ACO KerbDrain® CycleKerb

Combined kerb and drainage solutions for cycle lanes

Product Catalogue

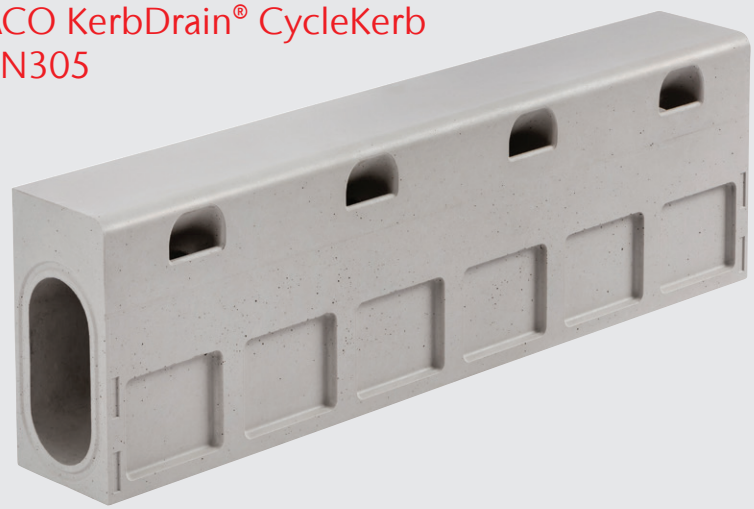
ACO KerbDrain® CycleKerb

ACO KerbDrain® CycleKerb builds on ACO's popular KerbDrain range with products specifically designed for cycle lanes. Able to be connected to our current HB305 channels, the CycleKerb units provide continuous drainage of cycle paths as well as ensuring safe and distinct transitions between pedestrian and non-pedestrian areas.

ACO KerbDrain® is an award winning combined kerb and drainage system specifically designed and developed to form an integral part of any modern, sustainable surface water management solution. In recognition of KerbDrain's ground breaking one-piece design, the system was awarded the Queen's Award for Enterprise: Innovation in 2001

ACO KerbDrain® CycleKerb BN305 Transition

ACO KerbDrain® CycleKerb BN305



ACO KerbDrain® CycleKerb BN305 Drop kerb

ACO. we care for water

ACO is a Water-Tech company that protects water. Building on our global drainage expertise that protects people from water, we increasingly see our mission as also protecting water from people.

With the ACO WaterCycle, ACO provides systems that collect and channel, clean, retain and ultimately reuse water. In this way, ACO contributes to the preservation of clean groundwater as a vital resource, and makes a contribution to tomorrow's world. In its Agenda 2030, the UN global community set the improvement of water quality as one of 17 sustainable development goals.

Intelligent drainage systems from ACO increasingly use smart technology to ensure that rainwater and wastewater are drained, or temporarily stored. With innovative separation and filter technology, we prevent water contamination by pollutants such as fat and grease, fuels, heavy metals and microplastics.

Today, ACO goes one step further: we accept the challenge of reusing water, and thus establishing a resource-saving cycle. For all products and systems, ACO attaches great importance to durability, reusability and a low carbon footprint. The pursuit of sustainability is an ongoing process that we strive to meet every day.

The ACO Group is a global family business that is one of the world market leaders in the Water-Tech segment. Founded in Schleswig-Holstein in 1946, it operates as a transnational network in over 50 countries. Worldwide, ACO is characterised by a high level of decentralised ownership, and explicit regional market proximity.

www.aco.com

Holder
Iver and Hans-Julius Ahlmann

Headquarters of the ACO Group
in Rendsburg/Büdelsdorf

5,200

employees in more than 47 countries (Europe, North and South America, Asia, Australia, Africa)

1 Billion

Euro Sales in 2021

37

production sites in 18 countries

ACO Academy
for practical training

Water protection and rainwater management

What is ACO KerbDrain® CycleKerb?

The ACO KerbDrain® combined kerb and drainage system provides versatile and efficient linear drainage for motorways, trunk roads, urban infrastructure and landscaping projects. The CycleKerb range builds on the range of solutions available for cycle lanes, and can be combined with standard KerbDrain units.

ACO KerbDrain® CycleKerb range of Bullnose units can be combined with HB profiles and drop kerbs, which enable engineers and designers to optimise scheme hydraulics for cycle lane drainage with a seamless transition between cycle lane and non-cycle lane areas.

The one-piece construction of ACO KerbDrain® CycleKerb and the lightweight properties of Vienite® ensure the system is quick and easy to install, even when a fully watertight installation is required.

Why choose ACO KerbDrain® CycleKerb

ACO KerbDrain® CycleKerb is designed to meet the requirements of LTN1/20 and the guidance from the Accessibility Research Groups' commissioned research for The Guide Dogs for the Blind Association.

The channel design ensures all surface water runoff is safely removed over the entire length of the installation, and that the height and profile make it distinguishable for blind and partially sighted people.

Product features

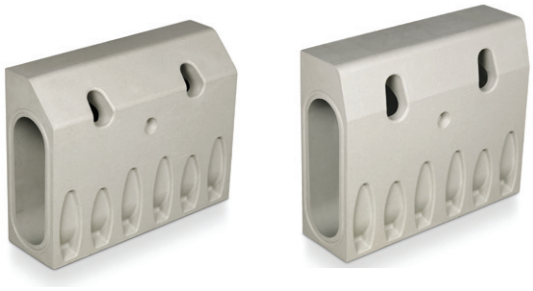
- Impact resistance 50% higher than OPC kerb units
- Manufactured from sustainable material
- Certified for all highways applications
- Vertical inlets for safe discreet drainage
- Low upstand height to avoid wheel strike
- Award winning one-piece design
- Simple watertight installations

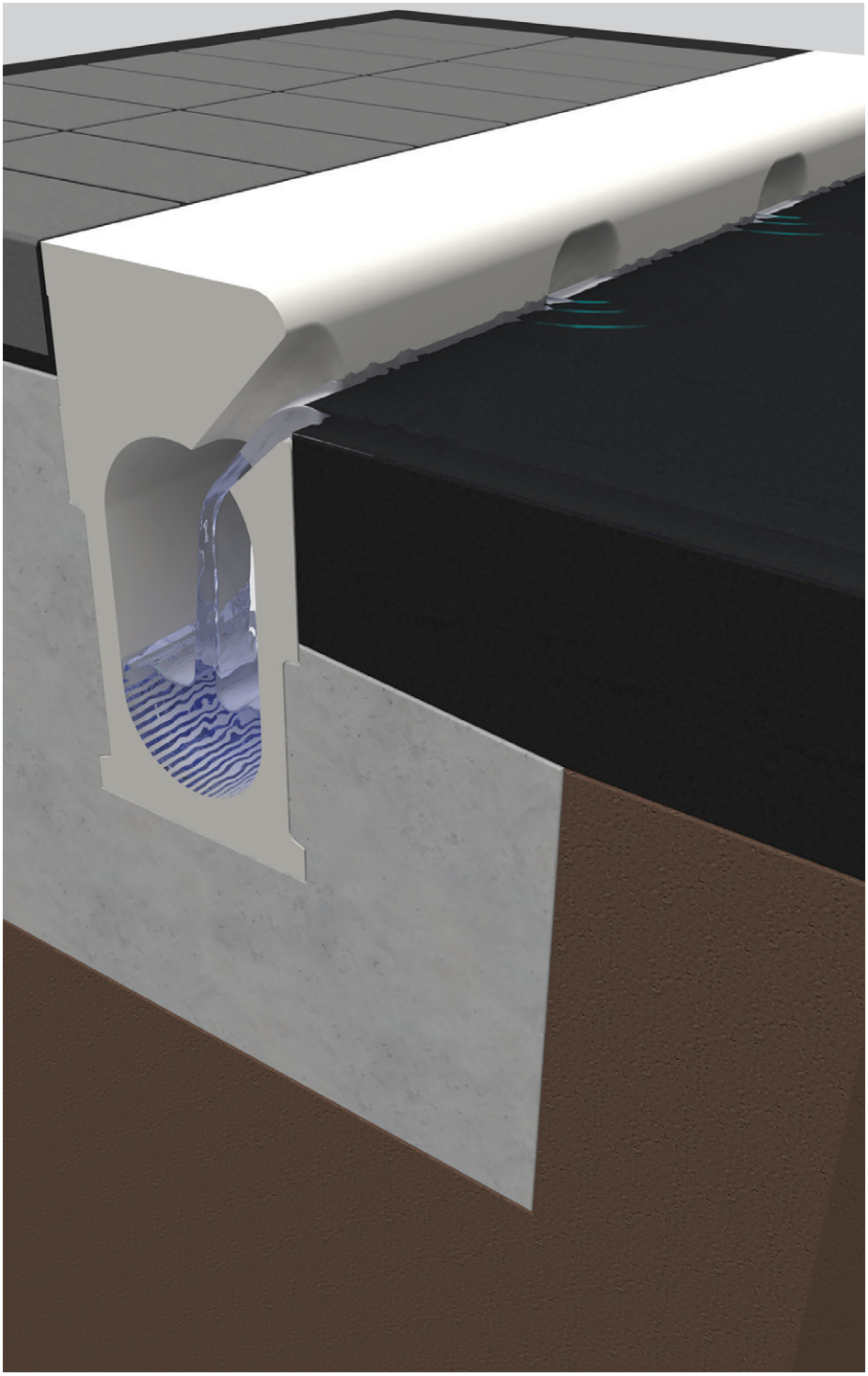
ACO KerbDrain® CycleKerb maximises hydraulic intake with large inlets on the vertical face of the channel, providing continuous drainage of the cycle lane, improving cyclist safety, and diminishing cycle spray.

The vertical inlets remove any openings from the pedestrian walkway and ensure that cyclists transitioning the kerb will not experience any wobble or interference from upstand inlets.

The upstand height and profile maximise the chance of the public recognising the change-of-use from pedestrian to cycle lane, reducing accidental collisions. The accessory units allow level crossings, dropped kerbs and smooth transitions to be created, and for continuous drainage to continue seamlessly from cyle lane to non-cycle lane areas.

Kerb profiles
ACO KerbDrain® CycleKerb units are available in bullnose (BN) profile and can be combined with ACO's half battered (HB) range, profiles to BS EN 1340:2003. ACO's Splay (SP) range can be used in non-raised segregated cycle systems





Problem solving components

Each size of ACO KerbDrain® Cyclekerb has its own set of components to complement any highway drainage design. A list of the main components available is shown below, however full details of the parts available can be found in the relevant sections.

Access units

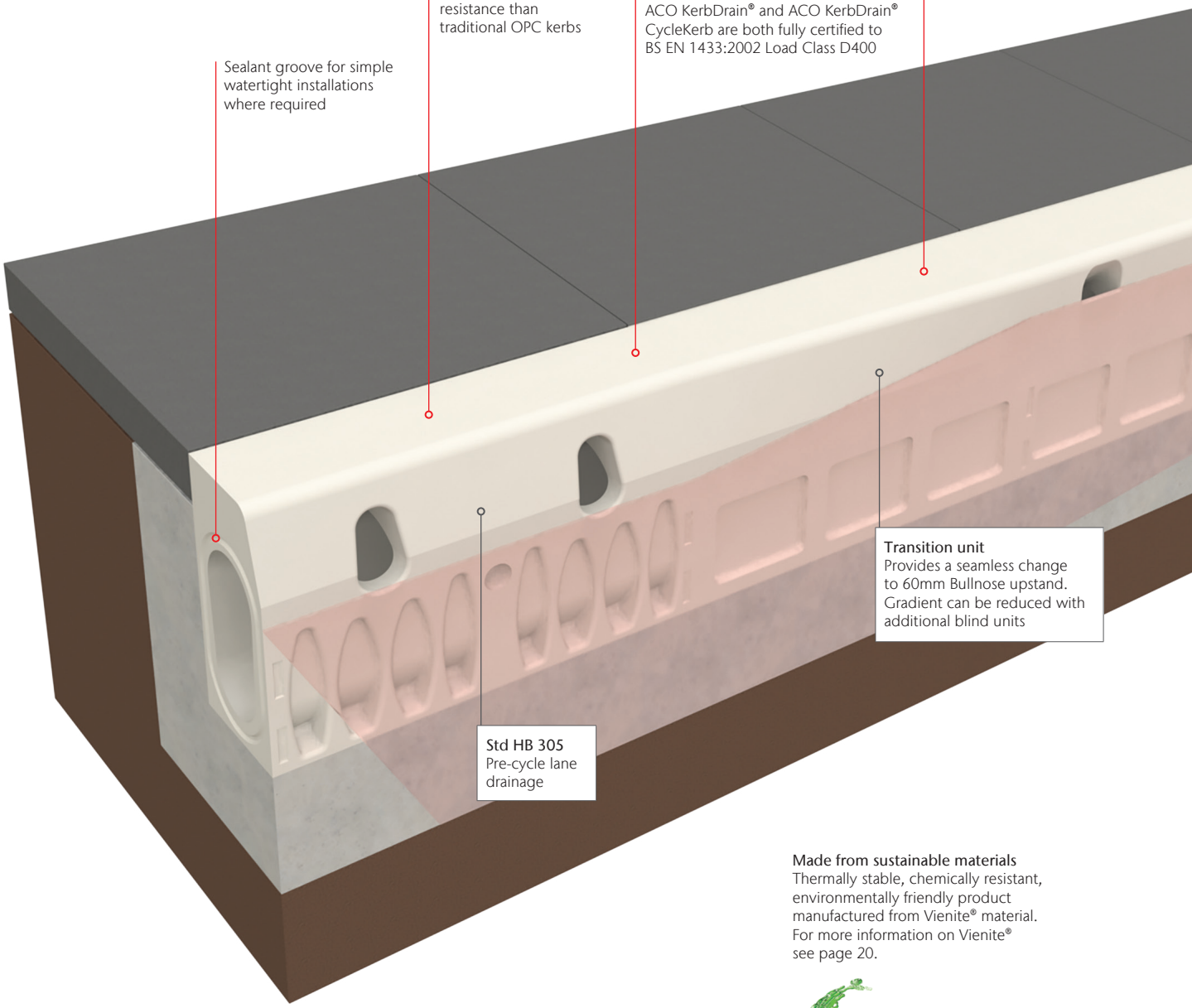
Centre stones

Drop kerb

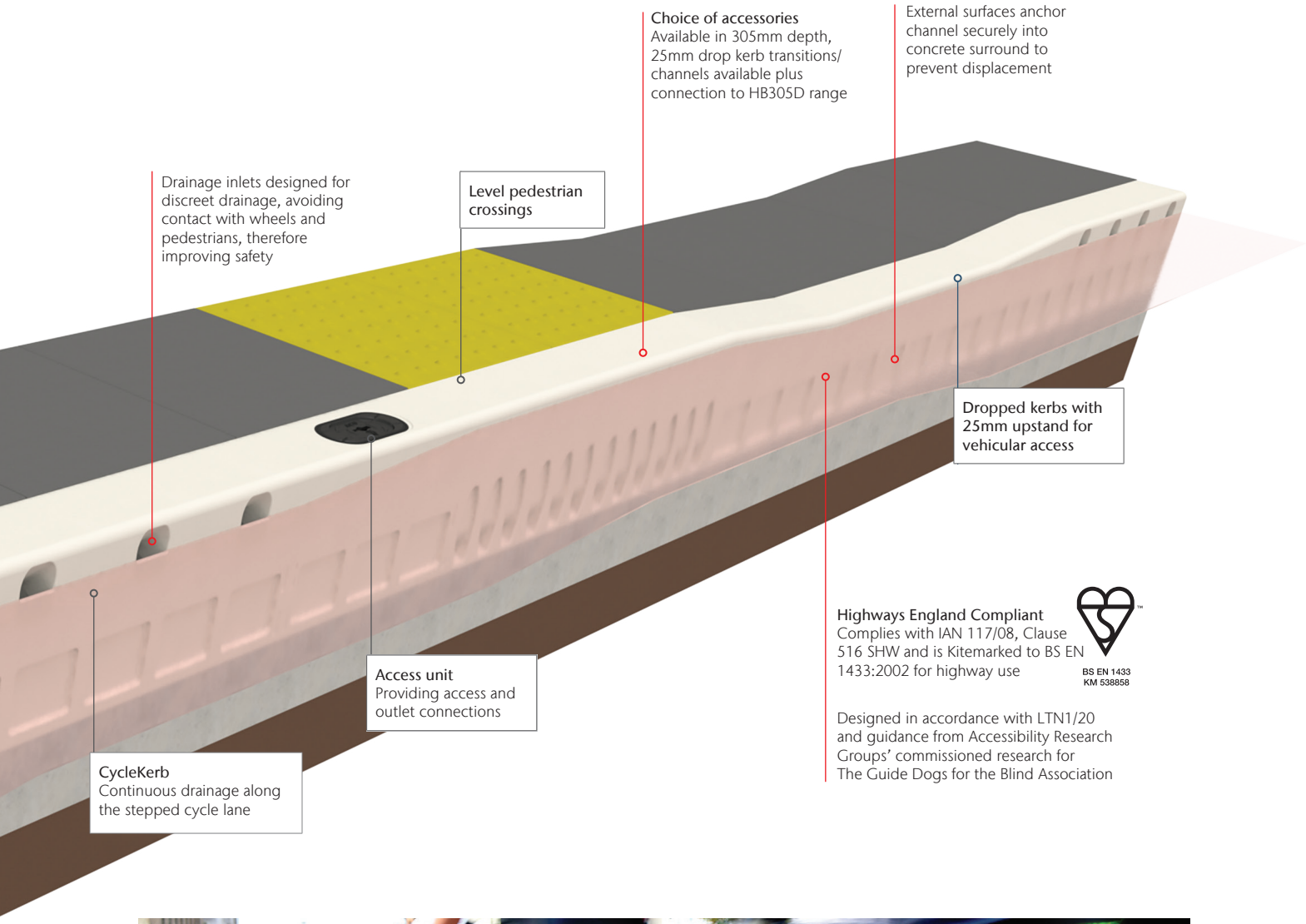
Transition unit

Multifunctional end cap

ACO KerbDrain® CycleKerb features overview



Made from sustainable materials
Thermally stable, chemically resistant, environmentally friendly product manufactured from Vienite® material. For more information on Vienite® see page 20.


Choice of accessories
Available in 305mm depth, 25mm drop kerb transitions/ channels available plus connection to HB305D range
External surfaces anchor channel securely into concrete surround to prevent displacement
Drainage inlets designed for discreet drainage, avoiding contact with wheels and pedestrians, therefore improving safety
Level pedestrian crossings
Dropped kerbs with 25mm upstand for vehicular access
Highways England Compliant
Complies with IAN 117/08, Clause 516 SHW and is Kitemarked to BS EN 1433:2002 for highway use
BS EN 1433
KM 538858
Designed in accordance with LTN1/20 and guidance from Accessibility Research Groups' commissioned research for The Guide Dogs for the Blind Association
Access unit
Providing access and outlet connections
CycleKerb
Continuous drainage along the stepped cycle lane

A range of solutions with ACO KerbDrain® CycleKerb

Stepped cycle tracks with continuous entry

PROBLEM:

Stepped cycle lanes require effective drainage along the entire length of the cycle lane. When fully splayed access kerbs are installed between carriage way and cycle lane - it is even more important that blind and partially sighted people are able to distinguish the boundary between pedestrian and cycle lane. This distinct boundary alerts pedestrians to the kerb edge and reduces the chance of accidentally wandering into the cycle lane, and the nearby carriageway.

SOLUTION:

ACO KerbDrain® CycleKerb range can be used between the pedestrian and cycle lane areas, to remove surface water as well as providing the recommended height allowing blind and partially sighted to recognise the change of use. Inlets are located so as not to interfere with cycle tyres or pedestrian traffic when pedestrians cross mid-lane.

Stepped cycle tracks with two drainable upstands

PROBLEM:

Road layouts accommodating both vehicular and cycle traffic are often restricted by space, and gully systems increase the width requirements of the layout. Current road levels may also require increased kerb height to ensure the stepped cycle lane has either a level riding surface or a slope titling away from the carriageway.

SOLUTION:

ACO KerbDrain® CycleKerb can be used between the pedestrian/cycle lane giving a distinct transition which blind and partially sited people can notice. Depending on road levels either CycleKerb or standard half battered KerbDrain can be used between the cycle lane and carriageway. ACO's wide range of drop kerbs in the HB range can be used for regular dropped sections for cycle entrances/exits either 25mm upstands or flush 0-6mm units. Two drainable upstands can also face opposite each other giving a dropped cycle lane,where the cycle lane passes through a large pedestrian area.

Cycle lanes and SuDS features

PROBLEM:

Road layouts are often tight for space and incorporating SuDS features like rain gardens can be difficult especially if road levels prevent sufficient water directly entering the garden feature.

SOLUTION:

ACO KerbDrain® CycleKerb access units have horizontal knockouts for easy pipe connection to green features, allowing you to situate your rain garden away from the corner of T-Junctions (thus limiting any visual distraction), and also providing more harmonious natural areas for pedestrians and cyclists to enjoy.

Segregated cycle lanes

PROBLEM:

Busy urban areas with fast moving traffic require added safety precautions to ensure cyclists are protected.

SOLUTION:

ACO KerbDrain® Half battered or Splayed channels are ideal drainage solutions for the inner sides of segregated cycle lanes and carriageway drainage. Due to rear knockouts on the access units the KerbDrain system can also deliver surface water directly to tree pit installations in wider islands or pedestrian areas. ACO KerbDrain® can move water quickly away from the cycleway and doesn't create any additional obstacles which the cyclist has to navigate, leaving a clearer route.

A range of solutions continued

Transitions and dropped kerbs

PROBLEM:

Stepped cycle lanes require smooth transitions when entering and leaving the lane, they also need easy access across the pedestrian lane for driveway access.

SOLUTION:

ACO KerbDrain® CycleKerb range offers transition units, to change from HB305D upstand of 125mm to BN305D 60mm upstand. The slope can be extended as required by the addition of extra blind units, which allows a smooth gradient to be installed creating the stepped lane.

Where vehicle access is required for driveway access, drop units and a centre stones with a 25mm upstand are available.

Pedestrian crossing areas

PROBLEM:

Pedestrian crossing areas providing a level transition can impede or prevent the flow of surface water along the gutter or cycle lane.

SOLUTION:

ACO KerbDrain® units without front drainage inlets are available and are referred to as blind units. These blind units prevent subbase entering the drainage system and provides continuous passage of water through the raised carriageway surface. Effective drainage of the cycle lane is maintained and the risk of ponding is eliminated. The image shows ACO KerbDrain® blind units (4236) being used to provide drainage at a raised pedestrian crossing to form one continuous system.

Bus stops

PROBLEM:

Carriageway cross-falls can lead to standing water and drainage issues at bus stops causing discomfort and inconvenience to pedestrians.

SOLUTION:

ACO KerbDrain® CycleKerb and accessory units offer level transition areas for easy access to transportation. Bus stop elements located roadside, raise the cyclelane upstand to increase pedestrian safety and improve access to public transport vehicles. KerbDrain HB305 bus stop kerbs and KerbDrain BN305D CycleKerbs can be used to provide drainage at a bus stop and cycle lane.

Dropped flush kerbs

PROBLEM:

Pedestrian crossing areas are usually raised to provide a level walkway. At a T-Junction where the cycle lane continues only along the main carriageway, it may be desirable to drop the pedestrian kerb on the side road, creating a flush crossing point level with the carriageway. Discreet and effective drainage is required around the corner and at the flush section.

SOLUTION:

Flush crossing areas are often set back from the cycle lanes allowing pedestrian crossing at side roads. Combining ACO KerbDrain® CycleKerb, transition units, drop kerbs and drainable centre stones allow road-level crossing areas and provides continuous drainage at flush transition areas.

ACO QuAD Hydraulic Design Software

Try our free design tool

The free-to-use ACO QuAD Hydraulic Design software has unprecedented levels of choice and flexibility built-in, to enable the efficient and accurate hydraulic design of any surface water management scheme. Use the tool today to help you to design schemes using ACO KerbDrain® and ACO KerbDrain® CycleKerb.

The hydraulic engine has been robustly tested and is the tool used by ACOs internal Design Services Team in modelling surface water solutions for customers.

ACO QuAD Hydraulic Design software uses differential equations for spatially varied flow that online alternative solutions cannot accurately match. For example the Manning's equation for steady uniform flow does not work with level channels and is grossly inaccurate on shallow gradients.

Here are some of the features it includes:

- Powerful project-based software
- Create catchment models that are fully editable
- PDF summary document output
- Cloud based – all designs are stored securely on our server against your login
- Integrated rainfall data for the whole of the UK

QuAD Features Overview

Cloud based

The software means increased efficiency providing the design resources you need when you need it, allowing you to deploy the same design capability consistently, and with the same consistency in results every time.

Flexible catchment design

QuAD supports designers in creating catchment areas. Supplementary catchment areas can be easily added to previously designed channel runs, providing flexibility when designing upstream and downstream features.

Product + value optimiser

Optimising the specific channel runs can be done with the optimiser feature selecting the smallest product suitable. Excavation and concrete requirements are also provided.

Attenuation assessments

Calculate the attenuation required for the project and compare it with the storage available in the channel design. Attenuation volume is presented along with suitable options for storage.

Flexible download format

Output can be generated for all or parts of the project and can be generated in pdf or CSV formats.

Application

Application selection ensure designers are able to get quick and accurate guidance in selection of the most suitable products based on the type of application the catchment is to cater for.

Rainfall assist

Rainfall intensity by location matters in design. QuAD provides a site locator map enabling the most accurate intensity to be input.

Resilience assessment

By inputting anticipated sedimentation rates and sedimentation density the QuAD software enables the designer to test their suggested maintenance schedules.

Secure scheme filing

All designs created by registered users are stored on a secure server and are password protected. Past projects are easily retrieved from the personalised menu.

Knowledge + support

Technical and design support is available through the askACO Knowledge Base (self-help), askACO live chat or through a Design submission form.

To use the QuAD Hydraulic Design software visit: **www.aco.co.uk/quad-hydraulic-design-2.0**

Installation detail

Load class

Installation recommendations shown are ACO minimum recommendations for BS EN 1433:2002 load class requirements.

Ground conditions

The long term performance of a channel installation to sustain vertical and lateral loads depends upon:

A) Ground conditions
B) Stability of the adjacent pavement
C) A durable concrete bed and surround

The recommended installation detail may require the minimum dimensions to be revised to achieve site specific load class requirements.

Cutting and jointing

Mitre joints are formed by cutting the channels to the required angle and butting them together with appropriate sealant (e.g. Sikaflex 11FC or similar) or the ACO Repair Kit. Angles can be formed using radius or mitre units or by connecting them using proprietary PVCu pipework attached to ACO inlet/outlet endcaps. For further details please contact ACO Design Services Team.

Note: Where requested ACO can custom manufacture angled units to order.

Isolation joints

The channel must be isolated from the surrounding environment. An isolation joint must be positioned up to a maximum of 1500mm from the channel wall. Any dowel bars must be located no nearer than 150mm from the channel wall. Other isolation joints in surrounding slab must be continued through the channel. Additional crack control may be required to comply with specifier requirements.

Block pavements

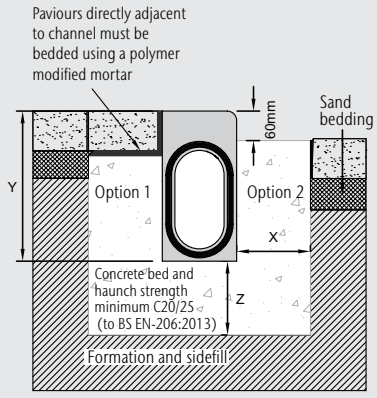
The channel must be supported laterally. Blocks laid directly against a channel must be laid as a soldier course and restrained from movement by bedding securely on the concrete haunch e.g. by using a polymer modified mortar for bed and perpendicular joints (e.g. RONAFIX mortar mix C or similar). Alternatively, extend concrete haunch up to finished paving level (as depicted in Option 2). Blocks or slabs bedded on sand remote from the channel should be set at a higher level to compensate for possible settlement of the paving in service.

ACO KerbDrain® CycleKerb

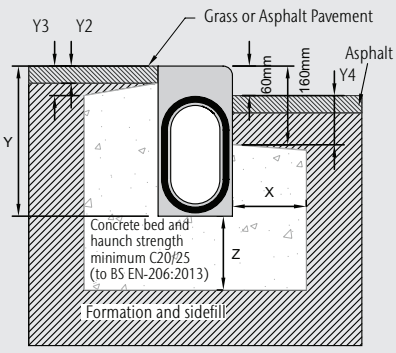
(Product part number: 32710)

An electronic version of the ACO KerbDrain® CycleKerb installation detail is available to download from the ACO website.
Visit **www.aco.co.uk**

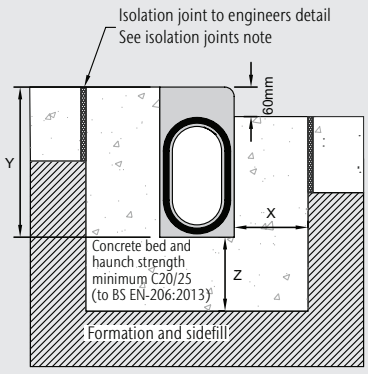
Block pavement



Grass or asphalt pavement



Concrete pavement



Option 1: Block bedded using mortar
Option 2: Concrete surround up to finished level

Watertight installation to BS EN 1433:2002

Where ACO channel joints/fittings and channel/pavement interfaces are to be sealed, an appropriate sealant should be used (e.g. Sikaflex 11FC or similar). Guidance on the necessary surface preparation and/or priming should be sought from the sealant manufacturer.

Best practice and workmanship

ACO can give guidance with respect to the most suitable methods of installation for each of the products in the ACO KerbDrain® range. ACO KerbDrain® should be installed using acceptable levels of workmanship and according to the National Code of Practice (UK: BS8000: Part 14: 1989) in keeping with EN 1433:2002 (Drainage channels for vehicular and pedestrian areas).

Detailed installation statements and methodologies will vary for all sites as each will have different aspects deserving particular consideration, consequently the relevant approvals should be sought from the consulting engineer and/or the installer.

For further information please contact our Design Services Team (technical@aco.co.uk) or the ACO website **www.aco.co.uk**.

Concrete surround dimensions

	Load Class	
Dimension	**A 15 – C 250**	**D 400***
X	Min 150mm	Min 150mm
Y	Full channel height (less Y2 where necessary)	
Y2	Max 35mm*	Max 35mm*
Y3	Max 60mm*	Max 60mm*
Y4	No front haunch	Max 100
Z	Min 150mm	Min 150mm
Minimum compressive strength to BS EN-206:2013	25 N/mm²	25 N/mm²

* Where regular HGV impacts are anticipated (e.g. roundabouts), we recommend that the concrete backing is laid to the top of the ACO KerbDrain® unit. (i.e. Y2=0, Y3=0)

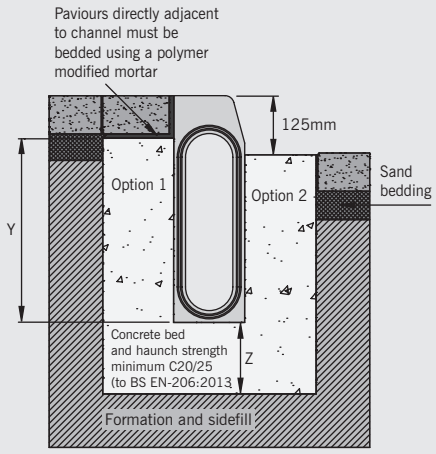
ACO's Polymer concrete repair kit is available for bonding applications, or for the repair of small areas of aesthetic damage. Full details available in D400 KerbDrain brochure.

ACO KerbDrain® half battered units

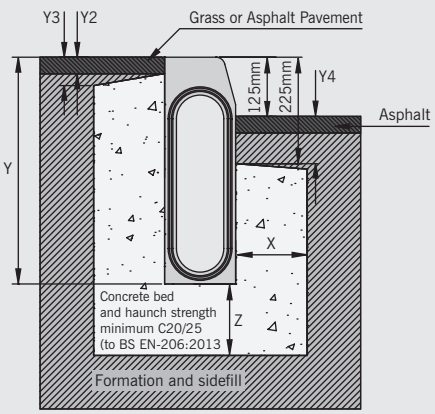
(CycleKerb can be connected to half battered units using a transition part)

An electronic version of the ACO KerbDrain® installation detail is available to download from the ACO website. Visit **www.aco.co.uk**

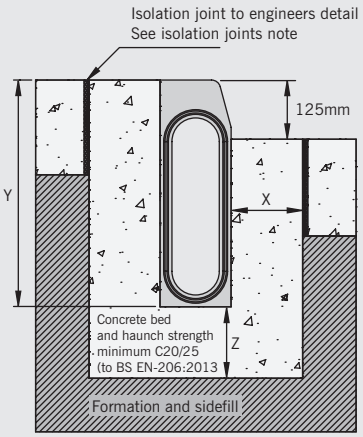
Block pavement



Grass or asphalt pavement



Concrete pavement



Option 1: Block bedded using mortar
Option 2: Concrete surround up to finished level

Material benefits

The correct material selection for products installed in permanent works is extremely important to assure optimum performance throughout its design life.

ACO KerbDrain® CycleKerb is manufactured from Vienite®, ACO's sustainable high strength material. This material offers distinct advantages over other products and materials, addressing key specification and performance requirements for engineers and designers.

Sustainable use of materials

Efficient use of material resources is a key contributor to sustainability in construction. ACO KerbDrain® CycleKerb has been carefully designed to maximise strength while minimising material use.

- Vienite® combines the mechanical and performance benefits of synthetic resin concrete with high levels of recycled fillers.
- Vienite® is a sustainable material that contains between 5% to 30% by weight post consumer waste previously destined for landfill in the UK
- Vienite® fully conforms to and exceeds all performance requirements as specified by BS EN 1433:2002 for combined kerb drainage units.
- ACO KerbDrain® CycleKerb manufactured from Vienite® holds BSI Kitemark certification as a result of continuing independent verification of material performance by BSI.
- Vienite is recyclable, i.e. it can be collected, processed and returned for re-use as a raw material.

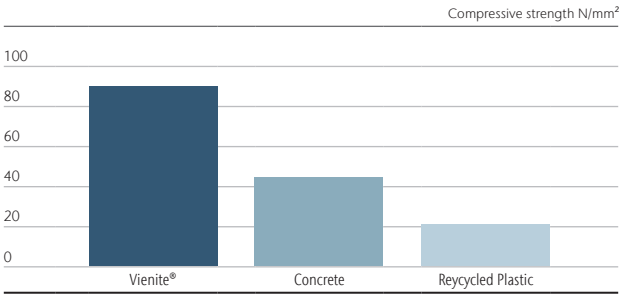
The ACO KerbDrain® CycleKerb range also includes components manufactured from ductile iron and steel which contain between 25% and 90% recycled material.

Mechanical properties of Vienite®

The following data compares the advantages of Vienite® used to manufacture ACO KerbDrain® CycleKerb with Ordinary Portland Cement (OPC) concrete and recycled plastic composite materials.

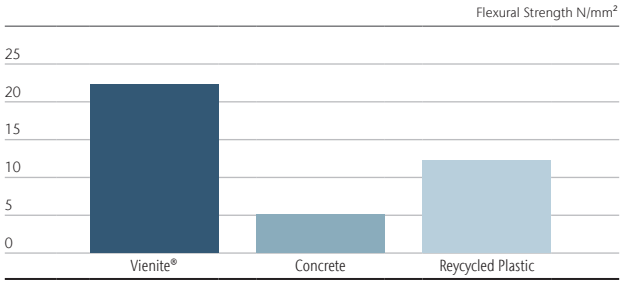
Compressive strength

Vienite® has high compressive strength is therefore extremely resistant to service loads.



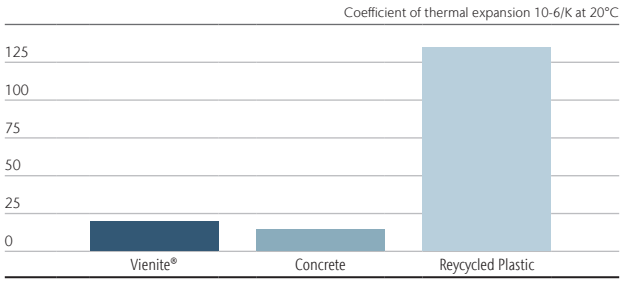
Flexural strength

Vienite® has excellent flexural strength making the product resistant to side loads typically encountered during surfacing and installation.



Coefficient of thermal expansion

Vienite® has a low coefficient of thermal expansion making it extremely stable, and unlike some materials it will not buckle or distort if subjected to high or low temperatures during service.



Impact resistance

ACO KerbDrain® CycleKerb's optimised design combined with the nature of Vienite®, makes it highly resistance to damage typically caused during installation or from traffic impacts. ACO KerbDrain® CycleKerb has been proven to be 50% more resistant to impact damage than traditional OPC concrete kerb stones*.

* Tested by Birmingham City Laboratories (BCL)

Water absorption

Vienite® has low water absorption of only 0.01% by weight which means surface water or liquids are contained within the product until discharge without contaminating surrounding soil or groundwater.

Coefficient of friction (Mannings)

Vienite® is extremely smooth having a Mannings coefficient of 0.011 giving enhanced hydraulic performance and resisting the build up of silt and debris.

Chemical resistance

Vienite® has high resistance to dilute acids and alkalis and is unaffected by road salts, fuels and oils which are typically encountered during service. For a copy of our full chemical resistance chart for Vienite® please contact our ACO Water Management Design Services Team.

Model specification clause

The combined kerb drainage system shall be ACO KerbDrain® CycleKerb as supplied by ACO Technologies plc. All materials and components within the scope of the system shall be supplied by this manufacturer. The kerb drainage units shall be fully compliant with BS EN 1433:2002 with Initial Type Test certification issued by a notified body independent of the manufacturer and shall comply with the Manual of Contract Documents for Highway Works: Specification of Highway Works, Clause 516. The kerb drainage units shall be certified by a third party product certification system compliant with BS EN 45011:1998 carried out by an accredited body (UKAS or equivalent), e.g. Kitemark.

The ACO KerbDrain® CycleKerb BN305 units shall be of units of 100mm internal bore and 150mm external width, matching the profile of a standard Bullnose kerb stone profile.

All units shall be of one piece manufacture from Vienite®. Vienite® is a sustainable material that contains between 5% to 30% by weight post consumer waste previously destined for landfill in the UK

The standard units shall be installed with the manufacturer's drop kerbs, centre stones, gullies, and access units. The system shall be installed in accordance with the manufacturer's printed recommendations, and the works carried out as specified on drawings (*) and in accordance with recognised good practice. Standards of workmanship shall generally be as specified in B

*Please insert drawing no. relevant to the project.

Highways specification – appendix 5/5

The Appendix 5/5 will need to be completed for each project. A model Appendix 5/5 for ACO KerbDrain® CycleKerb is available from the ACO Water Management Design Services Team.

The ACO KerbDrain® CycleKerb system is UKCA and CE marked, and carries the BSI Kitemark in accordance with the construction products regulation.

Declarations of Performance certificates are available to download on our website:
www.aco.co.uk/construction-products-regulation-(cpr)

BS EN 1433:2002

BS EN 1433
KM 538858

ACO KerbDrain® CycleKerb range

BS EN 1433
KM 538858

The ACO KerbDrain® CycleKerb 305 bullnose range has a profile to match a standard BN1 kerb stone. The range is ideal for stepped cycle lanes where drainage or ponding is a problem.

ACO KerbDrain® CycleKerb BN305 is available in 1m lengths with the following components:

- Access units
- Gully units
- Pedestrian drop kerbs and centre stone
- End caps and unions

BN Profile	✓ Kitemarked
305mm Unit depth	✓ 1m Units
Hydraulic capacity	✓ HB to BN transitions
386m²* Catchment area	✓ Drop kerbs
D 400 Load Class	

* Example run based on 50m length laid level at 50mm/hr rainfall

Product Code	Description	Length [mm]	Width Overall [mm]	Depth [mm]	Invert Depth [mm]	Weight [kg]
ACO KerbDrain® Cyclekerb units						
32710	KerbDrain® CycleKerb BN305 Channel 60mm upstand	1000	150	305	280	55.0
32716	KerbDrain® HB405/SP380/BN305 Centre stone access unit	500	150	305	280	25.9
Transition units for entry/exit of stepped cycle lanes						
32723	KerbDrain® CycleKerb BN305 LH transition HB to bullnose	500	150	305	280	29.0
32724	KerbDrain® CycleKerb BN305 RH transition bullnose to HB	500	150	305	280	29.0
7972	KerbDrain® HB305 Half battered 500mm blind unit**	500	150	305	280	28.5
4236	KerbDrain® HB405/SP380/BN305 Bullnose centre stone**	1000	150	305	280	60.1
Pedestrian/cycle lane units for dropped kerb for vehicle access						
32711	KerbDrain® CycleKerb BN305 Centre stone 25mm upstand	1000	150	270	245	53.8
32721	KerbDrain® CycleKerb BN305 LH drop kerb 60mm to 25mm upstand	500	150	305/270	280/245	29.9
32722	KerbDrain® CycleKerb BN305 RH drop Kerb 25mm to 60mm upstand	500	150	270/305	245/280	29.9
Pedestrian crossings - units for level pedestrian crossings across the cycle lane						
4236	KerbDrain® HB405/SP380/BN305 Centre stone	1000	150	305	280	60.1
32716	KerbDrain® HB405/SP380/BN305 Centre stone access unit	500	150	305	280	25.9
Pedestrian crossings - units flush with carriageway (T-Junction) units						
32723	KerbDrain® CycleKerb BN305 LH transition HB to bullnose	500	150	305	280	29.0
32724	KerbDrain® CycleKerb BN305 RH transition bullnose to HB	500	150	305	280	29.0
4992	KerbDrain® HB305 External quadrant unit**	305	305	305	280	32.0
7995	KerbDrain® HB305 Left hand flush drop kerb assembly	1500	150	305/180	280/155	75.5
7996	KerbDrain®HB305 Right hand flush drop kerb assembly	1500	150	305/180	280/155	75.5
7992	KerbDrain® HB305 Flush drainable centre stone 0-6mm upstand	1000	150	180	155	36.3
4985	KerbDrain® HB305 Flush drainable centre stone 6m external radius	496	150	180	155	18.3
ACO KerbDrain® BN305 Multifunctional end cap						
4941	KerbDrain® HB255, SP280 & HB305 Multifunctional end cap	70	160	245	255	0.2

** Blind units can be used to decrease the slope of entry/exit to the cyclelane, where space allows.

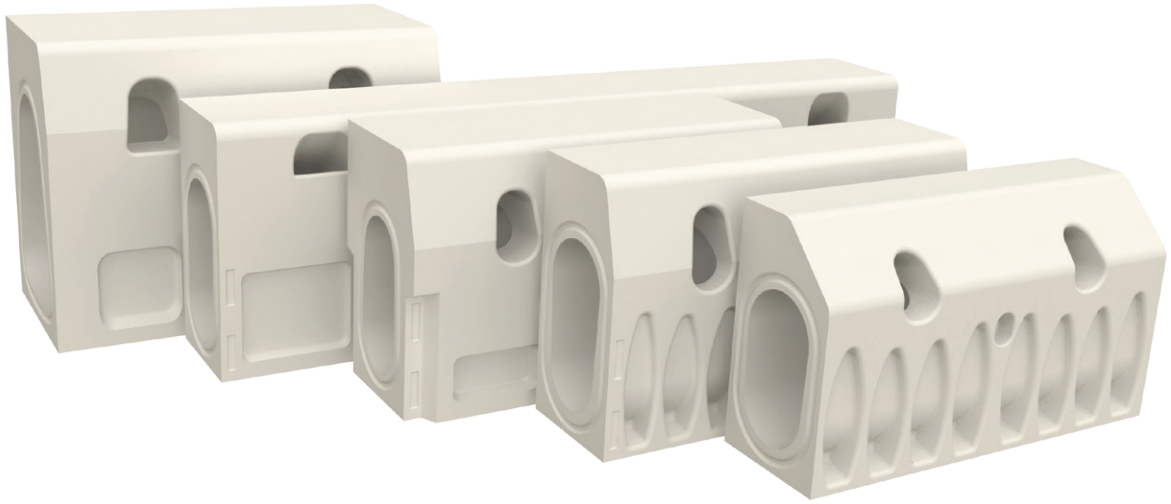
Product Code	Description	Length [mm]	Width Overall [mm]	Depth [mm]	Invert Depth [mm]	Weight [kg]
ACO KerbDrain® Bullnose gully assemblies						
32726	KerbDrain® Bullnose gully access top assembly D 400	500	392	415	-	70
32727	KerbDrain® Bullnose gully access top and shallow base assembly D 400	500	392	765	-	98
32728	KerbDrain® Bullnose gully access top and deep base assembly D 400	500	392	920	-	106
32729	KerbDrain® Bullnose gully access top and deep base with roddable foul air trap assembly D 400	500	392	920	-	107
32730	KerbDrain® Bullnose gully access top and ø450mm road gully connector assembly D 400	500	392	720	-	79

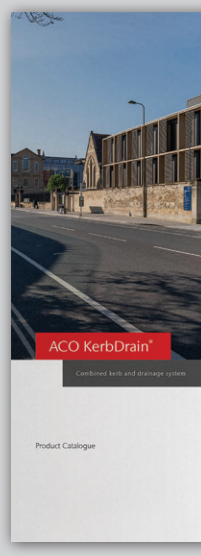
Product Code	Description	Length [mm]	Width Overall [mm]	Depth [mm]	Invert Depth [mm]	Invert Type	Weight [kg]
ACO KerbDrain® pipe accessories							
0056	820 Drain union PVC-U Ø110mm	100	110	-	-	-	0.1
0058	822 Drain union PVC-U Ø160mm	150	160	-	-	-	0.5
2723	823 Drain union PVC-U Ø200mm	200	200	-	-	-	0.6
2638	922 Foul air trap PVC-U Ø160mm	-	160	-	-	-	1.9
7932	950 Roddable foul air trap MDPE Ø160mm	-	160	-	-	-	0.8

ACO KerbDrain® D 400 and E 600 class ranges

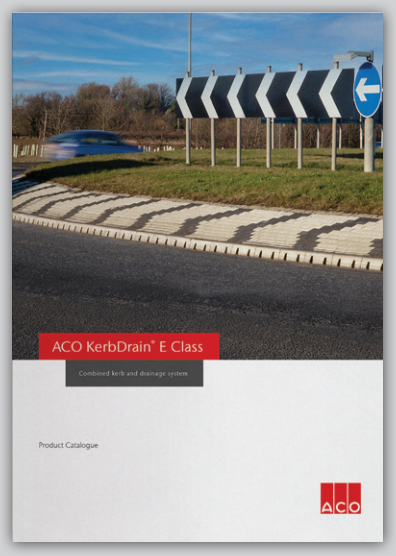
In addition to our CycleKerb range ACO also has a wide range of half battered (HB) and splayed (SP) drainable kerb solutions, and full details can be found in our D 400 KerbDrain® brochure and our E Class KerbDrain® brochure.

Standard upstand height KerbDrain units are an effective drainage solution for segregated cycle lanes, installed within the cycle lane and on the carriageway facing kerbs.





For further information about ACO KerbDrain® please scan the QR code for more information.



For further information about ACO KerbDrain® E Class please scan the QR code for more information

Design support services

Surface water management system design can often be a complex task. Success in combining products and processes requires a thorough understanding of how these different elements work together.

The ACO Design Services Team is able to work closely with you through the entire design process to ensure accurate and cost-effective product selection is made.

Services we offer include (free and without obligation):

- Whole system design, from collection to the attenuation of surface water
- Hydraulic calculations and AutoCAD detailing
- Parts schedules
- Conduit files for MicroDrainage

ACO has embraced the concept of value engineering as an approach to on-site construction that saves both time and money.

ACO will review any design to minimise the total scheme and life cost of a proposal. The team can suggest the most appropriate range depending on your requirements.

Some ranges like MultiDrain or MonoDrain allow water to be contained and conveyed close to the surface, which accords with the principles advocated for Sustainable Drainage (SuDS Manual, 2015), by removing the need for pumping. Other ranges like Qmax allow attenuation – the storage of large volumes of water during storm events, reducing overall site costs.

For detailed designs using the ACO Hydraulic Design Software, please contact the ACO Water Management Design Services Team.

If manual calculations are preferred to using our QUAD software, hydraulic tables and instructions for manual calculations can be provided.

For design enquiries go to **www.aco.co.uk/design-+-support-services**

ACO BIM Models

BIM is the process of generating and managing data, and developing collaborative behaviours that will unlock new and more efficient ways of working at all stages of the project life-cycle.

These files will help contractors specify and optimise drainage systems in line with the overall benefits of BIM-enabled working, including faster project delivery, reduced costs, reduced waste and greater project predictability.

Civils3D, IFC or Revit files are available for download.

www.aco.co.uk/aco-bim-models

Further Learning

ACO Professional Development

ACO has recognised that knowledge transfer is fundamental in keeping up-to-date with the latest advancements in surface water management and has a unique training offer that can be accessed online, in-house or at the state-of-art training facility at the ACO Academy.

In Company

ACO offers face-to-face professional development sessions. These are carefully designed to last up to 1 hour, so they can be undertaken across a lunch break.

A member of our team will contact you directly to discuss your requirements and will tailor the session to meet your needs.

ACO Academy Days

ACO's training facility at its UK head office in Bedfordshire has a theatre-style facility that can hold up to 50 people as well as a number of breakout rooms for small groups.

Professional development training can be combined with more in-depth product training at the on-site learning zone.

Webinars

ACO has developed a series of webinars that will keep you up to date, bringing you technical expertise as well as more specific product information. Whatever your involvement from specification to installation, there will be a webinar to meet your needs and further your learning.

Seminars

ACO is bringing the experts to you via our programme of regional events, and by sharing information from key influencers within the industry as well as more specific product information. ACO's seminar events will include opportunities to enhance existing knowledge as well as network and discuss thoughts and ideas with other delegates.

www.aco.co.uk/professional_development | email: ukprofessionaldevelopment@aco.co.uk

Case Studies

ACO has operated in the UK for over 30 years and in this time we have worked on ground breaking projects that have pushed the boundaries of surface water management. Our case studies provide bite sized information that counts towards your professional development and can provide inspiration for future projects.

www.aco.co.uk/case-studies

Colab

Colab is a collaboration of partnerships, bringing together CPD and self-certified content to ensure that knowledge is shared and accessible to the construction industry. Visit our content and CPD partner website: Colab to see more professional development content from partners such as ACO, FutureBuild, CIHT, The Edge, and CIWEM.

www.colab-cpd.co.uk

Notes

askACO

train | design | support | care

Every product from ACO Water Management supports the ACO WaterCycle

- ACO Water Management
  Civils + Infrastructure
  Building + Landscape
- ACO Building Drainage
- ACO Access
- ACO Sport
- ACO Wildlife

ACO Water Management

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