

*We Cover Everything*



# MHCI KerbDrain & MHCI BridgeDrain

The new and improved range of recycled composite kerb drain solutions.



[www.mhcireland.com](http://www.mhcireland.com)

# MHCI KerbDrain

## Lightweight

Each **MHCI KerbDrain** component has been designed to be installed manually. The Bridge drainage weighs as little as 9kg. The standard 305mm depth weighs only 15kg, the 385mm weighs 18.5kg and the 480mm weighs 24kg.

## Strong and Robust

The material used in manufacture is exceptionally strong and complies with BSEN1433 Group 3 kerb side installations load class D400KN. The product also conforms to the HIGHWAY AGENCY IAN117/08 for combined kerb drainage

## Impact Resistant - PRODUCT GUARANTEED!

The product has the added advantage over traditional materials in being virtually unbreakable, offering exceptional strength, provided it is installed correctly and to our specification.

## Chemical Resistance

The product is resistant to all forms of effluents found in highway situations such as road-salts, petrol, diesel etc.

## Aesthetics

**MHCI KerbDrain**, through a policy of material and process development, has a finish almost identical to a standard concrete kerb. Further large investment in new tooling and production techniques has allowed for improved aesthetics over the original product. We are confident that we now produce a product that cannot be differentiated from concrete- unless you pick it up!!

## System components

The **MHCI KerbDrain** system is complemented by a full range of additional components including drop kerbs, centre stones, lightweight gully chamber, rodding access units, radius units and numerous outlet possibilities.



*Available in 165mm, 190mm, 210mm (Structures) and 305, 385, 480, depths in both HB2 and 45° splay. The Envirokerb Range has been used on motorways, car parks, traffic calming, urban areas, train stations and now on structures and bridges.*

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# MHCI KerbDrain



## Combined kerb drainage

**MHCI KerbDrain** is available in a range of depths and kerb profiles to suit all types of contracts including Motorways, Trunk Roads, Car Parks and other urban areas. (for **MHCI KerbDrain** for Bridges and shallow depths see page 18). With the advantage of full accreditation to EN1433 and Clause 516 (SHW) and the added advantage of a 'CE' mark, you can be confident in the 100% recycled combined **MHCI KerbDrain** drainage for your scheme.



- Lightweight - the lightest product on the market by up to 70% allowing easy installation.
- Durable - high impact resistant greater than traditional materials.
- Manufactured from recycled materials.
- Available in both 305mm, 385mm and 480mm depths in 45° SPLAY and HB2 profile.
- For use on motorways, trunk roads, car parks and most other urban areas.
- Conforms to EN1433 linear drainage systems D400KN loading.
- Full Quality Assurance.

# Installation Guide

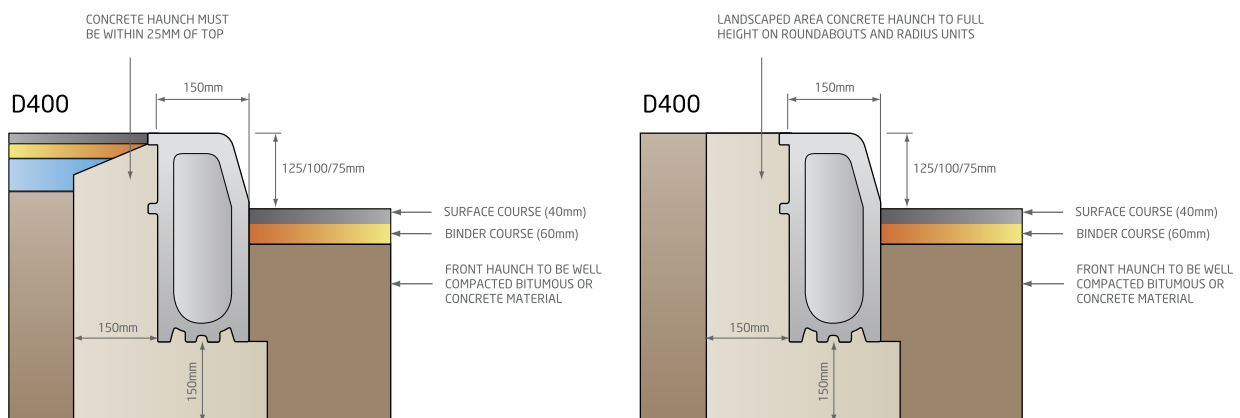
**MHCI KerbDrain is manufactured to comply with the D400kn loading requirement of EN1433, an integral part of this standard is the installation detail used and the concrete surround/haunch.**

- 1) Risk assessment should be carried out.
- 2) Excavate through to line and level.
- 3) Lay out units prior to installation to ensure all rodding access units and outlets are positioned correctly.
- 4) Start at outfall and work away, finished line and level should be pre-determined.
- 5) Sealant is to be applied to unit not yet laid then butt together - keep joints clean of concrete bedding material.
- 6) Rear haunch - concrete should be a minimum st4 concrete with a 50mm slump to ensure the correct density.
- 7) MHCI Ltd suggest a very simple shutter system will reduce the amount of concrete used and will enable concrete density.
- 8) Asphalt can be laid to the bottom of outlets for a 125mm kerb-face, or to the watermark for 75mm/100mm kerb face.
- 9) Units should be cleaned prior to hand over.
- 10) Please use our inspection and test plan I.T.P. To ensure installation is correct as specified by the manufacturer. This can be included in your quality assurance manual.
- 11) Designers - to ensure your installation is correct please contact our technical department to request installation video/i.T.P.

It is imperative that the rear haunch is at the correct height, using a concrete with the correct strength and slump. Standard concrete kerb laying material should NOT be used. If you are in any doubt.

Please contact sales on 00353 94 9033 022

If asphalt pavement is present at rear of units the concrete can be adjusted accordingly, the concrete haunch can be lower. Any block paving adjacent to the kerbs should be restrained from movement on an epoxy or polymer modified mortar.



Please note: EN1433 is clear and concise. ALL combined kerb products must be tested for Watertightness - therefore units must be sealed to ensure conformity.



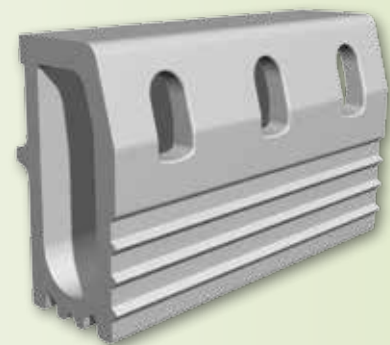
# Combined kerb drainage

## Standard Unit

305mm standard unit. Available half battered or splayed profile.

### Design Features

A 500mm long one-piece unit designed for ease of installation. At least 34% lighter in weight than conventional combined kerb drainage systems, and yet fully meets the EN1433 load requirements, and has exceptional impact resistance. Applications include trunk roads, car parks, access roads, traffic calming areas and industrial areas. The product is also 100% recycled.



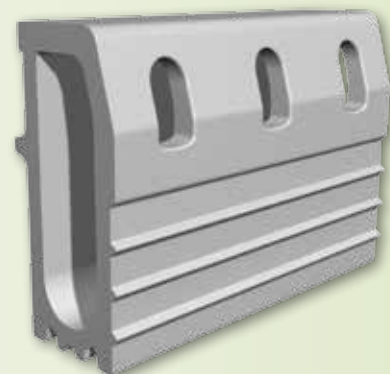
Product Code	Total Depth	Invert	Width Bore (nominal)	Length	Weight
305SU	305mm	275mm	100mm	500mm	15kg

## Standard Unit

385mm standard unit. Available half battered or splayed profile.

### Design Features

A 500mm long one-piece unit designed for ease of installation. Fills the large Hydraulic gap between the 305 and the 480. This provides much greater flexibility to any designer. The product is also 100% recycled.



Product Code	Total Depth	Invert	Width Bore (nominal)	Length	Weight
385SU	385mm	355mm	100mm	500mm	18kg

## Standard Unit

480mm standard unit. Available half battered or splayed profile.

### Design Features

A 500mm long one-piece unit designed for ease of installation. At least 25% lighter in weight than conventional combined kerb drainage systems, and yet fully meets the EN1433 load requirements, and has exceptional impact resistance. Designed for areas requiring greater hydraulic capacity.



Product Code	Total Depth	Invert	Width Bore (nominal)	Length	Weight
480SU	480mm	450mm	100mm	500mm	24kg



Splay to HB  
transitions available.

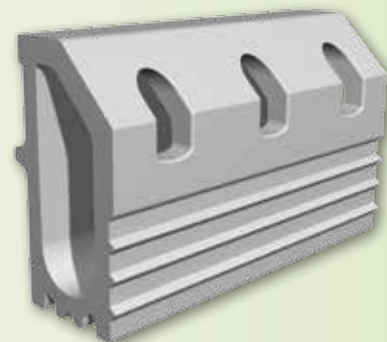
## Splayed Unit

305mm splayed unit available offering 75mm, 100mm or 125mm kerb height.

### Design Features

A 500mm long one-piece unit, designed for ease of installation. The splay profile has been introduced for requirements on fast moving roads with no pedestrian access. This includes motorways, trunk roads, and many rural roads. We are pleased to be able to offer all three depths (305, 385 and 480) with the splayed profile from stock.

Product Code	Total Depth	Invert	Width Bore (nominal)	Length	Weight
305SP	305mm	275mm	100mm	500mm	15kg



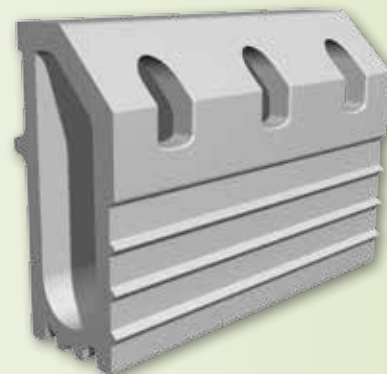
## Splayed Unit

385mm splayed unit available offering 75mm, 100mm or 125mm kerb height.

### Design Features

The 385mm deep unit fills the 'Hydraulic gap' found on other systems but still offers a lightweight installation.

Product Code	Total Depth	Invert	Width Bore (nominal)	Length	Weight
385SP	385mm	355mm	100mm	500mm	18kg



## Splayed Unit

480mm splayed unit available offering 75mm, 100mm or 125mm kerb height.

### Design Features

The 480mm splay is designed for areas requiring greater Hydraulic flows - we suggest using all three depths on a scheme - increase depth as required.

Product Code	Total Depth	Invert	Width Bore (nominal)	Length	Weight
480SU	480mm	450mm	100mm	500mm	24kg



# Combined kerb drainage

## Solid Head Ductile Iron Rodding Access Unit

305mm, 385mm and 480mm splayed and HB rodding access unit.

### Design Features

Rodding units are installed to allow access for cleaning purposes.

Units should be installed at the run-head or high point and at 40mtr intervals.



Product Code	Total Depth	Invert	Width Bore (nominal)	Length	Weight
305RA	305mm	275mm	100mm	250mm	16.8kg
385RA	385mm	355mm	100mm	250mm	19.5kg
480RA	480mm	450mm	100mm	250mm	23kg

## Rodding Access and Outlet Unit Splayed and HB

305mm, 385mm and 480mm outlet unit complete with rodding access.

One outlet of both 110mm dia and 160mm dia are supplied as standard.

### Design Features

We have introduced a combined outlet unit with rodding access.

The site installation process is significantly faster using the pre-formed outlets and closing caps (110mm and 160mm rear outlets offered). Other outlet configurations are available upon request. Outlets suit standard BS4660 pipe, but a number of outlet connections are offered to suit site pipework.



Product Code	Total Depth	Invert	Width Bore (nominal)	Length	Weight
305RA/O	305mm	275mm	100mm	500mm	15kg
385RA/O	385mm	355mm	100mm	500mm	17.5kg
480RA/O	480mm	450mm	100mm	500mm	24kg

*Due to the nature of material the envirokerb is manufactured from, we can quite easily supply outlets in the front face or base of the unit. Please contact the sales office to discuss your requirements.*

## Drop Kerb Outer Unit

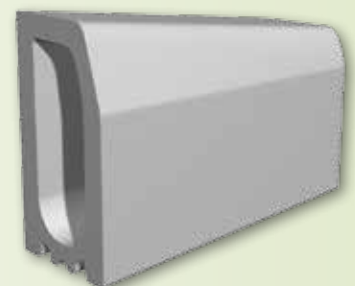
305mm and 480mm deep Drop kerb outer unit.

### Design Features

A 457.5mm long outer drop unit is installed alongside a 457.5mm inner drop kerb. These will form a 915mm total length to suit existing openings in footpaths within maintenance contracts.

The units have been developed at half the length of existing systems to reduce the weight, and ease general handling to speed the installation process.

Product Code	Total Depth	Width Bore (nominal)	Length	Weight
305DO	305-255mm	100mm	457.5mm	15kg
385DO	385-335mm	100mm	457.5mm	16.5kg
480DO	480-430mm	100mm	457.5mm	22kg





Various Outlets,  
End Plates and Cable  
Loop Units available.

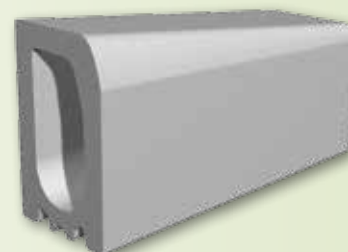
## Drop Kerb Inner Unit

305mm and 480mm deep drop kerb inner unit.

### Design Features

A 457.5mm long inner drop unit is installed alongside a 457.5mm outer drop kerb. These will form a 915mm total length to suit existing openings in footpaths within maintenance contracts. The units have been developed at half the length of existing systems to reduce the weight, and ease general handling to speed the installation process.

Product Code	Total Depth	Width Bore (nominal)	Length	Weight
305DI	255-205mm	100mm	457.5mm	15kg
385DI	335-285mm	100mm	457.5mm	16.5kg
480DI	430-380mm	100mm	457.5mm	22kg



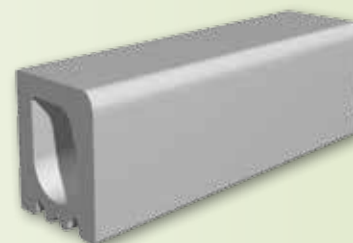
## Centre Stone

305mm, 385mm and 480mm centre stones.

### Design Features

Centre stones - 305, 385, 480 centre stones with either 25mm upstand or flush/6mm as required dependant on the installation detail. (If the flush/6mm upstand is to be used, a third drop is required.)

Product Code	Total Depth	Width Bore (nominal)	Length	Weight
305CS	205-180mm	100mm	457.5mm	11.5kg
385CS	285-260mm	100mm	457.5mm	15kg
480CS	380-355mm	100mm	457.5mm	18.5kg



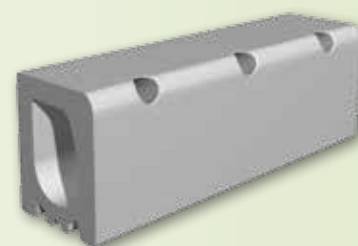
## Centre Stones with various inlets

305mm, 385mm and 480mm centre stones.

### Design Features

Due to the adaptable nature of the raw material used in the manufacture of Envirokerb we are able to create numerous types of drainage facilities within our centre stones. These have included in the past Holes in the upstand, holes in the centre top, or more popular recently is a number of slots which also offer the "Heel-safe" facility.

Product Code	Total Depth	Width Bore (nominal)	Length	Weight
305CS	205-180mm	100mm	457.5mm	11.5kg
385CS	285-260mm	100mm	457.5mm	15kg
480CS	380-355mm	100mm	457.5mm	18.5kg





# Combined kerb drainage

## Gully Top Cover and Base

305mm, 385mm and 480mm Gully cover and frame with top section.

### Design Features

The Gully top section is manufactured in Ductile Iron to comply with the EN1433 loading of D400KN for kerb side covers and frames. The cover is hinged and locking to ease maintenance, and gully cleaning. The base section has been redesigned to offer greater compressive loads and side wall strength, yet it is still a 100% recycled product. The gully accepts drainage units on both sides.

Product Code	Total Depth	Invert	Width Bore (nominal)	Length	Weight
305GMT	505mm	275mm	390mm	500mm	47kg
385GMT	505mm	355mm	390mm	500mm	47kg
480GMT	505mm	450mm	390mm	500mm	47kg



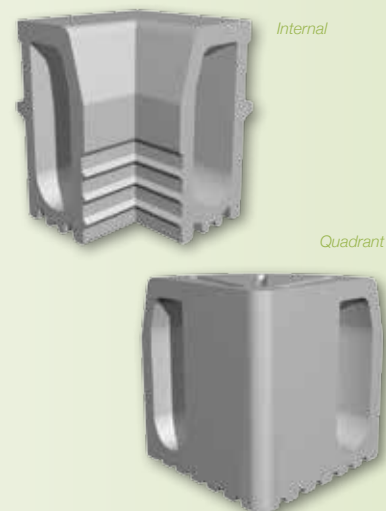
## 305 90° Quadrant Internal and External angles for all sizes

305mm Internal angle. 305mm Quadrant - for external angles rounded for safety reasons.

### Design Features

We are able to offer internal and external angles to suit site requirements. We have supplied 90° and 45° on numerous schemes. Enables continuation of hydraulic flow around 90° external angles - we suggest that a rodding access unit (305RA) is installed alongside this product. The top surface has been designed to be slip resistant, and the base has an in-built 'key' for the concrete bed.

Product Code	Total Depth	Invert	Width Bore (nominal)	Length	Weight
305QUAD	305mm	275mm	100mm	500mm	16.5kg (approx.)
305ANG	305mm	275mm	100mm	305mm	19kg (approx.)



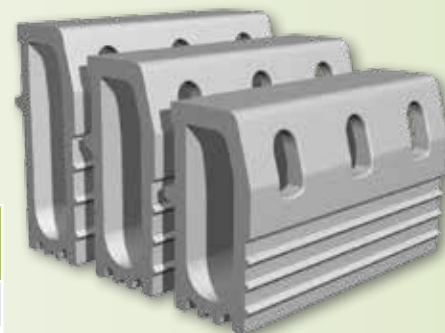
## Internal & External Radius Units

305, 385 and 480 internal and external radius.

### Design Features

PDS are the only manufacturer that supply radius units to suit your site requirements. A wide range of radius from 4Mtr to 14Mtr. Straight units can be used to form a radius in excess of 14mtrs by manipulating the joints as the units are only 500mm long. PDS LTD offer a number of outlets and end caps - please call for full details.

Product Code	Total Depth	Invert	Width Bore (nominal)	Length	Weight
305IR/305ER	305mm	275mm	100mm	*500mm	16.5kg
385IR/385ER	385mm	355mm	100mm	*500mm	15kg
480IR/480ER	480mm	450mm	100mm	*500mm	24kg



\*effective length along centre line.



## Bridge and shallow depth drainage

Due to the huge success of the KerbDrain Road Drainage product, We have developed the NEW KerbDrain BRIDGE Shallow System for Structures and restricted depth construction.

The product has all the advantages of the existing **MCHI KerbDrain** range, including superb impact resistance, Lightweight for

manual handling, aesthetics very similar to concrete and of course the benefit of a product manufactured in 100% Recycled material.



The product is available as 150mm, 220mm and 310mm wide with various depths depending on the Kerb Profile required (75mm, 100mm or 125mm splay or HB).

- Three additions to Envirokerb Range.
- Manufactured as a high strength one-piece monolithic unit.
- Ideal for areas where construction depths are limited i.e concrete slabs, Bridges, roads built as a slab or structure, underpasses and above culverts.
- 3 widths dependant on Hydraulic run-off.
- Allows continuity of MCHI KerbDrain drainage from carriageways to structures.
- Sub-surface drainage facility to help drain asphalt matrix.
- Fully compliant to EN1433 D400KN for Kerb Drainage Systems.
- Lightweight for installation advantages (19kg for heaviest product).
- Non-Metallic and therefore non-oxidising.

# MHCI BridgeDrain

## 150mm Standard Unit

500mm long with surface and subsurface inlets with either splay or Half Battered kerb face.

### Design Features

A shallow Combined Kerb Drainage for restricted construction depths or for Bridges. Available with either HB or Splay profile and depths to suit. Due to the nature of the material and manufacturing process, we are able to produce numerous depths and kerb profiles not shown below. The 150mm wide unit is typically for low flow areas. Please call Sales for more information.



Product Code	Total Depth	Kerb Profile Height	Width Bore	Length	Weight
150mm x 165mm	165mm	75mm	100mm	500mm	9.2kg
150mm x 190mm	190mm	100mm	100mm	500mm	9.6kg
150mm x 210mm	210mm	125mm	100mm	500mm	10kg

## 220mm Standard Unit

500mm long with surface and subsurface inlets with either splay or Half Battered kerb face.

### Design Features

Again available with either HB or Splay profile and depths to suit. Due to the nature of the material and manufacturing process, we are able to produce numerous depths and kerb profiles not shown below. We also have the advantage of the 235mm deep unit for standard roads, or for installation directly on the deck. Please call Sales for more information.



Product Code	Total Depth	Kerb Profile Height	Width Bore	Length	Weight
220mm x 165mm	165mm	75mm	160mm	500mm	12kg
220mm x 190mm	190mm	100mm	160mm	500mm	12.5kg
220mm x 210mm	210mm	125mm	160mm	500mm	13.5kg
220mm x 235mm	235mm	125mm	160mm	500mm	14.5kg

## 310mm Standard Unit

500mm long with surface and subsurface inlets with either splay or Half Battered kerb face.

### Design Features

Again available with either HB or Splay profile and depths to suit. Due to the nature of the material and manufacturing process, we are able to produce numerous depths and kerb profiles not shown below. We also have the advantage of the 235mm deep unit for standard roads, or for installation directly on the deck. Please call Sales for more information.



Product Code	Total Depth	Kerb Profile Height	Width Bore	Length	Weight
310mm x 165mm	165mm	75mm	255mm	500mm	21kg
310mm x 190mm	190mm	100mm	255mm	500mm	22kg
310mm x 210mm	210mm	125mm	255mm	500mm	23kg
310mm x 235mm	235mm	125mm	255mm	500mm	24kg



Sealant and bedding mortar available on request.

## End or Intermediate Rodding Access Unit

End Rodding & Intermediate Rodding Access units

### Design Features

End Rodding units are either left or right handed to suit the kerb line. Intermediate units are placed approx every 20mts. The access point is sufficient for rodding or jetting.



Product Code	Total Depth	Kerb Profile Height	Width Bore	Length	Weight
EU/IU	165/190/210mm	To suit std unit	100mm	500mm	10kg
EU/IU	165/190/210mm	To suit std unit	160mm	500mm	14kg
EU/IU	165/190/210mm	To suit std unit	255mm	500mm	23kg

## End or Intermediate Outlet Unit Complete With Rodding Access

End OR intermediate outlet units.

### Design Features

Outlets can be placed on base, at end of run (if space allows) or on the rear. The outlet is usually 110mm or 160mm outside diameter but can be size to suit site. All outlets will always be roddable.



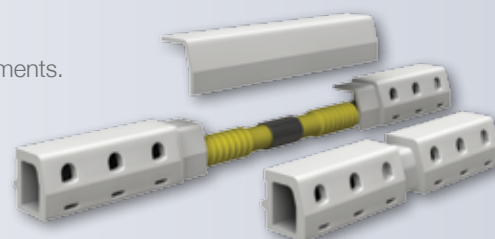
Product Code	Total Depth	Kerb Profile Height	Width Bore	Length	Weight	Outlet size
EUO/IUO	165/190/210mm	To suit std unit	100mm	500mm	10kg	110mm/160mm
EUO/IUO	165/190/210mm	To suit std unit	160mm	500mm	14kg	110mm/160mm
EUO/IUO	165/190/210mm	To suit std unit	255mm	500mm	23kg	110mm/160mm

## Expansion Joint Assembly- Sliding or Standard

Either a 2mt expansion joint assembly or a 1mt sliding expansion assembly for small movements.

### Design Features

Expansion Joint Assemblies are designed to bridge the Expansion joint on bridges. We have a number of standard units, but are always happy to design and manufacture bespoke assemblies for large or difficult joints. The sliding unit is for buried joints or joints that can be elevated to footpath level behind the kerb-line.



Product Code	Total Depth	Kerb Profile Height	Width Bore	Length	Possible movement
EXP	165/190/210mm	To suit std unit	150/220/310mm	1mt	+/- 40mm
EXP	165/190/210mm	To suit std unit	150/220/310mm	2mt	+/-120mm
EXP	165/190/210mm	To suit std unit	150/220/310mm	Special cover plate	Please call

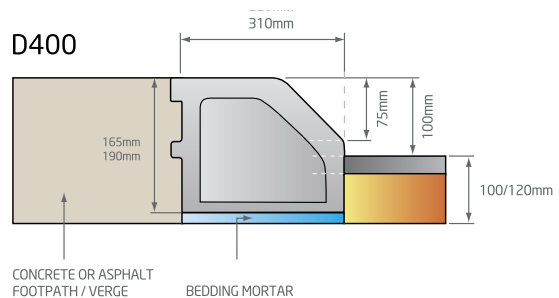
# Installation Guide

**MHCI BridgeDrain** drainage will normally be installed on a concrete deck or slab - This acts as your base. If you are to install on soft ground or compacted stone please see installation details for standard **MHCI KerbDrain**.

- 1) Layout units prior to installation to ensure all rodding units, outlets and expansion joint assemblies are positioned correctly.
- 2) We suggest that expansion joint assemblies are installed first as these cannot be cut to length.
- 3) Mix Envirokerb Bridge Bedding mortar as described on the bag, or on the product details available from the sales office.
- 4) DO NOT mix too much mortar as it is quick setting. Please experiment with the material first. Do not alter the mix ratio.
- 5) Install to line and level. It is advisable to find deck/structure high point and use this to determine the levels. Therefore reducing thickness of bedding mortar.
- 6) Sealant must be applied to unit yet to be laid and then butt together keeping joints clear of concrete bedding material.
- 7) Units can be cut with a power saw with either masonry or carbon blade. A mask, goggles and ear defenders should be worn. Cutting is much quicker than stone or metal units.
- 8) Units must be cleaned prior to handover.

Please note that EN1433 is clear and concise. ALL combined kerb products must be tested for watertightness - therefore units must be sealed to ensure conformity.

## Splay Unit



## HB Unit

