



ACO KerbDrain®

Combined kerb and drainage system

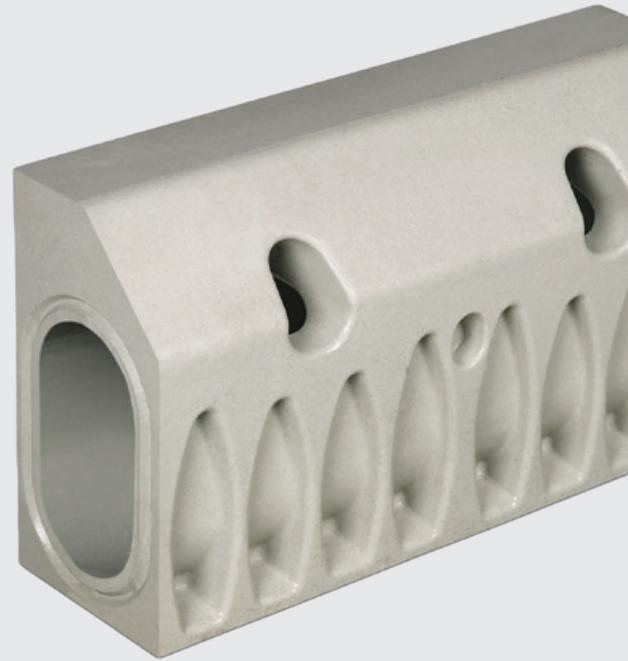
Product Catalogue



ACO KerbDrain®

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

ACO KerbDrain® SP280



ACO KerbDrain® HB305



ACO KerbDrain® HB405

| | |
|--|----|
| ACO. creating the future of drainage | 4 |
| ACO Technologies plc | |
| ACO Water Management | |
| Water protection and rainwater management | |
| What is ACO KerbDrain®? | 6 |
| Why choose ACO KerbDrain® | 8 |
| ACO KerbDrain® features overview | 10 |
| A range of solutions with ACO KerbDrain® | 12 |
| ACO QuAD Hydraulic Design Software | 16 |
| ACO KerbDrain® Inlet Plugs | 18 |
| ACO KerbDrain® system overview | 20 |
| ACO KerbDrain® Half Battered 255 system | |
| ACO KerbDrain® HB255 and components | 21 |
| ACO KerbDrain® Half Battered 305 system | |
| ACO KerbDrain® HB305 and components | 25 |
| ACO KerbDrain® Half Battered 405 system | |
| ACO KerbDrain® HB405 and components | 35 |
| ACO KerbDrain® Half Battered 480 system | |
| ACO KerbDrain® HB480 and components | 42 |
| ACO KerbDrain® half battered gully | 49 |
| ACO KerbDrain® Splayed 280 system | |
| ACO KerbDrain® SP280 and components | 52 |
| ACO KerbDrain® Splayed 380 system | |
| ACO KerbDrain® SP380 and components | 57 |
| ACO KerbDrain® Splayed 455 system | |
| ACO KerbDrain® SP455 and components | 62 |
| ACO KerbDrain® splayed gully | 67 |
| Maintenance of ACO KerbDrain® | 71 |
| Installation detail | 72 |
| Material benefits | 74 |
| Design Support Service | 76 |
| ACO BIM Models | 77 |
| Further Learning | |
| ACO Professional Development | 78 |
| Case Studies | |
| Colab | |

ACO. we care for water

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

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

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

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

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

www.aco.com



Managing Directors ACO Group
Iver and Hans-Julius Ahlmann



Headquarters of the ACO Group
in Rendsburg/Büdelndorf



5,200

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

1 Billion

Euro Sales in 2021

37

production sites in 18 countries



ACO Academy
for practical training

Water protection and rainwater management

What is ACO KerbDrain®?

The ACO KerbDrain® combined kerb and drainage system provides versatile and efficient linear drainage for motorways, trunk roads, urban infrastructure and landscaping projects. Its award winning one-piece design, provides quick and easy installation and high impact performance in both SuDS schemes and traditional drainage systems.



ACO KerbDrain® has a range of units to match HB1, HB2 and 45° splayed profiles, in a range of depths, which enable engineers and designers to optimise scheme hydraulics for efficient and economical drainage.

ACO KerbDrain® removes problems associated with incorrectly sited point gullies by ensuring all surface water runoff is safely removed over the entire length of the installation.

The one-piece construction of ACO KerbDrain® 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®

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.



Product features

- Impact resistance 50% higher than OPC kerb units
- Manufactured from a polymeric 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
- Simple watertight installations
- Safe manual and mechanical handling
- High daily installation rate

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 UKCA & 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.

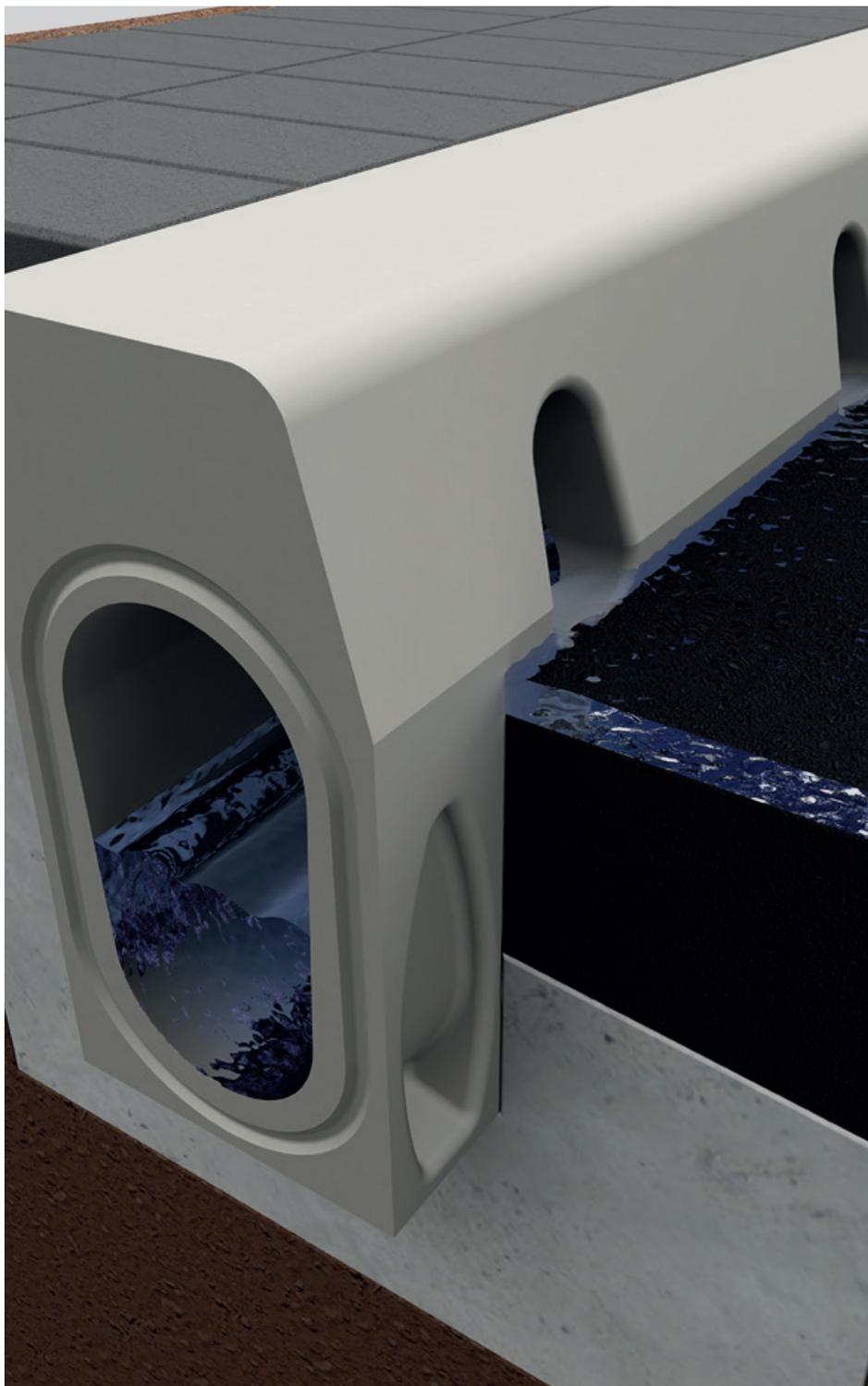
Kerb profiles

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



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.



Access units



Centre stones



Drop kerb assemblies

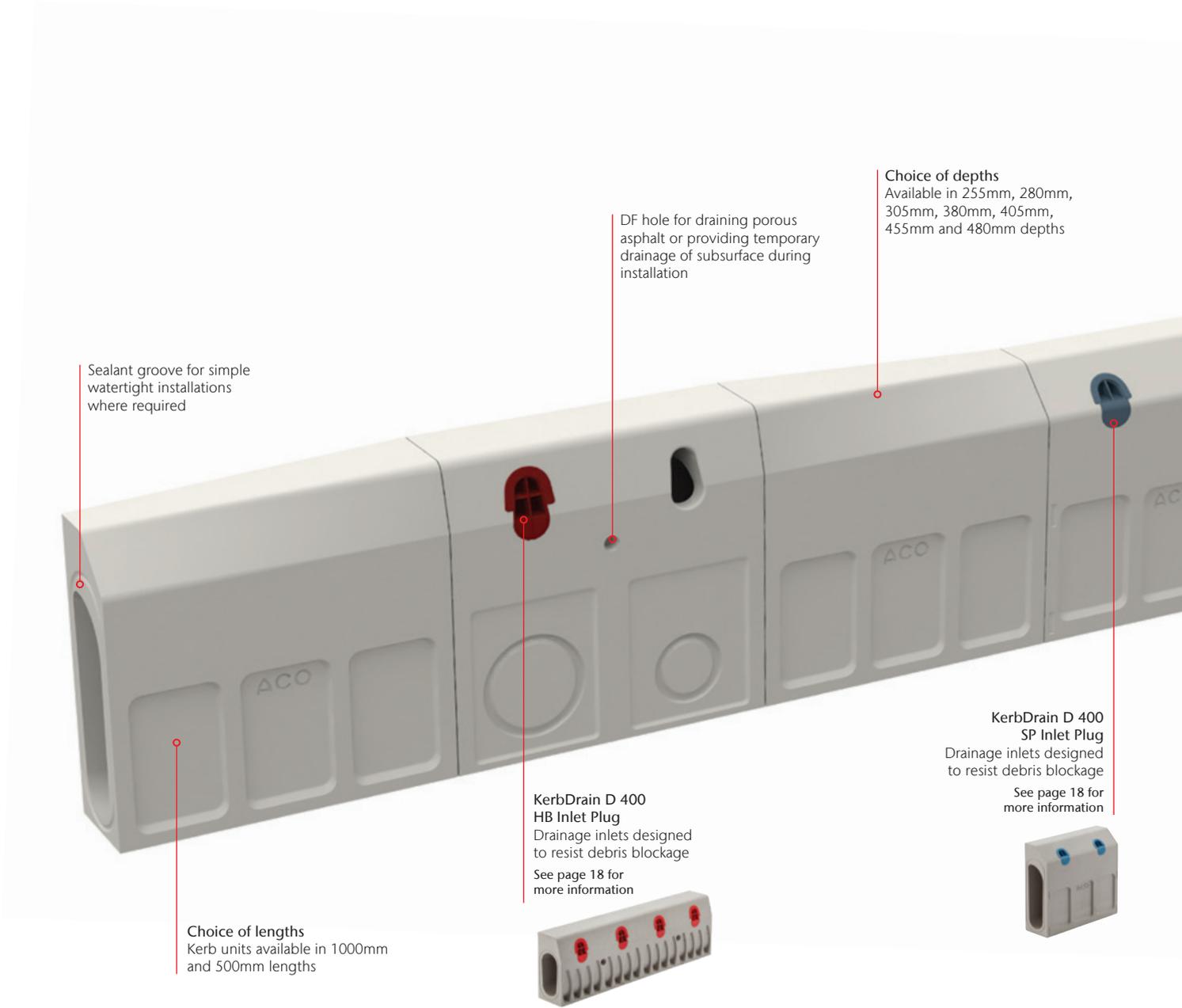


Bus stop kerbs



Multifunctional end cap

ACO KerbDrain® features overview



Sealant groove for simple watertight installations where required

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

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

KerbDrain D 400
SP Inlet Plug
Drainage inlets designed to resist debris blockage
See page 18 for more information

KerbDrain D 400
HB Inlet Plug
Drainage inlets designed to resist debris blockage
See page 18 for more information

Choice of lengths
Kerb units available in 1000mm and 500mm lengths

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

Load Classes



A 15
Pedestrians and cycleways



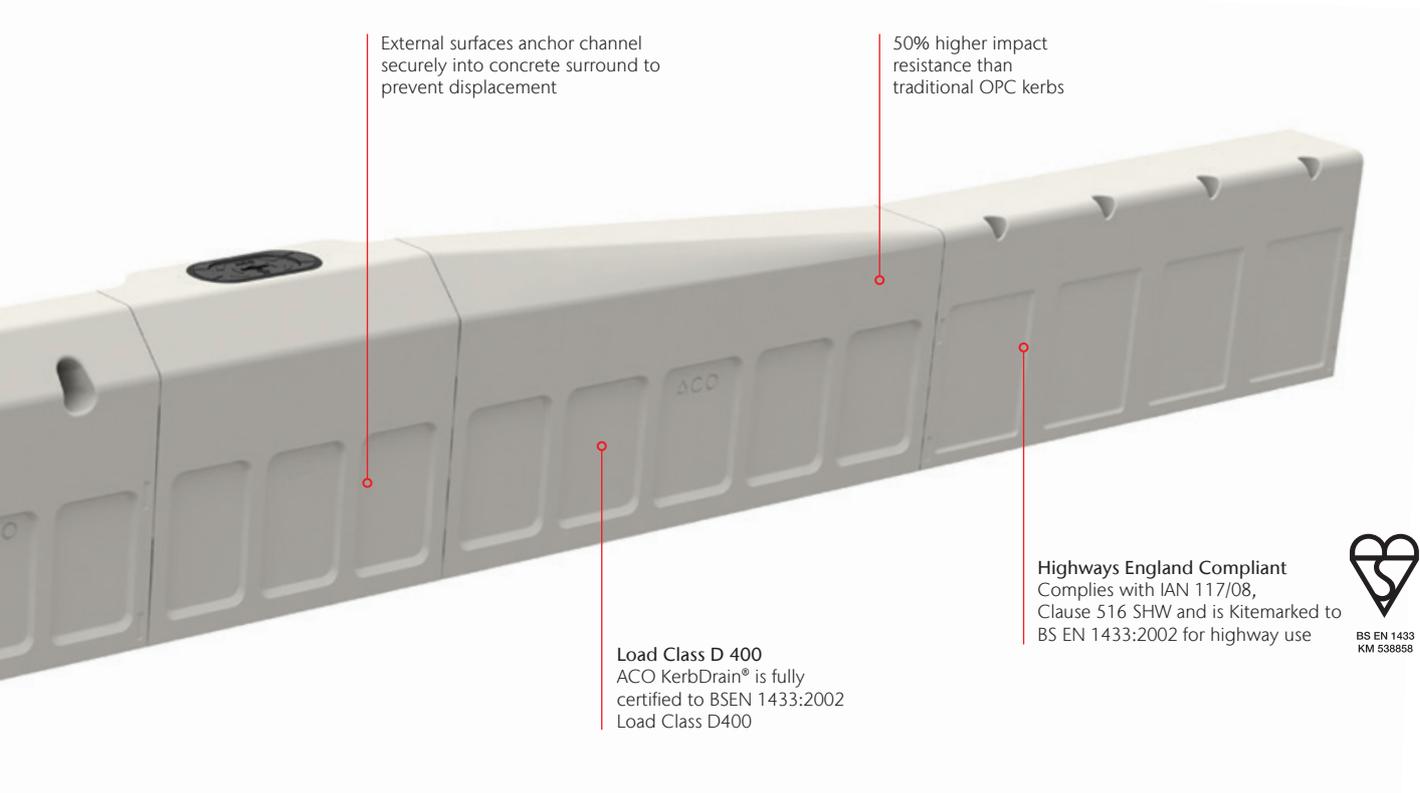
B 125
Pedestrian precincts, light vehicles, private car parks and drives



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

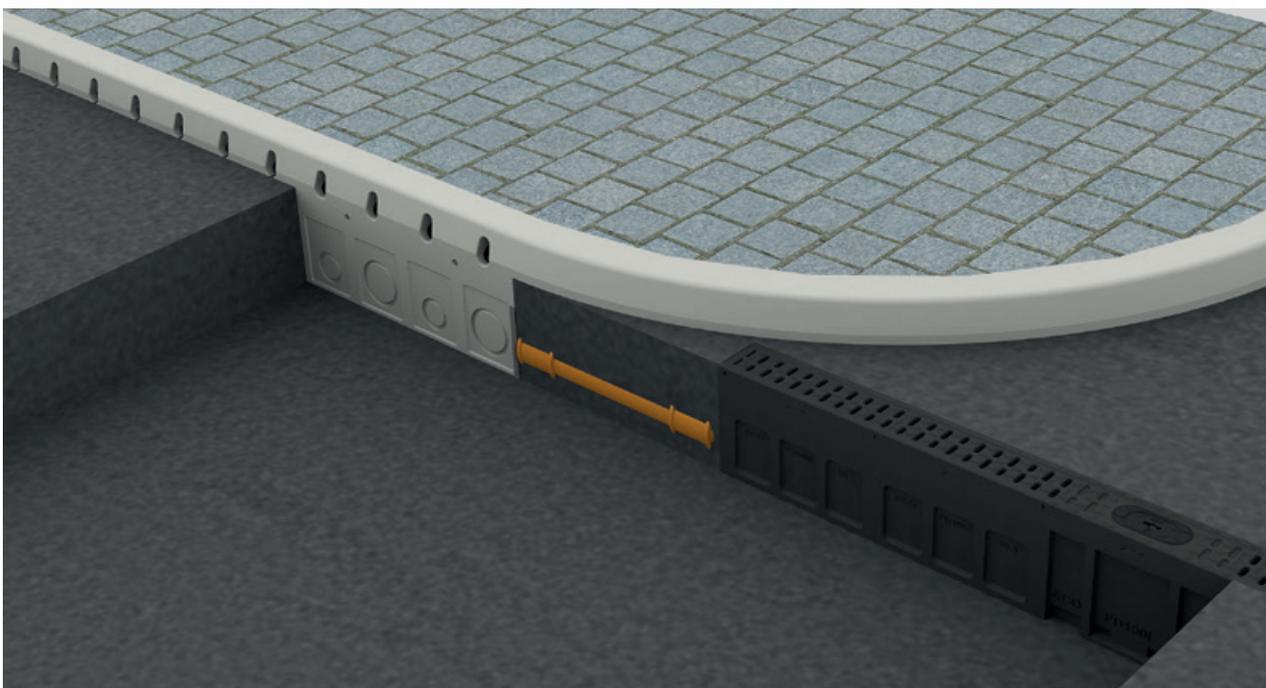


External surfaces anchor channel securely into concrete surround to prevent displacement

50% higher impact resistance than traditional OPC kerbs

Load Class D 400
ACO KerbDrain® is fully certified to BSEN 1433:2002 Load Class D400

Highways England Compliant
Complies with IAN 117/08, Clause 516 SHW and is Kitemarked to BS EN 1433:2002 for highway use



A range of solutions with ACO KerbDrain®



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 which can be hazardous to motorists and cyclists.

SOLUTION:

ACO KerbDrain® HB305, HB405 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.



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.



SuDS

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.



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.



Cycle track

PROBLEM:

Segregated cycle tracks can cause ponding issues as the space can act like a large trench, and point drainage can be an unnecessary obstacle for skinny tyres or small wheels having to navigate around it, especially if turning.

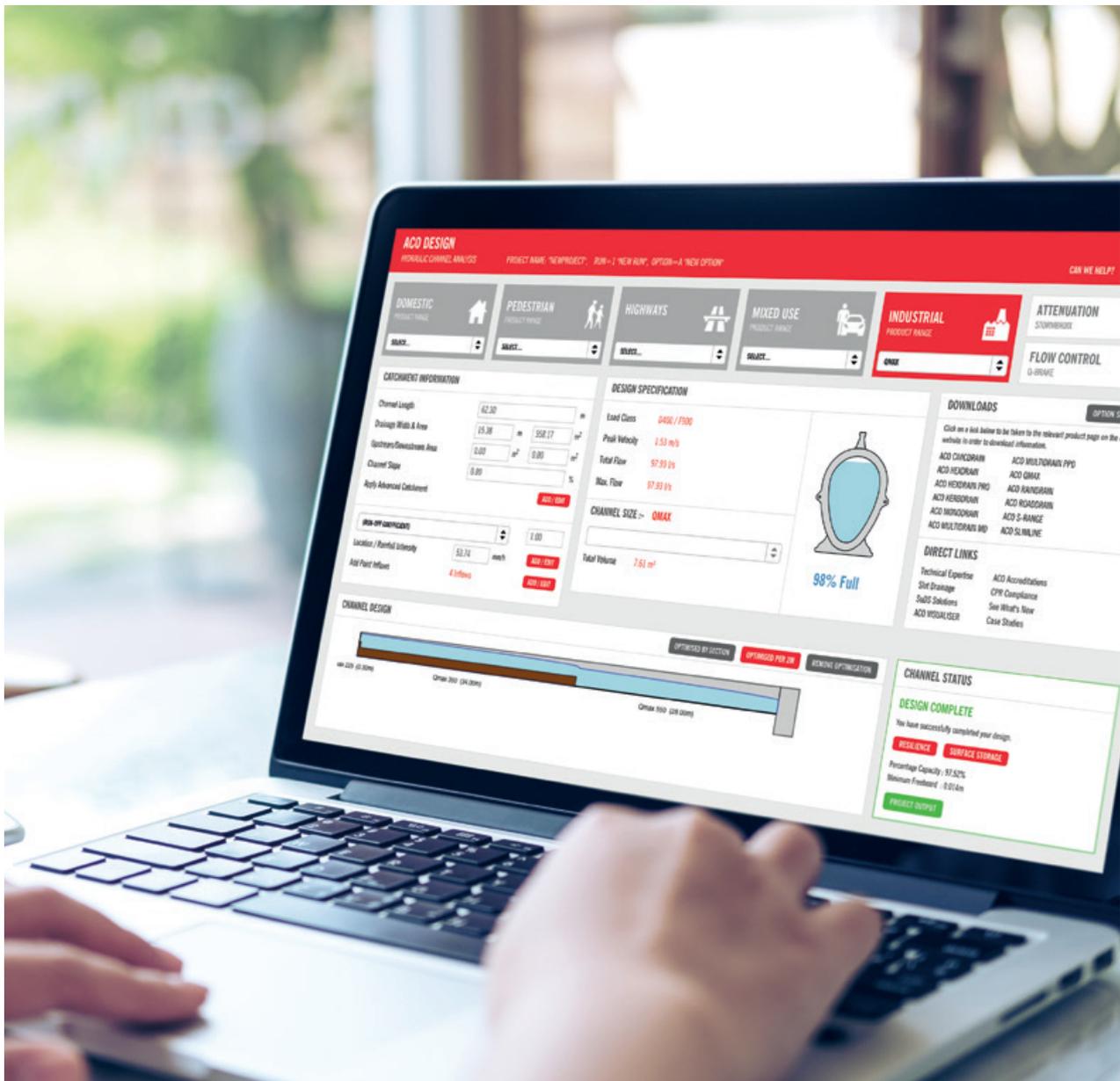
SOLUTION:

ACO KerbDrain® can support the creation of truly segregated cycle tracks. ACO KerbDrain® can move water quickly away from the cycleway and doesn't create any additional obstacles to be navigated by the cyclist, leaving a clearer route. The ACO KerbDrain® range includes dropped kerbs that can help with marking entry and exit points for cyclists.

ACO QuAD Hydraulic Design Software

Try our free design tool

The free-to-use ACO QuAD Hydraulic Design software has unprecedented levels of choice and flexibility built-in, to enable the efficient and accurate hydraulic design of any surface water management scheme.



The hydraulic engine has been robustly tested and is the tool used by ACO's 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

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 + value optimiser

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



Attenuation assessments

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



Flexible download format

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



Application

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



Rainfall assist

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



Resilience assessment

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



Secure scheme filing

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



Fully supported

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



ACO KerbDrain® Inlet Plugs

The ACO KerbDrain® Inlet Plugs, specifically designed to assist in avoiding costly cleaning caused by debris entering the channels during the installation period.

There are two products for our KerbDrain D400 Half Batter and Splay systems, which closes the inlet holes on the channels during initial installation and also the installation of any finished road surface. This helps to reduce the amount of debris associated with installation, from falling into the channels, which leads to costly and time consuming cleaning, which could delay completion of time specific site hand over.



What are the plugs benefits:



- Quick and easy to fit, only 6 seconds to install or remove



- Removes the need for costly site cleaning of channels



- Shows a 95% reduction in CO₂ emissions associated with cleaning and an improved construction process



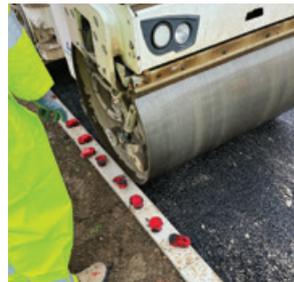
- Reduction in time on site



- Allows an improved surface finish to the kerb line



- Up to 16 litres of water saved per metre channel of cleaning

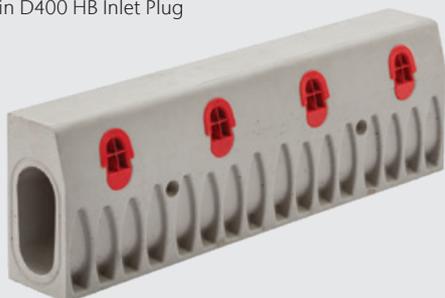


- Reusable and fully recyclable at the end of life



- Can be used on both new and resurfacing works

KerbDrain D400 HB Inlet Plug



KerbDrain D400 SP Inlet Plug





ACO KerbDrain® system overview

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 ACO's sustainable, high strength material

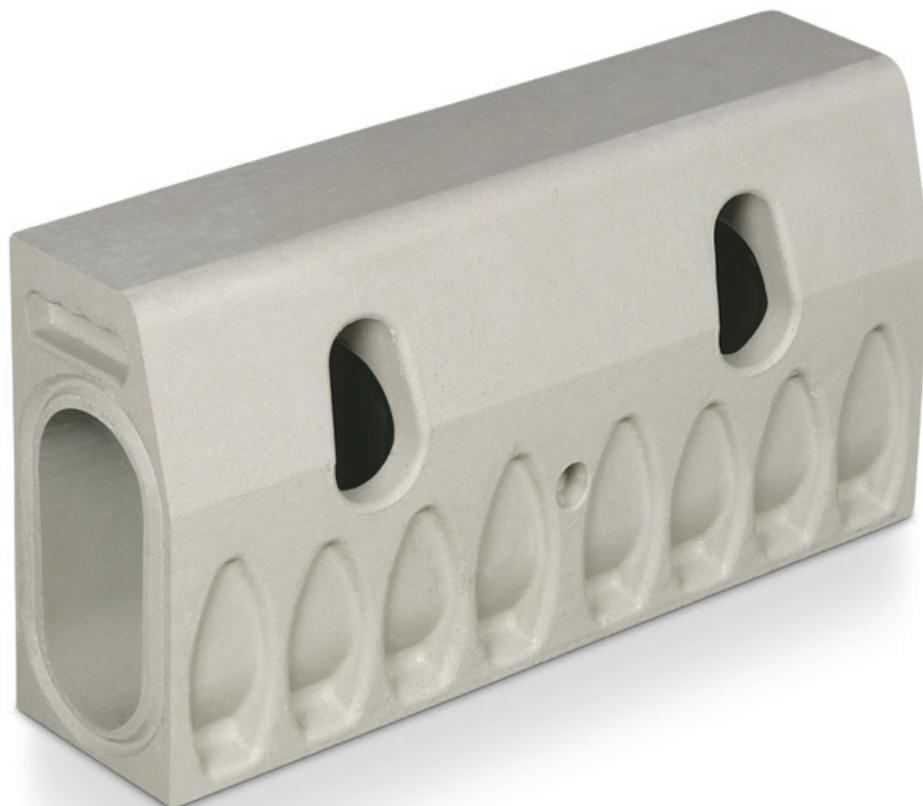


| HB PROFILE | HB255 | HB305 | HB405 | HB480 |
|---|--|--|---|--|
|  | Page 21  | Page 25  | Page 35  | Page 42  |
| UNIT DEPTH | 255mm | 305mm | 405mm | 480mm |
| HYDRAULIC CAPACITY |  |  |  |  |
| CATCHMENT AREA | 154m^{2*} | 386m^{2*} | 894m^{2*} | 1360m^{2*} |
| 1M UNIT | ✓ | ✓ | ✓ | ✓ |
| TRANSITIONS TO | n/a | SP280 | SP380 | SP455 |
| PEDESTRIAN CROSSING POINTS | ✓ | ✓ | ✓ | ✗ |
| RADIUS / MITRE UNITS | ✗ | ✓ | ✓ | ✓ |
| BUS STOP | ✗ | ✓ | ✓ | ✓ |

| SP PROFILE | SP280 | SP380 | SP455 |
|---|--|--|---|
|  | Page 52  | Page 57  | Page 62  |
| UNIT DEPTH | 280mm | 380mm | 455mm |
| HYDRAULIC CAPACITY |  |  |  |
| CATCHMENT AREA | 386m^{2*} | 894m^{2*} | 1110m^{2*} |
| 1M UNIT | ✓ | ✓ | ✓ |
| TRANSITIONS TO | HB305 | HB405 | HB480 |

| | | | |
|---|--|---|---|
| CATCHMENT AREA * EXAMPLE RUN BASED ON 50M LENGTH TO OUTLET | AVAILABILITY ✓ AVAILABLE ✗ NOT AVAILABLE | HYDRAULIC CAPACITY  LOW  MEDIUM  HIGH | LOAD CLASS D 400 LOAD CLASS D 400 PUBLIC HIGHWAYS, PARKING AREAS FOR ALL TYPES OF VEHICLES, DISTRIBUTION YARDS |
|---|--|---|---|

ACO KerbDrain® HB255



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

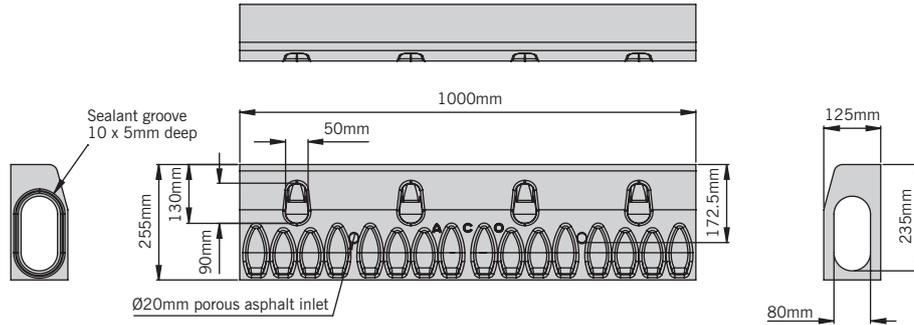


| | |
|--|--|
|  HB Profile |  Kitemarked |
| 255mm Unit depth |  HB to SP transitions |
|  Hydraulic capacity |  Bus stop |
| 154m ² * Catchment area | * Example run based on 50m length laid level at 50mm/hr rainfall |
|  Load Class | |

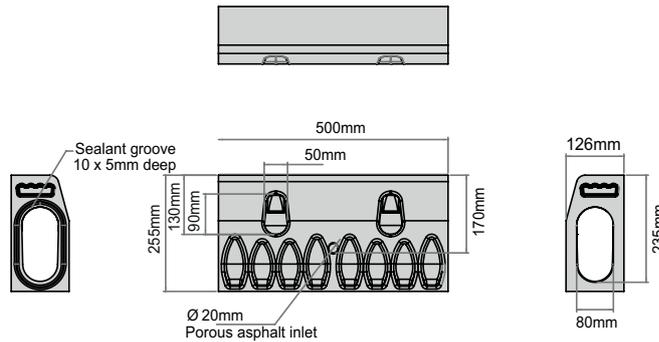
ACO KerbDrain® HB255

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--------------|--|----------------|-----------------------|---------------|----------------------|----------------|
| 7950 | KerbDrain® HB255 channel 1000mm D 400 | 1000 | 125 | 255 | 235 | 37.2 |
| 7958 | KerbDrain® HB255 channel 500mm D 400 | 500 | 125 | 255 | 235 | 18.5 |

HB255 1000mm unit



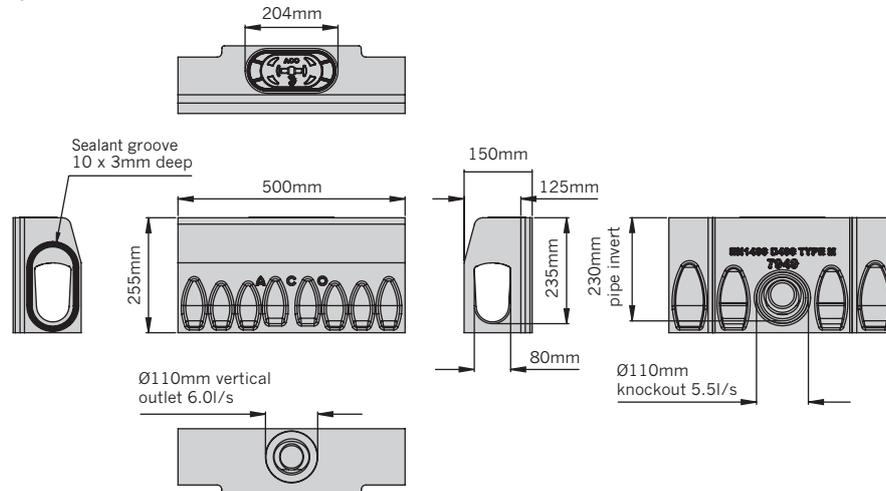
HB255 500mm unit



HB255 half battered access unit

| | | | | | | |
|------|---|-----|---------|-----|-----|------|
| 7949 | KerbDrain® HB255 access unit 500mm D 400 | 500 | 125/150 | 255 | 235 | 22.9 |
|------|---|-----|---------|-----|-----|------|

HB255 500mm access unit

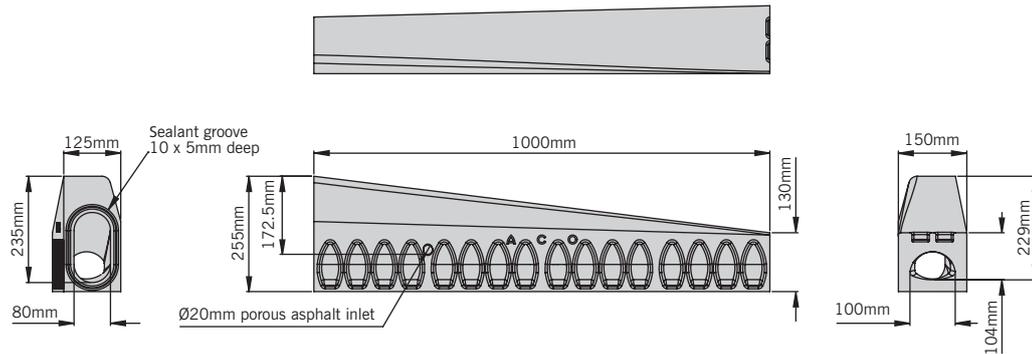


Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 49. These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB255

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--|---|----------------|-----------------------|---------------|----------------------|----------------|
| HB255 half battered flush drainable drop kerb units | | | | | | |
| 7956 | KerbDrain® HB255 left-hand drop kerb 1000mm D 400 | 1000 | 125/150 | 255/130 | 235/105 | 38.0 |
| 7957 | KerbDrain® HB255 right-hand drop kerb 1000mm D 400 | 1000 | 125/150 | 255/130 | 235/105 | 38.0 |

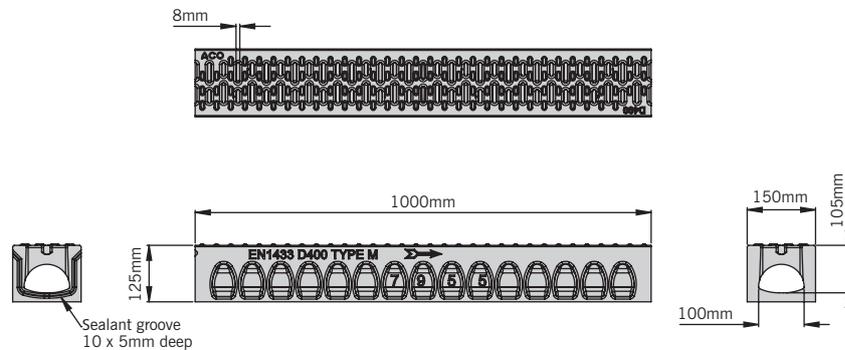
HB255 1000mm unit



HB255 half battered flush drainable centre stone unit

| | | | | | | |
|------|-------------------------------|------|-----|-----|-----|------|
| 7955 | KerbDrain® HB255 centre stone | 1000 | 150 | 125 | 105 | 24.7 |
|------|-------------------------------|------|-----|-----|-----|------|

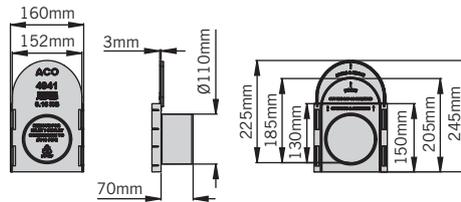
HB255 flush drainable centre stone unit



ACO KerbDrain® HB255

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--------------------------------------|---|----------------|-----------------------|---------------|----------------------|----------------|
| HB255 multifunctional end cap | | | | | | |
| 4941 | KerbDrain® HB255, SP280 & HB305 Multifunctional end cap | 3 | 160 | 245 | n/a | 0.16 |

HB255 multifunctional end cap



Inlet Plug

| | | | | | | |
|------|------------------------------|-----|----|----|-----|------|
| 4250 | KerbDrain D400 HB Inlet Plug | 106 | 77 | 35 | n/a | 0.04 |
|------|------------------------------|-----|----|----|-----|------|

KerbDrain Inlet Plug

Reduces cost and CO₂ emissions related to maintenance before handover.

Find out more on page 18.



ACO KerbDrain® HB305



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

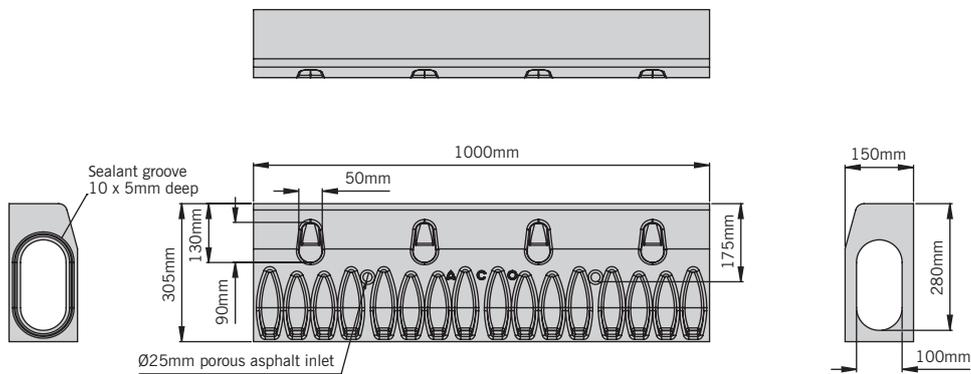


| | |
|--|--|
|  HB Profile |  Kitemarked |
| 305mm Unit depth |  1m units |
|  Hydraulic capacity |  HB to SP transitions |
| 386m ² * Catchment area |  Bus stop |
|  Load Class | * Example run based on 50m length to outlet |

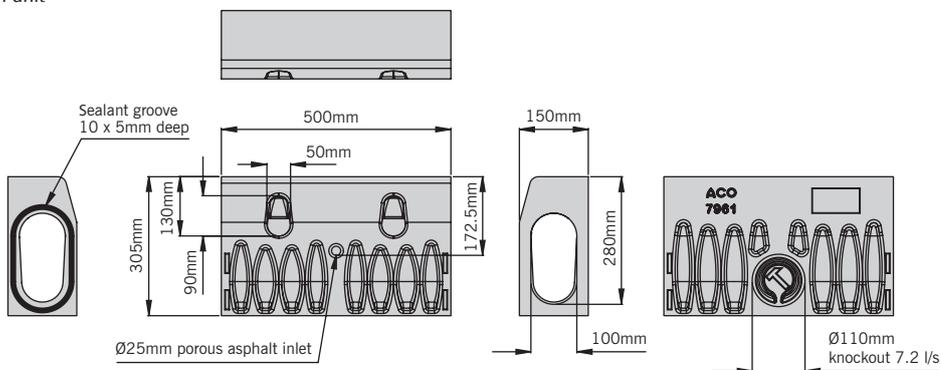
ACO KerbDrain® HB305

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--------------|--|----------------|-----------------------|---------------|----------------------|----------------|
| 7959 | KerbDrain® HB305 channel 1000mm D 400 | 1000 | 150 | 305 | 280 | 53.1 |
| 7961 | KerbDrain® HB305 channel 500mm D 400 | 500 | 150 | 305 | 280 | 26.2 |
| 7972 | KerbDrain® HB305 blind channel unit 500mm D 400 | 500 | 150 | 305 | 280 | 28.5 |
| 7960 | KerbDrain® HB305 channel 250mm D 400 | 250 | 150 | 305 | 280 | 12 |

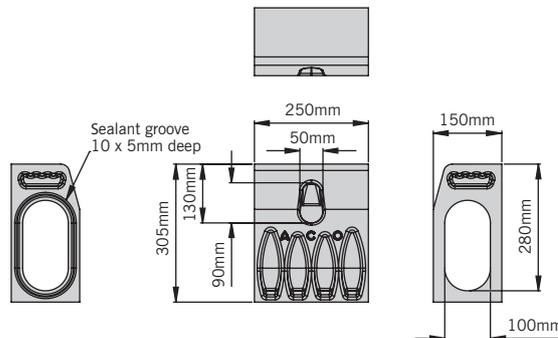
HB305 1000mm unit



HB305 500mm unit



HB305 250mm unit



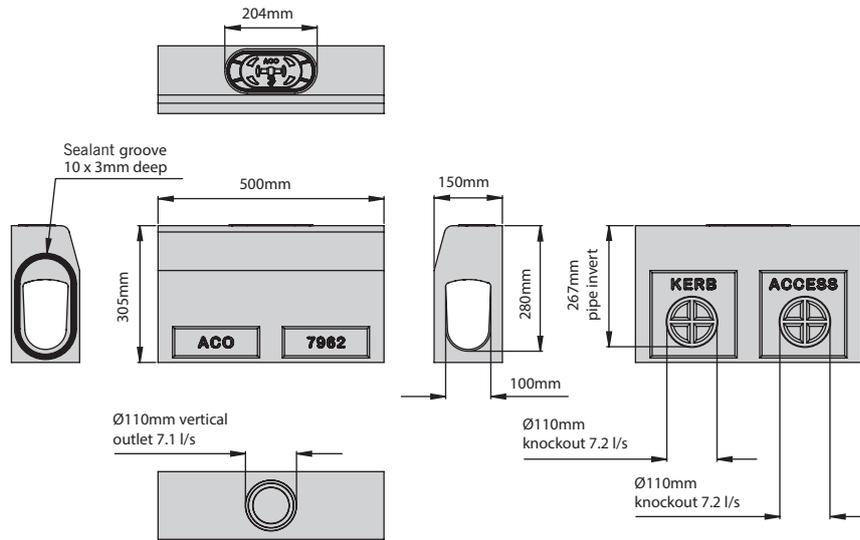
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 49.
 † Blind units are provided without surface water drainage inlets.

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

ACO KerbDrain® HB305

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--|---|----------------|-----------------------|---------------|----------------------|----------------|
| HB305 half battered access unit | | | | | | |
| 7962 | KerbDrain® HB305 access unit 500mm D 400 | 500 | 150 | 305 | 280 | 30.0 |

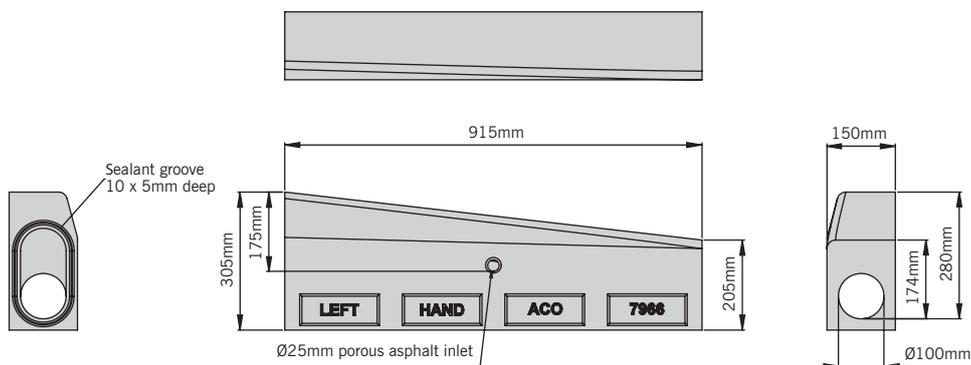
HB305 access unit



HB305 half battered drop kerb units

| | | | | | | |
|------|--|-----|-----|---------|---------|------|
| 7966 | KerbDrain® HB305 left-hand drop kerb 915mm D 400 | 915 | 150 | 305/205 | 280/174 | 49.5 |
| 7967 | KerbDrain® HB305 right-hand drop kerb 915mm D 400 | 915 | 150 | 305/205 | 280/174 | 49.5 |

HB305 left-hand drop kerb

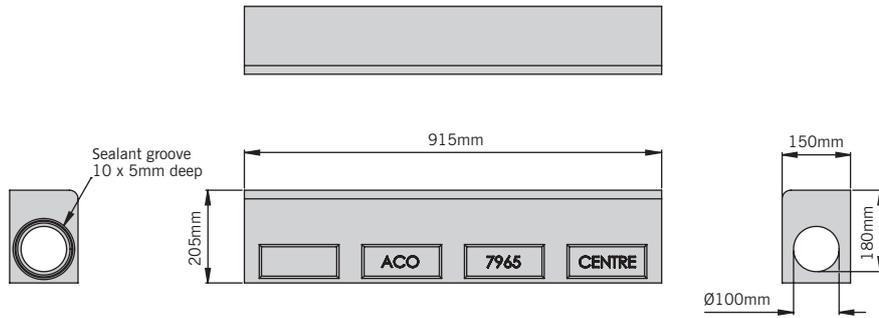


Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 49. These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB305

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--|--|----------------|-----------------------|---------------|----------------------|----------------|
| HB305 half battered centre stone unit with 25mm upstand | | | | | | |
| 7965 | KerbDrain® SP280/HB305 centre stone 915mm D 400 | 915 | 150 | 205 | 180 | 45.0 |

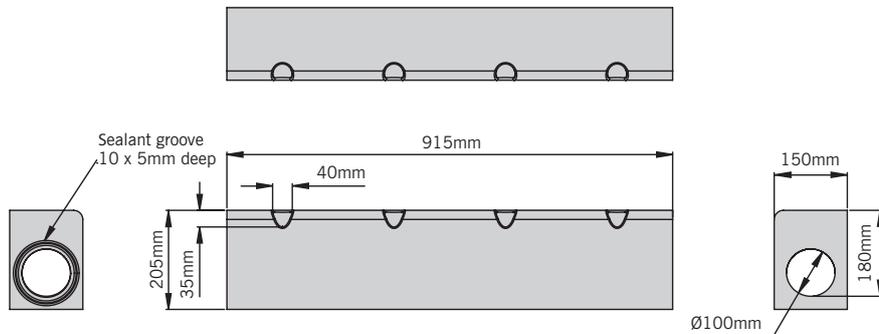
HB305 centre stone with 25mm upstand



HB305 half battered perforated centre stone unit with 25mm upstand

| | | | | | | |
|------|---|-----|-----|-----|-----|------|
| 4982 | KerbDrain® SP280/HB305 perforated centre stone 915mm D 400 | 915 | 150 | 205 | 180 | 42.9 |
| 4997 | KerbDrain® Heelguard™ insert for perforated centre stone † | 50 | - | - | - | 0.1 |

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 49.

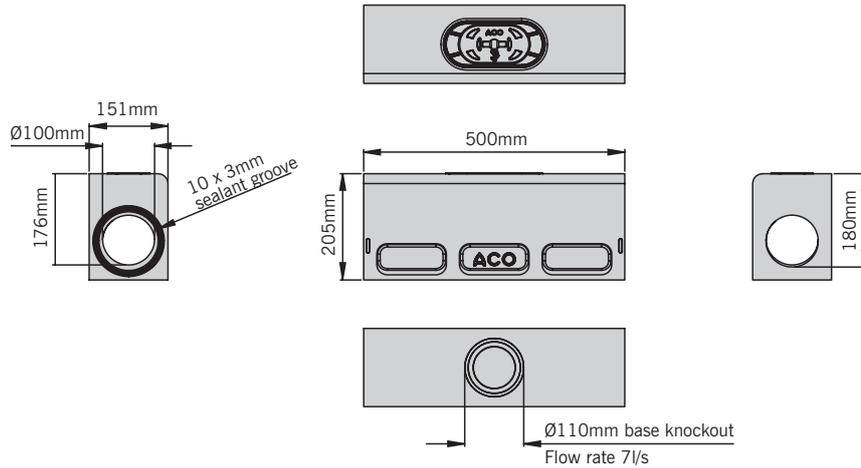
† Heelguard inserts can be fitted in the inlets of perforated centre stones.

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

ACO KerbDrain® HB305

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|---------------------------------------|--|----------------|-----------------------|---------------|----------------------|----------------|
| HB305 centre stone access unit | | | | | | |
| 4993 | KerbDrain® HB305/SP280 centre stone access unit 500mm D 400 | 500 | 151 | 205 | 180 | 21.57 |

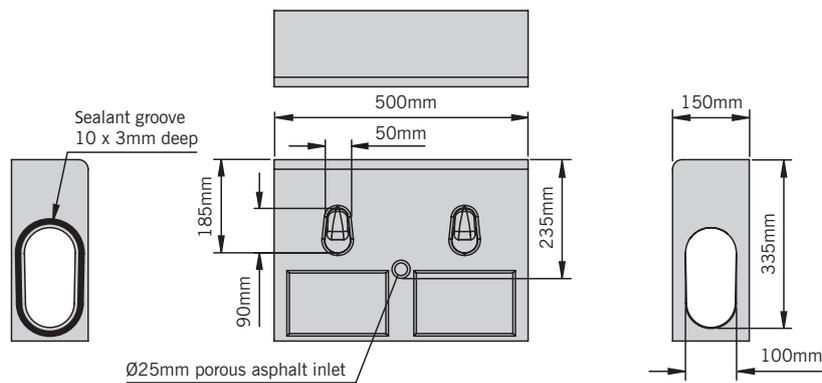
HB305/SP280 centre stone access unit



HB305 bullnosed bus stop kerb unit with 180mm upstand

| | | | | | | |
|------|---|-----|-----|-----|-----|------|
| 4356 | KerbDrain® HB305 bus stop kerb channel 500mm D 400 | 500 | 150 | 360 | 335 | 36.9 |
|------|---|-----|-----|-----|-----|------|

HB305 bus stop kerb



Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 49.

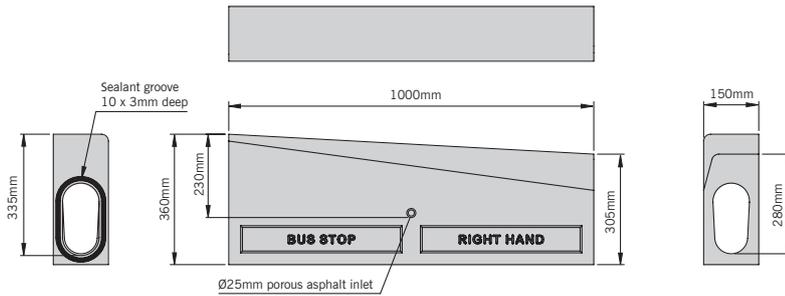
† Heelguard inserts can be fitted in the inlets of perforated centre stones.

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

ACO KerbDrain® HB305

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|---|---|----------------|-----------------------|---------------|----------------------|----------------|
| HB305 half battered bus stop transition kerb units | | | | | | |
| 4358 | KerbDrain® HB305 bus stop left-hand transition kerb 1000mm D 400 | 1000 | 150 | 360/305 | 335/280 | 68.2 |
| 4357 | KerbDrain® HB305 bus stop right-hand transition kerb 1000mm D 400 | 1000 | 150 | 360/305 | 335/280 | 68.2 |

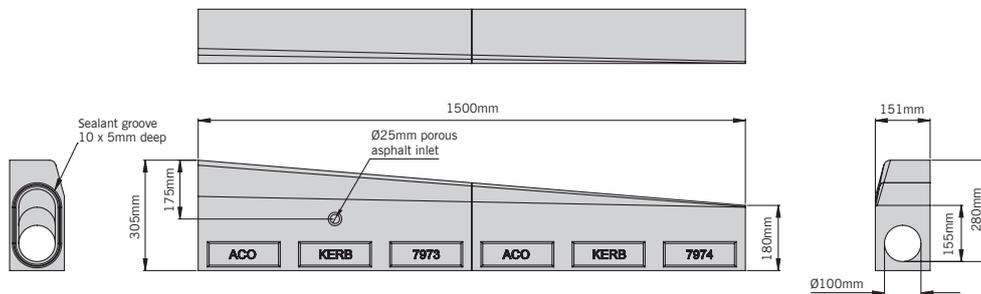
HB305 bus stop transition kerb



HB305 half battered flush drainable drop kerb units

| | | | | | | |
|------|---|------|-----|---------|---------|------|
| 7995 | KerbDrain® HB305 left-hand flush drop kerb assembly 1500mm D 400 | 1500 | 151 | 305/180 | 280/155 | 75.5 |
| 7996 | KerbDrain® HB305 right-hand flush drop kerb assembly 1500mm D 400 | 1500 | 151 | 305/180 | 280/155 | 75.5 |

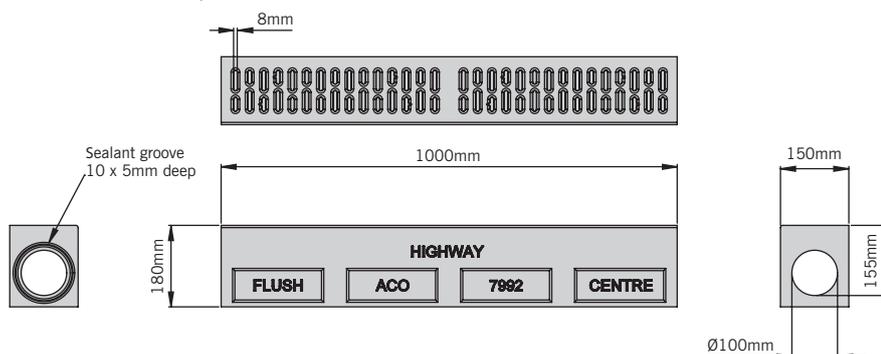
HB305 half battered flush drainable drop kerb unit



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

| | | | | | | |
|------|--|------|-----|-----|-----|------|
| 7992 | KerbDrain® HB305 flush drainable centre stone 1000mm D 400 | 1000 | 150 | 180 | 155 | 36.3 |
|------|--|------|-----|-----|-----|------|

HB305 half battered flush drainable drop kerb unit

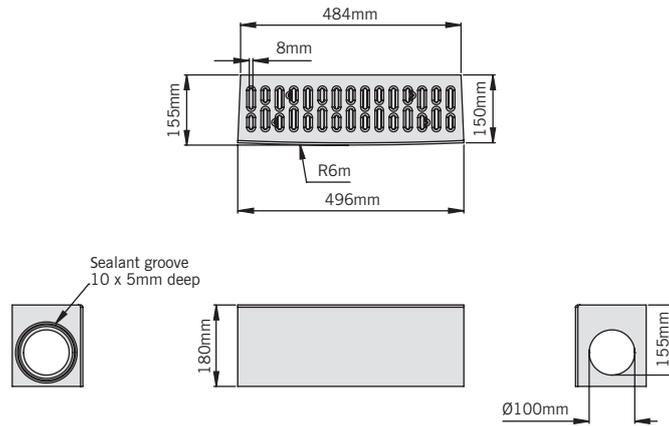


Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 49. For repair kit information please see page 34. These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB305

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|---|--|----------------|-----------------------|---------------|----------------------|----------------|
| HB305 half battered flush drainable centre stone with 6m external radius | | | | | | |
| 4985 | KerbDrain® HB305 flush drainable centre stone 6m radius 496mm D 400 | 496/484 | 150 | 180 | 155 | 18.3 |

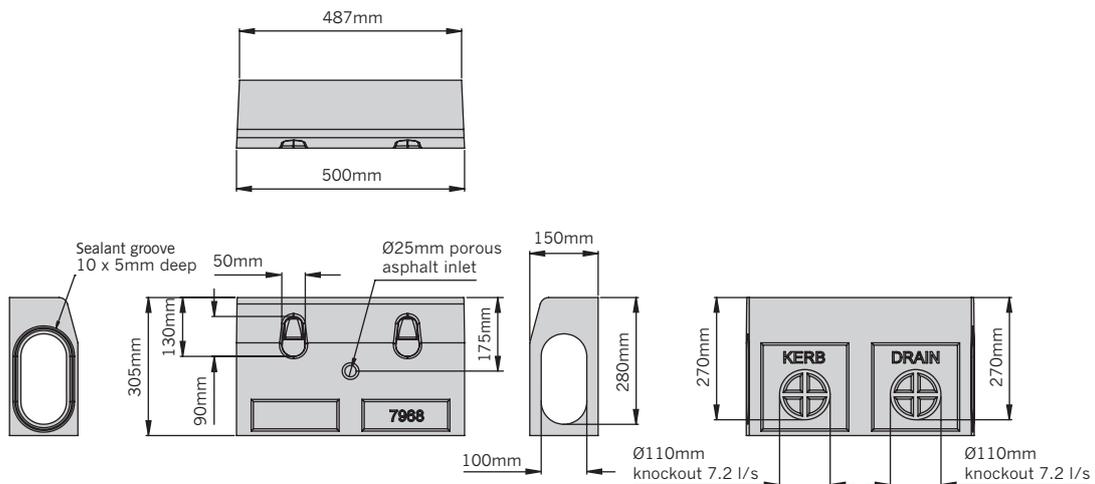
HB305 flush drainable centre stone with 6mm radius



HB305 half battered mitre units

| | | | | | | |
|------|---|---------|-----|-----|-----|------|
| 7968 | KerbDrain® HB305 7-6m external mitre channel 500/487mm D 400 | 500/487 | 150 | 305 | 280 | 26.9 |
| 7969 | KerbDrain® HB305 10-8m external mitre channel 500/490mm D 400 | 500/490 | 150 | 305 | 280 | 26.7 |
| 7970 | KerbDrain® HB305 25-11m external mitre channel 500/493mm D 400 | 500/493 | 150 | 305 | 280 | 26.5 |
| 7971 | KerbDrain® HB305 25-11m internal mitre channel 500/503mm D 400 | 500/503 | 150 | 305 | 280 | 26.7 |

HB305 7-6m external mitre

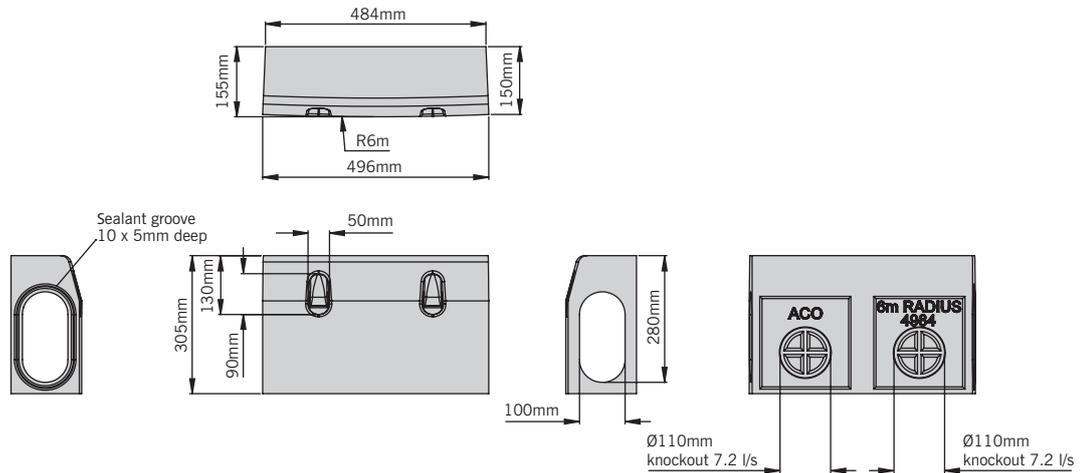


Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 49. These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB305

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--|--|----------------|-----------------------|---------------|----------------------|----------------|
| HB305 half battered 6m external radius unit | | | | | | |
| 4984 | KerbDrain® HB305 6m external radius channel 496mm D 400 | 496/484 | 150 | 305 | 280 | 27.8 |

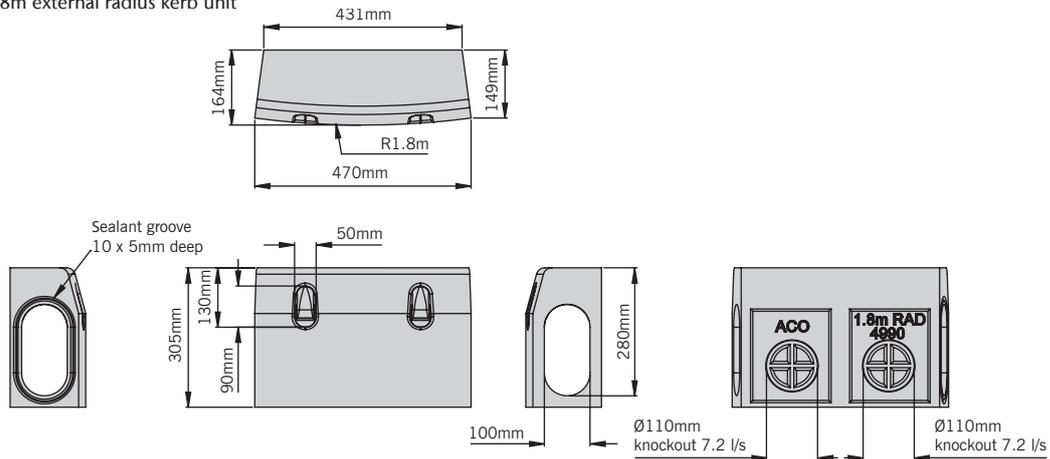
HB305 6m external radius unit



HB305 half battered 1.8m external radius kerb unit

| | | | | | | |
|------|--|---------|-----|-----|-----|------|
| 4990 | KerbDrain® HB305 1.8m external radius channel 470mm D 400 | 470/431 | 149 | 305 | 280 | 27.0 |
|------|--|---------|-----|-----|-----|------|

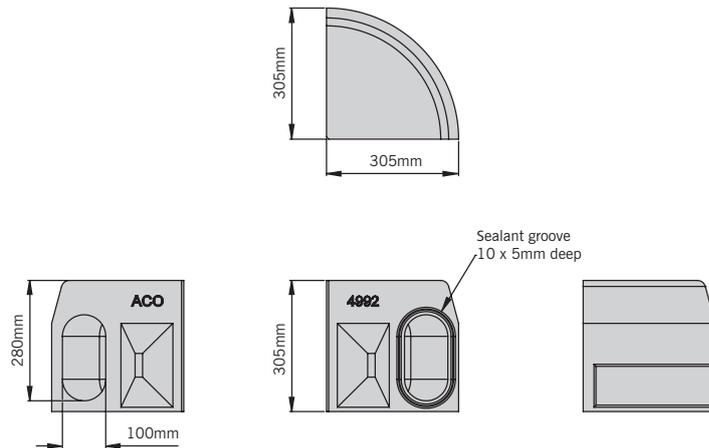
HB305 1.8m external radius kerb unit



ACO KerbDrain® HB305

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--|--|----------------|-----------------------|---------------|----------------------|----------------|
| HB305 half battered quadrant unit | | | | | | |
| 4992 | KerbDrain® HB305 external quadrant unit 305mm D 400 | 305 | 305 | 305 | 280 | 32.0 |

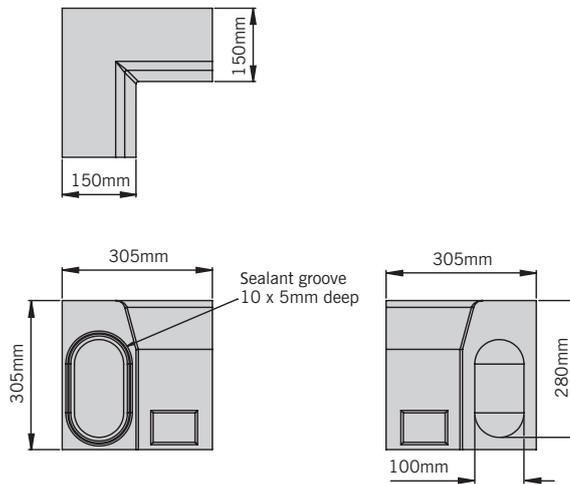
HB305 quadrant unit



HB305 half battered 90° internal angle unit

| | | | | | | |
|------|--|-----|-----|-----|-----|------|
| 4991 | KerbDrain® HB305 internal 90° angle 305mm D 400 | 305 | 150 | 305 | 280 | 24.7 |
|------|--|-----|-----|-----|-----|------|

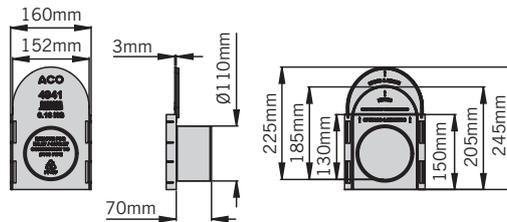
HB305 internal angle



ACO KerbDrain® HB305

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--------------------------------------|---|----------------|-----------------------|---------------|----------------------|----------------|
| HB305 multifunctional end cap | | | | | | |
| 4941 | KerbDrain® HB255, SP280 & HB305 multifunctional end cap | 3 | 160 | 245 | n/a | 0.16 |

HB305 multifunctional end cap



Inlet Plug

| | | | | | | |
|------|------------------------------|-----|----|----|-----|------|
| 4250 | KerbDrain D400 HB Inlet Plug | 106 | 77 | 35 | n/a | 0.04 |
|------|------------------------------|-----|----|----|-----|------|

KerbDrain Inlet Plug

Reduces cost and CO₂ emissions related to maintenance before handover.

Find out more on page 18.



| Product Code | Description | Weight [kg] |
|--------------|-------------|----------------|
|--------------|-------------|----------------|

Polymer repair kit

| | | |
|-------|-----------------------------|---|
| 32599 | Polymer concrete repair kit | 1 |
|-------|-----------------------------|---|

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.



ACO KerbDrain® HB405



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

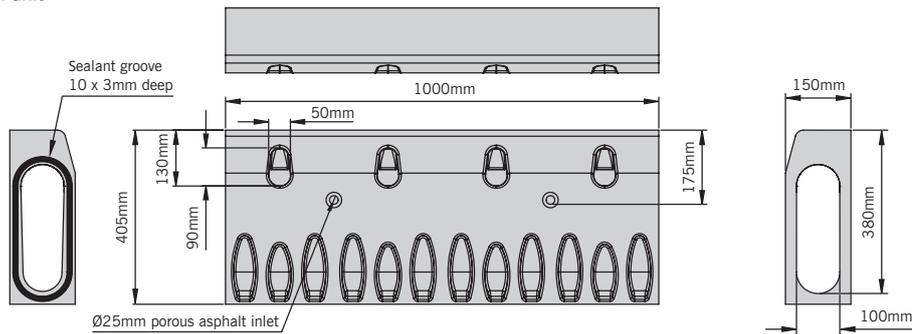


| | |
|--|--|
|  HB Profile |  Kitemarked |
| 405mm Unit depth |  1m units |
|  Hydraulic capacity |  HB to SP transitions |
| 894m ² * Catchment area |  Bus stop |
|  Load Class | * Example run based on 50m length to outlet |

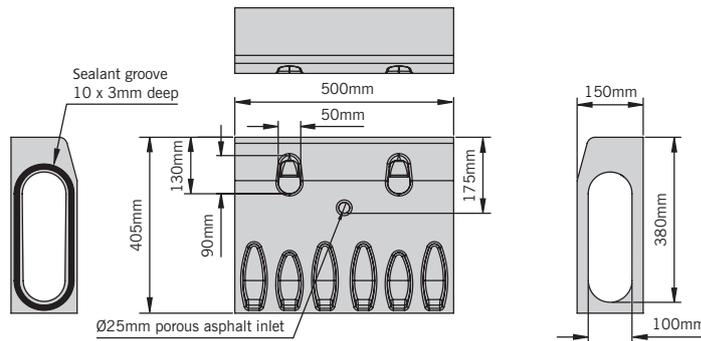
ACO KerbDrain® HB405

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|---------------------------------------|--|----------------|-----------------------|---------------|----------------------|----------------|
| HB405 half battered kerb units | | | | | | |
| 4232 | KerbDrain® HB405 channel 1000mm D 400 | 1000 | 150 | 405 | 380 | 63.5 |
| 4231 | KerbDrain® HB405 channel 500mm D 400 | 500 | 150 | 405 | 380 | 30.9 |
| 4230 | KerbDrain® HB405 blind channel unit † 500mm D 400 | 500 | 150 | 405 | 380 | 32.0 |

HB405 1000mm unit



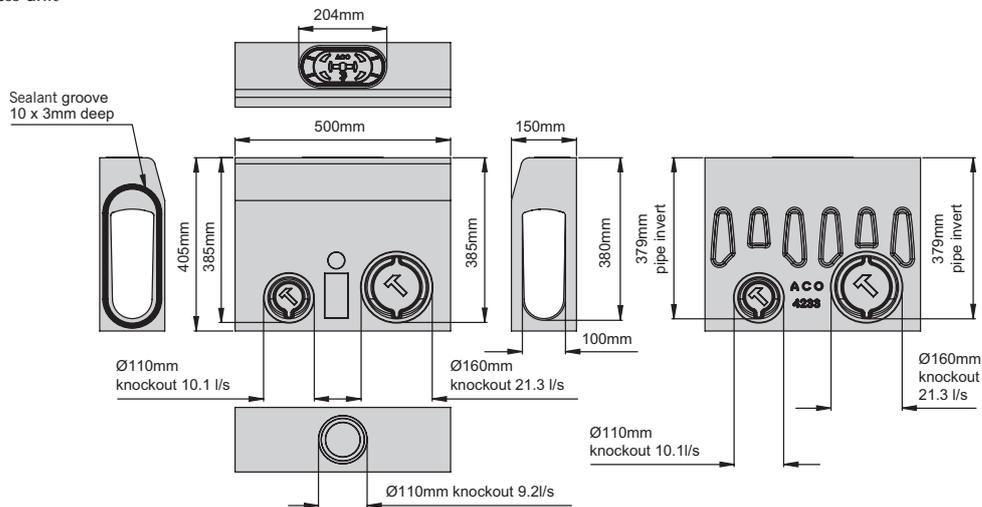
HB405 500mm unit



HB405 half battered access units

| | | | | | | |
|------|--|-----|-----|-----|-----|------|
| 4233 | KerbDrain® HB405 access unit 500mm D 400 | 500 | 150 | 405 | 380 | 35.0 |
|------|--|-----|-----|-----|-----|------|

HB405 access unit



† Blind units are provided without surface water drainage inlets

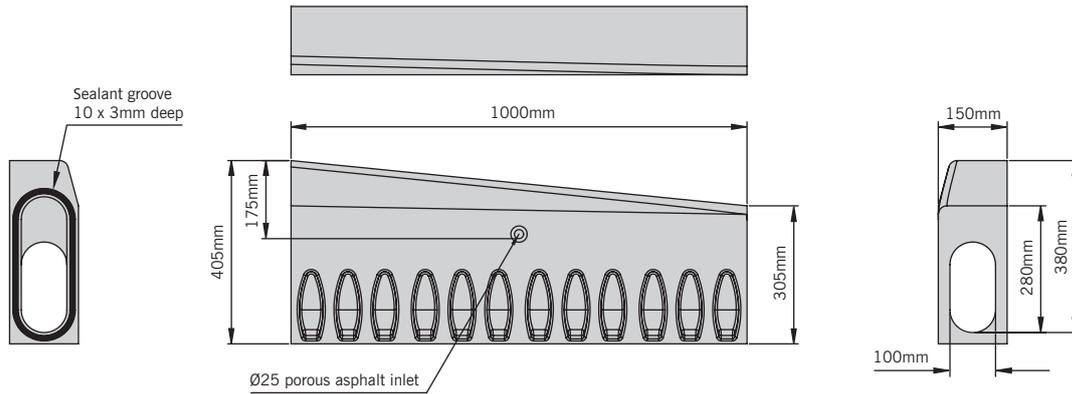
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 49.

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

ACO KerbDrain® HB405

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--|---|----------------|-----------------------|---------------|----------------------|----------------|
| HB405 half battered drop kerb units | | | | | | |
| 4234 | KerbDrain® HB405 left-hand drop kerb 1000mm D 400 | 1000 | 150 | 405/305 | 380/280 | 62.1 |
| 4235 | KerbDrain® HB405 right-hand drop kerb 1000mm D 400 | 1000 | 150 | 405/305 | 380/280 | 62.1 |

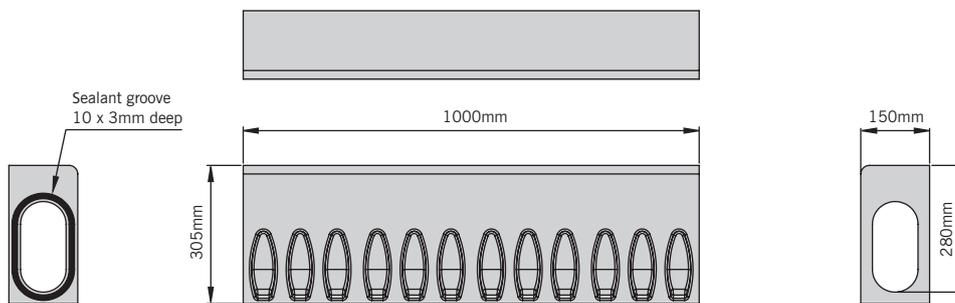
HB405 left-hand drop kerb



HB405 half battered centre stone unit

| | | | | | | |
|------|---|------|-----|-----|-----|------|
| 4236 | KerbDrain® HB405/SP380 centre stone 1000mm D 400 | 1000 | 150 | 305 | 280 | 60.1 |
|------|---|------|-----|-----|-----|------|

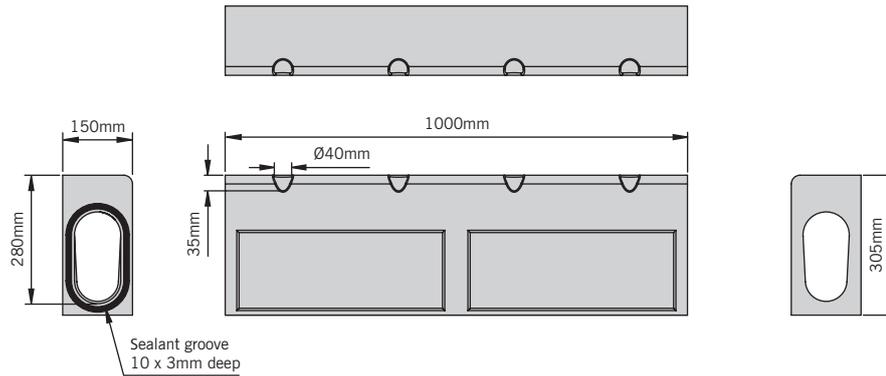
HB405 centre stone



ACO KerbDrain® HB405

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|---|---|----------------|-----------------------|---------------|----------------------|----------------|
| HB405 half battered perforated centre stone unit with 25mm upstand | | | | | | |
| 4350 | KerbDrain® HB405/SP380 perforated centre stone 1000mm D 400 | 1000 | 150 | 305 | 280 | 57.6 |
| 4997 | KerbDrain® Heelguard™ insert for perforated centre stone | 50 | - | - | - | 0.1 |

HB405 perforated centre stone with 25mm upstand



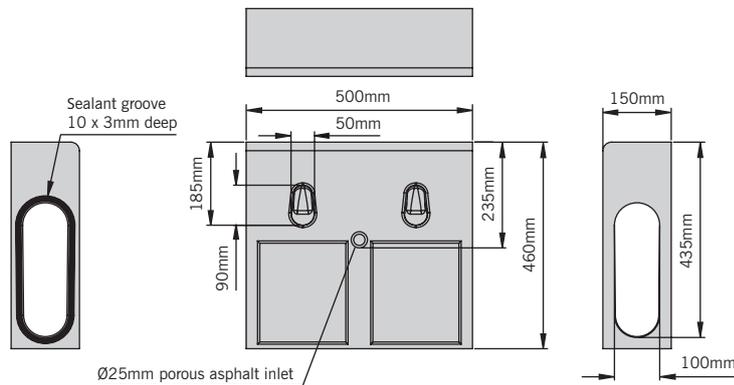
HB405/SP380/BN305 centre stone access unit

| | | | | | | |
|-------|---|-----|-----|-----|-----|------|
| 32716 | KerbDrain® HB405/SP380/BN305 centre stone access unit | 500 | 150 | 305 | 280 | 27.0 |
|-------|---|-----|-----|-----|-----|------|

HB405 bullnosed bus stop kerb unit with 180mm upstand

| | | | | | | |
|------|--|-----|-----|-----|-----|------|
| 4359 | KerbDrain® HB405 bus stop kerb channel 500mm D 400 | 500 | 150 | 460 | 435 | 41.7 |
|------|--|-----|-----|-----|-----|------|

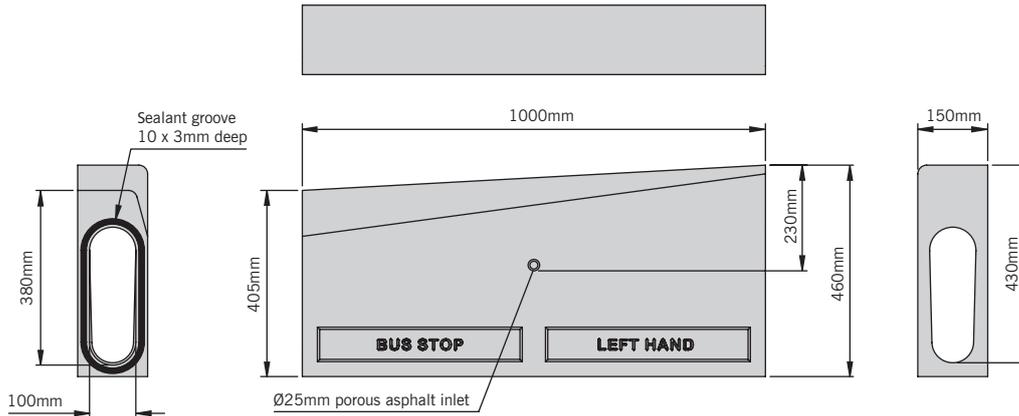
KDHB405 bus stop kerb



ACO KerbDrain® HB405

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|---|---|----------------|-----------------------|---------------|----------------------|----------------|
| HB405 half battered bus stop transition kerb units | | | | | | |
| 4361 | KerbDrain® HB405 bus stop left-hand transition kerb 1000mm D 400 | 1000 | 150 | 460 | 430/380 | 79.7 |
| 4360 | KerbDrain® HB405 bus stop right-hand transition kerb 1000mm D 400 | 1000 | 150 | 460 | 430/380 | 79.7 |

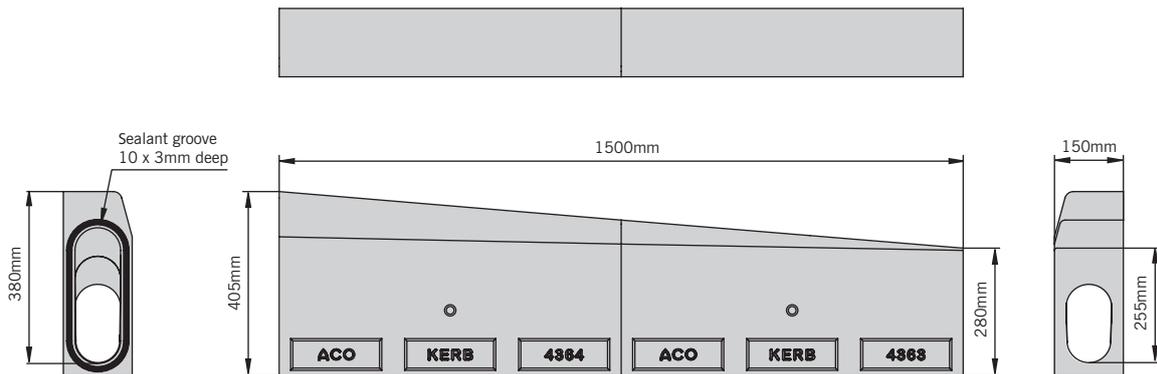
HB405 left-hand bus stop transition kerb



HB405 half battered flush drainable drop kerb units

| | | | | | | |
|------|---|------|-----|---------|---------|------|
| 4367 | KerbDrain® HB405 left-hand flush drop kerb assembly 1500mm D 400 | 1500 | 150 | 405/280 | 380/255 | 96.0 |
| 4368 | KerbDrain® HB405 right-hand flush drop kerb assembly 1500mm D 400 | 1500 | 150 | 405/280 | 380/255 | 96.1 |

HB405 left-hand flush drainable drop kerb unit

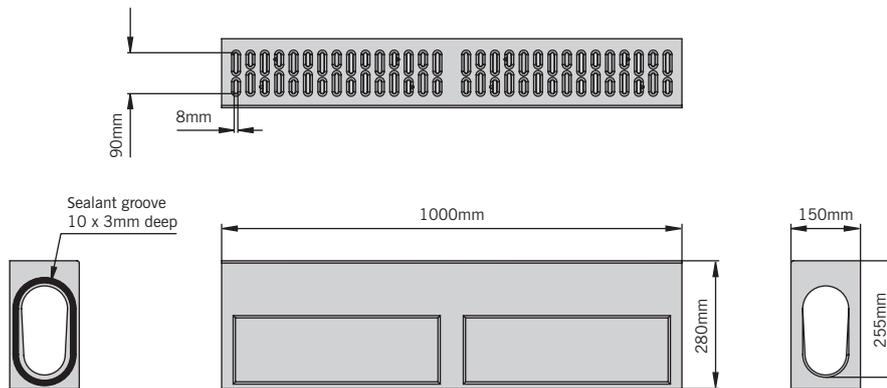


Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 49. These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB405

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--|---|----------------|-----------------------|---------------|----------------------|----------------|
| HB405 half battered flush drainable centre stone with 0-6mm upstand | | | | | | |
| 4362 | KerbDrain® HB405 flush drainable centre stone 1000mm D 400 | 1000 | 150 | 280 | 255 | 46.4 |

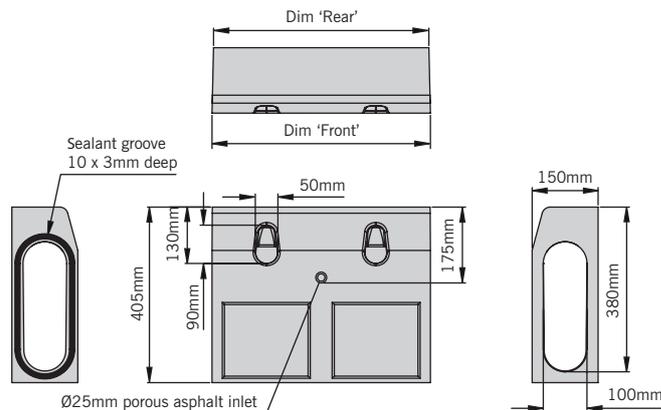
HB405 half battered flush drainable centre stone



HB405 half battered mitre units

| | | | | | | |
|------|---|---------|-----|-----|-----|------|
| 4353 | KerbDrain® HB405 7-6m external mitre channel 500/487mm D 400 | 500/487 | 150 | 405 | 380 | 31.5 |
| 4352 | KerbDrain® HB405 10-8m external mitre channel 500/490mm D 400 | 500/490 | 150 | 405 | 380 | 31.6 |
| 4351 | KerbDrain® HB405 25-11m external mitre channel 500/493mm D 400 | 500/493 | 150 | 405 | 380 | 31.7 |
| 4354 | KerbDrain® HB405 25-11m internal mitre channel 500/503mm D 400 | 500/503 | 150 | 405 | 380 | 32.0 |

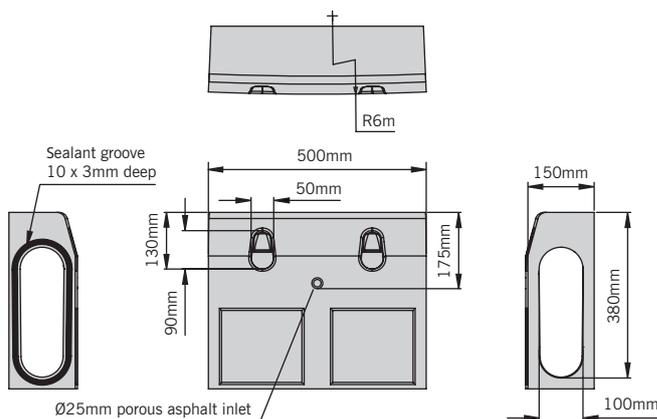
HB405 half battered mitre units



ACO KerbDrain® HB405

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|---|--|----------------|-----------------------|---------------|----------------------|----------------|
| HB405 half battered 6m external radius units | | | | | | |
| 4355 | KerbDrain® HB405 6m external radius channel 496mm D 400 | 500/496 | 150 | 405 | 380 | 32.7 |

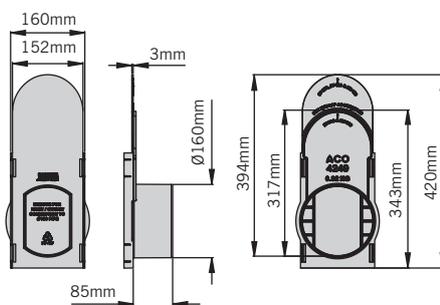
HB405 6m external radius units



HB405 multifunctional end cap

| | | | | | | |
|------|--|---|-----|-----|-----|------|
| 4249 | KerbDrain® SP380, HB405, HB480 & SP455 multifunctional end cap | 3 | 160 | 420 | n/a | 0.32 |
|------|--|---|-----|-----|-----|------|

HB405 multifunctional end cap



Inlet Plug

| | | | | | | |
|------|------------------------------|-----|----|----|-----|------|
| 4250 | KerbDrain D400 HB Inlet Plug | 106 | 77 | 35 | n/a | 0.04 |
|------|------------------------------|-----|----|----|-----|------|

KerbDrain Inlet Plug

Reduces cost and CO₂ emissions related to maintenance before handover.

- Find out more on page 18.



Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 49. 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.

42

ACO KerbDrain® HB480 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
- Mitre units
- Junction channels for road junctions
- End caps and unions

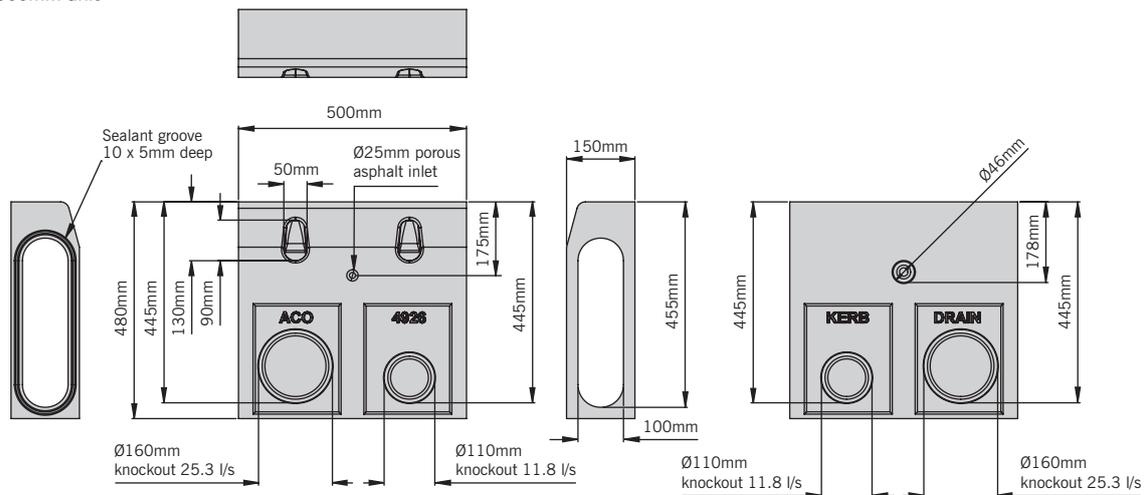


| | |
|--|--|
|  HB Profile |  Kitemarked |
| 480mm Unit depth |  1m units |
|  Hydraulic capacity |  HB to SP transitions |
| 1360m ² * Catchment area |  Bus stop |
|  Load Class | * Example run based on 50m length to outlet |

ACO KerbDrain® HB480

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--------------|--|----------------|-----------------------|---------------|----------------------|----------------|
| 4925 | ACO KerbDrain® HB480 channel 1000mm D 400 | 1000 | 150 | 480 | 455 | 74.98 |
| 4926 | KerbDrain® HB480 channel 500mm D 400 | 500 | 150 | 480 | 455 | 35.9 |
| 4923 | KerbDrain® HB480 blind channel unit 500mm D 400 | 500 | 150 | 480 | 455 | 36.4 |

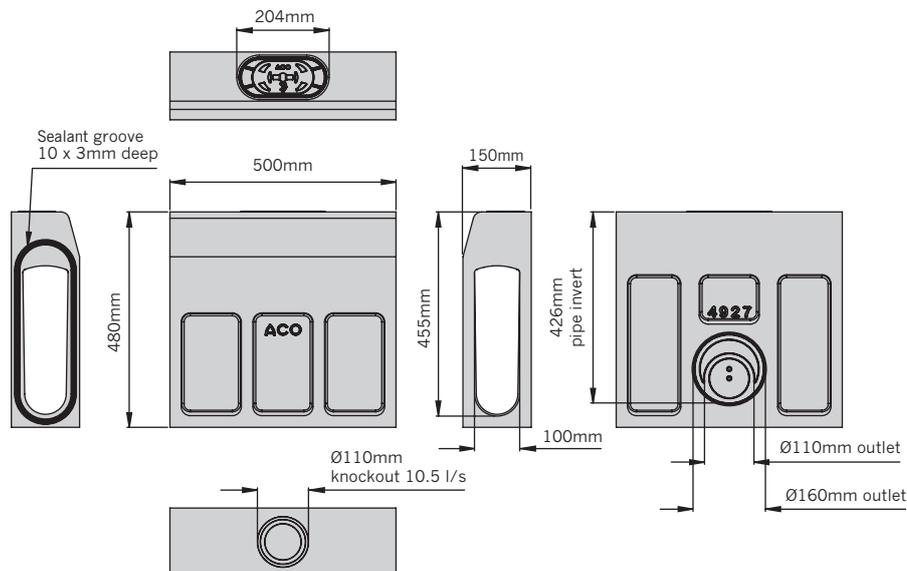
HB480 500mm unit



HB480 half battered access unit

| | | | | | | |
|------|---|-----|-----|-----|-----|------|
| 4927 | KerbDrain® HB480 access unit 500mm D 400 | 500 | 150 | 480 | 455 | 37.4 |
|------|---|-----|-----|-----|-----|------|

HB480 access unit

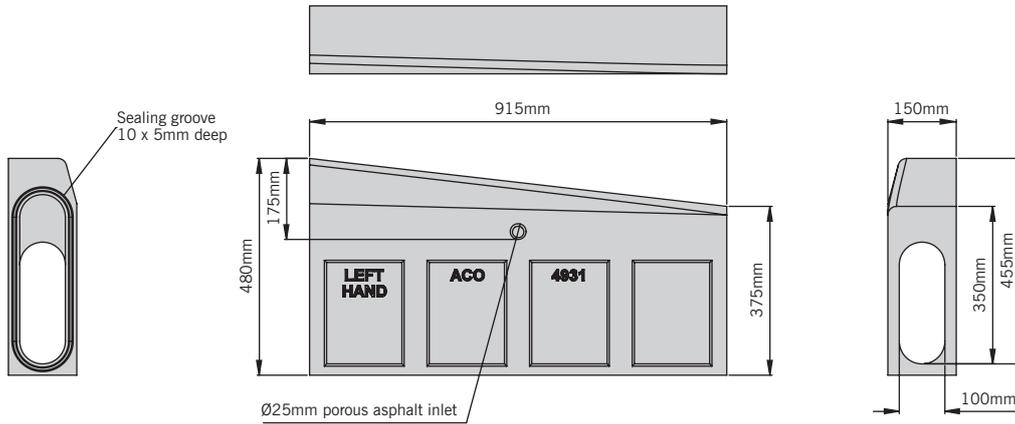


Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 49. These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB480

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--|--|----------------|-----------------------|---------------|----------------------|----------------|
| HB480 half battered drop kerb units | | | | | | |
| 4931 | KerbDrain® HB480 left-hand drop kerb 915mm D 400 | 915 | 150 | 480/375 | 455/350 | 66.7 |
| 4932 | KerbDrain® HB480 right-hand drop kerb 915mm D 400 | 915 | 150 | 480/375 | 455/350 | 66.7 |

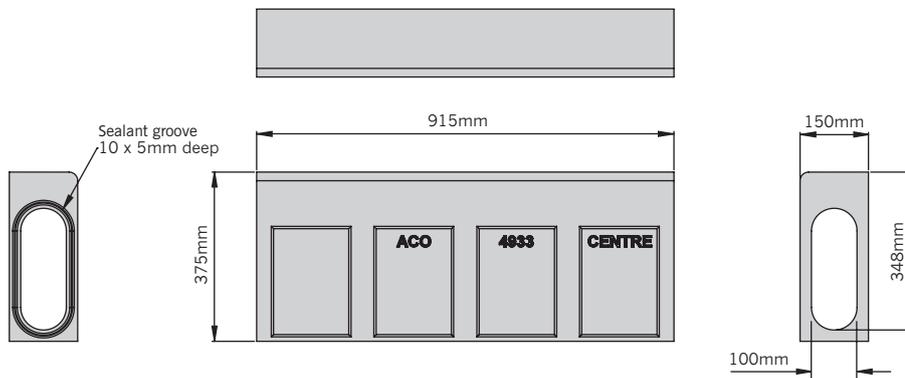
HB480 left-hand drop kerb



HB480 half battered centre stone unit with 25mm upstand

| | | | | | | |
|------|--|-----|-----|-----|-----|------|
| 4933 | KerbDrain® HB480 centre stone 915mm D 400 | 915 | 150 | 375 | 348 | 59.8 |
|------|--|-----|-----|-----|-----|------|

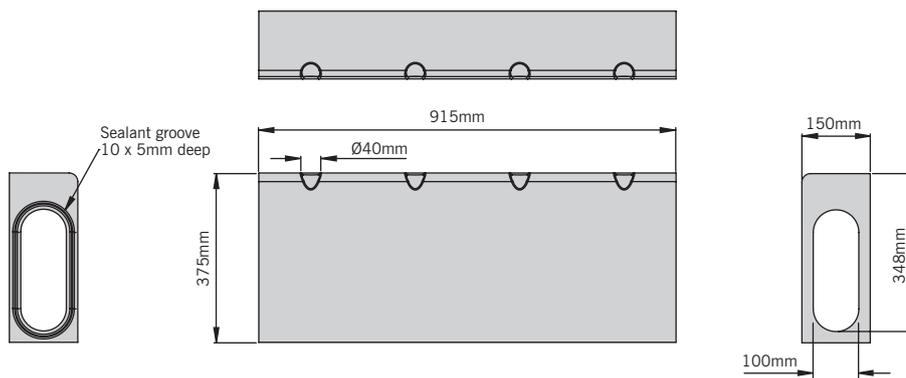
HB480 centre stone with 25mm upstand



ACO KerbDrain® HB480

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|---|--|----------------|-----------------------|---------------|----------------------|----------------|
| HB480 half battered perforated centre stone unit with 25mm upstand | | | | | | |
| 4983 | KerbDrain® HB480 perforated centre stone 915mm D 400 | 915 | 150 | 375 | 348 | 59.7 |
| 4997 | KerbDrain® Heelguard™ insert for perforated centrestone | 50 | - | - | - | 0.1 |

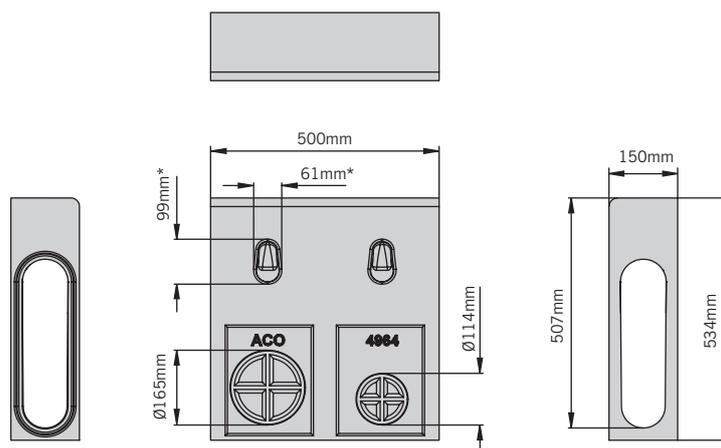
HB480 perforated centre stone with 25mm upstand



HB480 bullnosed bus stop kerb unit with 180mm upstand

| | | | | | | |
|------|---|-----|-----|-----|-----|------|
| 4964 | KerbDrain® HB480 bus stop kerb channel 500mm D 400 | 500 | 150 | 534 | 507 | 44.9 |
|------|---|-----|-----|-----|-----|------|

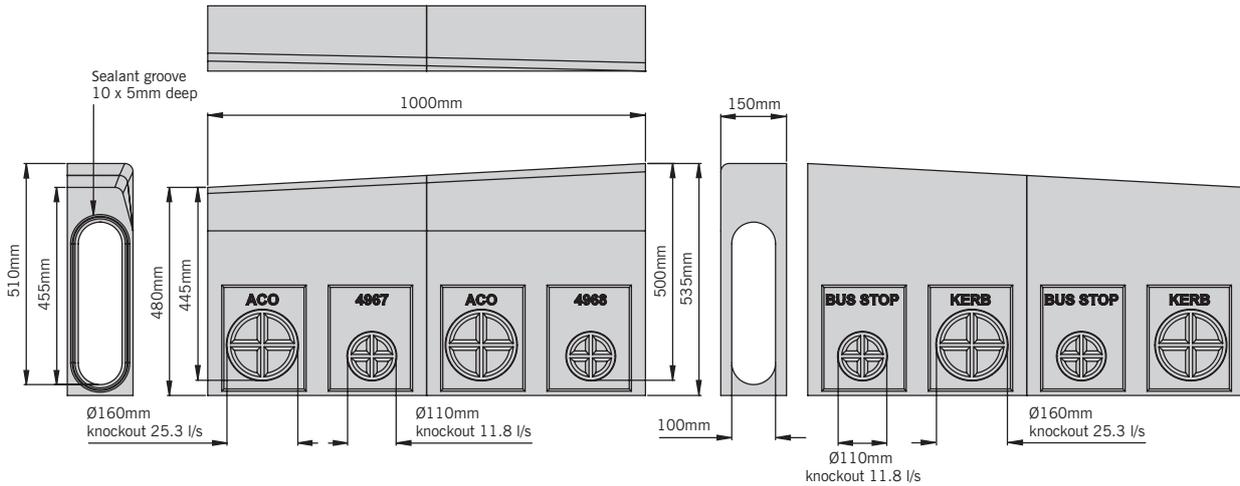
HB480 bus stop kerb



ACO KerbDrain® HB480

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|---|---|----------------|-----------------------|---------------|----------------------|----------------|
| HB480 half battered bus stop transition kerb units | | | | | | |
| 4965 | KerbDrain® HB480 bus stop left-hand transition kerb 1000mm D 400 | 1000 | 150 | 535/480 | 455/510 | 83.4 |
| 4966 | KerbDrain® HB480 bus stop right-hand transition kerb 1000mm D 400 | 1000 | 150 | 535/480 | 455/510 | 83.4 |

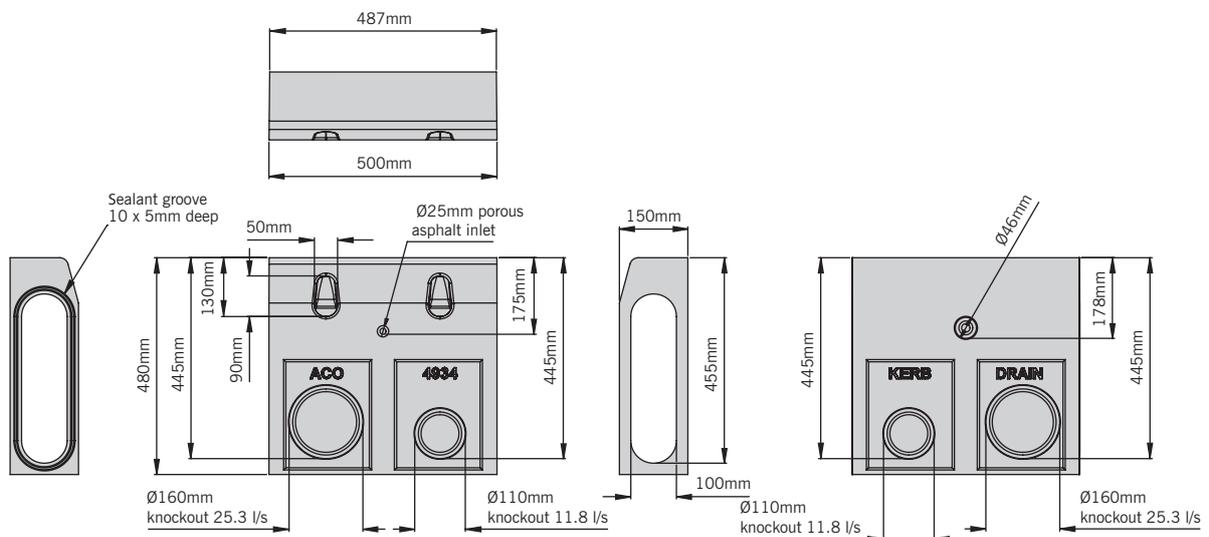
HB480 left-hand bus stop transition kerb



HB480 half battered mitre units

| | | | | | | |
|------|--|---------|-----|-----|-----|------|
| 4934 | KerbDrain® HB480 7-6m external mitre channel 500/487mm D 400 | 500/487 | 150 | 480 | 455 | 36.2 |
| 4935 | KerbDrain® HB480 10-8m external mitre channel 500/490mm D 400 | 500/490 | 150 | 480 | 455 | 35.7 |
| 4936 | KerbDrain® HB480 25-11m external mitre channel 500/493mm D 400 | 500/493 | 150 | 480 | 455 | 35.2 |
| 4937 | KerbDrain® HB480 25-11m internal mitre channel 500/503mm D 400 | 500/503 | 150 | 480 | 455 | 36.1 |

HB480 7-6m external mitre

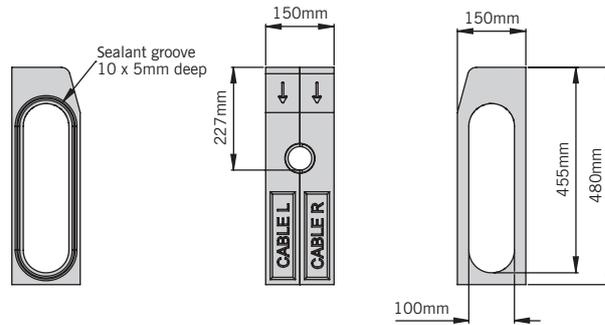


Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 49. These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB480

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--|--|----------------|-----------------------|---------------|----------------------|----------------|
| HB480 half battered cable loop unit | | | | | | |
| 4943 | KerbDrain® HB480 cable loop 150mm D 400 | 150 | 150 | 480 | 455 | 12.2 |

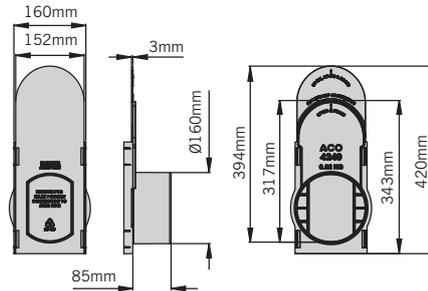
HB480 cable loop unit



HB480 multifunctional end cap

| | | | | | | |
|------|---|---|-----|-----|-----|------|
| 4249 | KerbDrain® SP380, HB405, HB480 & SP455 multifunctional end cap | 3 | 160 | 420 | n/a | 0.32 |
|------|---|---|-----|-----|-----|------|

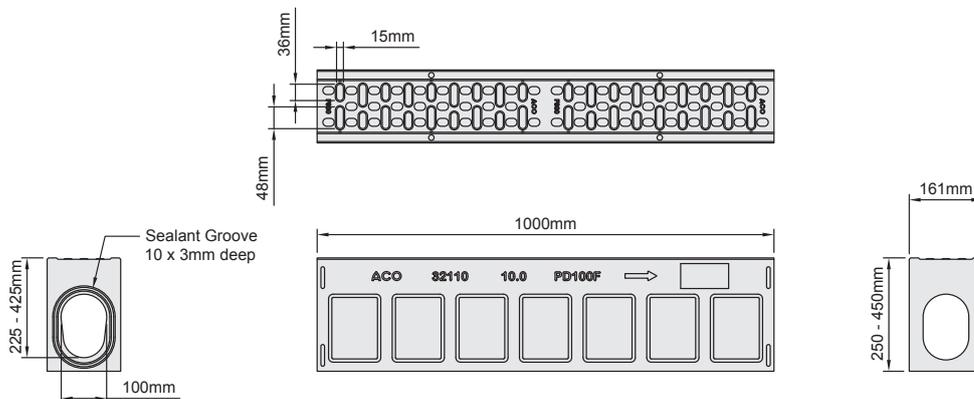
HB480 multifunctional end cap



HB480 half battered junction channel unit - black

| | | | | | | |
|-------|-------------|------|-----|-----|-----|------|
| 32310 | PD100F 30.0 | 1000 | 160 | 350 | 325 | 58.1 |
|-------|-------------|------|-----|-----|-----|------|

HB480 junction channel unit

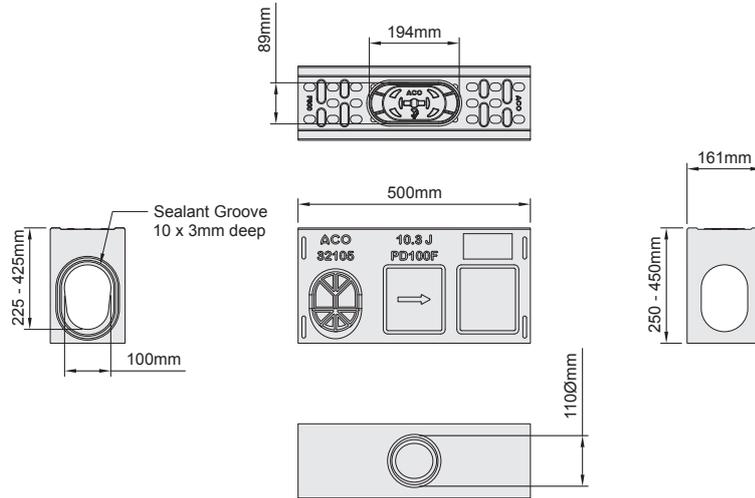


Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 49. These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® HB480

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|---|--------------|----------------|-----------------------|---------------|----------------------|----------------|
| HB480 half battered junction channel access unit – black | | | | | | |
| 32305 | PD100F 30.3] | 500 | 160 | 350 | 325 | 30.2 |

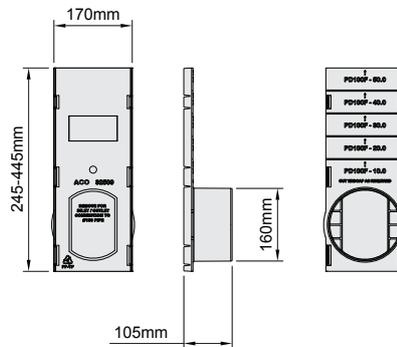
HB480 junction channel unit



HB480 half battered junction channel multifunctional end cap

| | | | | | | |
|-------|--------------------------------|-----|-----|-----|-----|------|
| 32509 | PD100F Multifunctional end cap | 500 | 160 | 450 | N/A | 0.36 |
|-------|--------------------------------|-----|-----|-----|-----|------|

HB480 junction channel multifunctional end cap



Inlet Plug

| | | | | | | |
|------|------------------------------|-----|----|----|-----|------|
| 4250 | KerbDrain D400 HB Inlet Plug | 106 | 77 | 35 | n/a | 0.04 |
|------|------------------------------|-----|----|----|-----|------|

KerbDrain Inlet Plug

Reduces cost and CO₂ emissions related to maintenance before handover.

Find out more on page 18.



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.

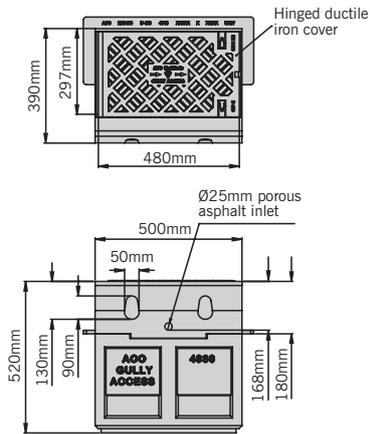
Available gully base options are shallow and deep units, deep unit with roddable foul air trap or Ø450mm road gully connector. Gully base units are provided with outlet connections for Ø160mm, Ø200mm and Ø225mm pipe and supplied with a galvanised steel gully bucket. For full details please see table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

ACO KerbDrain® half battered gully

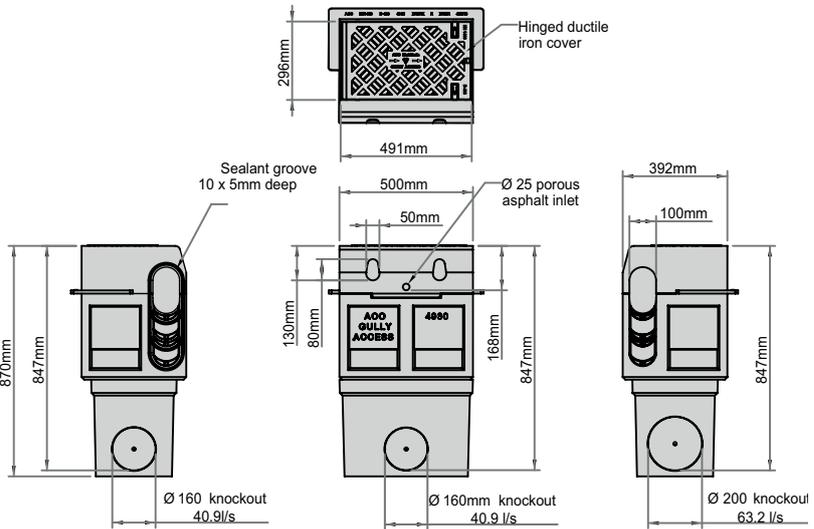
| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--------------|---|----------------|-----------------------|---------------|----------------------|----------------|
| 4928 | KerbDrain® HB gully access top assembly D 400 | 500 | 390 | 520 | - | 76.8 |
| 4182 | KerbDrain® HB KD610 gully assembly shallow D 400 | 500 | 390 | 870 | 847 | 107.4 |
| 4183 | KerbDrain® HB KD611 gully assembly deep D 400 | 500 | 390 | 1025 | 992 | 124.2 |
| 4184 | KerbDrain® HB KD612 gully assembly deep with roddable foul air trap D 400 | 500 | 390 | 1025 | 787 | 124.5 |
| 4185 | KerbDrain® HB KD615 Gully Top Assembly and Ø450mm Adaptor D 400 | 500 | 390 | 545 | - | 88.1 |

ACO KerbDrain® half battered gully units

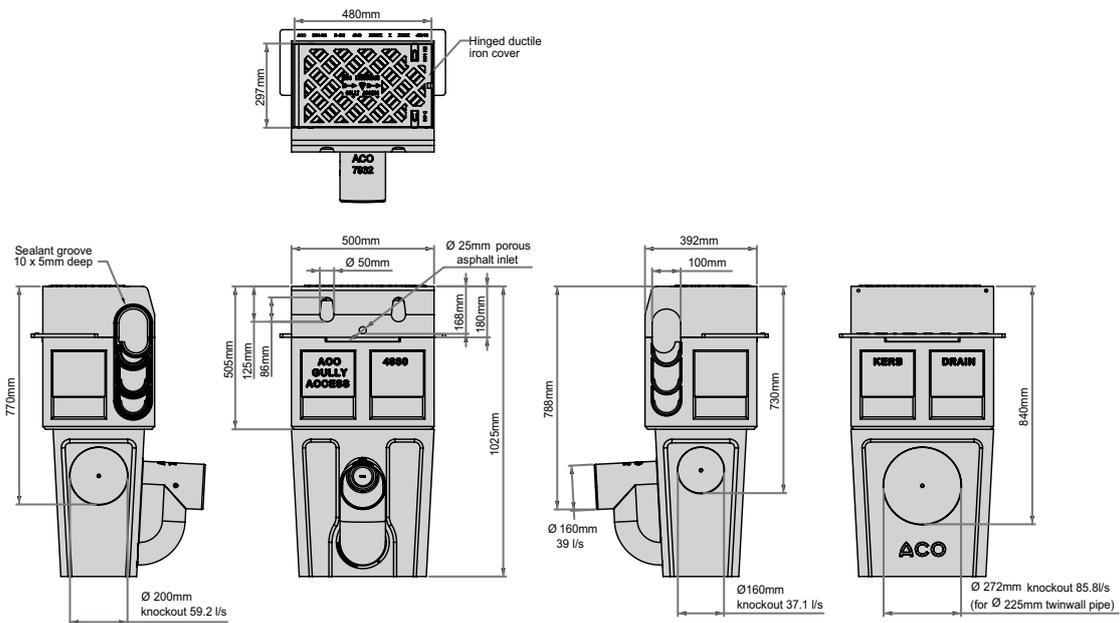
Top assembly KDHBG



Top and shallow base assembly KDHB610

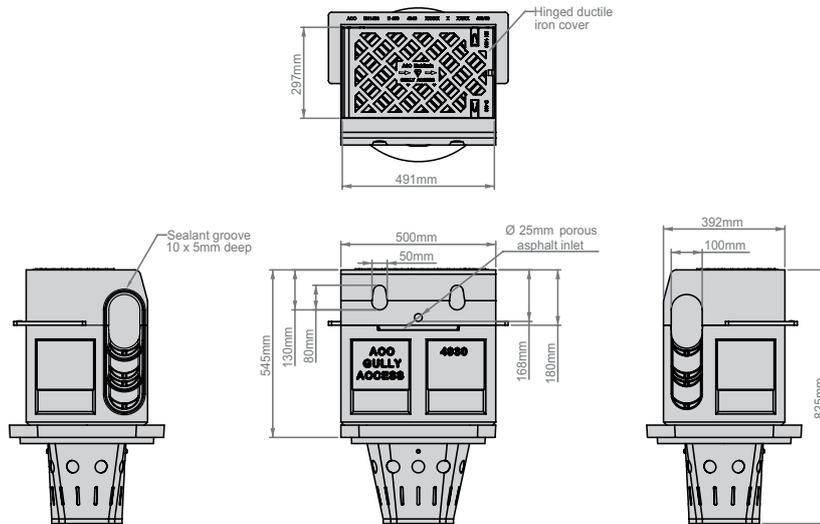


Top and roddable deep base assembly KDHB612RE



ACO KerbDrain® half battered gully

Top and road gully connector KDHB615



| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Invert Type | Weight [kg] |
|--|--|----------------|-----------------------|---------------|----------------------|-------------|----------------|
| ACO KerbDrain® pipe accessories | | | | | | | |
| 0056 | 820 Drain union PVC-U Ø110mm | 100 | 110 | - | - | - | 0.1 |
| 0058 | 822 Drain union PVC-U Ø160mm | 150 | 160 | - | - | - | 0.5 |
| 2723 | 823 Drain union PVC-U Ø200mm | 200 | 200 | - | - | - | 0.6 |
| 2638 | 922 Foul air trap PVC-U Ø160mm | - | 160 | - | - | - | 1.9 |
| 7932 | 950 Roddable foul air trap MDPE Ø160mm | - | 160 | - | - | - | 0.8 |
| 1367 | Lifting tool 5mm slots | - | - | - | - | - | 0.2 |



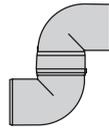
820 Drain union
PVC-U Ø110mm



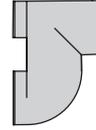
822 Drain union
PVC-U Ø160mm



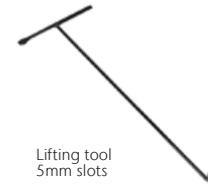
823 Drain union
PVC-U Ø200mm



922 Foul air trap
PVC-U Ø160mm

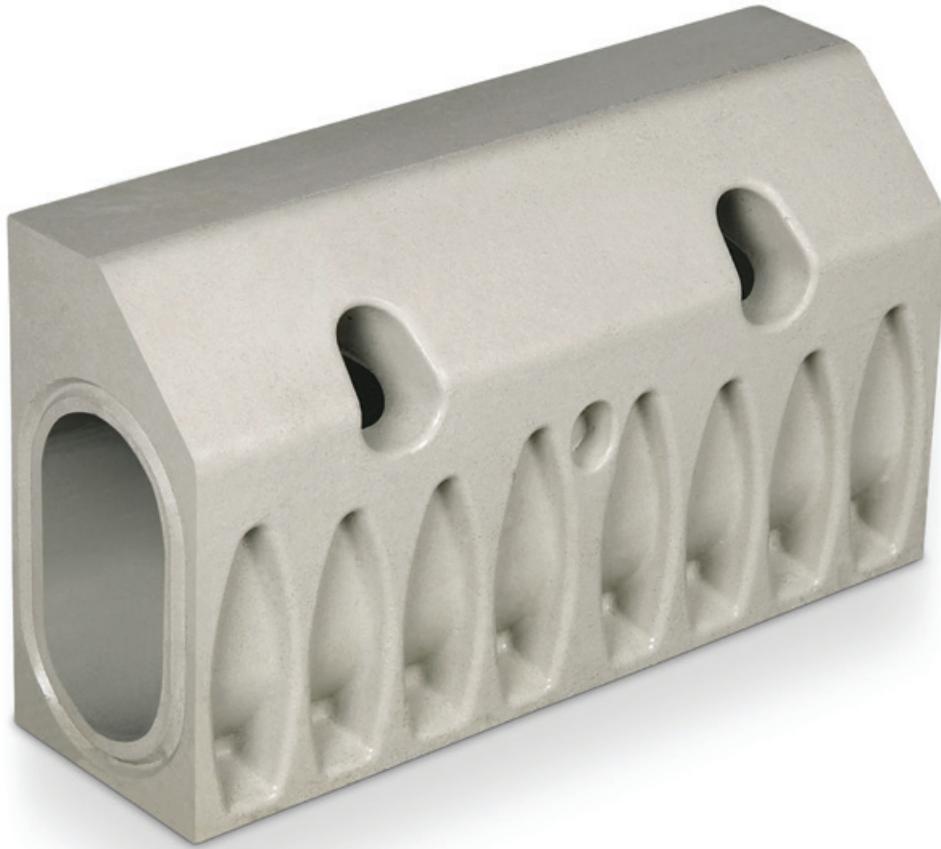


950 Roddable
foul air trap
MDPE Ø160mm



Lifting tool
5mm slots

ACO KerbDrain® SP280



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



52

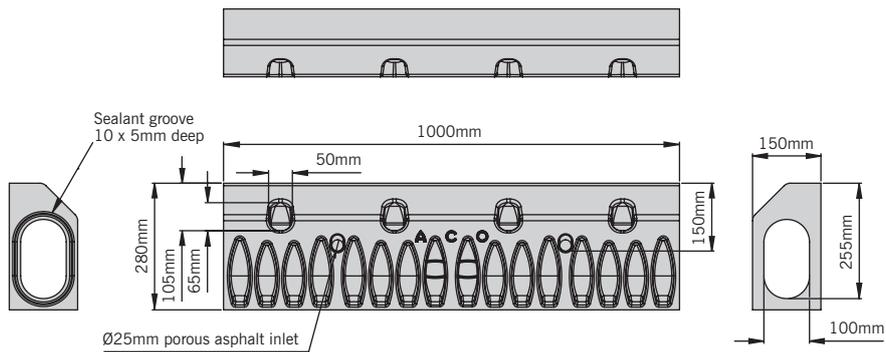
| | |
|--|--|
|  SP Profile |  Kitemarked |
| 280mm Unit depth |  1m units |
|  Hydraulic capacity |  HB to SP transitions |
| 386m ² * Catchment area |  Bus stop |
|  Load Class | * Example run based on 50m length to outlet |

ACO KerbDrain® SP280

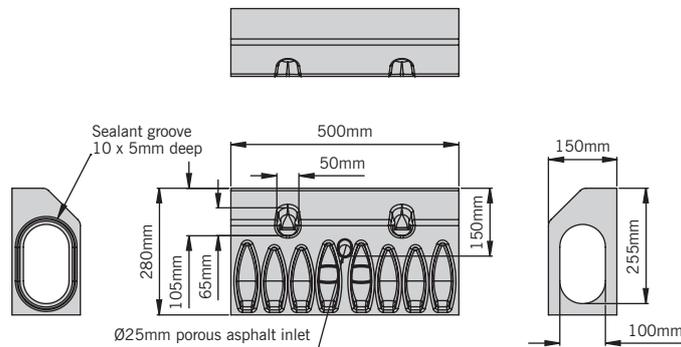
| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--------------|--|----------------|-----------------------|---------------|----------------------|----------------|
| 7930 | KerbDrain® SP280 channel 1000mm D 400 | 1000 | 150 | 280 | 255 | 44.9 |
| 7935 | KerbDrain® SP280 channel 500mm D 400 | 500 | 150 | 280 | 255 | 22.2 |

SP280 splayed kerb units

SP280 1000mm unit



SP280 500mm unit

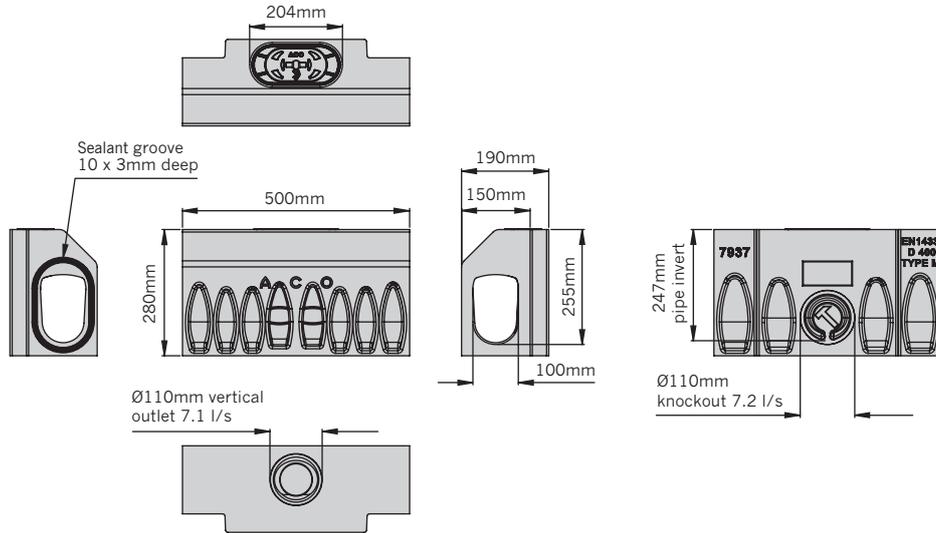


Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 67. These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® SP280

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|-----------------------------------|---|----------------|-----------------------|---------------|----------------------|----------------|
| SP280 splayed access units | | | | | | |
| 7937 | KerbDrain® SP280 access unit 500mm D 400 | 500 | 150/190 | 280 | 255 | 29.4 |

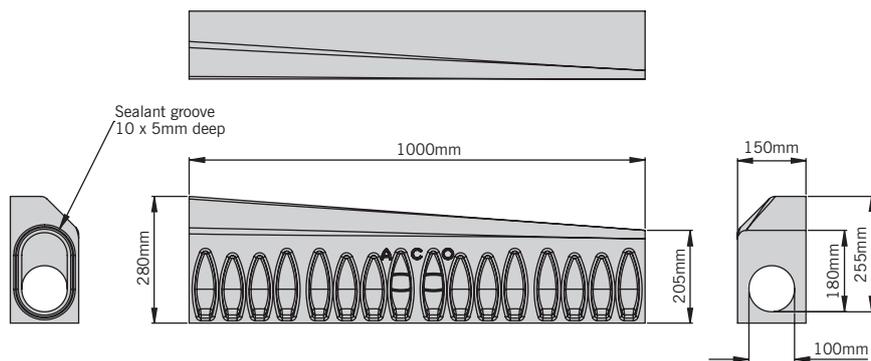
SP280 access unit



SP280 drop kerb units

| | | | | | | |
|------|---|------|-----|---------|-----|------|
| 7938 | KerbDrain® SP280 left-hand drop kerb 1000mm D 400 | 1000 | 150 | 280/205 | 255 | 44.6 |
| 7939 | KerbDrain® SP280 right-hand drop kerb 1000mm D 400 | 1000 | 150 | 280/205 | 255 | 44.6 |

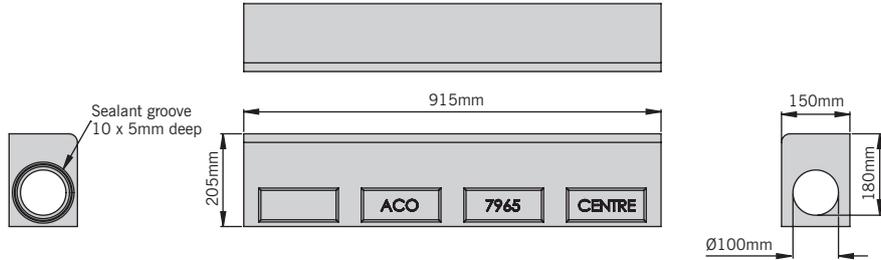
SP280 left-hand drop kerb



ACO KerbDrain® SP280

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--|--|----------------|-----------------------|---------------|----------------------|----------------|
| SP280 splayed centre stone unit with 25mm upstand | | | | | | |
| 7965 | KerbDrain® SP280/HB305 centre stone 915mm D 400 | 915 | 150 | 205 | 180 | 45.0 |

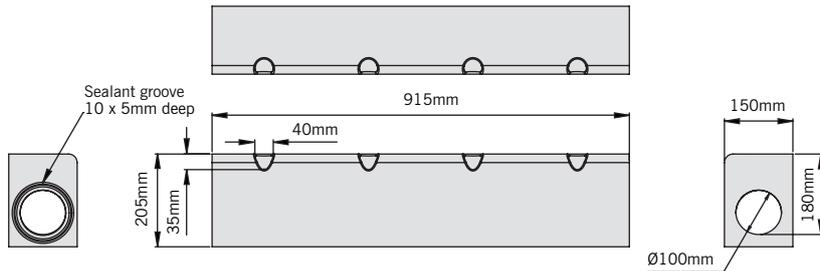
SP280 centre stone with 25mm upstand



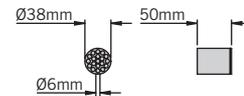
SP280 splayed perforated centre stone unit

| | | | | | | |
|------|---|-----|-----|-----|-----|------|
| 4982 | KerbDrain® SP280/HB305 perforated centre stone 915mm D 400 | 915 | 150 | 205 | 180 | 42.9 |
| 4997 | KerbDrain® Heelguard™ insert for perforated centre stone | 50 | - | - | - | 0.1 |

SP280 perforated centre stone



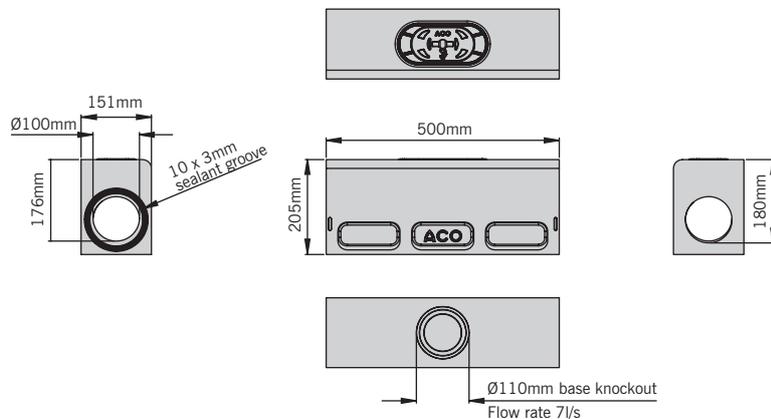
Heelguard insert



SP280 centre stone access unit

| | | | | | | |
|------|--|-----|-----|-----|-----|-------|
| 4993 | KerbDrain® HB305/SP280 centre stone access unit 500mm D 400 | 500 | 151 | 205 | 180 | 21.57 |
|------|--|-----|-----|-----|-----|-------|

SP280 centre stone access unit

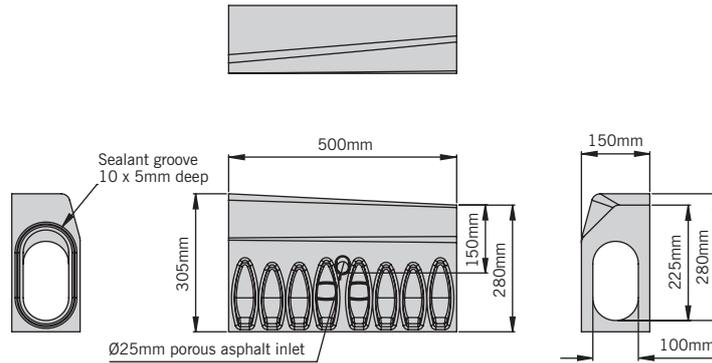


Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 67. These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® SP280

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|---------------------------------------|---|----------------|-----------------------|---------------|----------------------|----------------|
| SP280 splayed transition units | | | | | | |
| 7941 | KerbDrain® SP280 left-hand HB transition unit 500mm D 400 | 500 | 150 | 305/280 | 280/225 | 24.6 |
| 7940 | KerbDrain® SP280 right-hand HB transition unit 500mm D 400 | 500 | 150 | 305/280 | 280/225 | 24.6 |

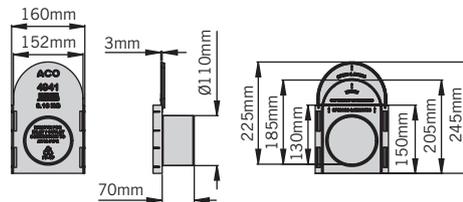
SP280 left-hand transition unit



SP280 multifunctional end cap

| | | | | | | |
|------|---|---|-----|-----|-----|------|
| 4941 | KerbDrain® HB255, SP280 & HB305 multifunctional end cap | 3 | 160 | 245 | n/a | 0.16 |
|------|---|---|-----|-----|-----|------|

SP280 multifunctional end cap



Inlet Plug

| | | | | | | |
|------|------------------------------|----|----|----|-----|------|
| 4251 | KerbDrain D400 SP Inlet Plug | 78 | 71 | 45 | n/a | 0.04 |
|------|------------------------------|----|----|----|-----|------|

KerbDrain Inlet Plug

Reduces cost and CO₂ emissions related to maintenance before handover.

Find out more on page 18.



ACO KerbDrain® SP380



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 455 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



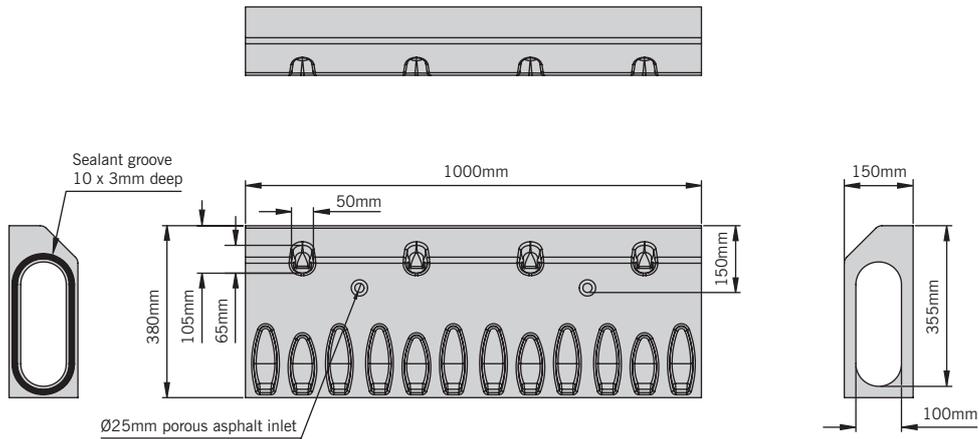
| | |
|--|--|
|  SP Profile |  Kitemarked |
| 380mm Unit depth |  1m units |
|  Hydraulic capacity |  HB to SP transitions |
| 894m ² * Catchment area |  Bus stop |
|  Load Class | * Example run based on 50m length to outlet |

ACO KerbDrain® SP380

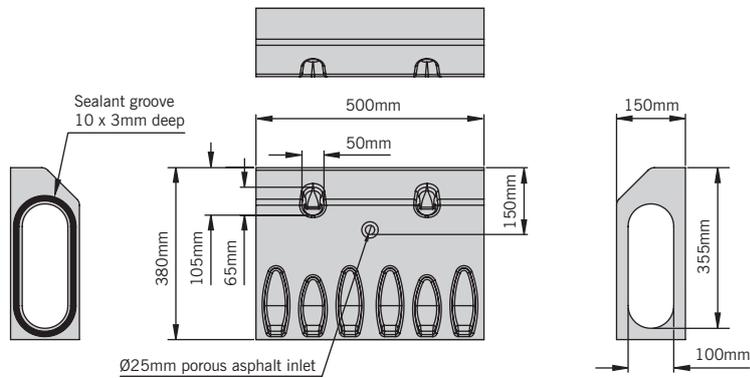
| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--------------|--|----------------|-----------------------|---------------|----------------------|----------------|
| 4241 | KerbDrain® SP380 channel 1000mm D 400 | 1000 | 150 | 380 | 355 | 59.6 |
| 4240 | KerbDrain® SP380 channel 500mm D 400 | 500 | 150 | 380 | 355 | 29.0 |

SP380 splayed kerb units

SP380 1000mm unit



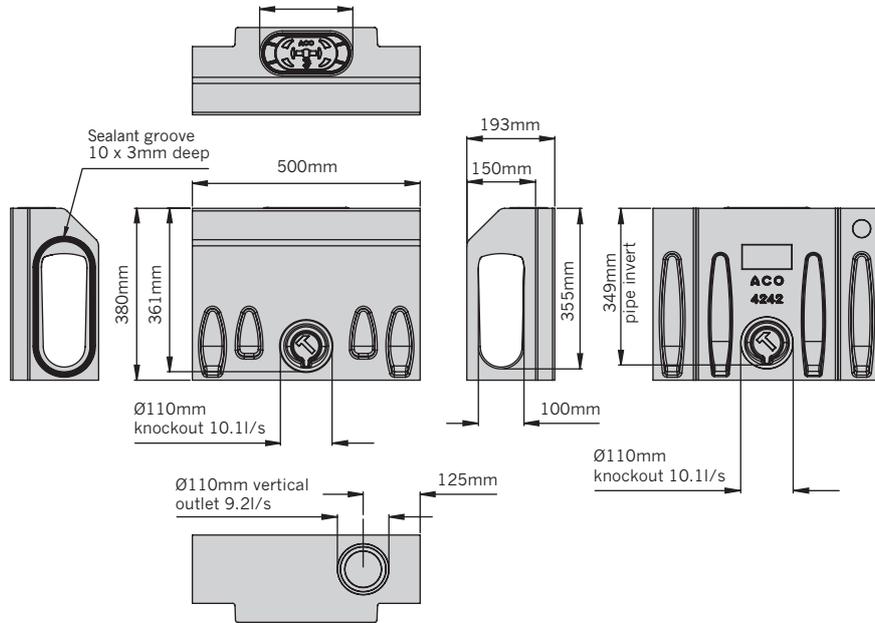
SP380 500mm unit



ACO KerbDrain® SP380

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|-----------------------------------|---|----------------|-----------------------|---------------|----------------------|----------------|
| SP380 splayed access units | | | | | | |
| 4242 | KerbDrain® SP380 access unit 500mm D 400 | 500 | 150/193 | 380 | 355 | 38.8 |

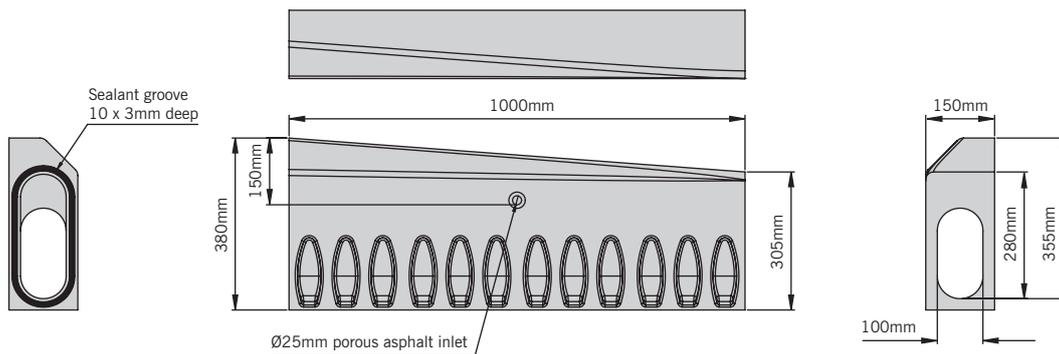
SP380 access unit



SP380 splayed drop kerb units

| | | | | | | |
|------|---|------|-----|---------|---------|------|
| 4243 | KerbDrain® SP380 left-hand drop kerb 1000mm D 400 | 1000 | 150 | 380/305 | 355/280 | 59.5 |
| 4244 | KerbDrain® SP380 right-hand drop kerb 1000mm D 400 | 1000 | 150 | 380/305 | 355/280 | 59.5 |

SP380 left-hand drop kerb

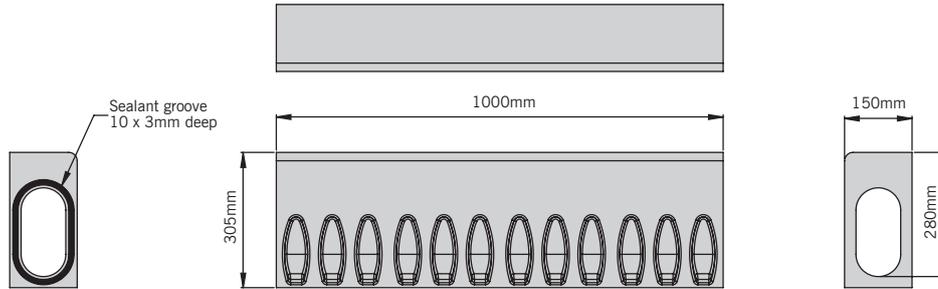


Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 67. These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® SP380

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|-----------------------------------|---|----------------|-----------------------|---------------|----------------------|----------------|
| SP380 splayed centre stone | | | | | | |
| 4236 | KerbDrain® HB405/SP380 centre stone 1000mm D 400 | 1000 | 150 | 305 | 280 | 60.1 |

SP380 centre stone

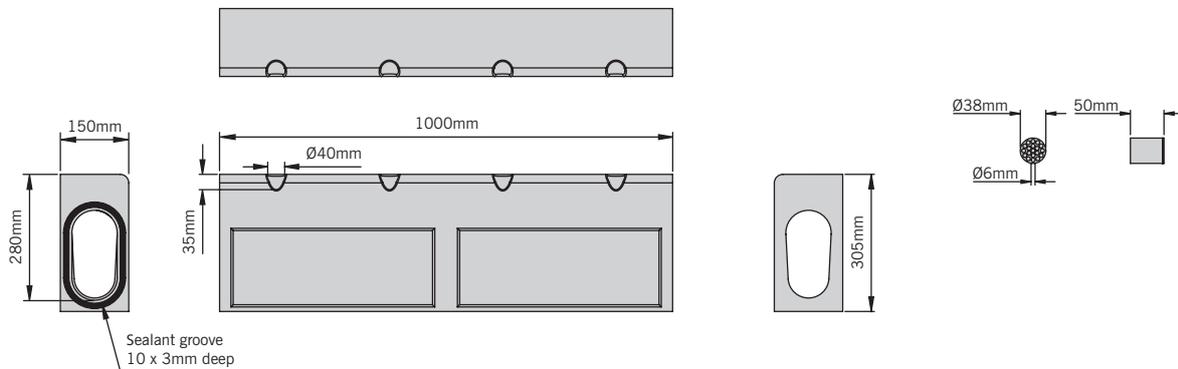


SP380 splayed perforated centre stone unit

| | | | | | | |
|------|--|-----|-----|-----|-----|------|
| 4350 | KerbDrain® HB405/SP380 perforated centre stone 1000mm D 400 | 915 | 150 | 305 | 280 | 57.6 |
| 4997 | KerbDrain® Heelguard™ insert for perforated centre stone | 50 | - | - | - | 0.1 |

SP380 perforated centre stone

Heelguard insert



HB405/SP380/BN305 Centre stone access unit

| | | | | | | |
|-------|--|-----|-----|-----|-----|------|
| 32716 | KerbDrain® HB405/SP380/BN305 centre stone access unit | 500 | 150 | 305 | 280 | 27.0 |
|-------|--|-----|-----|-----|-----|------|

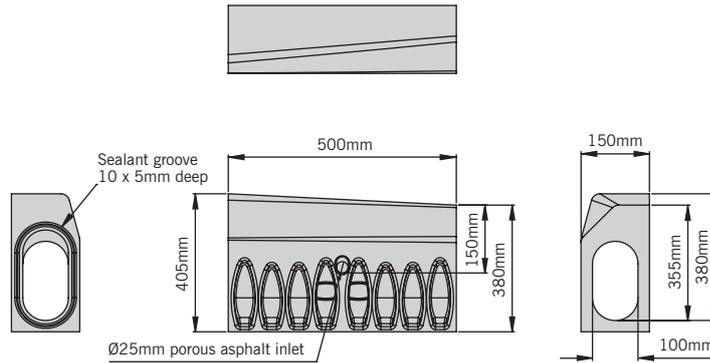
**Transition units are designated LH or RH when viewed from carriageway. This unit allows connection between SP380 and HB405 for continuous drainage.
Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 67.

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

ACO KerbDrain® SP380

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|---------------------------------------|---|----------------|-----------------------|---------------|----------------------|----------------|
| SP380 splayed transition units | | | | | | |
| 4245 | KerbDrain® SP380 left-hand HB transition unit 500mm D 400 | 500 | 150 | 405/380 | 380/355 | 31.0 |
| 4246 | KerbDrain® SP380 right-hand HB transition unit 500mm D 400 | 500 | 150 | 405/380 | 380/355 | 31.0 |

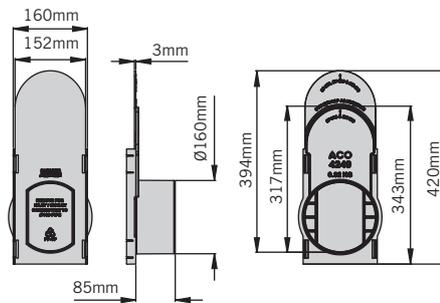
SP380 left-hand transition unit



SP380 multifunctional end cap

| | | | | | | |
|------|---|---|-----|-----|-----|------|
| 4249 | KerbDrain® SP380, HB405, HB480 & SP455 multifunctional end cap | 3 | 160 | 420 | n/a | 0.32 |
|------|---|---|-----|-----|-----|------|

SP380 multifunctional end cap



Inlet Plug

| | | | | | | |
|------|------------------------------|----|----|----|-----|------|
| 4251 | KerbDrain D400 SP Inlet Plug | 78 | 71 | 45 | n/a | 0.04 |
|------|------------------------------|----|----|----|-----|------|

KerbDrain Inlet Plug

Reduces cost and CO₂ emissions related to maintenance before handover.

Find out more on page 18.



Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 67. For repair kit information please see page 34. These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® SP455



The ACO KerbDrain® 455 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.

62

ACO KerbDrain® SP455 is available in 1m and 0.5m lengths with the following components:

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

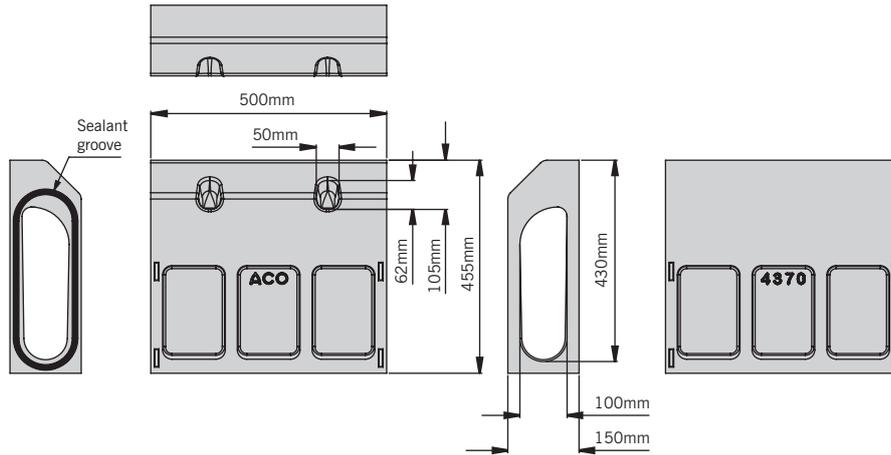


| | |
|--|--|
|  SP Profile |  Kitemarked |
| 455mm Unit depth |  1m units |
|  Hydraulic capacity |  HB to SP transitions |
| 1110m ² * Catchment area |  Bus stop |
|  Load Class | * Example run based on 50m length to outlet |

ACO KerbDrain® SP455

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|---------------------------------|--|----------------|-----------------------|---------------|----------------------|----------------|
| SP455 splayed kerb units | | | | | | |
| 4375 | ACO KerbDrain® SP455 channel 1000mm D 400 | 1000 | 150 | 455 | 430 | 69.32 |
| 4370 | KerbDrain® SP455 channel unit 500mm D 400 | 500 | 150 | 455 | 430 | 34.74 |

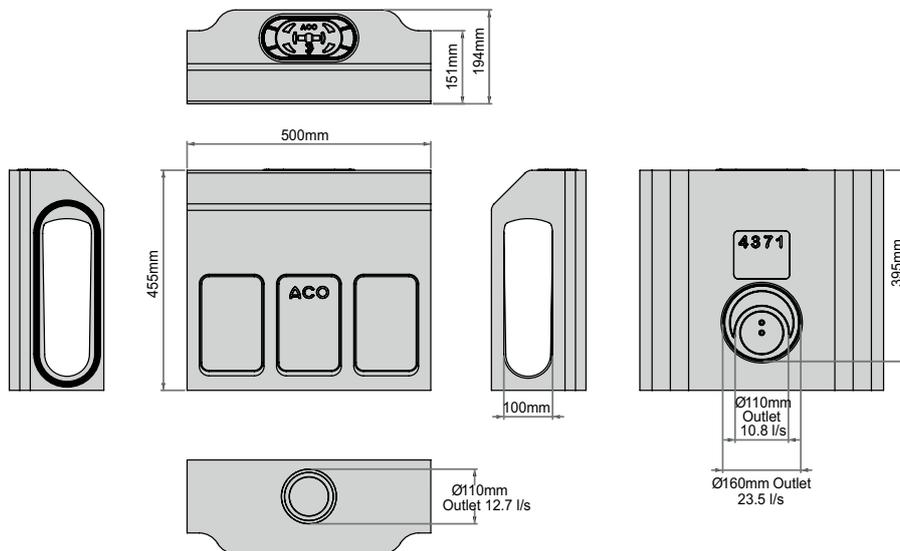
SP455 500mm unit



SP455 splayed access units

| | | | | | | |
|------|---|-----|-----|-----|-----|-------|
| 4371 | KerbDrain® SP455 access unit 500mm D 400 | 500 | 194 | 455 | 430 | 46.21 |
|------|---|-----|-----|-----|-----|-------|

SP455 splayed access units

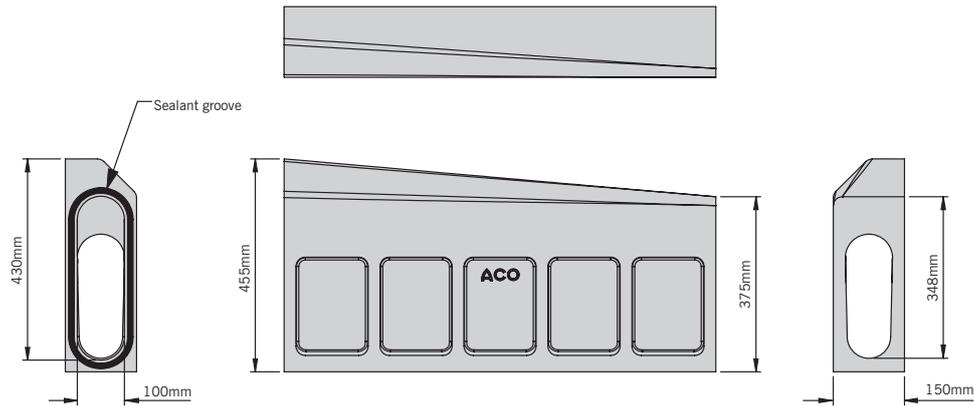


Note: For details regarding the gully, foul air-traps and drain unions for use with this system please refer to page 67. For repair kit information please see page 34. These products are subject to weight and dimensional tolerances. The dimensions shown on this page are for guidance purposes only.

ACO KerbDrain® SP455

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--------------------------------------|--|----------------|-----------------------|---------------|----------------------|----------------|
| SP455 splayed drop kerb units | | | | | | |
| 4379 | KerbDrain® SP455 left-hand drop kerb 915mm D 400 | 915 | 150 | 455/375 | 429/348 | 58.33 |
| 4378 | KerbDrain® SP455 right-hand drop kerb 915mm D 400 | 915 | 150 | 455/375 | 429/348 | 59.02 |

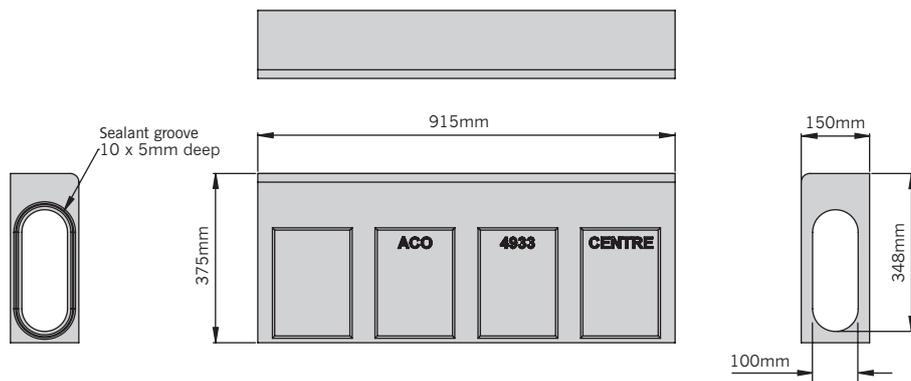
SP455 splayed drop kerb units



SP455 splayed centre stone

| | | | | | | |
|------|--|-----|-----|-----|-----|------|
| 4933 | KerbDrain® HB480 centre stone 915mm D 400 | 915 | 150 | 375 | 348 | 59.8 |
|------|--|-----|-----|-----|-----|------|

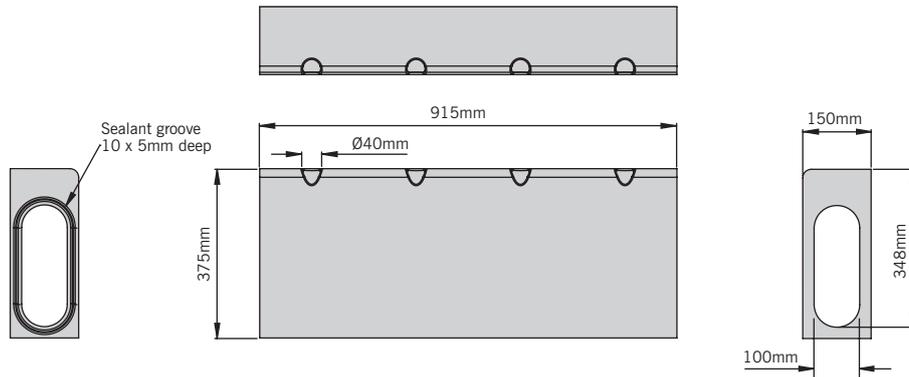
SP455 splayed centre stone



ACO KerbDrain® SP455

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|---|--|----------------|-----------------------|---------------|----------------------|----------------|
| SP455 splayed perforated centre stone unit | | | | | | |
| 4983 | KerbDrain® SP455/HB480 perforated centre stone 915mm D 400 | 915 | 150 | 375 | 348 | 59.7 |
| 4997 | KerbDrain® Heelguard™ insert for perforated centre stone | 50 | - | - | - | 0.1 |

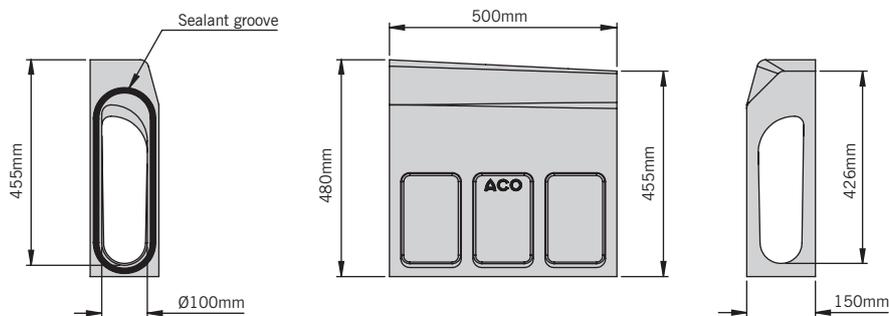
SP455 splayed perforated centre stone unit



SP455 splayed transition units

| | | | | | | |
|------|---|-----|-----|---------|---------|-------|
| 4372 | KerbDrain® SP455/HB480 left-hand transition unit 500mm D 400 | 500 | 150 | 480/455 | 455/426 | 36.19 |
| 4373 | KerbDrain® SP455/HB480 right-hand transition unit 500mm D 400 | 500 | 150 | 480/455 | 455/426 | 36.2 |

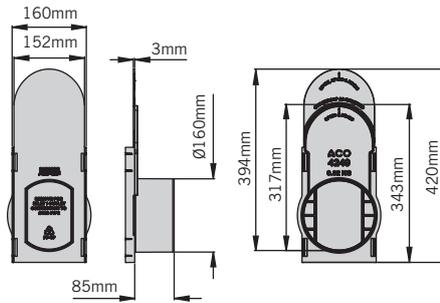
SP455 splayed transition units



ACO KerbDrain® SP455

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--|--|----------------|-----------------------|---------------|----------------------|----------------|
| ACO KerbDrain® Multifunctional end caps | | | | | | |
| 4249 | KerbDrain® SP380, HB405, HB480 & SP455 multifunctional end cap | 3 | 160 | 420 | 394 | 0.32 |

ACO KerbDrain® Multifunctional end caps



Inlet Plug

| | | | | | | |
|------|------------------------------|----|----|----|-----|------|
| 4251 | KerbDrain D400 SP Inlet Plug | 78 | 71 | 45 | n/a | 0.04 |
|------|------------------------------|----|----|----|-----|------|

KerbDrain Inlet Plug

Reduces cost and CO₂ emissions related to maintenance before handover.

Find out more on page 18.



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 that follows.

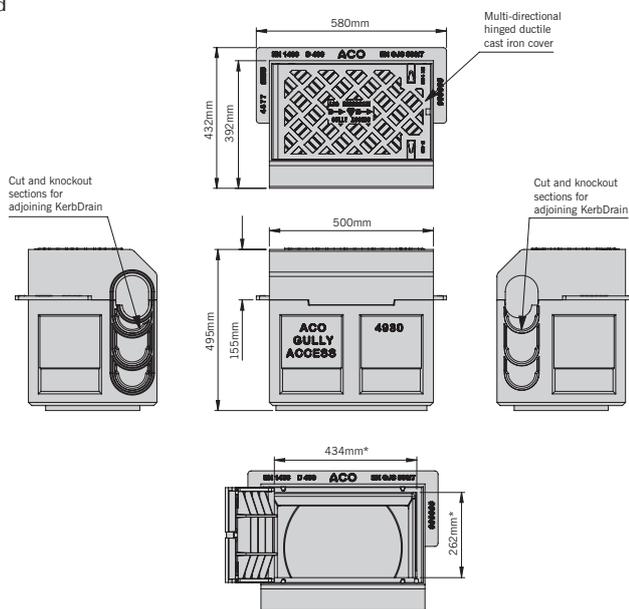
ACO KerbDrain® splayed gully

| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Weight [kg] |
|--------------|---|----------------|-----------------------|---------------|----------------------|----------------|
| 4380 | KerbDrain® splayed gully access top assembly | 500 | 392 | 495 | - | 76.7 |
| 4381 | KerbDrain® splayed gully access top and shallow base assembly | 500 | 392 | 845 | 821 | 110.47 |
| 4382 | KerbDrain® splayed gully access top and deep base assembly | 500 | 392 | 1000 | 957 | 119.14 |
| 4383 | KerbDrain® splayed gully access top and foul air trap deep base | 500 | 392 | 1000 | 757 | 119.44 |
| 4384 | KerbDrain® splayed gully access top and road gully connector assembly | 500 | 392 | 799* | - | 88.41 |

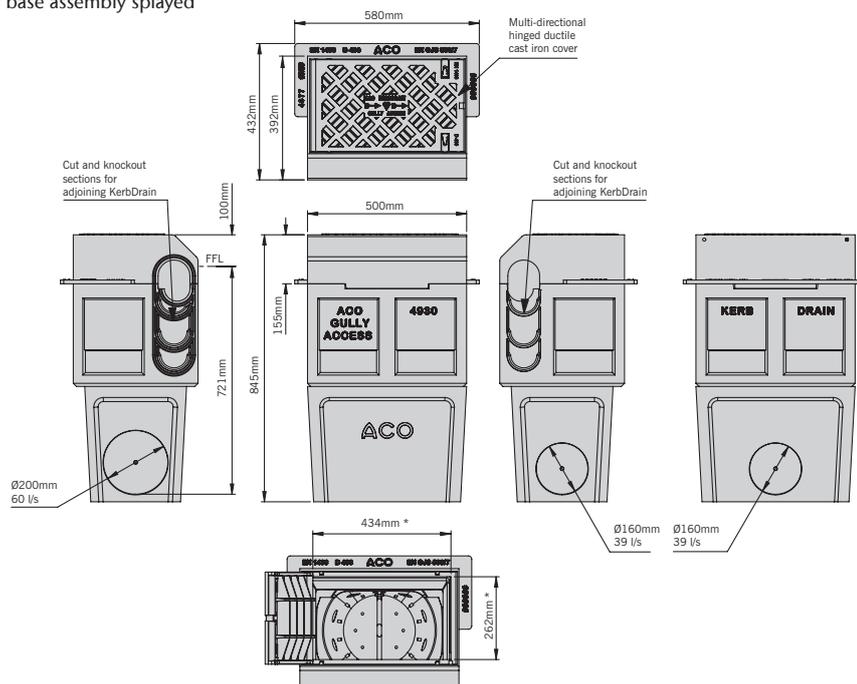
ACO KerbDrain® splayed gully units

* For connection to 450mm diameter road gully

Top assembly splayed

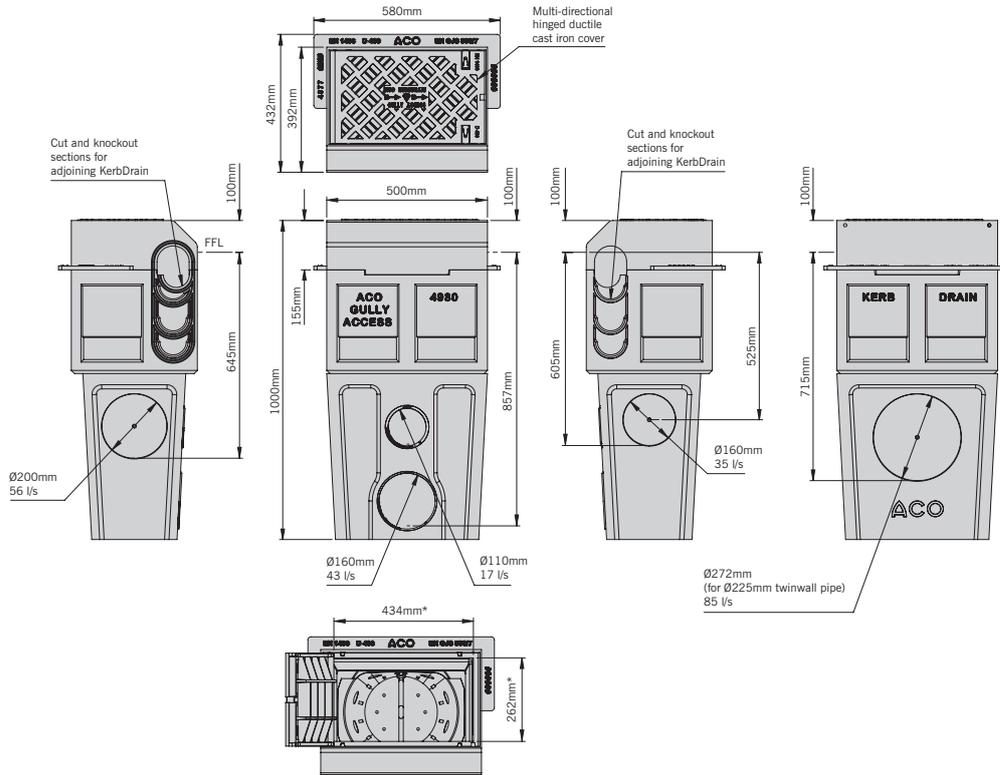


Top and shallow base assembly splayed

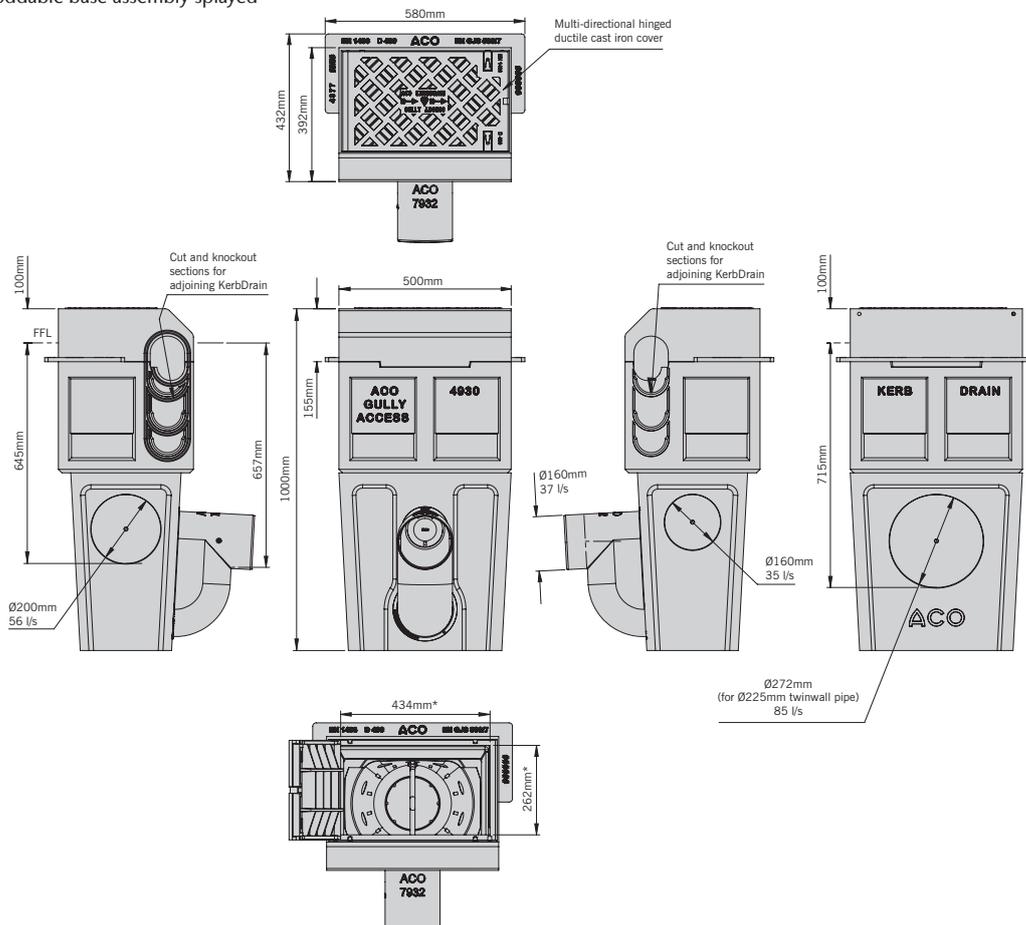


ACO KerbDrain® splayed gully

Top and deep base assembly splayed

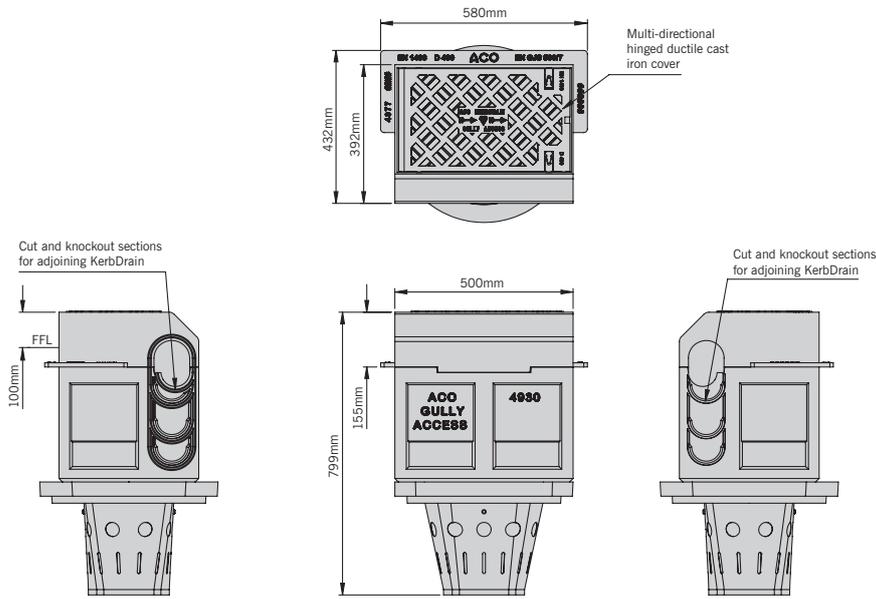


Top and roddable base assembly splayed

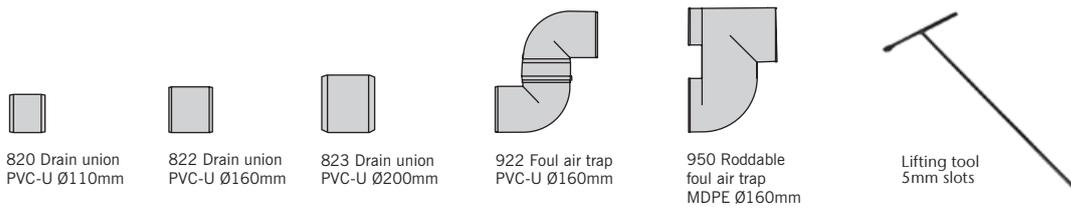


ACO KerbDrain® splayed gully

Top and road gully connector splayed



| Product Code | Description | Length [mm] | Width Overall [mm] | Depth [mm] | Invert Depth [mm] | Invert Type | Weight [kg] |
|--|--|----------------|-----------------------|---------------|----------------------|-------------|----------------|
| ACO KerbDrain® pipe accessories | | | | | | | |
| 0056 | 820 Drain union PVC-U Ø110mm | 100 | 110 | - | - | - | 0.1 |
| 0058 | 822 Drain union PVC-U Ø160mm | 150 | 160 | - | - | - | 0.5 |
| 2723 | 823 Drain union PVC-U Ø200mm | 200 | 200 | - | - | - | 0.6 |
| 2638 | 922 Foul air trap PVC-U Ø160mm | - | 160 | - | - | - | 1.9 |
| 7932 | 950 Roddable foul air trap MDPE Ø160mm | - | 160 | - | - | - | 0.8 |
| 1367 | Lifting tool 5mm slots | - | - | - | - | - | 0.2 |



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 cleaned 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 access unit



ACO KerbDrain® half battered gully

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.
- 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.



Installation detail

Load class

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

Ground conditions

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

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

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

Cutting and jointing

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

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

Isolation joints

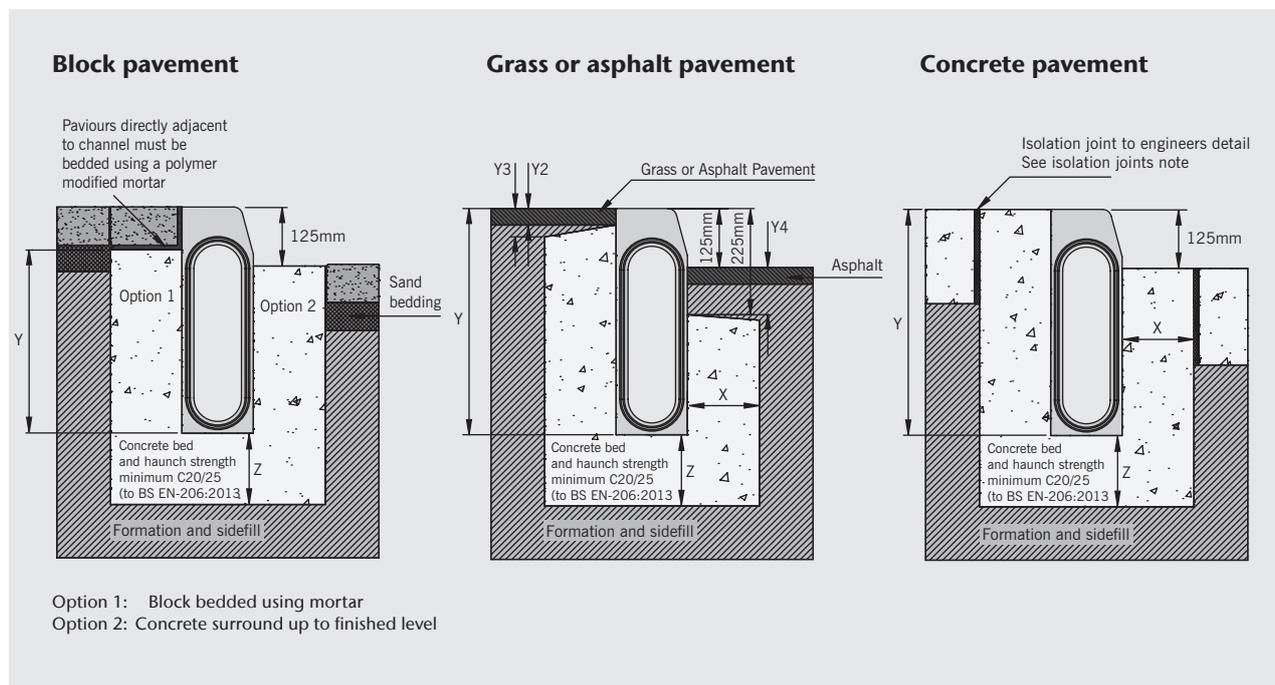
The channel must be isolated from the surrounding environment. An isolation joint must be positioned up to a maximum of 1500mm from the channel wall. Any dowel bars must be located no nearer than 150mm from the channel wall. Other isolation joints in surrounding slab must be continued through the channel.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

Block pavements

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

ACO KerbDrain® half battered units

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



Watertight installation to BS EN 1433:2002

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

Best practice and workmanship

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

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

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

Concrete surround dimensions

| Dimension | Load Class | |
|--|---|------------------------|
| | 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 to BS EN-206:2013 | 25 N/mm ² | 25 N/mm ² |

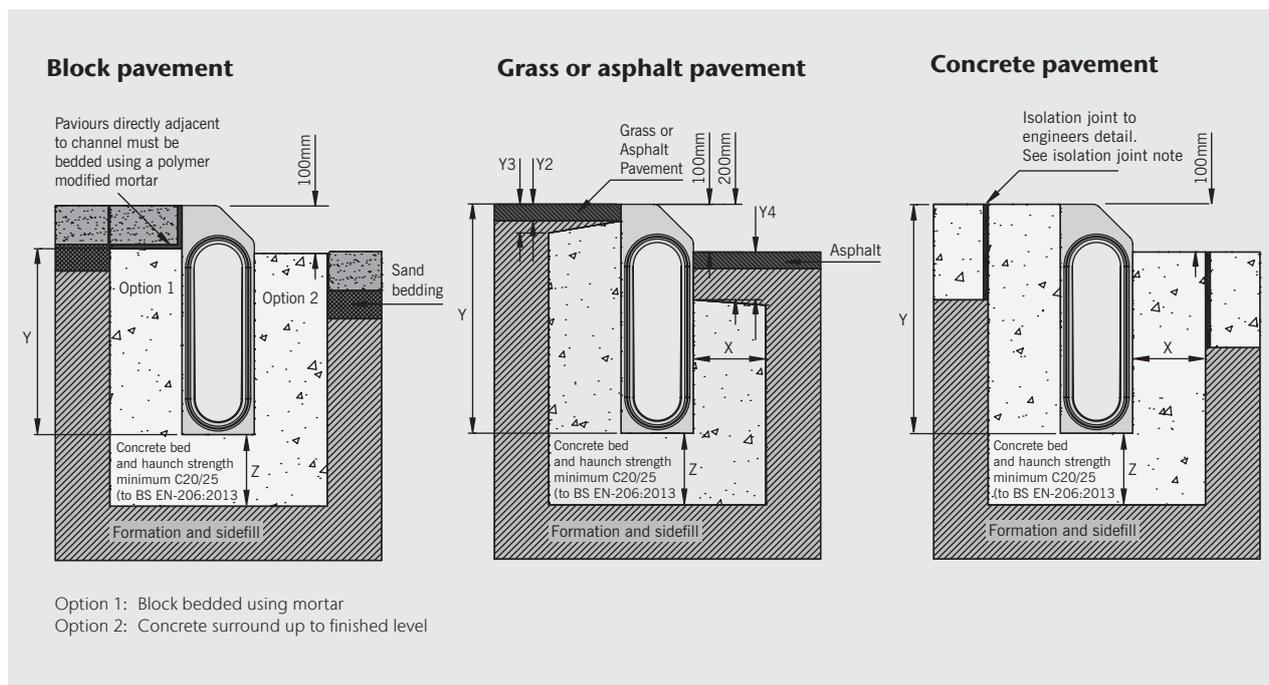
* Where regular HGV impacts are anticipated (e.g. roundabouts), we recommend that the concrete backing is laid to the top of the ACO KerbDrain® unit. (i.e. Y2=0, Y3=0)



ACO's Polymer concrete repair kit is available for bonding applications, or for the repair of small areas of aesthetic damage. For further product details please see page 35.

ACO KerbDrain® splayed units

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



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 a polymeric material, which 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.

ACO's polymeric material:

- Combines the mechanical and performance benefits of synthetic resin concrete
- Fully conforms to and exceeds all performance requirements as specified by BS EN 1433:2002
- Is recyclable, i.e. it can be collected, processed and returned for re-use as a raw material

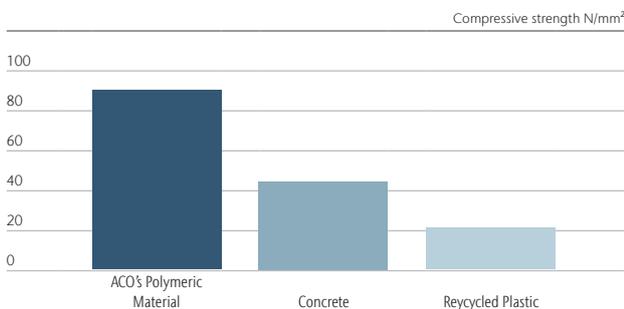
The ACO KerbDrain® range also includes components manufactured from ductile iron and steel which contain between 25% and 90% recycled material.

Mechanical properties of ACO's polymeric material

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

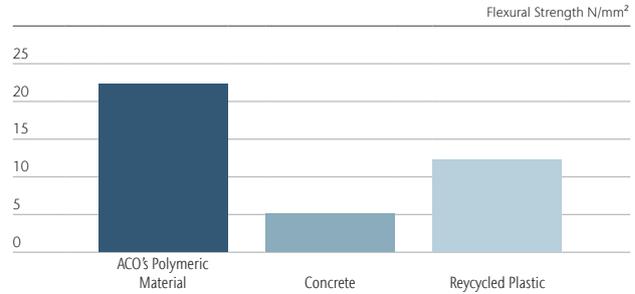
Compressive strength

ACO's polymeric material has high compressive strength is therefore extremely resistant to service loads.



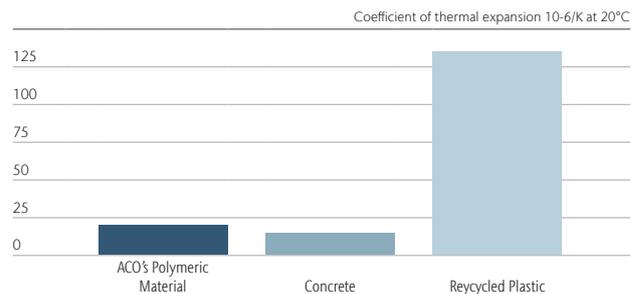
Flexural strength

ACO's polymeric material has excellent flexural strength making the product resistant to side loads typically encountered during surfacing and installation.



Coefficient of thermal expansion

ACO's polymeric material 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® optimised design combined with the nature of ACO's polymeric material, makes it highly resistance to damage typically caused during installation or from traffic impacts.*.

* Tested by Birmingham City Laboratories (BCL)

Water absorption

ACO's polymeric material 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)

ACO's polymeric material 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

ACO's polymeric material 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 please contact our ACO Water Management Design Services Team.

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 SP455 shall be of 100mm internal bore and 150mm external width matching the profile of standard HB1 or SP kerb stones. All units shall be manufactured from ACO's sustainable, high strength material.

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.



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

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

Please contact ACO Water Management Design Services Team on 01462 816666 for further information.

BS EN 1433:2002



Design support services

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

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

Services we offer include (free and without obligation):

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

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

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

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

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

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

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





ACO BIM Models

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

These files will help contractors specify and optimise drainage systems in line with the overall benefits of BIM-

enabled working, including faster project delivery, reduced costs, reduced waste and greater project predictability.

Depending on the product range Civil3D, IFC or Revit files are available for download.

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

Further Learning

ACO Professional Development

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

In Company

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



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

Webinars

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



ACO Academy Days

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



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

Seminars

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



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



Case Studies

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

www.aco.co.uk/case-studies



Colab

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

www.colab-cpd.co.uk



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train | design | support | care



Every product from ACO Water Management supports the ACO WaterCycle



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Building + Landscape
 - ACO Building Drainage
 - ACO Access
 - ACO Sport
 - ACO Wildlife
-

ACO Water Management

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Technical: technical@aco.co.uk

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ACO. we care for water

