Uniclass L2123 + L7315	EPIC J3413
CI/SfB (52.5)	

ACO Water Management:
Civils + Infrastructure

ACO KerbDrain®

ACO KerbDrain® - Combined kerb and drainage system

Technical data

Introduction to the ACO Group

Throughout the world ACO branded drainage and surface water management systems are recognised for their innovative design, high quality manufacture, environmental excellence and industry leading performance.

Today the ACO Group has a research and production base that reaches across four continents. This unmatched resource pioneers the development of solutions that are tailored to individual applications, meeting the need for high performance, sustainable products that deliver optimum value throughout their operational life.

ACO Technologies plc

ACO operates as ACO Technologies plc in the United Kingdom. Founded over 30 years ago, the company has grown quickly on a reputation for design innovation and customer service.

There are now 4 divisions within ACO Technologies that serve every sector of the construction industry, providing solutions for applications as diverse as rail, highways, airports, landscaping, retail, distribution centres and environmentally sensitive projects.

To help architects, designers and contractors meet the legal requirements that now tightly control the way surface water is managed, ACO has created its unique 'Surface Water Management Cycle' – Collect, Clean, Hold, Release – the four core processes now required for the complete and sustainable management of surface water drainage.

The ACO group / www.aco.com

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Introduction to ACO KerbDrain®

The ACO KerbDrain® combined kerb and drainage system provides versatile and efficient linear drainage for motorways, trunk roads, urban infrastructure and landscaping projects.

What is ACO KerbDrain®?

ACO KerbDrain® is a one-piece combined kerb and drainage system specifically designed and developed to form an integral part of any modern, sustainable surface water management solution. The system is suitable for a wide range of applications including major and minor highways, car parks, and commercial and urban landscaping.

ACO KerbDrain® provides many versatile solutions for both SUDS schemes and traditional drainage systems.

Engineers and designers are able to combine the benefits of both “hard” and “soft” SUDS to achieve the key elements of quality, quantity and amenity.

Since its launch in the late 1990’s, over 750,000m of ACO KerbDrain® has been supplied to a wide variety of projects in both the UK and mainland Europe. In recognition of ACO KerbDrain’s ground breaking one-piece design, the system was awarded the Queen’s Award for Enterprise: Innovation in 2001.

ACO KerbDrain® has a range of units to match HB1, HB2 and 45° splayed profiles, and a selection of depths and lengths to meet the hydraulic and performance requirements of many highway or drainage schemes.

The system also benefits from an extensive range of complementary and problem solving components including perforated and flush centre stones, drop kerbs, radius and mitred units, internal angles, quadrants, and bus stop units.

The ACO KerbDrain® system

The main 1m and 0.5m units form the core of the range and are available in either Half Battered (HB) or Splayed (SP) profiles. Each unit has two surface water drainage inlets per 0.5m, which are designed to prevent blockages by silt and debris, ensuring maximum drainage efficiency of carriageways and paved surfaces.

ACO KerbDrain® units are available in 220/235mm (Shallow Kerbdrain), 255mm, 280mm, 305mm, 380mm, 405mm and 480mm depths, which enable engineers and designers to optimise scheme hydraulics for efficient and economical drainage.

When compared to traditional kerb and point gully drainage, ACO KerbDrain® delivers a lower cost option. It also removes problems associated with incorrectly sited point gullies by ensuring all surface water runoff is safely removed over the entire length of the installation.

Maintenance of ACO KerbDrain® is provided for by lockable access points and gully units which allow the system to be simply and efficiently cleaned by standard jetting equipment.

Installation benefits

The one-piece construction of ACO KerbDrain® and the lightweight properties of Vienite® ensure the system is quick and easy to install, even when a fully watertight installation is required. Whether you are installing products manually or mechanically to meet HSE guidelines for kerb laying, ACO KerbDrain® provides the optimum solution.

Why choose ACO KerbDrain®

Made from sustainable materials

All ACO KerbDrain® products are manufactured from Vienite®, ACO's new high strength sustainable material that meets environmental and sustainability targets for construction products.

Four times stronger than traditional concrete, Vienite® utilises high levels of post-consumer recycled waste, but unlike some recycled materials does not compromise strength or long-term performance. For more information on Vienite®, see page 62.

Proven performance

ACO KerbDrain® meets the highest levels of certification, performance and quality assurance for combined kerb drainage systems. It is fully certified to Load Class D 400 BS EN 1433:2002 and CE marked, and is 50% more impact resistant than traditional OPC kerb units.

ACO KerbDrain® carries the BSI Kitemark, independently assuring performance and quality and making the system fully compliant with the specification for Highways Works Clause 516 and all Highways England product and certification requirements.

BS EN 1433
KM 538858

- Impact resistance 50% higher than OPC kerb units
- Manufactured from sustainable material
- Certified for all highways applications
- Full range of problem solving components for all sizes
- Capacity choices optimise hydraulic performance
- Award winning one-piece design
- SuDS compliant
- Simple watertight installations
- Safe manual and mechanical handling
- High daily installation rate

Modification Service
If a modified or bespoke ACO KerbDrain® solution is required to meet specific performance or site conditions, ACO can support and deliver non-standard products ensuring the optimum solution is provided.
For modification enquires please call 01462 816666, or email technical@aco.co.uk

ACO KERBDRAIN FEATURES OVERVIEW

Kerb profiles

ACO KerbDrain® units are available in half battered (HB) or splayed (SP) profiles to BS EN 1340:2003.

Half battered units (HB)

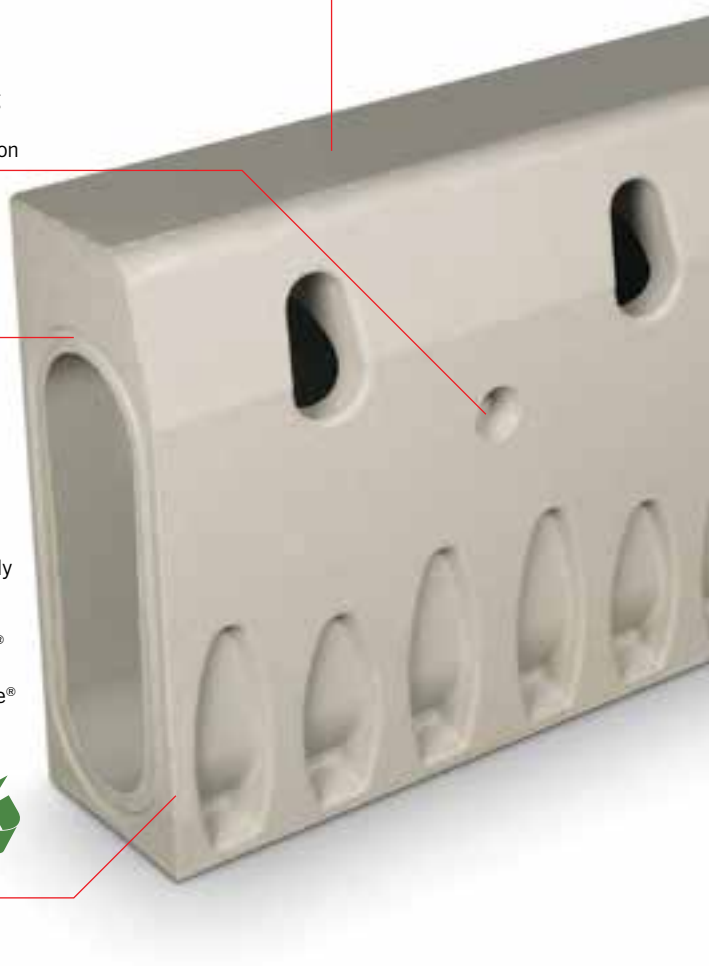
Splayed units (SP)

Choice of depths
Available in 255mm, 280mm, 305mm, 380mm, 405mm, 455mm and 480mm depths

DF hole for draining porous asphalt or providing temporary drainage of subsurface during installation

Sealant groove for simple watertight installations

Made from sustainable materials
Thermally stable, chemically resistant, environmentally friendly product manufactured from Vienite® sustainable material. For more information on Vienite® see page 66



LOAD CLASSES

A 15
Pedestrian, cycleways, minimally trafficked areas (light domestic vehicles only).

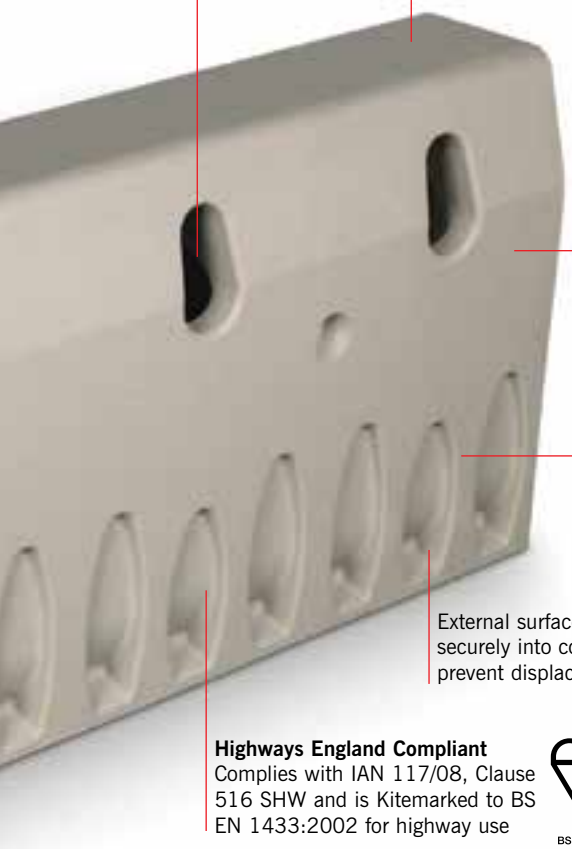
B 125
Pedestrian precincts, light vehicles, private car parks and drives.

C 250
Parking areas, service stations (cars) and slow-moving light commercial vehicles.

D 400
Public highways, parking areas for all types of vehicles, distribution yards.

Drainage inlets designed to resist debris blockage

50% higher impact resistance than traditional OPC kerbs



Load Class D 400
ACO KerbDrain® is fully certified to Load Class D 400 BS EN 1433:2002 and CE marked

Installation benefits
Kerb units available in 1000mm and 500mm lengths

External surfaces anchor channel securely into concrete surround to prevent displacement

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

Problem solving components

Each size of ACO KerbDrain® 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.

Centre stones

Access units

Drop kerb assemblies

Bus stop kerbs

Multifunctional end caps

Problem solving with ACO KerbDrain®

In addition to providing efficient drainage of carriageways and paved surfaces, ACO KerbDrain® can be used to solve many drainage problems created within the modern built environment.

Some examples of how ACO KerbDrain® is successfully used by engineers and designers are shown below.

For more ACO Water Management case studies visit www.aco.co.uk.

If you need help with specification, design or installation, or just wish to learn more about this and other Surface Water Management products from ACO, contact our free, no obligation ACO Water Management Design Services Team who can provide advice and dedicated design support for your project – 01462 816666 or visit www.aco.co.uk.

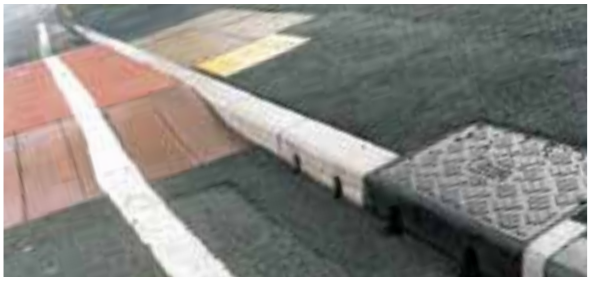
Pedestrian crossings

PROBLEM:
Carriageway and footpath cross-falls create a significant risk of standing water at pedestrian crossings.

SOLUTION:
- ACO KerbDrain® HB255, HB305 and HB405 offer products such as drop kerbs and flush drainable centre stones to enable efficient and proper drainage of these areas.
- The photograph shows ACO KerbDrain® HB305 flush drainable centre stones being used to provide drainage and compliance to the DfT 'Guidance on the use of tactile paving surfaces' at a pedestrian crossing.

Traffic calming and raised pedestrian crossings

PROBLEM:
Raised carriageway surfaces forming traffic calming measures or pedestrian crossings can impede or prevent the flow of surface water along the gutter.



SOLUTION:
- ACO KerbDrain® units without front drainage inlets are available and are referred to as blind units. These blind units prevent construction material entering the ACO KerbDrain® system and provide continuous drainage through the raised carriageway surface. Effective drainage of the carriageway is maintained and the risk of ponding is eliminated.
- The photograph shows ACO KerbDrain® HB305 blind units being used to provide drainage at a raised traffic calming measure (blind units also available in HB405 and HB480 ranges).

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® offers various (HB305, HB405 and HB480) dedicated transition and bus stop elements which raise the kerb upstand to increase pedestrian safety and improve access to public transport vehicles. ACO bus stop kerbs link to standard ACO KerbDrain® units and provide continuous drainage of the carriageway and bus stop.
- The photograph shows ACO KerbDrain® HB480 bus stop kerbs and transition kerbs being used to provide drainage at a bus stop, (bus stop kerbs and transition kerbs are also available in HB305 and HB405 ranges).

Roundabouts

PROBLEM:

Complex carriageway cross-falls created in the construction of roundabouts can make it extremely difficult to site traditional point gullies correctly to capture standing water. Unless the water is effectively drained, ponding at roundabouts can be particularly hazardous to motorists and cyclists.

SOLUTION:

- ACO KerbDrain® HB305 and HB480 ranges have dedicated radius and mitred units for roundabout construction, which can be installed on radii from 6m to 25m. External and internal mitre units are available to ensure efficient drainage of the curved perimeters found at roundabouts. ACO KerbDrain® units have multiple surface water inlets providing continuous linear drainage of the entire carriageway.
- The photograph shows ACO KerbDrain® HB480 external mitre units being used to provide drainage of a roundabout (HB305 mitre units also available).

T-Junctions

PROBLEM:

Where side roads adjoin the main carriageway, flow of surface water along the gutter can be impeded or prevented leading to standing water and drainage issues. Surface water runoff from side roads entering the main carriageway can also be a hazard to road users.

SOLUTION:

- The ACO KerbDrain® range provides all the necessary products to effectively drain the road junction, from mitred and radius units for the corners to dedicated junction channels and end caps that provide continuous and effective interception and drainage of surface water flows across the junction.
- The photograph shows ACO KerbDrain® HB480 external mitre units and HB480 junction channel units being used to provide drainage at a T junction.

Tunnels

PROBLEM:

Installation depths within tunnel construction can be restricted. Yet in the event that high volumes of hazardous liquid are discharged onto the road surface, such as a tanker spillage, rapid collection and containment is paramount for the safety of road users and the environment.

SOLUTION:

- The compact nature of ACO KerbDrain® combined with its high hydraulic capacity makes it ideal for use within the confines of a tunnel. Liquid-tight installations can quickly and efficiently be achieved to ensure that any hazardous liquids entering the ACO KerbDrain® system are contained prior to safe removal.
- The photograph shows ACO KerbDrain® HB480 kerb units being used to provide drainage of a tunnel.

Pedestrian crossings

PROBLEM:

Providing a Sustainable Drainage System (SUDS) for new and re-developments can present engineers and designers with significant challenges to deal with the quality, quantity and amenity of the surface water runoff. Restrictions of space, local topography or site specific conditions such as high natural water tables can mean that “Soft SUDS’ solutions alone are unsuitable.

SOLUTION:

- ACO KerbDrain® can be successfully used in SUDS schemes by allowing engineers and designers to combine the benefits of “hard SUDS” such as combined kerb drainage with traditional “soft SUDS” solutions such as swales, ponds and wetlands
- The photograph shows ACO KerbDrain® HB305 kerb and access units being used to provide drainage of a highway in conjunction with a swale.

ACO KerbDrain® project case studies

The many benefits of ACO KerbDrain® have, since its launch, helped architects, engineers and contractors realise some of the country's most ambitious, groundbreaking and high profile projects.

In differing applications with widely varying objectives, the ACO Water Management Design Services Team has played a key partnering role, ensuring each finished system not only met those objectives but added wider value.

The next two pages demonstrate how ACO KerbDrain® has provided efficient and cost effective combined kerb drainage to a diverse range of applications.

For more ACO Water Management case studies visit www.aco.co.uk.

Project requirement: Design versatility

Project name: Connecting Derby, Inner Ring Road

Client & design engineer:
Derby City Council

Contractor:
BAM Nuttall

At £36 million, Connecting Derby is one of the most ambitious projects ever undertaken in the city. With its objective to improve transport links in and around the city, designers focused on developing a value engineered solution that considered every aspect of installation, operation and maintenance.

The versatility of the ACO KerbDrain® range meant just one system could be used for all the individual highway applications - bus stops, roundabouts, pedestrian crossings etc – ensuring consistent high product quality, optimum drainage performance and minimal ongoing maintenance costs as only one product range needs to be held in the city's stock yards.

Project requirement: Protecting the environment

Project name: Hindhead Tunnel, Surrey

Client:
Highways Agency

Design engineer:
Mott MacDonald

Contractor:
Balfour Beatty Civil Engineering

The UK's longest in shore road tunnel on the A3 at Hindhead has been constructed to protect and preserve the environmentally sensitive Devil's Punch Bowl. In line with the project's demanding sustainability and performance targets, ACO KerbDrain® was selected to provide the drainage for each bore of the 1.8km tunnel. In addition to the environmental benefits of its construction material, Vienite®, ACO KerbDrain's one-piece design meant it could be easily sealed during installation. Sealing prevents any potentially hazardous liquids leaking into the surrounding soil and, by doing it faster, speeds installation, lowering total carbon used.

Modification service

Drain Specials is a section of the business which is able to adapt existing standard ACO drainage products to suit the specific requirements of a project or customer.

For modification enquires please call 01462 816666, or email technical@aco.co.uk

Project requirement: Innovative SuDS

Henry Box housing estate, Oxfordshire

Client:
Sovereign Housing Association

Design engineer:
Oxfordshire County Council

Contractor:
Atkins

Early collaboration between Oxfordshire County Council and ACO proved decisive in developing a successful sustainable drainage system that has allowed a housing estate to be developed on a challenging, flood-prone site. By exploiting ACO KerbDrain's inherent high storage capacity and its flexible installation detail, an innovative integrated drainage system has been created which removes surface water from all road surfaces and roofs across the development. Proven under the most extreme storm conditions of recent years, the system not only protects the houses from flooding but also prevents local water courses from overflowing.

Project requirement: Bespoke solutions

T5, London Heathrow Airport

Client:
BAA Airports Ltd

Creating an integrated drainage system that could keep the critically important access roads and set-down zones for the multi award winning Terminal 5 free of standing water required a whole series of bespoke ACO KerbDrain® units to be created. Designed to be installed within a shallow deck structure whilst retaining ACO KerbDrain's high hydraulic capacity and rapid intake performance, the individual units were manufactured in low-volume to the demanding tolerances, delivery schedules and budget requirements of this landmark project.

ACO KerbDrain® system overview

Making the right product selection

ACO KerbDrain® is available in Half Battered (HB) or Splayed (SP) profiles and has a variety of unit depths available for optimum scheme hydraulics.

To summarise the available options, the product selector below displays key features for each of the profiles and unit depths available.

Once product selection has been made based on the features required, the table will direct you to the appropriate page.

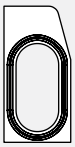
ACO KerbDrain® is:

- Available in Half Battered (HB) or Splayed (SP) profiles
- Available in a variety of unit depths
- Manufactured from Vienite® ACO's high strength sustainable material
- Manufactured from recycled materials

D 400

BS EN 1433
KM 538858

HB255	HB305	HB405	HB480	
See page 16	See page 16	See page 26	See page 33	**HB PROFILE**
				
255mm	**305mm**	**405mm**	**480mm**	UNIT DEPTH
				HYDRAULIC CAPACITY
154m²*	**386m²***	**894m²***	**1360m²***	CATCHMENT AREA
✓	✓	✓	✗	1M UNIT
n/a	**SP280**	**SP380**	**n/a**	TRANSITIONS TO
✓	✓	✓	✗	PEDESTRIAN CROSSING POINTS
✗	✓	✓	✓	RADIUS / MITRE UNITS
✗	✓	✓	✓	BUS STOP

	SP280	SP380	SP480	
CATCHMENT AREA *EXAMPLE RUN BASED ON 50M LENGTH TO OUTLET	See page 42	See page 48	See page 53	**SP PROFILE**
AVAILABILITY ✓ AVAILABLE ✗ NOT AVAILABLE				
HYDRAULIC CAPACITY LOW MEDIUM HIGH	**280mm**	**380mm**	**480mm**	UNIT DEPTH
				HYDRAULIC CAPACITY
LOAD CLASS D 400 LOAD CLASS D 400 PUBLIC HIGHWAYS, PARKING AREAS FOR ALL TYPES OF VEHICLES, DISTRIBUTION YARDS	**386m²***	**894m²***	**1490m²***	CATCHMENT AREA
	✓	✓	✗	1M UNIT
	HB305	**HB405**	**n/a**	TRANSITIONS TO

ACO KerbDrain® HB255

ACO KERBDRAIN® HB255

HB Profile	
255mm	Unit depth
	Hydraulic capacity
154m²*	Catchment area
D 400	Load Class
✓	Kitemarked
✓	HB to SP transitions
✗	Bus stop

*Example run based on 100m length laid level at 50mm/hr rainfall

The ACO KerbDrain® 255 half battered range has a compact size to match a standard HB2 kerb stone. The range is ideal for smaller catchment areas or as a retrofit option in existing kerb installations where drainage or ponding in the highway is a problem.

ACO KerbDrain® HB255 is available in 1m or 0.5m lengths with the following components:

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

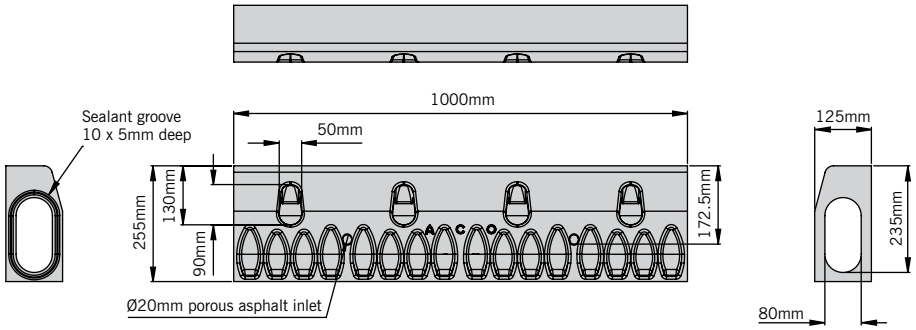
VIENITE THE SUSTAINABLE CHOICE

BS EN 1433
KM 538858

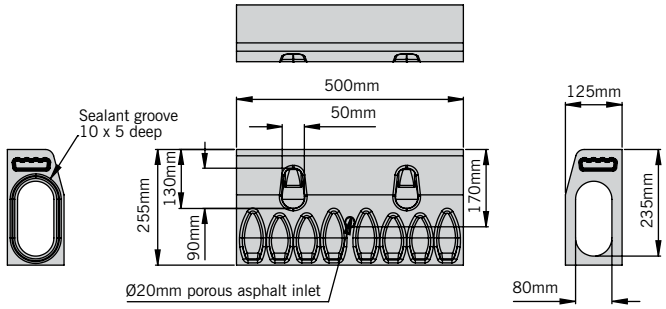
ACO KerbDrain® HB255

HB255 half battered kerb units

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7950	KDHB255 1000mm	1000	125	255	235	37.2
7958	KDHB255 500mm	500	125	255	235	18.5



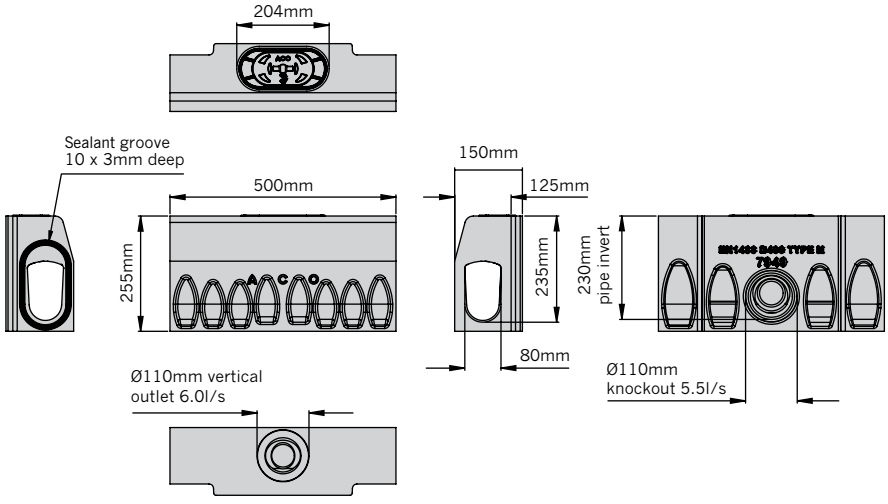
HB255 1000mm unit



HB255 500mm unit

HB255 half battered access unit

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7949	KDHB255 access unit	500	125/150	255	235	22.9



HB255 access unit

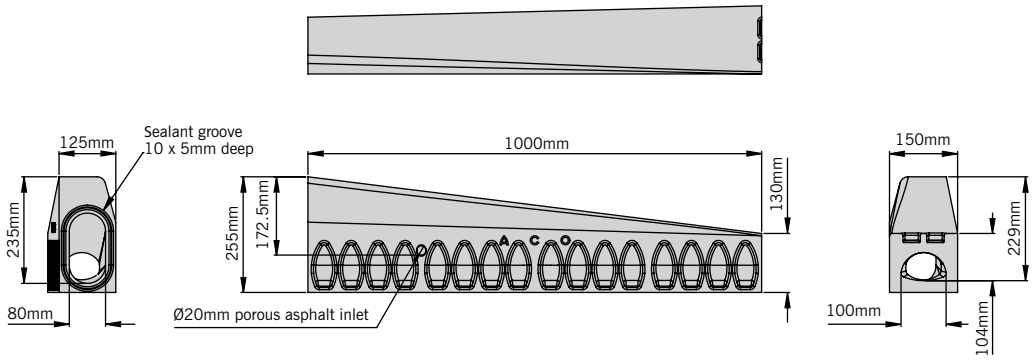
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB255

HB255 half battered flush drainable drop kerb units

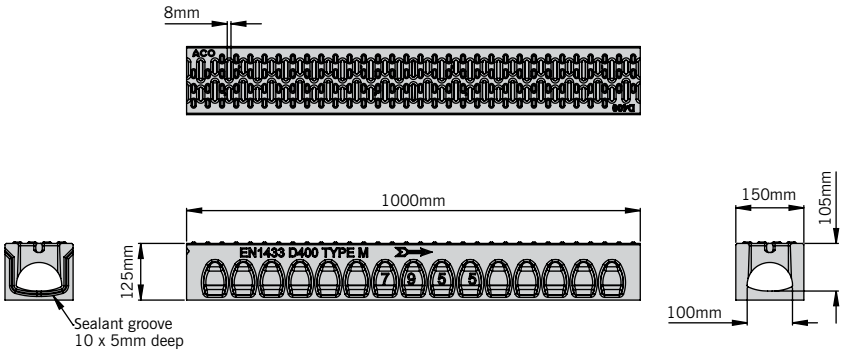
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7956	KDHB255 LH drop kerb	1000	125/150	255/130	235/105	38.0
7957	KDHB255 RH drop kerb	1000	125/150	255/130	235/105	38.0



HB255 1000mm unit

HB255 half battered flush drainable centre stone unit

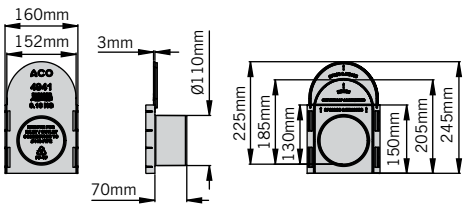
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7955	KDHB255 centre stone	1000	150	125	105	24.7



HB255 centre stone unit

HB255 multifunctional end cap

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4941	HB255, SP280 & HB305 Multicuntional end cap	3	160	245	225	0.16



HB255 multifunctional end cap

Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.
For repair kit information please see page 25

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB305

ACO KERBDRAIN® HB305

	HB Profile
305mm	Unit depth
	Hydraulic capacity
386m²*	Catchment area
D 400	Load Class
✓	Kitemarked
✓	1m units
✓	HB to SP transitions
✓	Bus stop

*Example run based on 50m length to outlet

The ACO KerbDrain® 305 half battered range has a profile to match a standard HB1 kerb stone. The range is ideal for draining medium size catchments such as urban highways or parking areas. Its wide range of accessories allows ACO KerbDrain® 305 to be used in many urban highway applications.

ACO KerbDrain® HB305 is available in 1m, 0.5m or 0.25m lengths with the following components:

- Access units
- Gully units
- Bus stop kerbs
- Drop kerbs and centre stones for pedestrian and vehicle crossings
- Mitre and radius units
- Quadrant and internal angles
- End caps and unions

VIENITE THE SUSTAINABLE CHOICE

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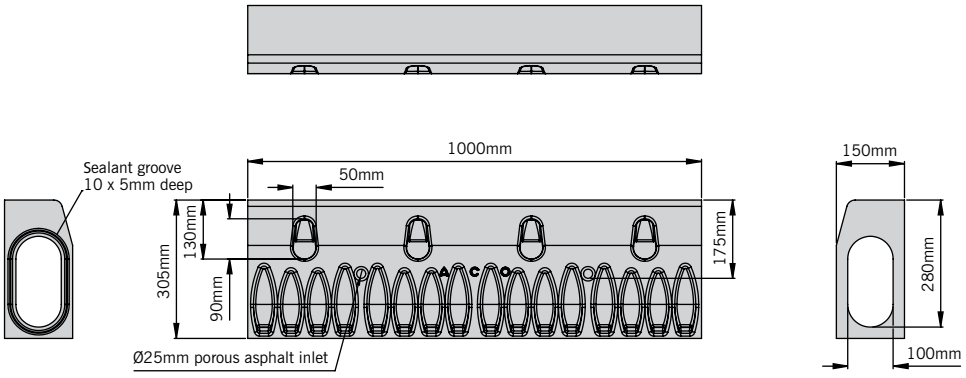
KM 538858

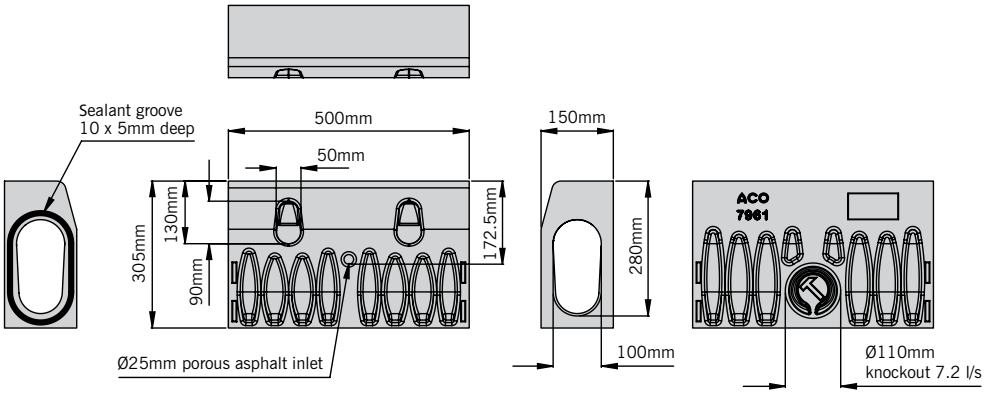
ACO KerbDrain® HB305

HB305 half battered kerb units

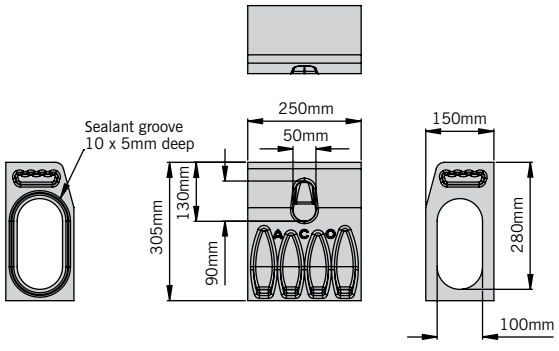
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7959	KDHB305 1000mm	1000	150	305	280	53.1
7961	KDHB305 500mm	500	150	305	280	26.2
7972	KDHB305 500mm blind unit†	500	150	305	280	28.5
7960	KDHB305 250mm	250	150	305	280	12.0



HB305 1000mm unit



HB305 500mm unit



HB305 250mm unit

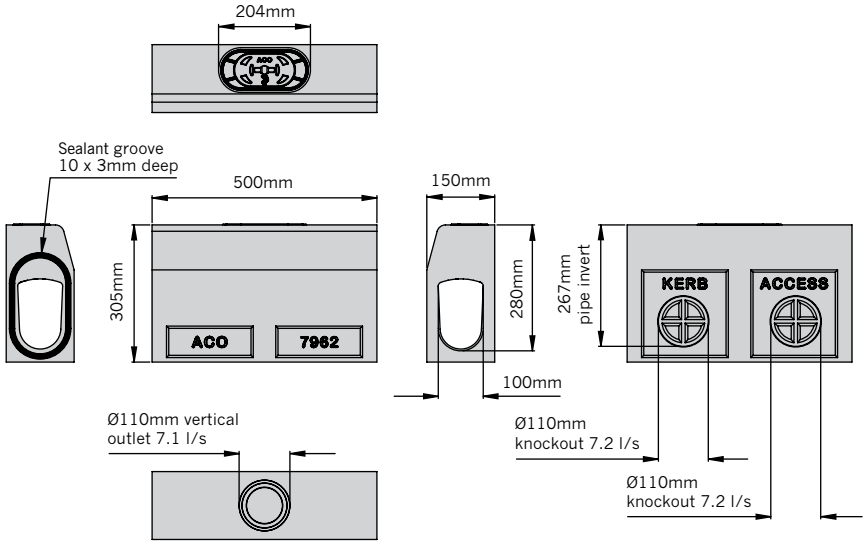
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.
† Blind units are provided without surface water drainage inlets.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB305

HB305 half battered access unit

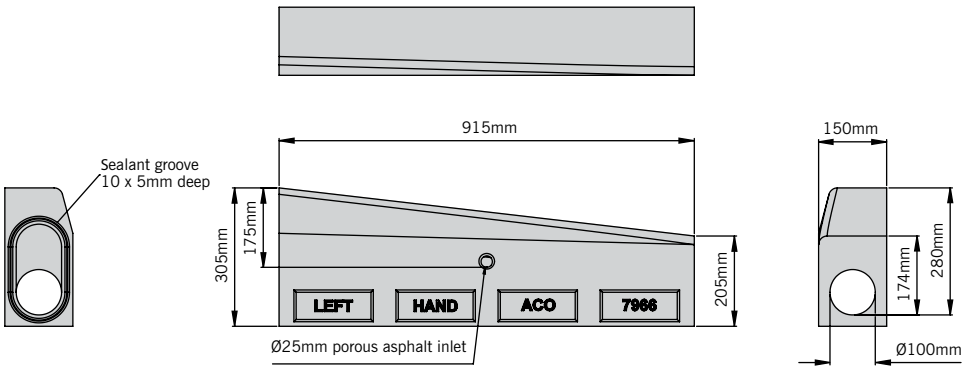
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7962	KDHB305 access unit	500	150	305	280	30.0



HB305 access unit

HB305 half battered drop kerb units

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7966	KDHB305 LH drop kerb	915	150	305/205	280/180	49.5
7967	KDHB305 RH drop kerb	915	150	305/205	280/180	49.5



HB305 left hand drop kerb

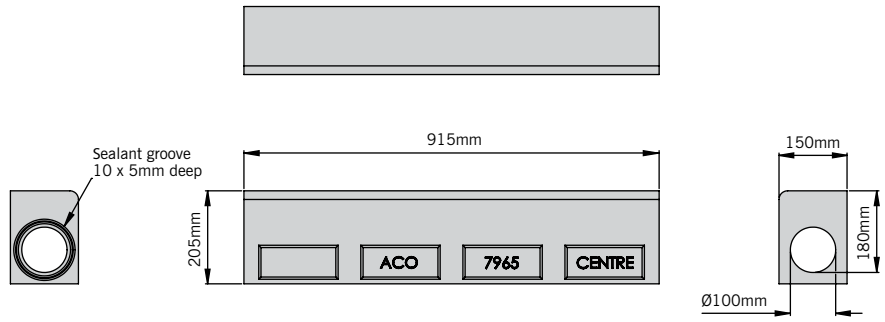
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB305

HB305 half battered centre stone unit with 25mm upstand

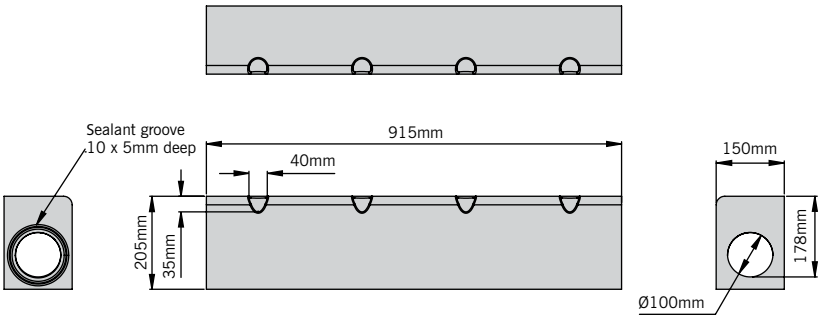
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7965	KDHB305 centre stone	915	150	205	180	45.0



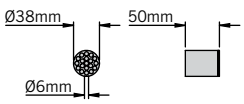
HB305 centre stone with 25mm upstand

HB305 half battered perforated centre stone unit with 25mm upstand

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4982	KDHB305 perforated centre stone	915	150	205	180	42.9
4997	'Heelguard' insert (4 per unit required)†	50	-	-	-	0.1



HB305 perforated centre stone with 25mm upstand



Heelguard insert

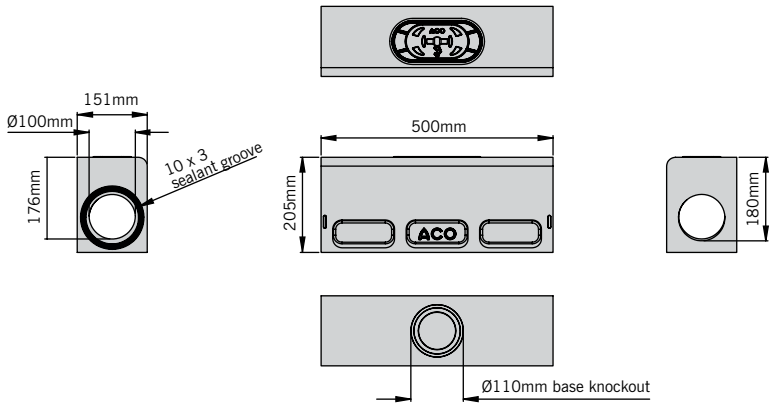
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.
† Heelguard inserts can be fitted in the inlets of perforated centre stones.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB305

HB305 centre stone access unit

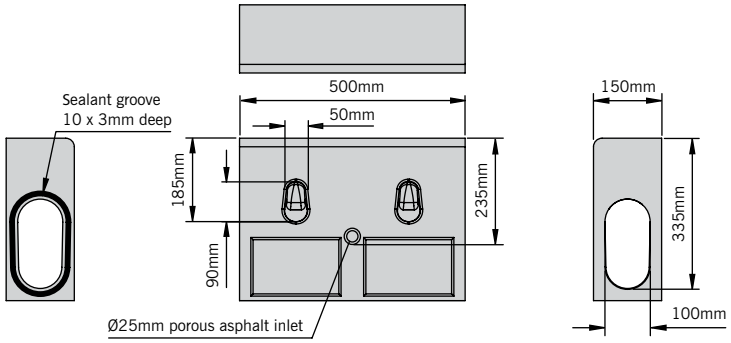
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4993	HB305 centre stone access unit	500	151	205	180	21.57



HB305 perforated centre stone with 25mm upstand

HB305 bullnosed bus stop kerb unit with 180mm upstand

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4356	KDHB305 bus stop kerb	500	150	360	335	36.9



HB305 perforated centre stone with 25mm upstand

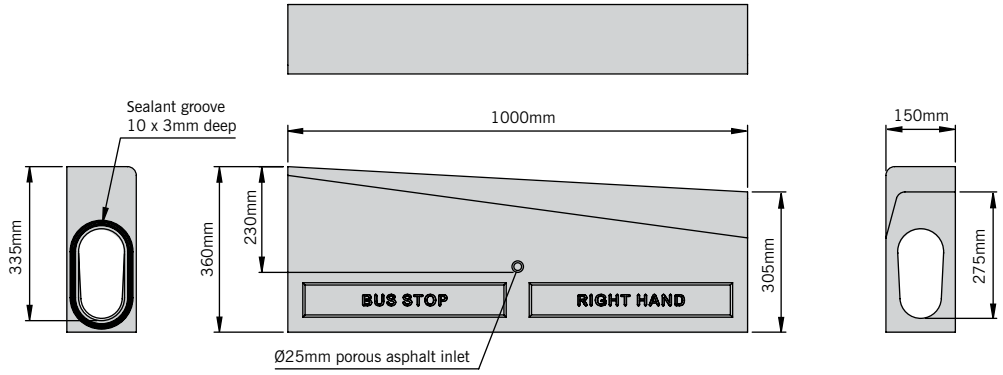
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.
† Heelguard inserts can be fitted in the inlets of perforated centre stones.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB305

HB305 half battered bus stop transition kerb units

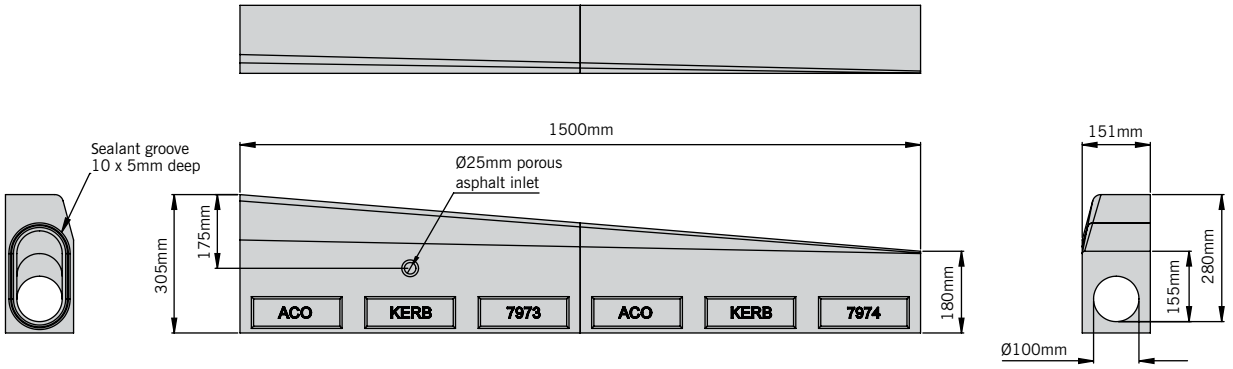
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4358	KDHB305 LH BS transition kerb	1000	150	360/305	280/335	68.2
4357	KDHB305 RH BS transition kerb	1000	150	360/305	280/335	68.2



HB305 flush drainable right hand drop kerb

HB305 half battered flush drainable drop kerb units

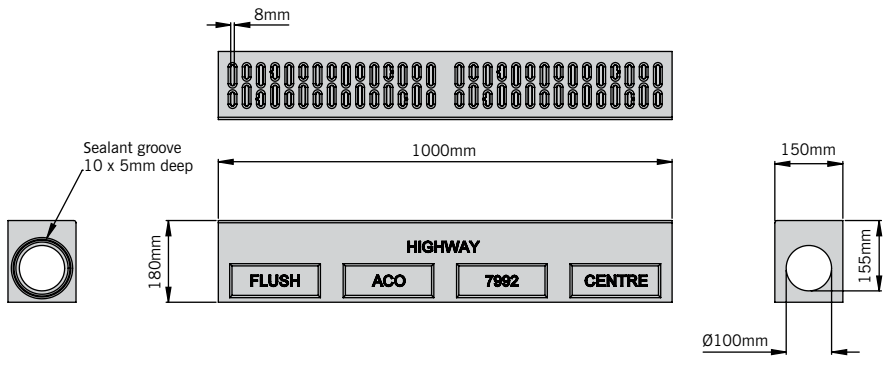
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7995	KDHB305 flush LH drop kerb	1500	150	305/180	280/155	75.5
7996	KDHB305 flush RH drop kerb	1500	150	305/180	280/155	75.5



HB305 half battered flush drainable drop kerb unit

HB305 half battered flush drainable centre stone with 0-6mm upstand

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7992	KDHB305 drainable centre stone	1000	150	180	155	36.3



HB305 half battered flush drainable drop kerb unit

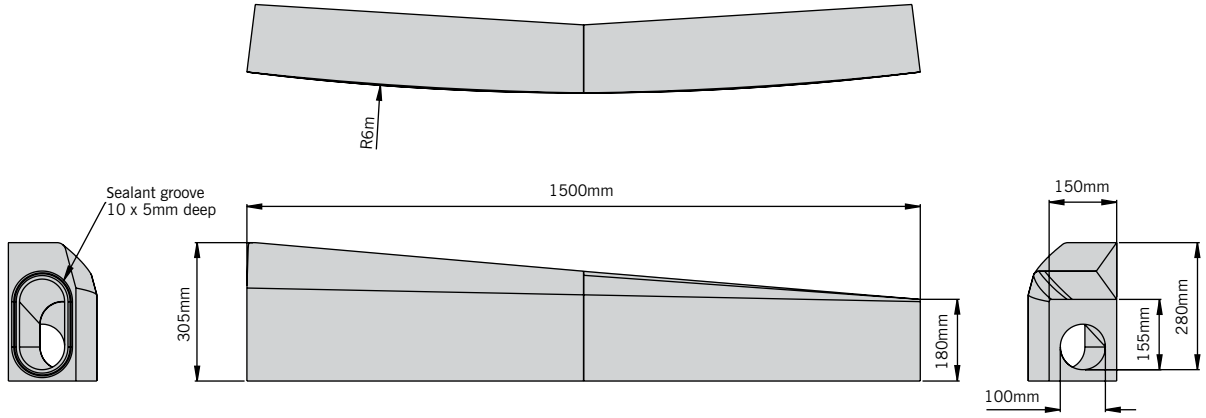
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB305

HB305 half battered flush drainable drop kerb units with 6m external radius

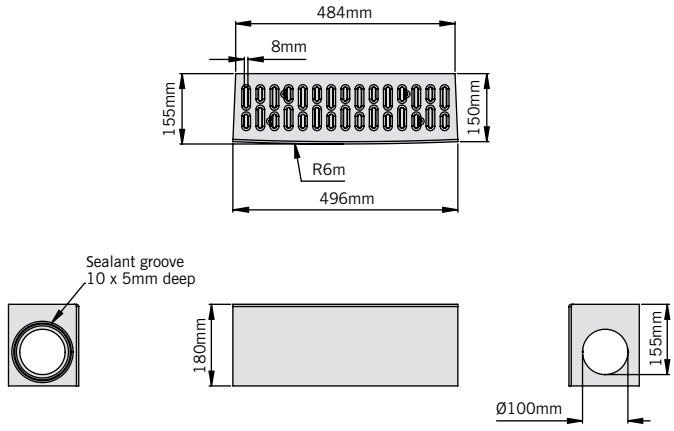
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4998	KDHB305 LH drop kerb	1500	150	305/180	280/155	77.5
4999	KDHB305 RH drop kerb	1500	150	305/180	280/155	77.5



HB305 left hand drop kerb with 6mm radius

HB305 half battered flush drainable centre stone with 6m external radius

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4985	KDHB305 flush drainable centre stone	496/484	150	180	155	18.3



HB305 flush drainable centre stone with 6mm radius

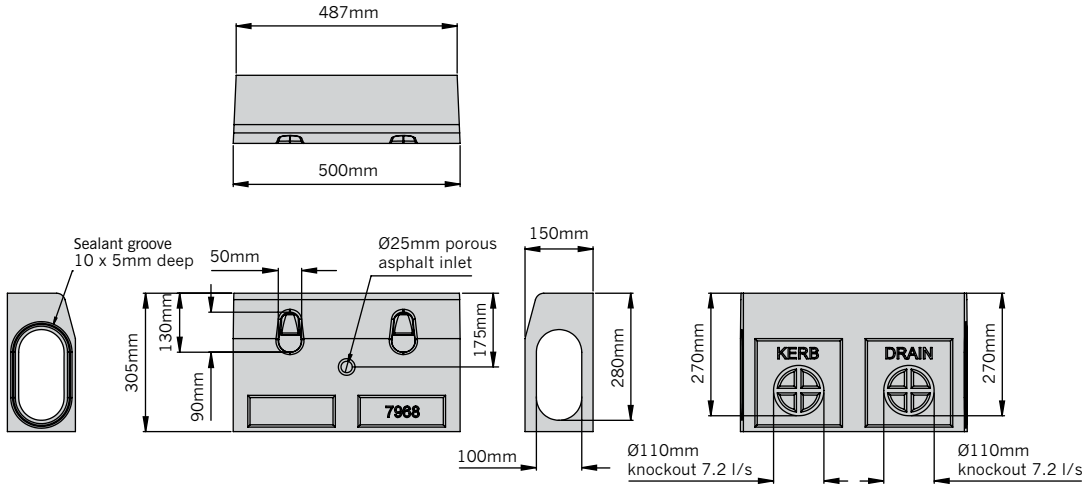
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB305

HB305 half battered mitre units

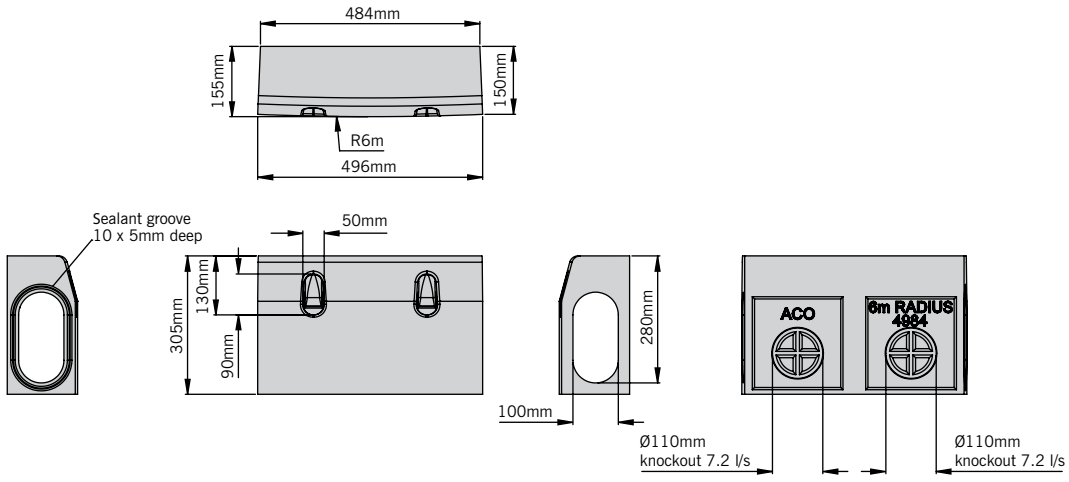
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7968	KDHB305 7-6m external mitre	500/487	150	305	280	26.9
7969	KDHB305 10-8m external mitre	500/490	150	305	280	26.7
7970	KDHB305 25-11m external mitre	500/493	150	305	280	26.5
7971	KDHB305 25-11m internal mitre	500/503	150	305	280	26.7



HB305 7-6m external mitre

HB305 half battered 6m external radius unit

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4984	KDHB305 6m external radius	496/484	150	305	280	27.8



HB305 6m external radius unit

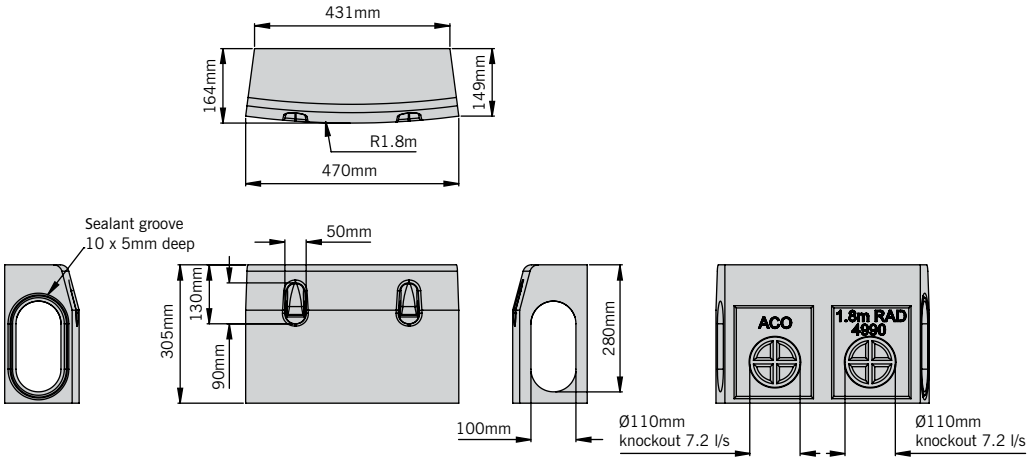
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB305

HB305 half battered 1.8m external radius kerb unit

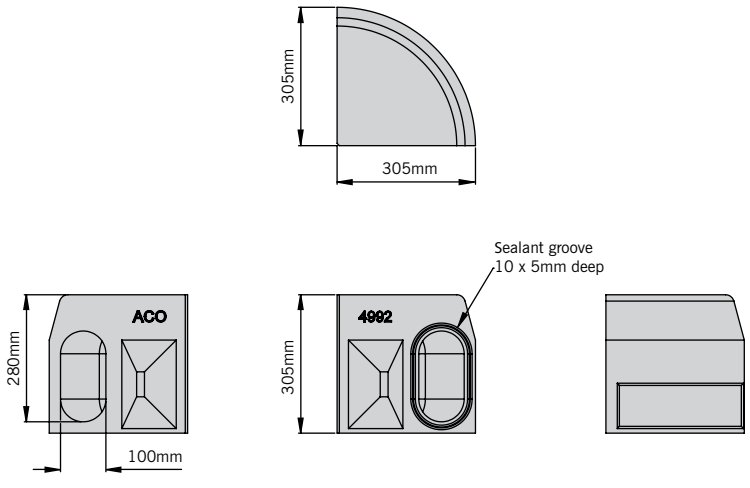
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4990	KDHB305 1.8m radius	470/431	150	305	280	27.0



HB305 1.8m external radius kerb unit

HB305 half battered quadrant unit

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4992	KDHB305 quadrant	305	305	305	280	32.0



HB305 quadrant unit

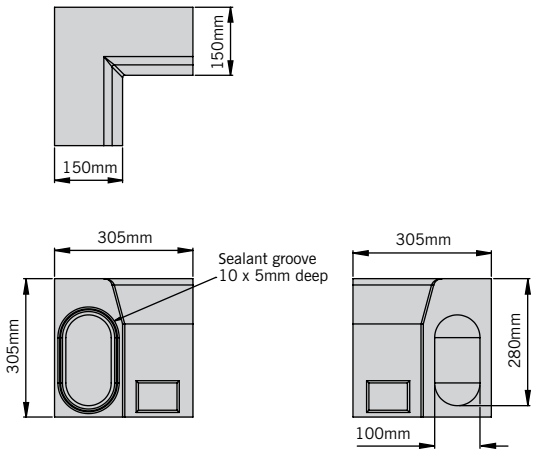
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB305

HB305 half battered 90° internal angle unit

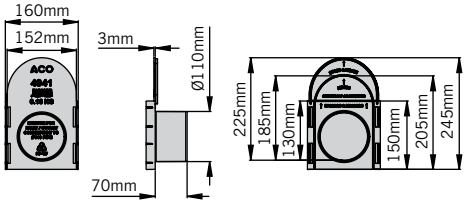
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4991	KDHB305 internal angle	305	150	305	280	24.7



HB305 internal angle

HB305 multifunctional end cap

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4941	HB255, SP280 & HB305 Multicuntional end cap	3	160	245	225	0.16



HB305 multifunctional end cap

Polymer repair kit

Product code	Description	Weight (kg)
32599	Polymer concrete repair kit	1kg*

Option for repair kit

*Repair kit includes 0.5kg tin of natural colour polyester concrete repair resin, grey and black pigment, hardener paste, mixing instructions and material safety data sheets.

† Inlet / outlet end caps are designated LH or RH when viewed from carriageway.
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB405

HB Profile	
405mm	Unit depth
Hydraulic capacity	
894m²*	Catchment area
D 400	Load Class
✓	Kitemarked
✓	1m units
✓	HB to SP transitions
✓	Bus stop

*Example run based on 50m length to outlet

The ACO KerbDrain® 405 half battered range has a profile to match a standard HB1 kerb stone. The range is ideal for draining large catchment areas and bridges the hydraulic gap between our 305 and 480 half battered ranges allowing for optimised drainage designs.

ACO KerbDrain® HB405 is available in 1m and 0.5m lengths with the following components:

- Access units
- Gully units
- Bus stop kerbs
- Drop kerbs and centre stones for vehicle crossings
- Radius units
- End caps and unions

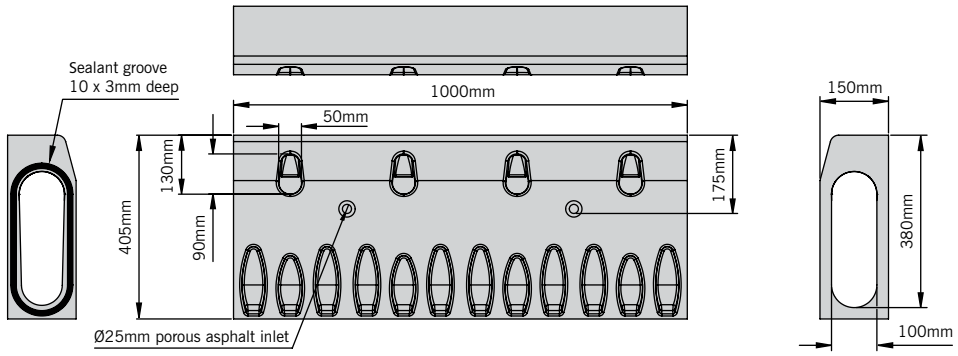
VIENITE

BS EN 1433
KM 538858

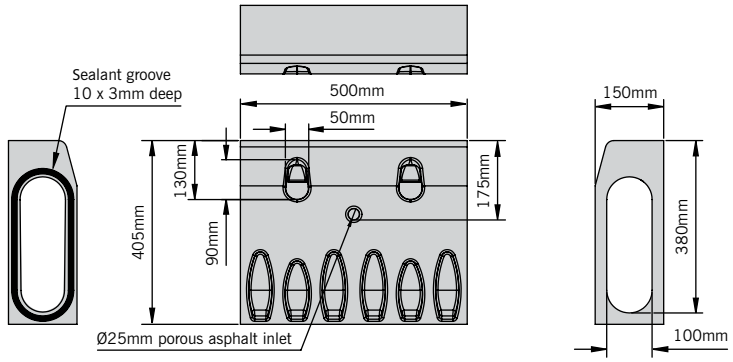
ACO KerbDrain® HB405

HB405 half battered kerb units

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4232	KDHB405 1000mm	1000	150	405	380	63.5
4231	KDHB405 500mm	500	150	405	380	30.9
4230	KDHB405 500mm blind unit†	500	150	405	380	32.0



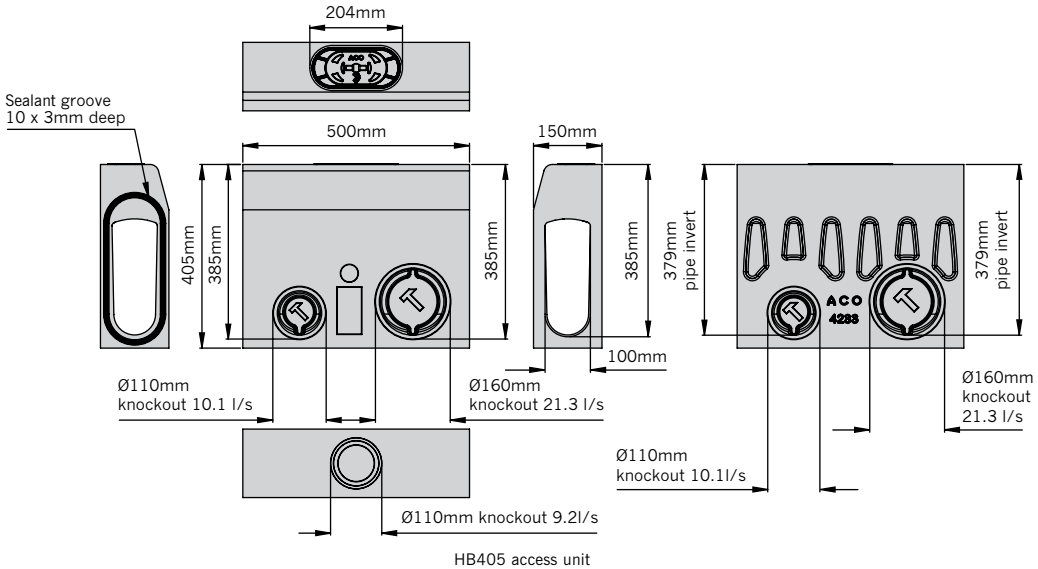
HB405 1000mm unit



HB405 500mm unit

HB405 half battered access units

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4233	KDHB405 access unit	500	150	405	380	35.0



HB405 access unit

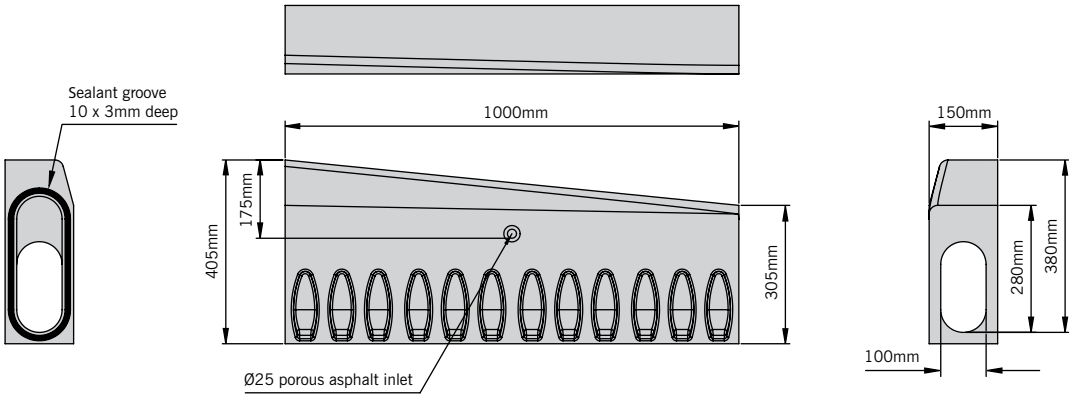
† Blind units are provided without surface water drainage inlets
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB405

HB405 half battered drop kerb units

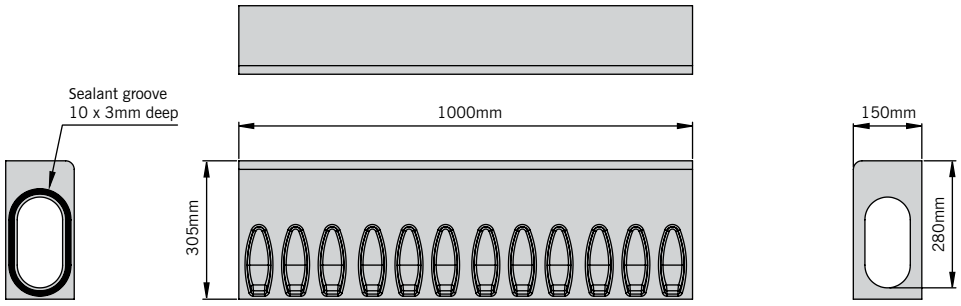
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4234	KDHB405 LH drop kerb	1000	150	405/305	380/280	62.1
4235	KDHB405 RH drop kerb	1000	150	405/305	380/280	62.1



HB405 left hand drop kerb

HB405 half battered centre stone unit

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4236	KDHB405 centre stone	1000	150	305	280	60.1



HB405 centre stone

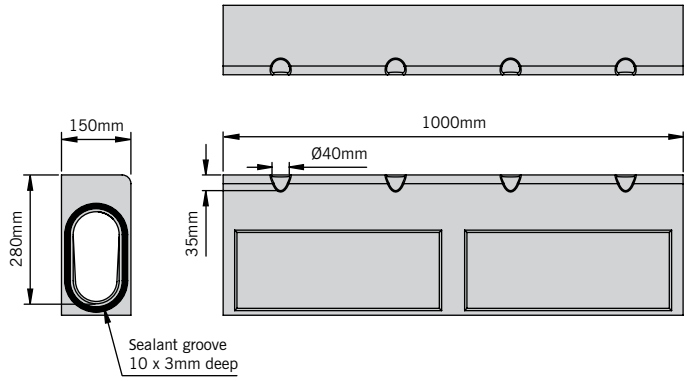
† Inlet / outlet end caps are designated LH or RH when viewed from carriageway.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

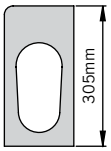
ACO KerbDrain® HB405

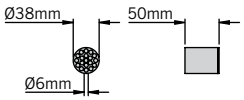
HB405 half battered perforated centre stone unit with 25mm upstand

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4350	KDHB405 perforated centre stone	1000	150	305	280	57.6
4997	'Heelguard' insert (4 per unit required)	50	-	-	-	0.1



HB405 perforated centre stone with 25mm upstand

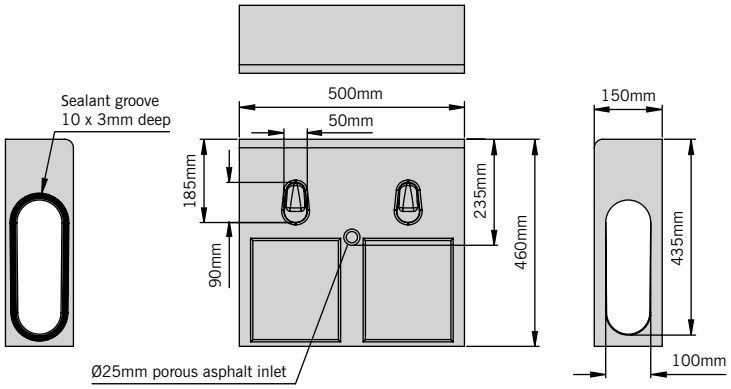




Heelguard insert

HB405 bullnosed bus stop kerb unit with 180mm upstand

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4359	KDHB405 bus stop kerb	500	150	460	435	41.7



KDHB405 bus stop kerb

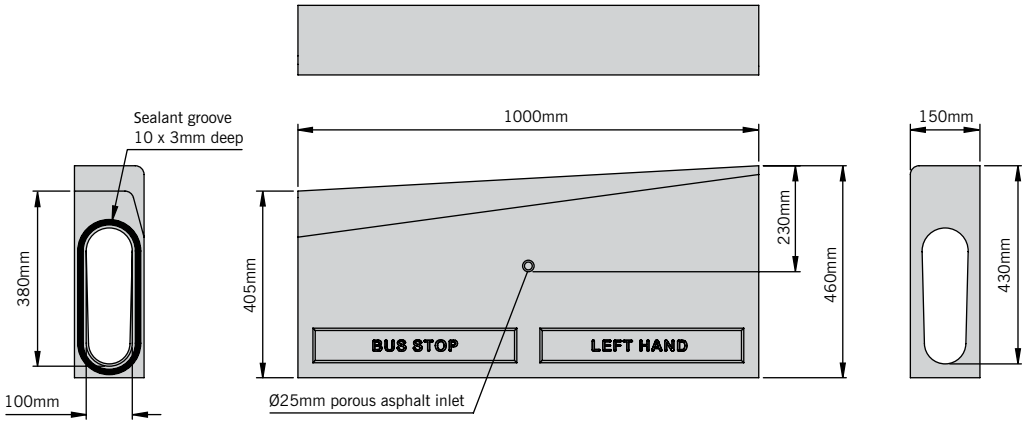
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB405

HB405 half battered bus stop transition kerb units

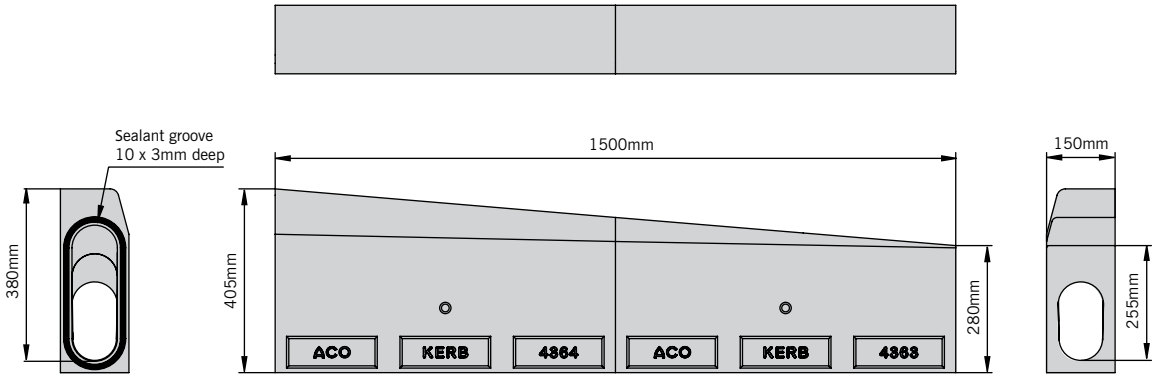
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4361	KDHB405 LH BS transition kerb	1000	150	460	460/405	79.7
4360	KDHB405 RH BS transition kerb	1000	150	460	460/405	79.7



HB405 left hand bus stop transition kerb

HB405 half battered flush drainable drop kerb units

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4367	KDHB405 flush LH drop kerb	1500	150	405/280	380/255	96.0
4368	KDHB405 flush RH drop kerb	1500	150	405/280	380/255	96.1



HB405 left hand flush drainable drop kerb unit

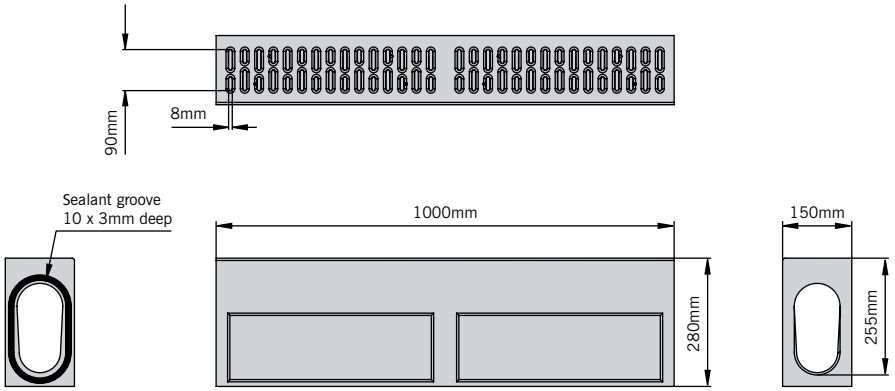
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB405

HB405 half battered flush drainable centre stone with 0-6mm upstand

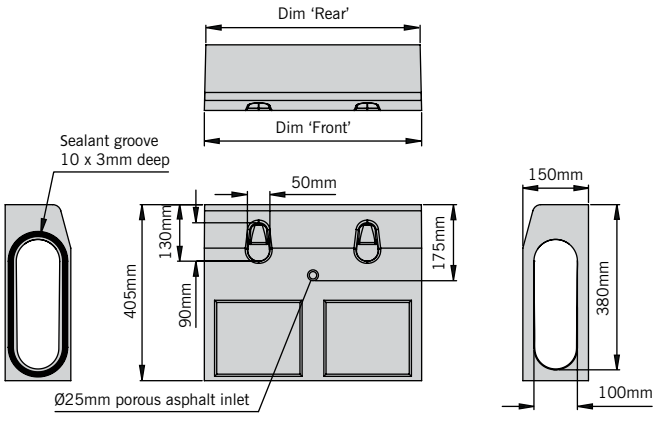
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4362	KDHB405 drainable centre stone	1000	150	280	255	46.4



HB405 perforated centre stone with 25mm upstand

HB405 half battered mitre units

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4353	KDHB405 6-7m external mitre	500/487	150	405	380	31.5
4352	KDHB405 10-8m external mitre	500/490	150	405	380	31.6
4351	KDHB405 25-11m external mitre	500/493	150	405	380	31.7
4354	KDHB405 25-11m internal mitre	500/503	150	405	380	32.0



HB405 half battered mitre units

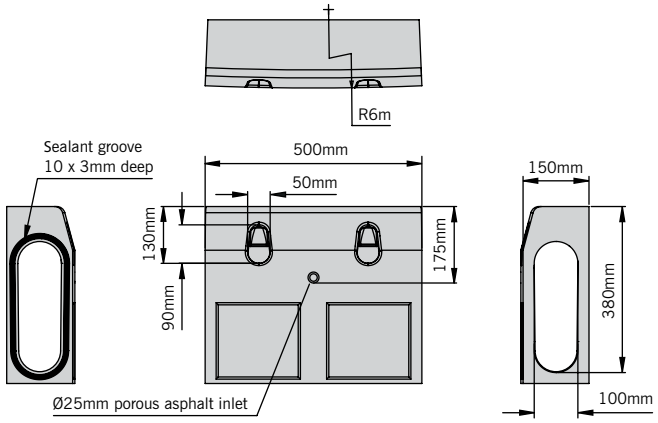
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB405

HB405 half battered 6m external radius units

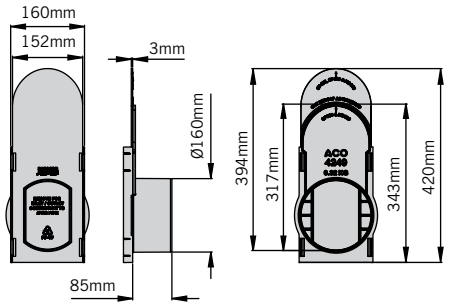
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4355	KDHB405 6m external radius	500/496	150	405	380	32.7



HB405 6m external radius units

HB405 Multifunctional end cap

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4249	SP380, HB405, SP480 & HB480 Multifunctional end cap	3	160	420	394	0.32



HB405 multifunctional end cap

Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.
For repair kit information please see page 25.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB480

The ACO KerbDrain® 480 half battered range has a profile to match a standard HB1 kerb stone. The range is ideal for draining large catchment areas or applications which require long runs to outlet.

ACO KerbDrain® HB480 is available in 0.5m lengths with the following components:

- Access units
- Gully units
- Bus stop kerbs
- Drop kerbs and centre stones for vehicle crossings
- Mitre units
- Junction channels for road junctions
- End caps and unions

ACO KERBDRAIN® HB480

	HB Profile
480mm	Unit depth
	Hydraulic capacity
1360m²*	Catchment area
D 400	Load Class
✓	Kitemarked
✗	1m units
✗	HB to SP transitions
✓	Bus stop

*Example run based on 50m length to outlet

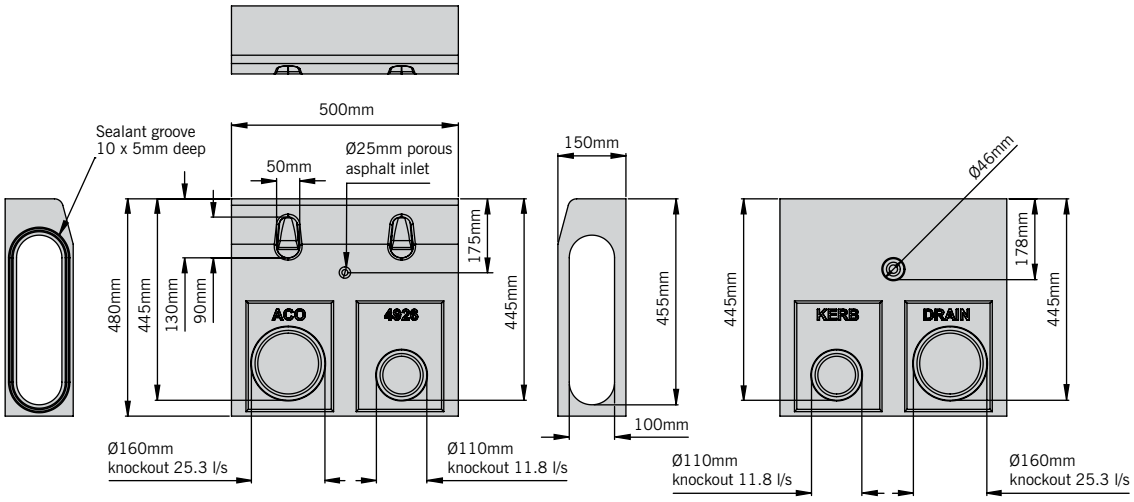
VIENITE THE SUSTAINABLE CHOICE

BS EN 1433
KM 538858

ACO KerbDrain® HB480

HB480 half battered kerb units

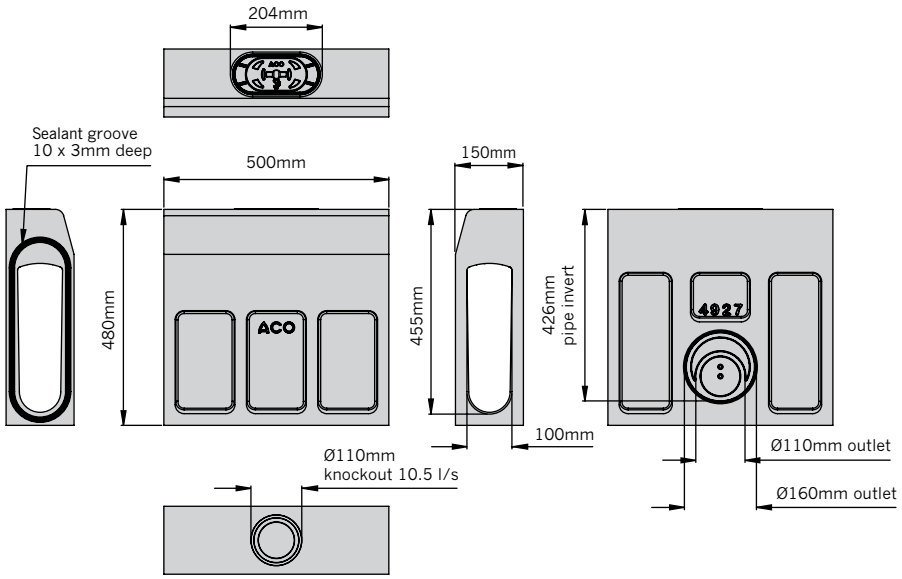
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4926	KDHB480 500mm	500	150	480	455	35.9
4923	KDHB480 500mm blind unit†	500	150	480	455	36.4



HB480 500mm unit

HB480 half battered access unit

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4927	KDHB480 access unit	500	150	480	455	37.4



HB480 access unit

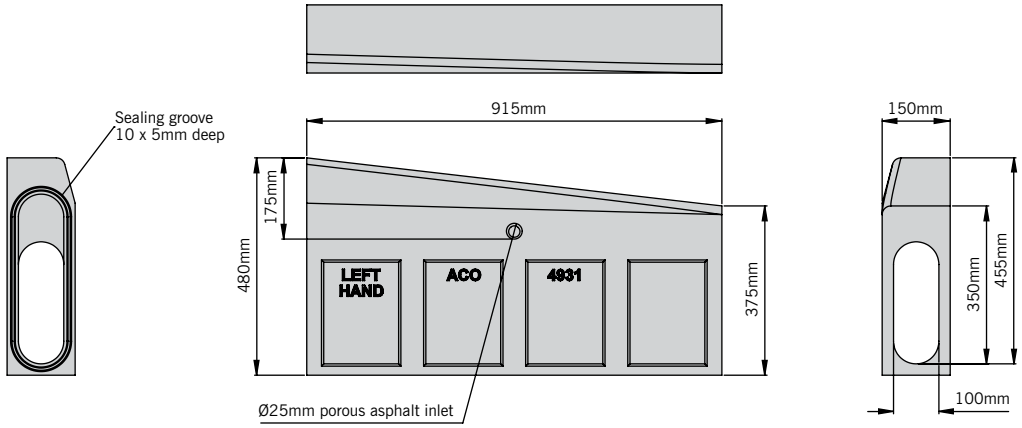
† Blind units are provided without surface water drainage inlets.
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB480

HB480 half battered drop kerb units

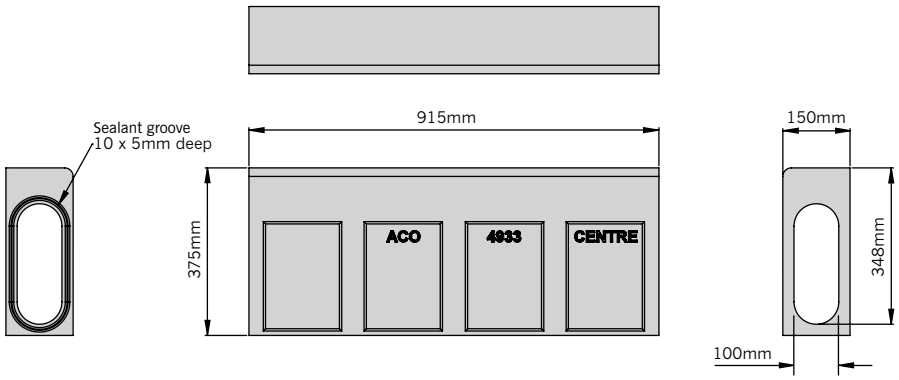
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4931	KDHB480 LH drop kerb	915	150	480/375	455/348	66.7
4932	KDHB480 RH drop kerb	915	150	480/375	455/348	66.7



HB480 left hand drop kerb

HB480 half battered centre stone unit with 25mm upstand

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4933	KDHB480 centre stone	915	150	375	348	59.8



HB480 centre stone with 25mm upstand

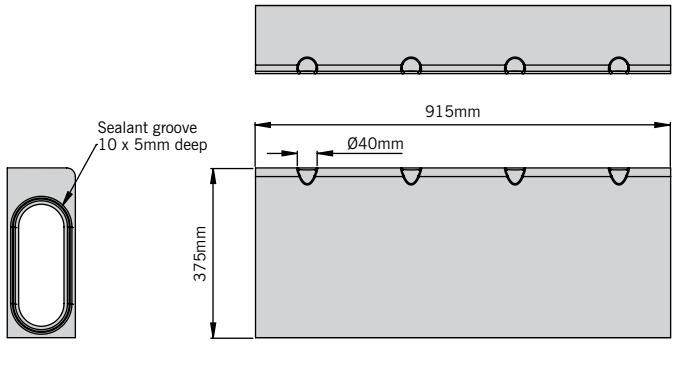
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

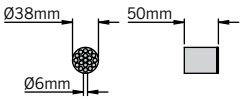
ACO KerbDrain® HB480

HB480 half battered perforated centre stone unit with 25mm upstand

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4983	KDHB480 perforated centre stone	915	150	375	348	59.7
4997	'Heelguard' insert (4 per unit required)†	50	-	-	-	0.1



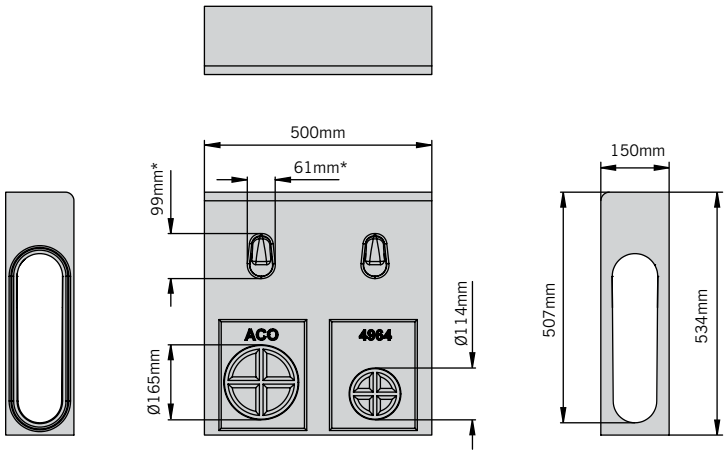
HB480 perforated centre stone with 25mm upstand



Heelguard insert

HB480 bullnosed bus stop kerb unit with 180mm upstand

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4964	KDHB480 bus stop kerb	500	150	535	510	44.9



HB480 bus stop kerb

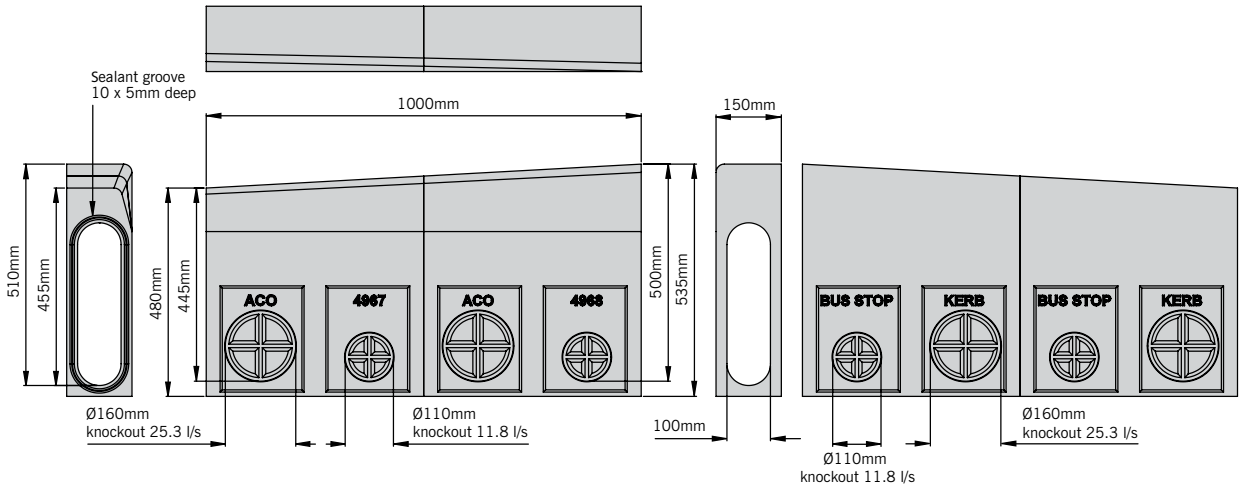
† Heelguard inserts can be fitted within the inlets of perforated centre stones.
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB480

HB480 half battered bus stop transition kerb units

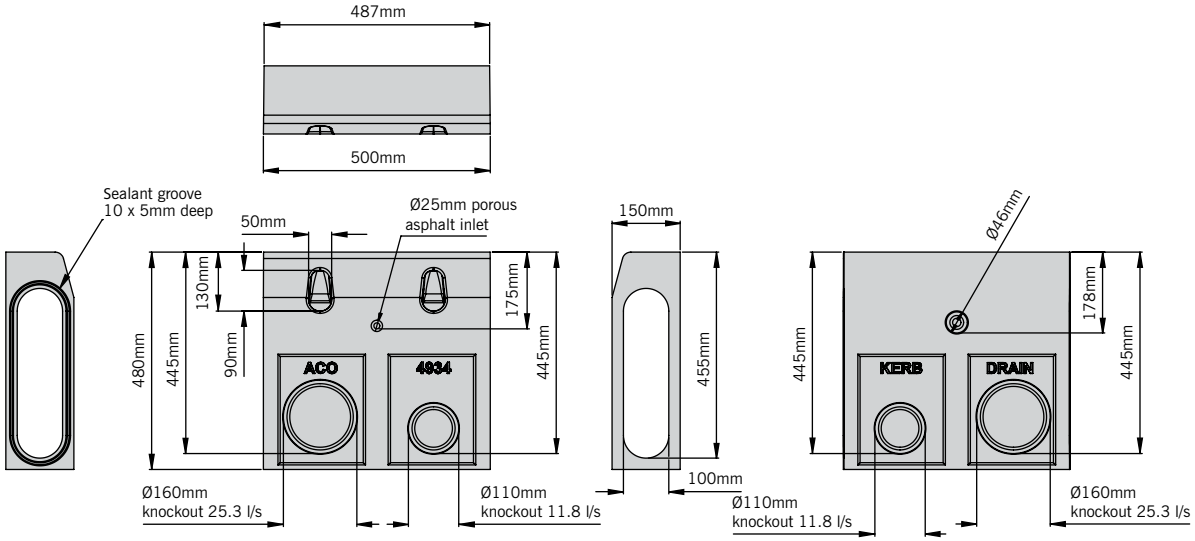
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4965	KDHB480 LH BS transition kerb	1000	150	535/480	455/510	83.4
4966	KDHB480 RH BS transition kerb	1000	150	535/480	455/510	83.4



HB480 left hand bus stop transition kerb

HB480 half battered mitre units

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4934	KDHB480 7-6m external mitre	500/487	150	480	455	36.2
4935	KDHB480 10-8m external mitre	500/490	150	480	455	35.7
4936	KDHB480 25-11m external mitre	500/493	150	480	455	35.2
4937	KDHB480 25-11m internal mitre	500/503	150	480	455	36.1



HB480 7-6m external mitre

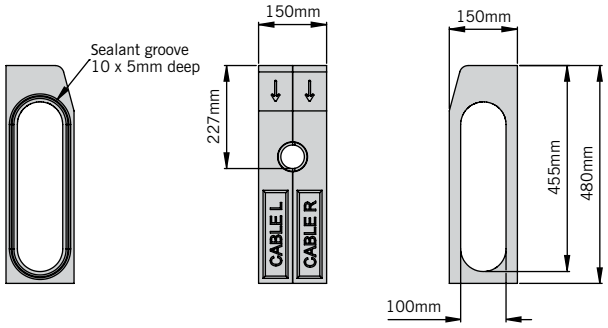
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB480

HB480 half battered cable loop unit

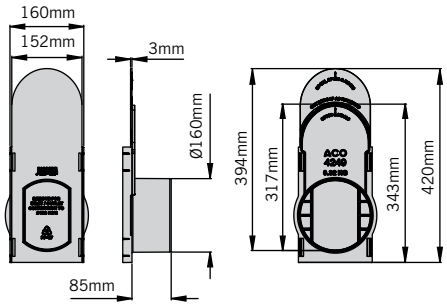
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4943	KDHB480 cable loop	150	150	480	455	12.2



HB480 cable loop unit

HB480 multifunctional end cap

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4249	SP380, HB405, SP480 & HB480 Multifunctional end cap	3	160	420	394	0.32



HB480 multifunctional end cap

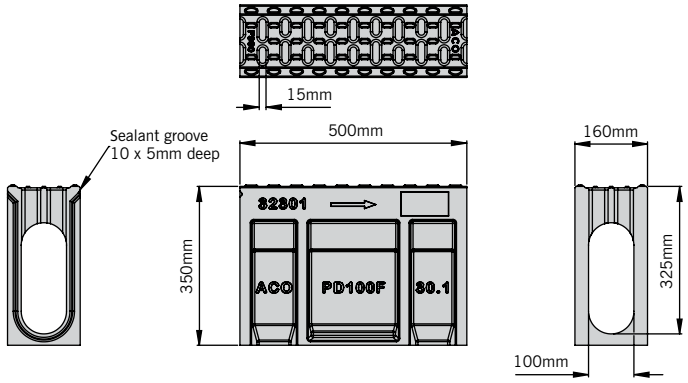
† Inlet / outlet end caps are designated LH or RH when viewed from carriageway.
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB480

HB480 half battered junction channel unit - black

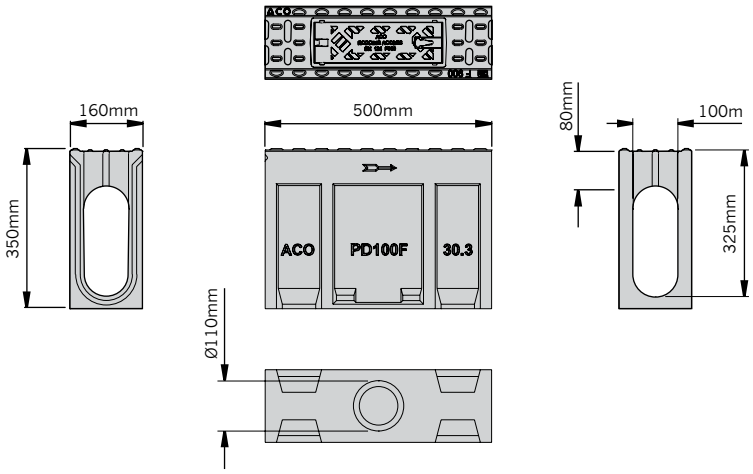
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
32301	KDHB480 junction channel	500	160	350	325	26.0



HB480 junction channel unit

HB480 half battered junction channel access unit – black

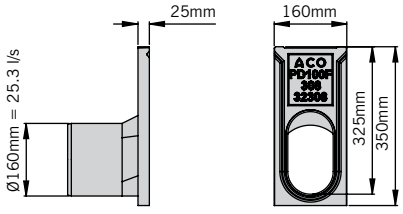
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
32303	KDHB480 junction access unit	500	160	350	325	31.0



HB480 junction channel unit

HB480 half battered junction channel inlet/outlet end cap

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
32308	KDHB480 junction end cap	25	160	350	325	2.1



HB480 junction channel inlet/outlet end cap

Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 41.
For repair kit information please see page 25.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® half battered gully

ACO KerbDrain® half battered gully units provide the outfall connection of the system to traditional underground drainage or road gullies, management of silt, and access for maintenance and cleaning. The gully unit also provides fast and simple connection between any sizes of half battered unit within the ACO KerbDrain® range.

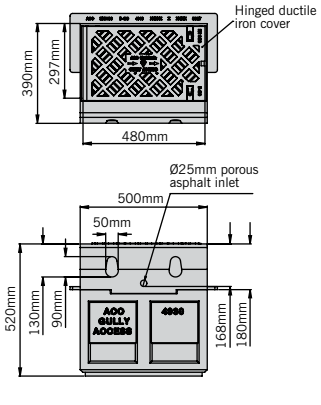
Gullies are supplied with a ductile iron cover and frame and a polymer concrete unit for channel connection. These two components form the top assembly for all ACO KerbDrain® gully options. The ductile iron cover of the top assembly is lockable and for improved safety to road users can be orientated to suit traffic direction.

The ACO KerbDrain® gully top assembly can be specified on its own or in conjunction with four polymer concrete base options which allow drainage designs to be optimised for silt and hydraulic capacity or outlet connection.

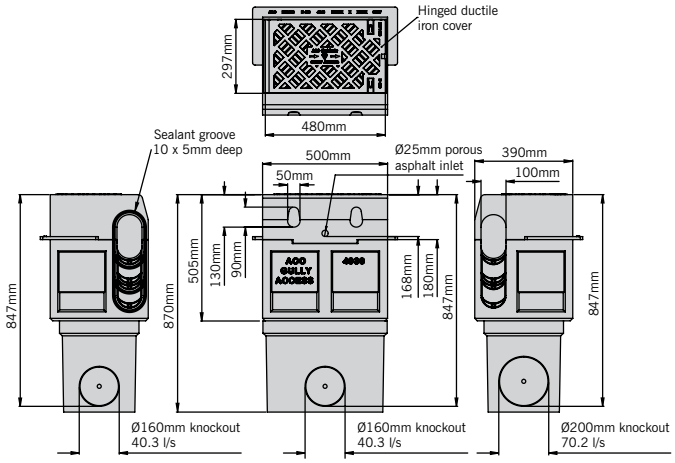
Available gully base options are shallow and deep units, deep unit with roddable foul air trap or Ø450mm road gully connector. Gully base units are provided with outlet connections for Ø160mm, Ø200mm and Ø225mm pipe and supplied with a galvanised steel gully bucket. For full details please see table below.

ACO KerbDrain® half battered gully units

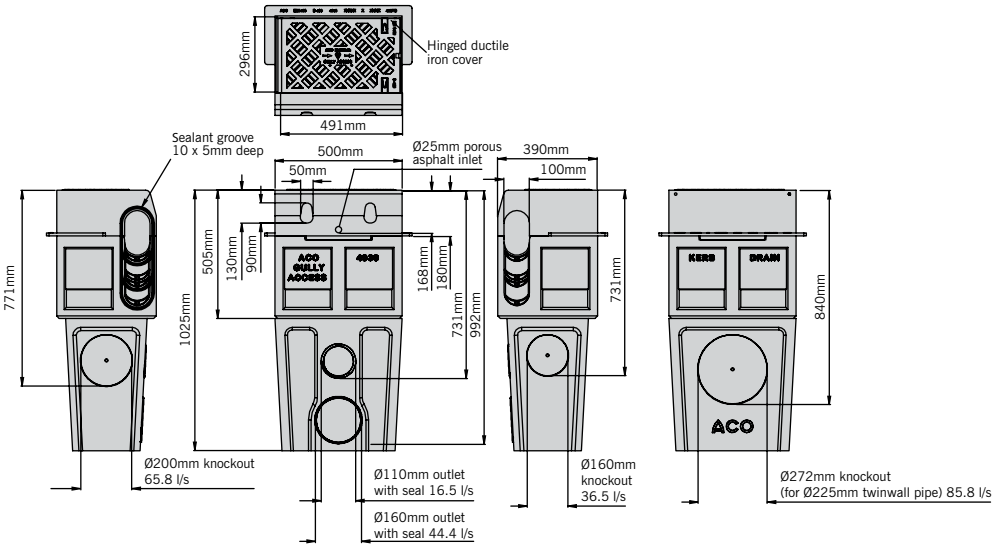
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4928	Top assembly KDHBG	500	390	520	-	76.8
4182	Top and shallow base assembly KDHB610	500	390	870	847	107.4
4183	Top and deep base assembly KDHB611	500	390	1025	992	124.2
4184	Top and roddable deep base assembly KDHB612RE	500	390	1025	787	124.5
4185	Top and road gully connector Ø450mm KDHB615	500	390	545	-	88.1



Top assembly KDHBG



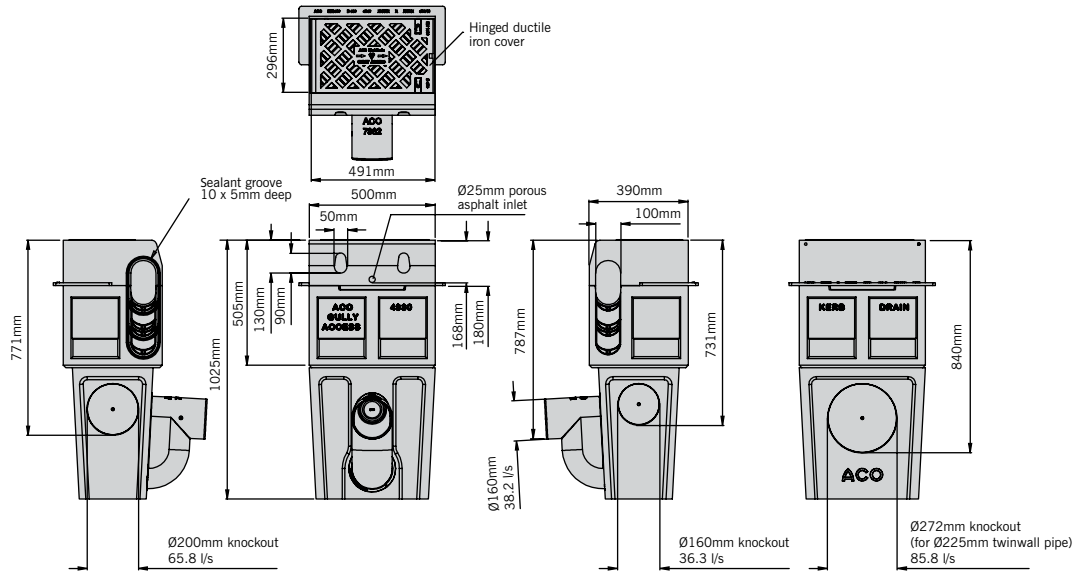
Top and shallow base assembly KDHB610



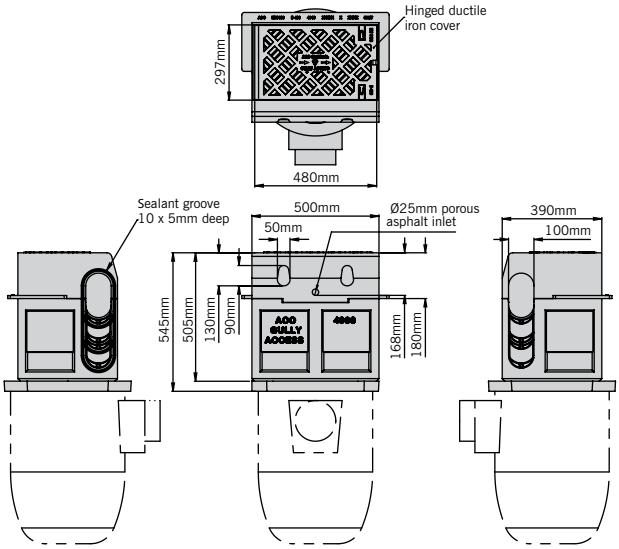
Top and deep base assembly KDHB611

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® half battered gully



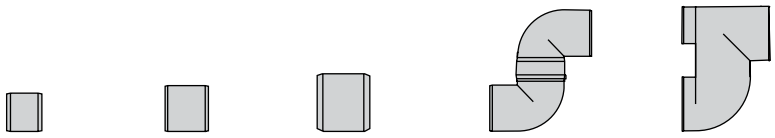
Top and roddable deep base assembly KDHB612RE



Top and road gully connector KDHB615

Drain unions and foul air-trap

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Invert type	Weight (kg)
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 Ø160mm	-	160	-	-	-	0.8
1367	Lifting tool 5mm slots	-	-	-	-	-	0.2



820 Drain union PVC-U Ø110mm

822 Drain union PVC-U Ø160mm

823 Drain union PVC-U Ø200mm

922 Foul air trap PVC-U Ø160mm

950 Roddable foul air trap MDPE Ø160mm

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® SP280

ACO KERBDRAIN® SP280

	SP Profile
280mm	Unit depth
	Hydraulic capacity
1360m²*	Catchment area
D 400	Load Class
✓	Kitemarked
✓	1m units
✓	HB to SP transitions
✗	Bus stop

*Example run based on 50m length to outlet

The ACO KerbDrain® 280 splayed range has a profile to match a standard SP kerb stone. The range is ideal for draining medium size catchments such as rural highways and can be easily connected to our 305 half battered range via the use of transition units.

ACO KerbDrain® SP280 is available in 1m or 0.5m lengths with the following components:

- Access units
- Gully units
- Drop kerbs and centre stones for vehicle crossings
- Transition units

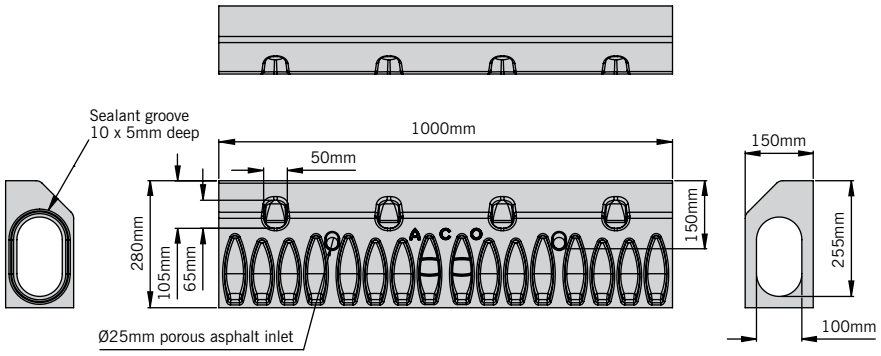
VIENITE THE SUSTAINABLE CHOICE

BS EN 1433
KM 538858

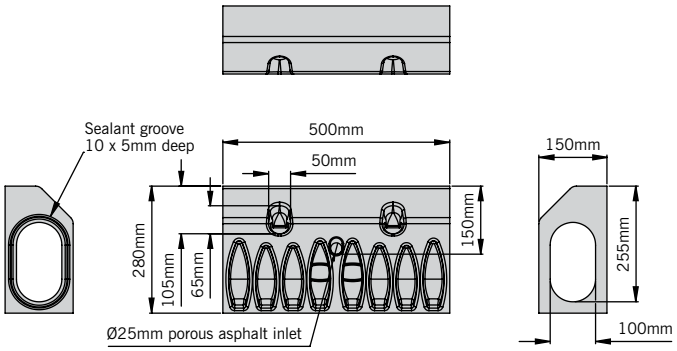
ACO KerbDrain® SP280

SP280 splayed kerb units

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7930	KDSP280 1000mm	1000	150	280	255	44.9
7935	KDSP280 500mm	500	150	280	255	22.2



SP280 1000mm unit



SP280 500mm unit

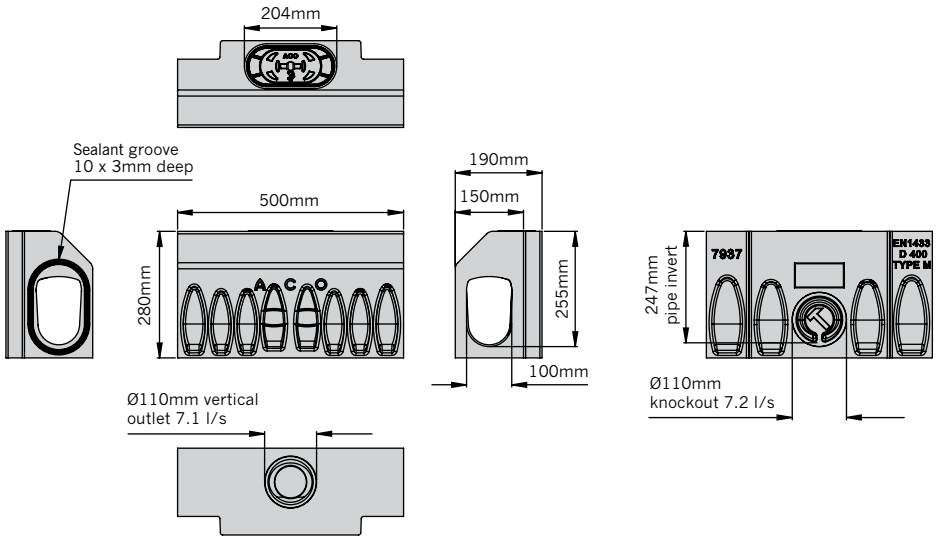
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 57.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® SP280

SP280 splayed access unit

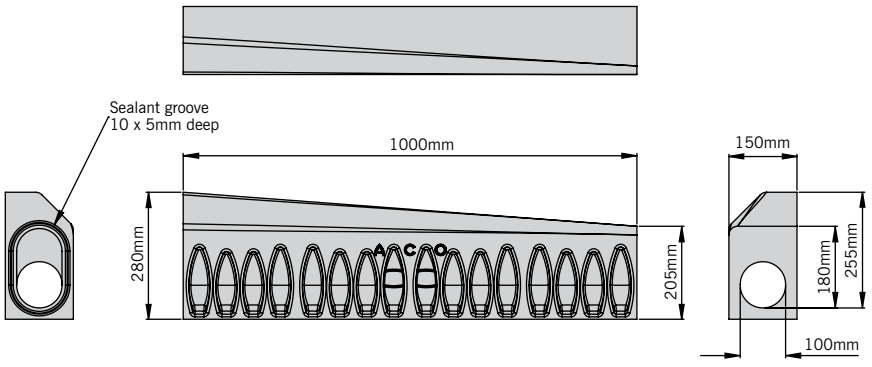
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7937	KDSP280 access unit	500	150/190	280	255	29.4



SP280 access unit

SP280 splayed drop kerb units

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7938	KDSP280 LH drop kerb	1000	150	280	255	44.6
7939	KDSP280 RH drop kerb	1000	150	280	255	44.6



SP280 left hand drop kerb

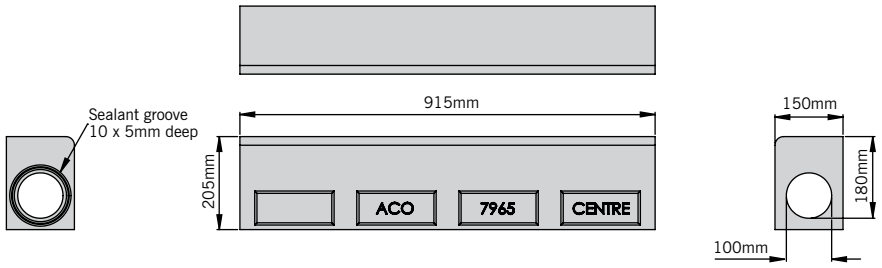
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 57.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® SP280

SP280 splayed centre stone unit with 25mm upstand

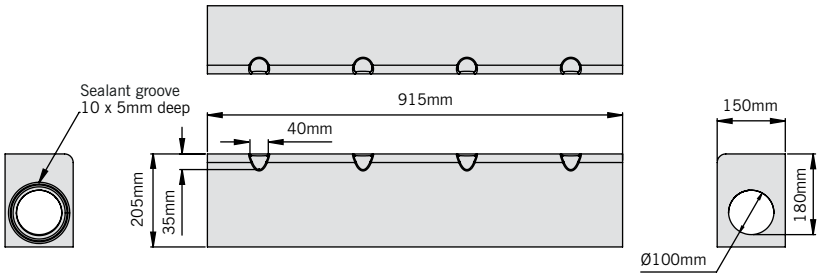
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7965	KDSP280 centre stone	915	150	205	180	45.0



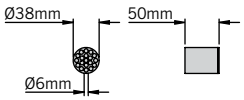
SP280 centre stone with 25mm upstand

SP280 splayed perforated centre stone unit

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4982	KDSP280 perforated centre stone	915	150	205	180	42.9
4997	'Heelguard' insert (4 per unit required)†	50	-	-	-	0.1



SP280 perforated centre stone



Heelguard insert

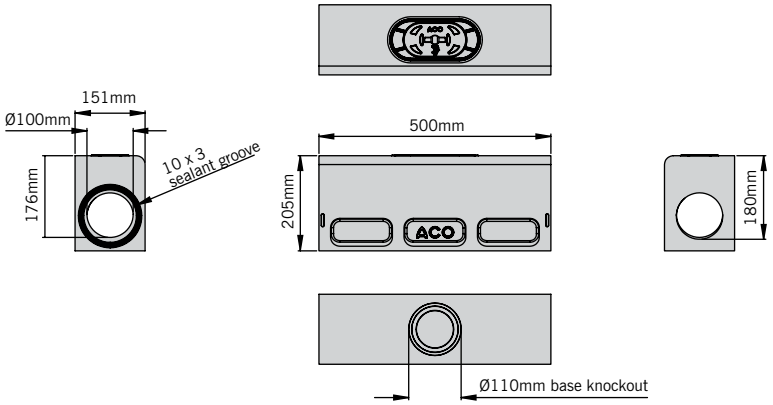
† Heelguard inserts can be fitted within the inlets of perforated centre stones.
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 57.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® SP280

SP280 centre stone access unit

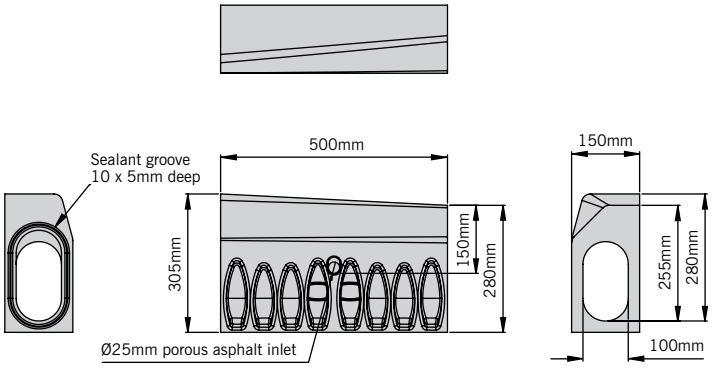
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4993	SP280 centre stone access unit	500	151	205	180	21.57



SP280 centre stone access unit

SP280 splayed transition units

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
7941	KDSP280 LH transition unit**	500	150	305/280	280/225	24.6
7940	KDSP280 RH transition unit**	500	150	305/280	280/225	24.6



SP280 left hand transition unit

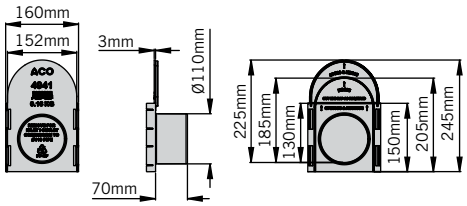
** Transition units are designated LH or RH when viewed from carriageway. This unit allows connection between SP280 and HB305 for continuous drainage.
† Inlet / outlet end caps are designated LH or RH when viewed from carriageway.
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 57.
For repair kit information please see page 25.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® SP280

SP280 multifunctional end cap

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4941	HB255, SP280 & HB305 Multicuntional end cap	3	160	245	225	0.16



SP280 multifunctional end cap

Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 57.
For repair kit information please see page 25.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® SP380

ACO KERBDRAIN® SP380

SP Profile	
380mm	Unit depth
Hydraulic capacity	
894m²*	Catchment area
D 400	Load Class
✓	Kitemarked
✓	1m units
✓	HB to SP transitions
✗	Bus stop

*Example run based on 50m length to outlet

The ACO KerbDrain® 380 splayed range has a profile to match a standard SP kerb stone. The range is ideal for draining larger catchment areas and bridges the hydraulic gap between our 280 and 480 splay ranges allowing for optimised drainage designs. ACO KerbDrain® 380 Splay can be easily connected to our 405 half battered range via the use of transition units.

ACO KerbDrain® SP380 is available in 1m or 0.5m lengths with the following components:

- Access units
- Gully units
- Drop kerbs and centre stones for vehicle crossings
- Transition units
- End caps and unions

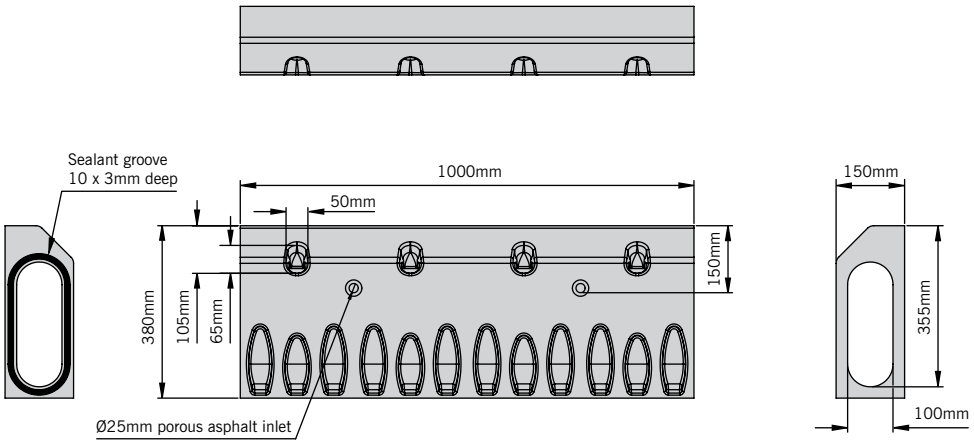
VIENITE

BS EN 1433
KM 538858

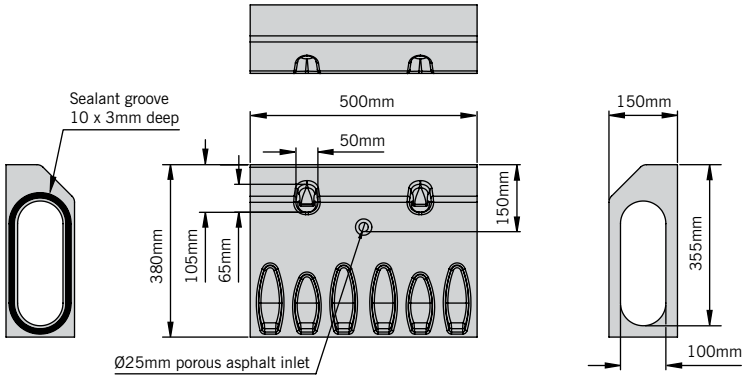
ACO KerbDrain® SP380

SP380 splayed kerb units

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4241	KDSP380 1000mm	1000	150	380	355	59.6
4240	KDSP380 500mm	500	150	380	355	29.0



SP380 1000mm unit



SP380 500mm unit

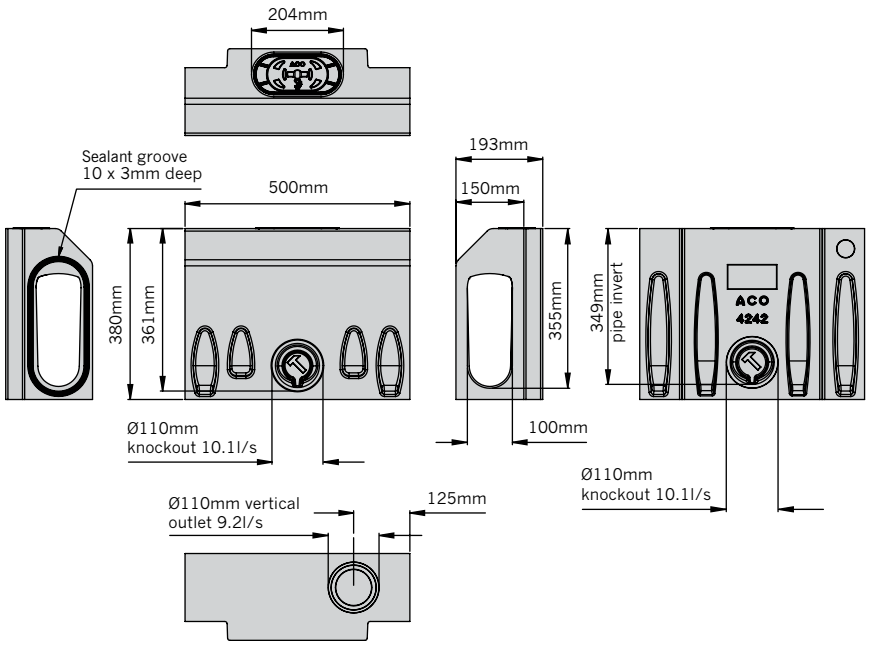
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 57.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® SP380

SP380 splayed access units

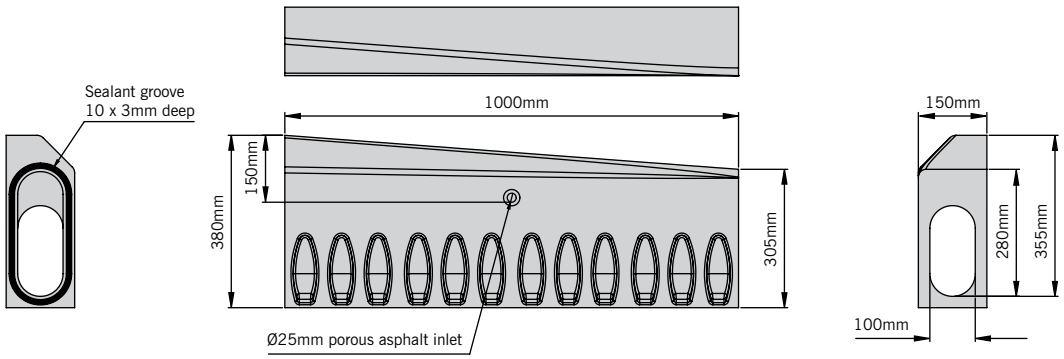
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4242	KDSP380 access unit	500	150/193	380	355	38.8



SP380 access unit

SP380 splayed drop kerb units

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4243	KDSP380 LH drop kerb	1000	150	380/305	355/280	59.5
4244	KDSP380 RH drop kerb	1000	150	380/305	355/280	59.5



SP380 left hand drop kerb

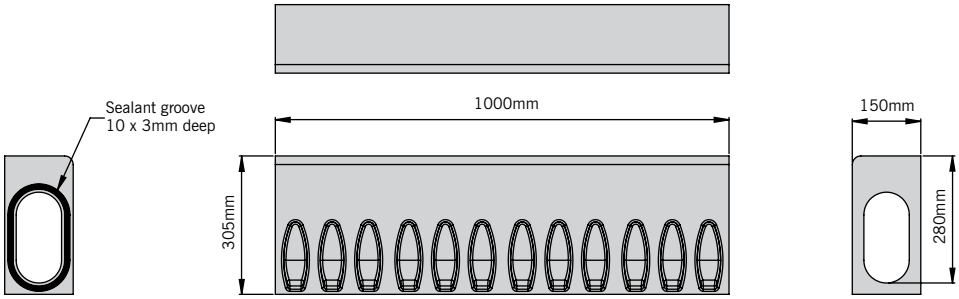
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 57.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® SP380

SP380 splayed centre stone

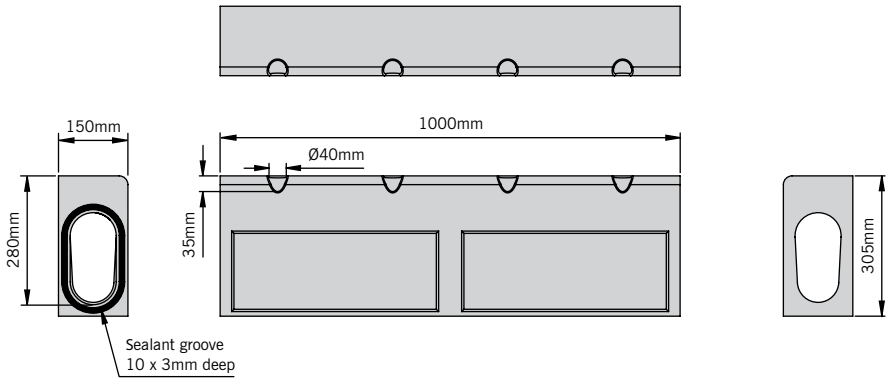
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4236	KDSP380 centre stone	1000	150	305	280	60.1



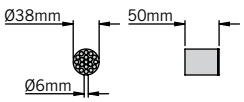
SP380 centre stone

SP380 splayed perforated centre stone unit

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4350	KDHB405 perforated centre stone	915	150	305	280	57.6
4997	'Heelguard' insert (4 per unit required)	50	-	-	-	0.1



SP380 perforated centre stone



Heelguard insert

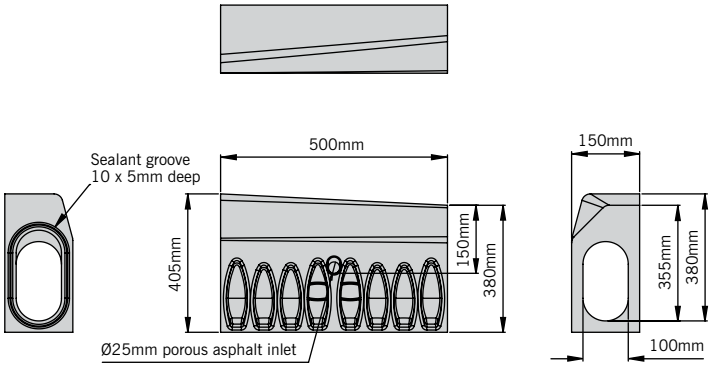
**Transition units are designated LH or RH when viewed from carriageway. This unit allows connection between SP380 and HB405 for continuous drainage.
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 57.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® SP380

SP380 splayed transition units

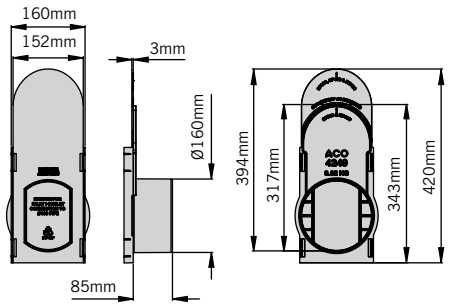
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4245	KDSP380 LH transition unit**	500	150	405/380	380/355	31.0
4246	KDSP380 RH transition unit**	500	150	405/380	380/355	31.0



SP380 left hand transition unit

SP380 multifunctional end cap

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4249	SP380, HB405, SP480 & HB480 Multifunctional end cap	3	160	420	394	0.32



SP380 multifunctional end cap

† Inlet / outlet end caps are designated LH or RH when viewed from carriageway.
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 57.
For repair kit information please see page 25.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® SP480

ACO KERBDRAIN® SP480

	SP Profile
480mm	Unit depth
	Hydraulic capacity
1490m²*	Catchment area
D 400	Load Class
✓	Kitemarked
✗	1m units
✗	HB to SP transitions
✗	Bus stop

*Example run based on 50m length to outlet

The ACO KerbDrain® 480 splayed range has a profile to match a standard SP kerb stone. The range is ideal for draining large catchment areas or applications which require long runs to outlet.

ACO KerbDrain® SP480 is available in 0.5m lengths with the following components:

- Gully units

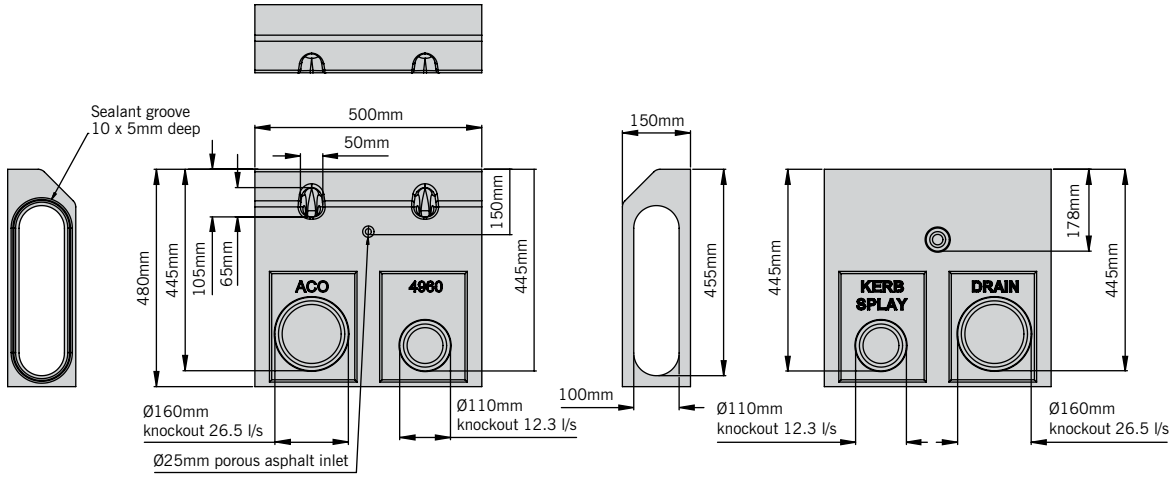
VIENITE THE SUSTAINABLE CHOICE

BS EN 1433
KM 538858

ACO KerbDrain® SP480

SP480 splayed kerb units

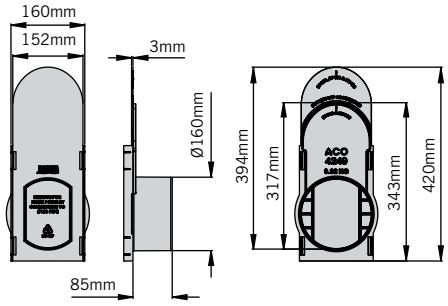
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4960	KDSP480 500mm	500	150	480	455	32.2



SP480 500mm unit

SP480 multifunctional end cap

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4249	SP380, HB405, SP480 & HB480 Multifunctional end cap	3	160	420	394	0.32



HB480 multifunctional end cap

Access units for the ACO KerbDrain® SP480 system are provided by the splayed gully unit top assembly product code 4976.
See page 56 for details.

† Inlet / outlet end caps are designated LH or RH when viewed from carriageway.
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 57.
For repair kit information please see page 25.

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

Maintenance of ACO KerbDrain®

Combined kerb drainage, ACO KerbDrain®, is maintained in very much the same way as grated or monocast systems and can be used with the same jetting equipment.

Access is gained through an access unit or gullies. ACO KerbDrain® gullies provide the outfall connection to different systems and silt management, easily accessed by a ductile iron cover.

Equipment needed: ACO recommend using a recycler combination jetting unit with hydraulic winch, capable of producing pressure from 80 bar (1160 psi) to 150 bar (2176 psi).

ACO KerbDrain® splayed access unit

ACO KerbDrain® half battered gully

ACO KerbDrain® half battered access unit

METHOD

1. Remove access unit top.
2. Position the jetting unit near the access unit or gully.
3. Attach a suitable jetting head and insert into access unit, towards the direction of travel. In this example a 1 inch (25mm) diameter tandem jetting head with forward and backward facing jets was used.
4. Introduce a 3-6 inch (75-150mm) suction hose into the adjacent gully/ outlet.
5. This suction hose will remove the silt/ detritus that the jetting hose flushes out.
6. Activate the suction hose and jetting hose. A suitable initial jetting pressure is 80 bar or 1160 psi.
7. As the jetting head travels up the length of the channel, place boards or tarpaulin over the channel openings to prevent the escape of water (spray back) and protect any vehicles or nearby property. Alternatively reduce the pressure to prevent spray back (high pressure, pictured above).
8. The jetting head will be propelled to the end of the channel or a determined length. When it reaches the end, increase the pressure to 150 bar (2176 psi).
9. Use a hydraulic winch to pull the jetting head backwards toward the access unit. The suction hose previously inserted in the gully/outlet will remove the water and detritus.
10. If a reduction of 'spray back' is required reduce the pressure to 80 bar (1160 psi). This pressure will still be sufficient to clean the channel.
11. When cleaning is completed, remove hoses and secure all gratings and covers.

For the full maintenance guide of all ACO channel drainage systems go to www.aco.co.uk/channel-drainage-maintenance

ACO KerbDrain® splayed gully

ACO KerbDrain® splayed gully units provide the outfall connection of the system to traditional underground drainage or road gullies, management of silt, and access for maintenance and cleaning. The gully unit also provides fast and simple connection between any sizes of splayed unit within the ACO KerbDrain® range.

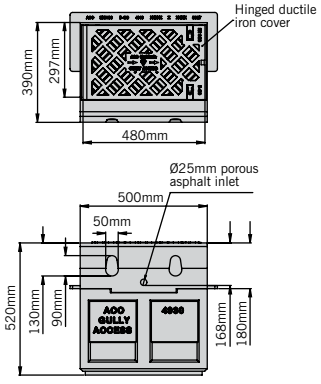
Gullies are supplied with a ductile iron cover and frame and a polymer concrete unit for channel connection. These two components form the top assembly for all ACO KerbDrain® gully options. The ductile iron cover of the top assembly is lockable and for improved safety to road users can be orientated to suit traffic direction.

The ACO KerbDrain® gully top assembly can be specified on its own or in conjunction with four polymer concrete base options which allow drainage designs to be optimised for silt and hydraulic capacity or outlet connection.

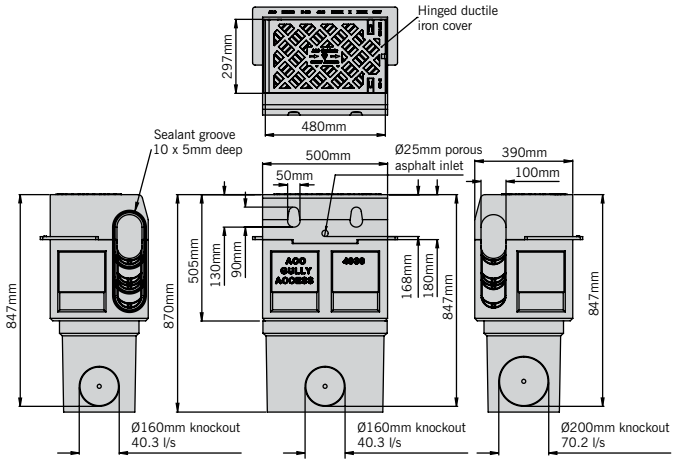
Available gully base options are shallow and deep units, deep unit with roddable foul air trap or Ø450mm road gully connector. Gully base units are provided with outlet connections for Ø160mm, Ø200mm and Ø225mm pipe and supplied with a galvanised steel gully bucket. For full details please see table below.

ACO KerbDrain® splayed gully units

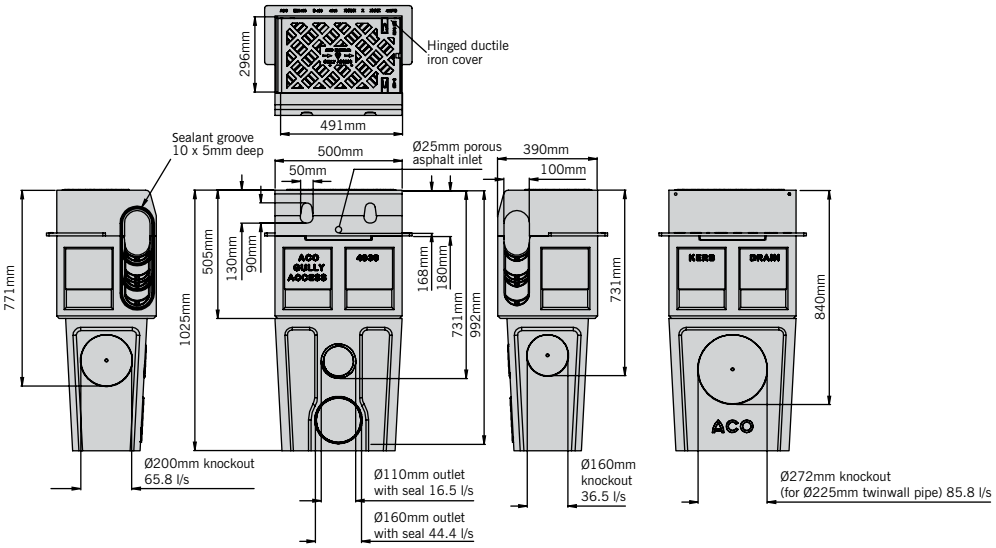
Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Weight (kg)
4976	Top assembly KDHBG	500	390	520	-	76.8
4977	Top and shallow base assembly KDHB610	500	390	870	847	107.4
4978	Top and deep base assembly KDHB611	500	390	1025	992	124.2
4979	Top and roddable deep base assembly KDHB612RE	500	390	1025	787	124.5
4980	Top and road gully connector Ø450mm KDHB615	500	390	545	-	88.1



Top assembly KDHBG



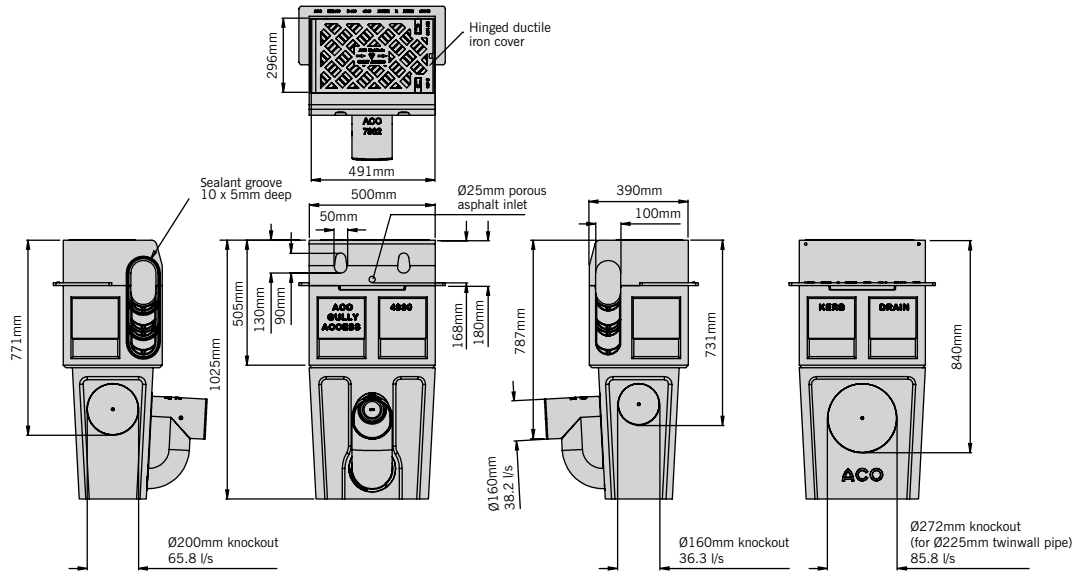
Top and shallow base assembly KDHB610



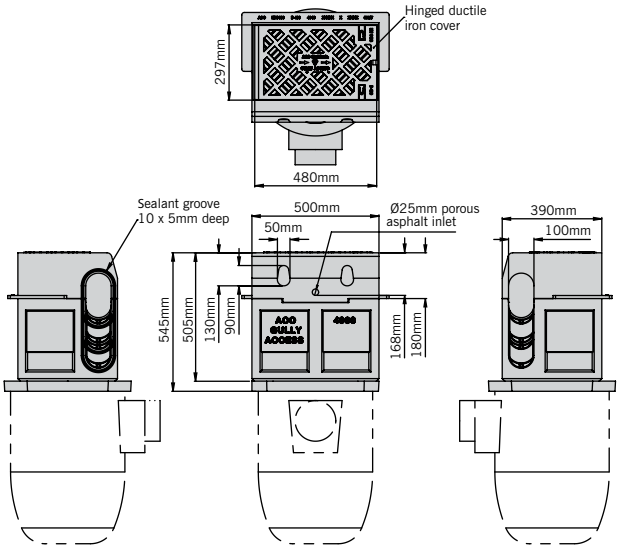
Top and deep base assembly KDHB611

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® splayed gully



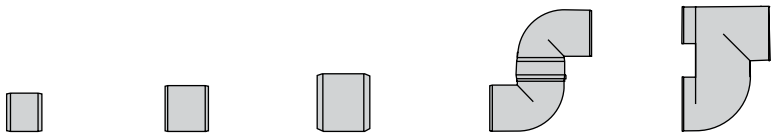
Top and roddable deep base assembly KDHB612RE



Top and road gully connector KDSP615

Drain unions and foul air-trap

Product code	Description	Length (mm)	Width overall (mm)	Depth overall (mm)	Invert depth (mm)	Invert type	Weight (kg)
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 Ø160mm	-	160	-	-	-	0.8
1367	Lifting tool 5mm slots	-	-	-	-	-	0.2



820 Drain union PVC-U Ø110mm

822 Drain union PVC-U Ø160mm

823 Drain union PVC-U Ø200mm

922 Foul air trap PVC-U Ø160mm

950 Roddable foul air trap MDPE Ø160mm

These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

Design Software

ACO QuAD Hydraulic Design Software

TRY OUR FREE DESIGN TOOL

The new 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.

The hydraulic engine has been robustly tested and is the tool used by ACOs own 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

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

QUAD FEATURES OVERVIEW

Cloud based

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

Flexible catchment design

QuAD is designed to support designers in the creation of catchment areas. Supplementary catchment areas can easily be added upstream and downstream of any previously designed channel run.

Product 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 database

There is support available either through a query submission or through self-help made possible by the comprehensive Knowledge database.

Register Now - It's Free

www.aco.co.uk/quad-hydraulic-design-2.0

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

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.

ACO Water Management
Design Services Team

Tel: 01462 816666
Email: technical@aco.co.uk

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.

Depending on the product range Civils3D, IFC or Revit files are available for download.

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

Professional Development

Helping create knowledge champions

In today's ever-changing construction industry, it has never been more important to ensure you are up to date with current industry trends and new innovations. Surface water management is one of the most dynamic sectors of the construction industry with new legislation, innovative products and ground-breaking materials constantly emerging.

Depending on your professional body or employer, you may be required to undertake between 20 and 30 hours CPD per year. ACO understands this can be a daunting task and has developed a series of professional development courses that can be accessed in a number of ways including online, in-office or at our state-of-the-art training facility at ACO UK office headquarters in Bedfordshire.

The courses have been carefully developed to provide essential learning and knowledge and are delivered by ACO's UK wide experienced Business Development Team ensuring that only the highest quality content is delivered.

To find out more and book a professional development course, visit: **www.aco.co.uk/professional_development**

Installation detail

ACO KERBDRAIN® HALF BATTERED UNITS

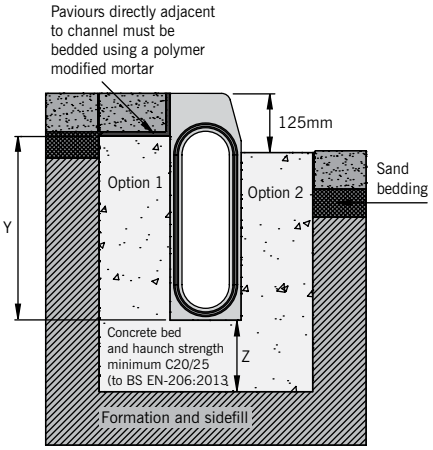
Block pavement

Option 1

Block bedded using mortar as note 5.

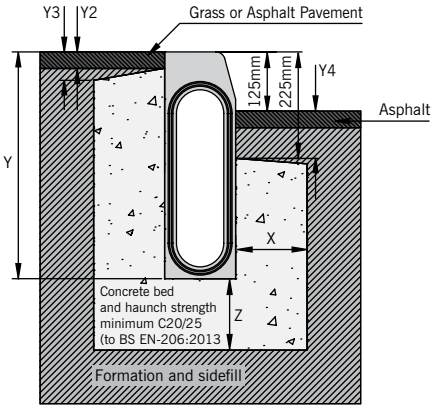
Option 2

Concrete surround up to finished level. See note 5.

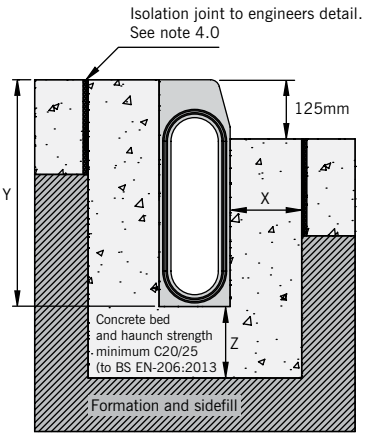


(Y: Full channel height less block/slab depth and polymer modified mortar – see note 5.0)

Grass or asphalt pavement



Concrete pavement



The 1.0 Load Class

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

2.0 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 and 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 (referred to in 1.0 above).

3.0 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 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.

4.0 Isolation Joints

The channel must be isolated from the surrounding environment. An isolation joint must be positioned up to 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.

5.0 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.

6.0 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.

ACO KERBDRAIN® SPLAYED UNITS

Block pavement

Option 1

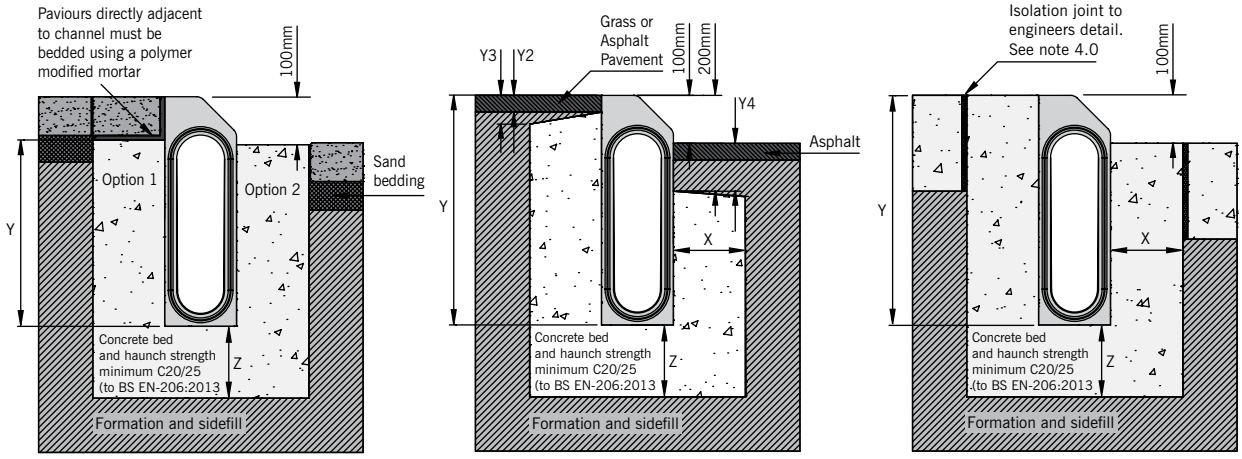
Block bedded using mortar as note 5.

Option 2

Concrete surround up to finished level. See note 5.

Grass or asphalt pavement

Concrete pavement



(Y: Full channel height less block/slab depth and polymer modified mortar – see note 5.0)

7.0 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.

8.0 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 (HB255 Max 50)
Z	Min 150mm	Min 150mm
Minimum compressive strength	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)

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

ACO's Polymer concrete repair kit is available for bonding applications, or for the repair of small areas of aesthetic damage. For further product details please see page 25.

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® 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® 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 in excess of 20% 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® 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.

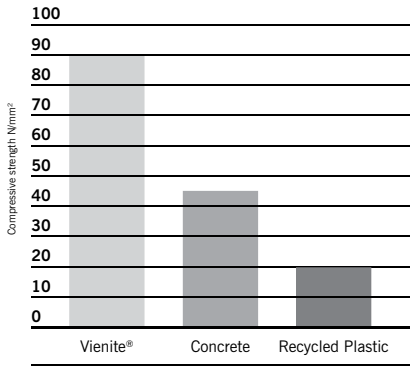
The ACO KerbDrain® range also includes components manufactured from ductile iron and steel which contain between 25% and 90% recycled material.

MECHANICAL PROPERTIES OF VIENITE®

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

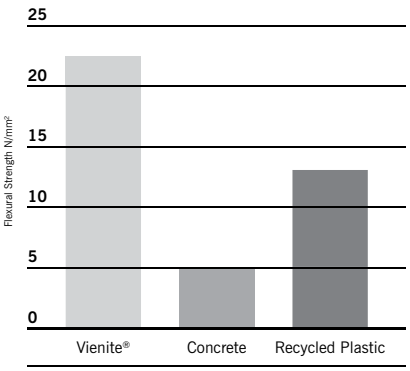
Compressive strength

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



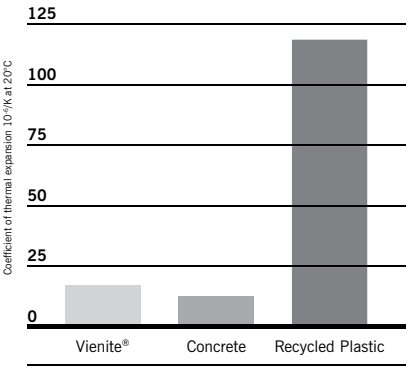
Flexural Strength

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'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® has been proven to be 50% more resistant to impact damage than traditional OPC concrete kerb stones*.

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.

***Tested by Birmingham City Laboratories (BCL)**

Model specification clause

The combined kerb drainage system shall be ACO KerbDrain® 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® HB255 units shall be of units of 80mm internal bore and 125mm external width, matching the profile of a standard HB2 kerb stone profile. The ACO KerbDrain® SP280, HB305, SP380, HB405, HB480 and SP480 shall be of 100mm internal bore and 150mm external width matching the profile of standard HB1, HB2 or SP kerb stones.

All units shall be of one piece manufacture from Vienite® resin concrete with minimum recycled content of 20% by weight. The units shall have four inlet holes per metre run of kerb, with a minimum inlet area of 14,730mm^2 per m.

The standard units shall be installed with the manufacturer's drop kerbs, centre stones, gullies, access units, radius and mitred units and accessories as required for the scheme. 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 BS EN 752 and BS8000:Part 14:1989.

***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® is available from the ACO Water Management Design Services Team.

NBS Specification

ACO KerbDrain® should be specified in section Q10:190. Assistance in completing this clause can be found in ACO Technologies product entries in NBS Plus or a model specification can be downloaded from www.aco.co.uk. For further assistance, contact the ACO Water Management Design Services Team.

Conformity

The ACO KerbDrain® system is CE marked in accordance with the Construction Products Regulation.

Declarations of Performance are available via the CPR Zone on our website (www.aco.co.uk/DoP.php), or on request. Please contact ACO Water Management Design Services Team on 01462 816666 for further assistance.

BS EN 1433:2002

BS EN 1433
KM 538858

ACO Technologies plc

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

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