilised off-line as single or multiple stormwater holding tanks. All FP McCann storm attenuation products comply with the requirements set out within 'Sewers for Adoption 7th Edition' and are made from Kite marked precast concrete components, which comply with the relevant Standards: BS EN 1916 / BS 5911-1 and Manholes BS EN 1917.

For details on material cost savings whilst using concrete drainage, vist the BPDA website **www.precastdrainage.co.uk/calculators/material-cost**

STORM-HOLD™

LARGE DIAMETER PIPE STORMWATER MANAGEMENT SYSTEM

EXAMPLES

Spigot and Socket Tank End Wall Pipes (Adaptor/Fitting - BS EN 1916)

- Consists of a standard 2500mm long flex pipe with a cast-in end wall. Inlet/outlet holes are generally cored into the wall

Side Entry Manholes (Junction - BS EN 1916)

- Entry shafts factory-fitted to pipes 900mm diameter and above
- Ideal for use in restrictive locations where conventional manhole build is not possible
- Can be supplied in left or right hand configuration. Access steps can be fitted, if required
- Can be used in conjunction with an end wall pipe
- Additional chamber sections or a reducing slab can be used to build height

Stop End Bends (Bend - BS EN 1916)

- Tank end access for pipes 900m diameter and above
- Access steps fitted, if required
- Drainage inlet/outlet holes cored, as requested
- Additional chamber sections or a reducing slab can be used to build height

Side Entry Manhole with Bend (Junction/Bend -BS EN 1916)

- 2500mm long Easi-Flex standard pipe with cast-in bend
- Entry shaft fitted to pipes 900mm diameter and above

Mid Entry Manholes (Junction/Bend BS EN 1916)

- Standard pipe with a sealed manhole joint, complete with fitted slab
- Manhole joint and slab factory-fitted to pipes 1200mm and above
- Access to the tank via winch or removable ladder. Reduced access via slab, available on request
- Additional chamber sections or a reducing slab can be used to build height

End Entry Manholes (Junction - BS EN 1916)

- Standard pipe with a sealed manhole joint, fitted slab and cast-in end wall
- Manhole joint and slab factory-fitted to pipes 1500mm diameter and above
- Drainage inlet/outlet holes cored, as requested
- Access steps factory-fitted, if required

PRODUCT BENEFITS

- Flexibility of design - adaptable to meet client requirements
- Products can be used in space restrictive on-line sewer systems, providing the required storage volume
- Reduction in construction times
- Quality assured and kite marked products used
- Sustainable systems with design life in excess of 100 years
- Site safety benefits related to reduction of man hours spent in excavation
- Ease of access for maintenance
- Can be linked to other SuDS related systems such as rainwater capture and re-use

Note: Concrete haunching should be used to provide local stiffening to the concrete pipes with manhole entries. Use a minimum 150mm thickness surround to the pipe, extending to a height of 300mm above the pipe, in order to support the shaft joint.

STORMSTORE™

TANK AND CHAMBER SYSTEMS

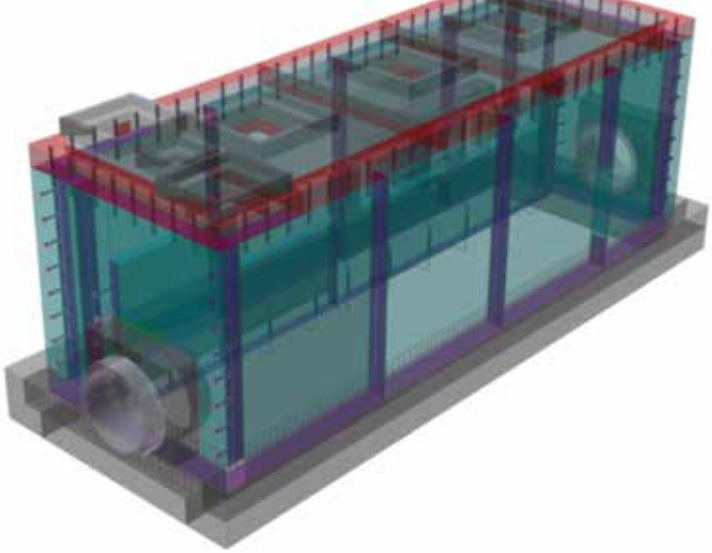
FP McCann's Stormstore™ range of precast tank and chamber systems is the most extensive in the UK. Products manufactured include StormTank™ bespoke precast concrete panel system, StormChamber™ bespoke precast concrete chamber system, a precast concrete storm and waste water management system called Modular Tank System and StormHold™ stormwater management system. Complementary products include StormCleanser™ hydrodynamic separator, StormBrake™ vortex flow control system and StormChannel™ heavy-duty precast concrete slotted drainage channel.

KEY ADVANTAGES OF OUR RANGE

- From receiving the specification, designs can be returned within 2 days
- Complete design package provided, including calculations and drawings
- Manufactured off-site, including factory-fitted pipework and flow control connections, ensures consistent quality, lower construction costs, faster installation and lower health and safety issues
- Design service life of 100 years
- Overall cost of the project can be estimated no matter how complicated the design
- Bespoke designs can be used for reproductions and for future alterations
- No vertical shuttering required, unless an in-situ floor is installed
- Complies with all relevant British Standards and Eurocodes

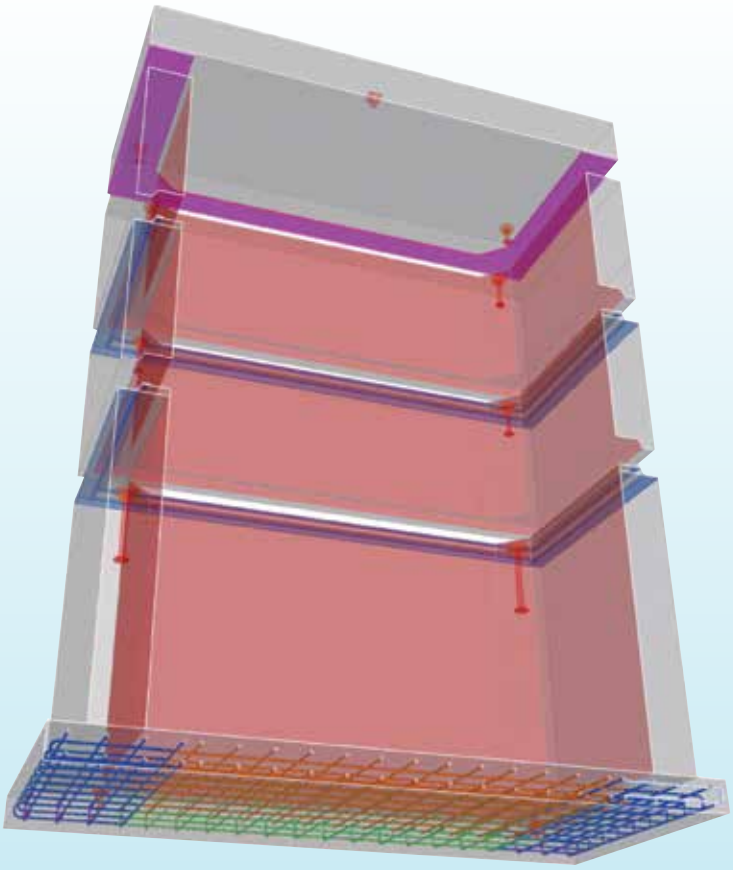
PARAMETRIC DESIGN

ONE DESIGN FOR ALL STRUCTURES



FP McCann's precast tank and chamber systems are designed using parametric 3D modelling. Specification details such as length, width, depth and loading category are entered into our in-house system by our design team; along with additional options such as pipe entries, which will instantly produce the drawings, schedules, price etc.

All multi-purpose chamber and panel systems are designed to BS EN 1992 and are CE marked.



THE DESIGN PROCESS...

Design parameters are entered on the system by FP McCann

↓

Rudimentary details produced, including price and drawing

↓

Once approved, additional design details are entered on the system

↓

System produces automatic production drawings, steel schedules, customer drawings and dedicated calculations

↓

Approval obtained from client by signing drawings and calculations

↓

Production commences

STORMCHAMBER™

MULTIPURPOSE CHAMBER SYSTEM

FP McCann's StormChamber™ multipurpose chamber system is a single piece chamber system made up of a base unit, risers and cover slab to suit chamber depth and the specific application. A 3D dimensional drawing is available on request. This flexible modular system is suitable for most tank and chamber applications.

STORMCHAMBER™ – INTERNAL DIMENSIONS

1250 x 1250mm	2500 x 2000mm
1500 x 1500mm	2500 x 2500mm
2000 x 1500mm	3000 x 2500mm
2000 x 2000mm	3000 x 3000mm

The above size range do not generally have toe units.

Sizes above 3000x3000mm up to a maximum size of 5000x3500mm. The length and width of these chambers can be adjusted up/down in 250mm increments to suit requirements. The height of the chamber is flexible up to 6 metres, with 8 metres possible, subject to calculations.

If chamber dimensions are critical and don't fit with the above range, we can usually offer a solution.

TYPICAL CONSTRUCTION/ INSTALLATION

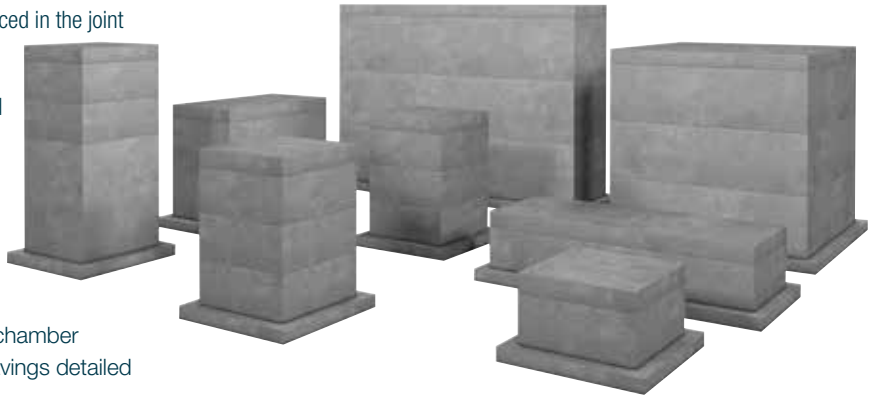
(Subject to specific application)

- Base unit is placed on level concrete blinding or type 1 sub base
- Riser unit/s are placed onto the base unit, if required
- Hydrophilic swell, butyl sealant and bearing strips are placed in the joint between the base unit and riser unit/s
- Internal wall is fitted at factory or at site and is connected with threaded rod, nuts and washers
- Pipework is connected and backfilling takes place
- Cover slab is bedded on with high strength mortar, contained to the inside by butyl sealant strip

You should consider the overall installed cost of the chamber when taking into account all the benefits and cost savings detailed below, not the upfront material cost.

BENEFITS

- Concrete surround is not required, saving time and money on site installation. Up to 85% reduction in on-site construction programme
- Pipe penetrations are done at the factory, avoiding the need for cutting or core drilling on site
- Weir walls, flow controls etc can be factory fitted, if required. Up to 95% reduction in site man-hours for pit construction
- Virtual elimination of on-site waste
- 55% reduction in lorry movements for deliveries
- Traffic calming/ management reduction
- Elimination of need for confined space working
- Significant reduction in site noise
- Clear openings to suit requirements
- Reduces enclosed spaces work and working at depth
- Reduction in Health and Safety and Dynamic Risk Assessment issues
- Enhanced functionality - product can be designed for future alterations
- A flexible modular system with a high quality factory finish
- Greatly reduces long term maintenance costs
- Smaller units may be adjusted using alternative increments, if required



STORMTANK™

MULTIPURPOSE PANEL SYSTEM

The StormTank™ multipurpose panel system is an underground structure consisting of wall panels, an in-situ or precast concrete base and cover slab, which are assembled on-site by the contractor or an approved installer using a range of standard jointing types. The panels can be made with cast-in pipe connections, recesses and openings and have penstocks or flap valves pre-installed. Internal weir-walls, overflows, underpasses and baffle walls can also be incorporated into the structure.

This system can be used for a variety of uses such as CSO chambers, storage tanks, large size manholes, pumping stations, valve chambers etc. The main advantage of using this system is that there is no size limitation, except for the height, which cannot exceed six metres, with a two metre overburden. A detailed installation guide is available. Please contact FP McCann for further details.

PRODUCT APPLICATIONS

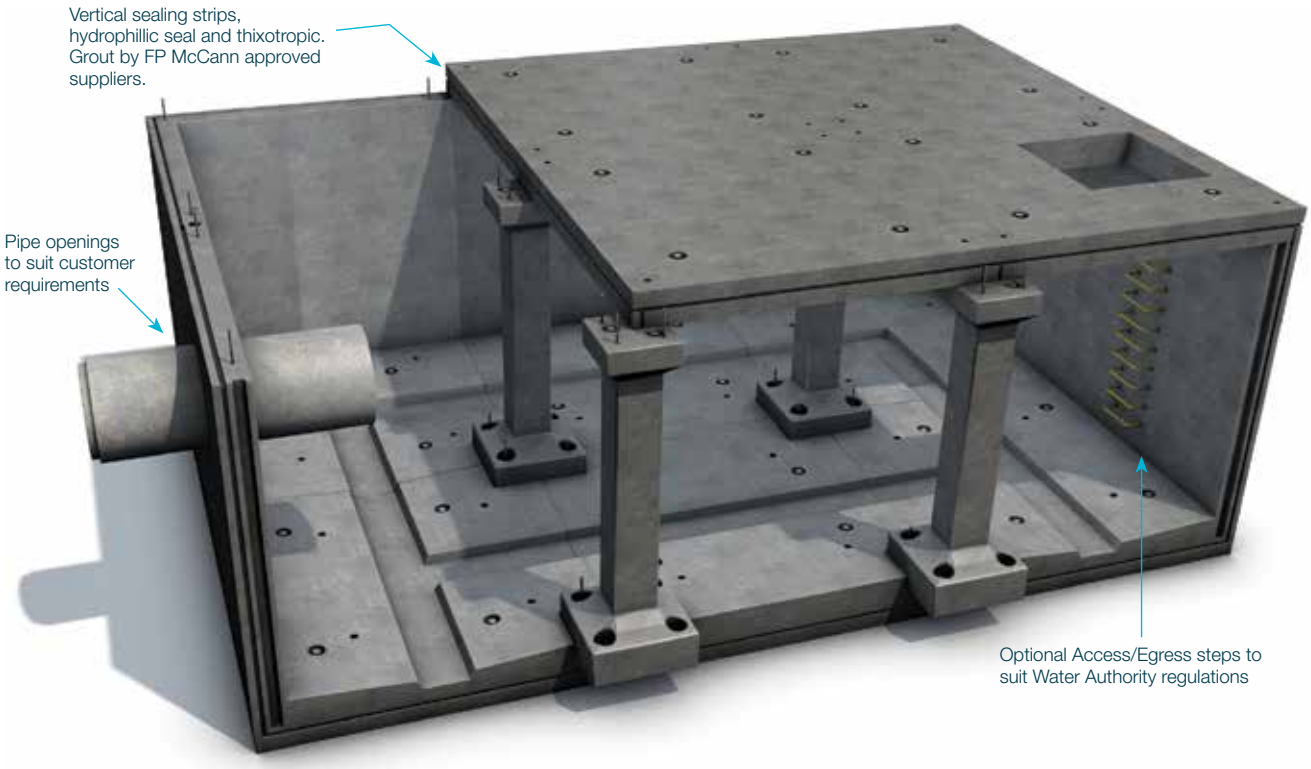
- Air-infiltration chambers
- Hydro-brake chambers
- Large CSO chambers
- Water storage tanks
- Pumping stations
- Attenuation tanks
- Large manholes
- ASP structures
- Sludge tanks
- Basements
- Headwalls

wrc approved™
PT/433/0119

MODULAR TANK SYSTEM

wrc approved™ PT/363/0715

FP McCann's modular, storm and waste water management system provides a multifunctional, durable solution for the detention, retention, infiltration, harvesting and treatment of water, comprising of a combination of standardised precast concrete elements, which are designed to solve your storm and waste water management needs.



Detention
StormStore™ provides a cost-effective solution for site applications where stormwater needs to be detained and allowed to discharge at a controlled rate.

Retention
StormStore™ retention systems are ideal for applications where the goal is to retain rainwater or stormwater for some type of harvest and reuse applications.

Infiltration
Eliminate the issues created with discharging stormwater off-site by using a StormStore™ to infiltrate stormwater into the soil for natural treatment and to replenish local aquifiers.

Harvesting
Water harvesting is the collection, storage, cleaning and recycling of stormwater to replace or reduce the consumption of municipal potable water.

Treatment
Stormwater treatment options such as pre-treatment, post-treatment and oil water separators are available as stand-alone systems, as well as integration with StormStore.

BENEFITS OF MODULAR TANK SYSTEM

MANUFACTURING BENEFITS

- Manufactured locally
- Bespoke inlets and outlets
- An adoptable system which can cater for the 1 in 30 and 1 in 100 year storm event
- FP McCann uses state-of-the-art tooling to manufacture products of the highest quality
- A fully modular system encompassing inherent health and safety benefits

MAINTENANCE AND CLEANING BENEFITS

- The StormStore system excels where most other systems fail, incorporating features that provide maximum system performance and life cycles. As with all stormwater systems, inspection and maintenance of the StormStore system is vital for satisfactory performance and extended life cycle of the stormwater management system
- A self-cleansing and easy maintainable system which includes silt collection areas
- Designed to create safe walking channels during the maintenance, cleaning and inspection process
- Easily inspected visually, offering reduced inspection costs
- System provides clear lines of sight to aid health and safety during maintenance and cleaning

DESIGN BENEFITS

- Complies with BS EN 1992
- Grated inlets may also be incorporated to accommodate surface stormwater flows directly into the StormStore system, reducing the requirements for conventional site drainage components. Any grated inlets may also include pre-treatment devices for pollutant removal
- Standard units reduce design cost
- No requirement for in-situ structural topping to roof slab – offering reduced fill depths and cost savings
- Fully accessible system with the option of including step rungs or ladders
- A fully modular system that brings with it inherent health and safety benefits
- The design and performance meets CESWI 7th edition
- Standard internal heights from underside of roof slab to the channel inverts of 1500, 1800, 2100 and 2400mm. All available with either 1 in 4 or 1 in 20 benching gradients
- The system fully meets CE Marking requirements
- The system and installation is approved by WRc
- Complies with Sewers for Adoption 7th edition and Sewers for Scotland 3rd Edition 2015
- Precast elements manufactured using concrete with a DC4 design chemical class in accordance with BRE SD1
- Up to 2.5m overburden with a 10kN/m² surcharge
- 100 year design life
- Complies with watertightness class 1 of BS EN 1992-3
- Assumed water table at roof slab level
- Suitable for use within wastewater and stormwater drainage systems

INSTALLATION BENEFITS

- Potential savings on temporary works
- Reduced disruption due to speed of installation
- No need to wait 28 days before back filling. Backfilling can follow on after installation
- No requirement for in-situ concrete topping to roof slab
- No requirement for on-site in-situ benching
- No requirement for in-situ joint-stitching

DRY WEATHER FLOW CHANNELS

Prefabricated dry weather flow channels for pipes and box culverts are available. Half round (or equivalent) channels can be cast into the floor of the units at any position, with a choice of equivalent half round diameters.

BOX CULVERTS

TYPICAL CULVERT

Units are available in internal span sizes from 1000mm to 6000mm and internal heights from 500mm to 3600mm, with unit lengths to a maximum of 2000mm, dependent on final mould configuration (please refer to internal dimensions chart opposite).

DRY WEATHER FLOW CHANNELS

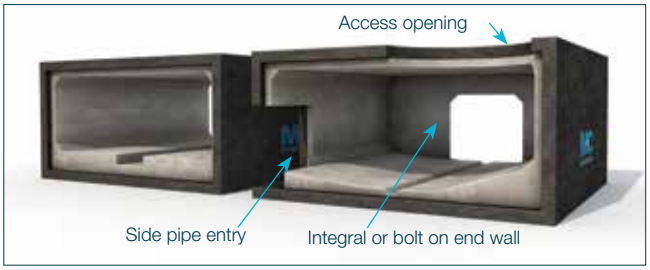
Half round (or equivalent) channels can be cast into the floor of the units at any position, we offer a choice of equivalent half round diameters.

BENCHING

Combined with either a channel or cast as a “vee”, benching improves self-cleansing flow rates.

MAMMAL LEDGES

Cast-in mammal ledges allow access through the culvert to wildlife without the requirement for extra site provisions.



SPECIALS

Bespoke units accommodating a variety of features can be manufactured to our customers’ design requirements.

The proven strength and performance characteristics of precast concrete box culverts, together with their excellent service life, make them ideal for a wide variety of civil engineering and construction applications. Box culvert sections can be manufactured in a variety of internal profiles and sizes, offering exceptional versatility in the uses to which they can be applied.

In addition to the more common use for diverting water courses, box culverts have been used in an array of applications including balancing tanks, pedestrian subways, access shafts, service tunnels, sea outfalls, road crossings and many other situations where the whole life costing consideration requires strength, durability and economy to be of paramount importance.

Unlike other materials such as steel, precast concrete box culverts do not require additional treatments to prolong their life or improve performance. The concrete surface will not rust and the smooth internal finish of the box culvert ensures optimum flow of water through the concrete structure.

Precast concrete box culverts fulfil the current design life requirements for buried structures. With minimum maintenance and the ability to provide many years of service, precast concrete box culverts are the most cost-effective means of diverting water courses, especially with the ever present risk of corrosive elements in the water or soil.

Whilst the methods and procedures for the installation of precast concrete box culverts are familiar to contractors, careful attention to detail will lead to safer working, a smoother flow of operations and a higher standard of finished culvert. Box Culvert installation and jointing details can be downloaded from **www.fpmccann.co.uk/box-culverts**

This guide provides a reliable checklist for anyone engaged in the installation of box culverts. It is published to encourage good practice in the use of precast box culverts.

INSTALLATION GUIDELINES

For installation and jointing details, refer to the Box Culvert Installation Guide which can be downloaded from our website.

DESIGN CRITERIA

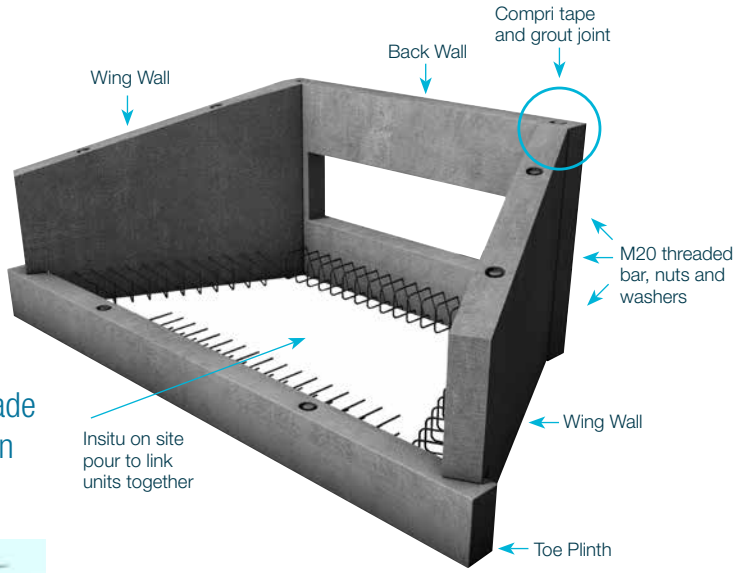
Design loading criteria is generally specified by the scheme engineer and ideally should include, as a minimum, the information below:

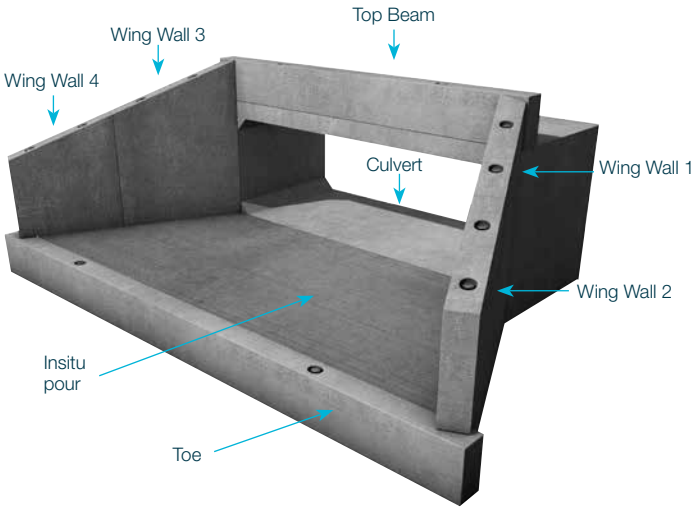
- Internal span
- Internal height
- Metres required
- Number of runs
- Minimum depth of fill over the culvert unit
- Maximum depth of fill over the culvert unit
- Culvert usage
- Surface loading conditions : green field, highway etc
- Invert type

Exposure conditions should be specified and, where available, design codes provided. Further design requirements may be required for inlet/outlet points, access holes and end walls.

BOX CULVERT HEADWALLS

FP McCann offers a bespoke headwall solution suitable for box culverts. These headwalls are made up of a number of precast panels and tied with an in-situ stitch.





INTERNAL DIMENSIONS

(Based on flat invert culvert units) Key: **Flow area m2 / Discharge rate m3/sec**

Internal height mm	Width mm (internal span)															
	1000	1200	1500	1800	2100	2400	2700	3000	3300	3600	3900	4200	4500	4800	5100	5400
500	0.46 0.40	0.56 0.51	0.71 0.67	0.86 0.84	1.01 1.00	-	-	-	-	-	-	-	-	-	-	-
600	0.56 0.53	0.68 0.67	0.86 0.89	1.04 1.11	1.22 1.33	-	-	-	-	-	-	-	-	-	-	-
650	0.61 0.60	0.74 0.76	0.93 1.00	1.13 1.25	1.32 1.50	1.52 1.75	1.71 2.00	-	-	-	-	-	-	-	-	-
800	0.76 0.81	0.92 1.03	1.13 1.33	1.37 1.67	1.61 2.01	1.85 2.36	2.09 2.71	2.33 3.06	2.57 3.42	2.81 3.77	3.05 4.12	-	-	-	-	-
1000	0.96 1.10	1.16 1.40	1.43 1.84	1.73 2.32	2.03 2.80	2.33 3.29	2.63 3.79	2.93 4.29	3.23 4.79	3.53 5.30	3.83 5.80	4.13 6.30	4.43 6.81	4.73 7.32	-	-
1200	-	1.37 1.76	1.73 2.37	2.09 3.00	2.45 3.64	2.81 4.29	3.17 4.95	3.53 5.61	3.89 6.28	4.25 6.95	4.61 7.62	4.97 8.29	5.33 8.97	5.69 9.64	6.05 10.32	6.41 11.00
1500	-	-	2.18 3.21	2.63 4.09	3.08 4.98	3.53 5.89	3.98 6.81	4.43 7.74	4.88 8.68	5.33 9.62	5.78 10.57	6.23 11.52	6.68 12.48	7.13 13.44	7.58 14.40	8.03 15.37
1800	-	-	-	3.17 5.21	3.71 6.38	4.25 7.57	4.79 8.78	5.33 10.00	5.87 11.24	6.41 12.48	6.95 13.74	7.49 15.00	8.03 16.27	8.57 17.54	9.11 18.82	9.65 20.10
2100	-	-	-	-	4.34 7.83	4.97 9.31	5.60 10.83	6.23 12.36	6.86 13.92	7.49 15.49	8.12 17.07	8.75 18.67	9.38 20.27	10.01 21.89	10.64 23.50	11.27 25.13
2400	-	-	-	-	-	5.69 11.11	6.41 12.94	7.13 14.81	7.85 16.70	8.57 18.62	9.29 20.55	10.01 22.50	10.73 24.46	11.45 26.44	12.17 28.42	12.89 30.41
2700	-	-	-	-	-	-	7.22 15.11	8.03 17.32	8.84 19.57	9.65 21.84	10.46 24.14	11.27 26.46	12.08 28.80	12.89 31.16	13.70 33.53	14.51 35.91
3000	-	-	-	-	-	-	-	8.93 19.89	9.83 22.50	10.73 25.15	11.63 27.83	12.53 30.54	13.43 33.27	14.33 36.03	15.23 38.80	16.13 41.59
3300	-	-	-	-	-	-	-	-	10.82 25.49	11.81 28.52	12.80 31.60	13.79 34.71	14.78 37.86	15.77 41.03	16.76 44.22	17.75 47.43
3600	-	-	-	-	-	-	-	-	-	12.89 31.96	13.97 35.44	15.05 38.97	16.13 42.53	17.21 46.13	18.29 49.76	19.37 53.42

Please note: These figures are a guide only and will be dependent on the mould configuration used in manufacture. Discharge rates are calculated using Colebrooke-White equation for a fully wetted perimeter under uniform flow conditions and assuming a flat invert culvert unit. The assumed laying gradient (s) is 1:1000 with a roughness co-efficient (k) of 0.3. Where different values maybe required, please contact the office number below to discuss your specific requirements. The hydraulic design of a box culvert should always be undertaken by the overall scheme designer, as they are able to take into account the upstream and downstream conditions and other parameters such as freeboard, restriction due to silt build-up and need for the culvert to be free flowing at all times. Due to the lack of this information, FP McCann will only give discharge rates for an idealised culvert, which may not suit the local conditions.

fpmccann

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