Bespoke Access Covers and Floor Doors

ACO Building Drainage

Bespoke Access Covers and Floor Doors

ACO Building Drainage are specialists in cover systems, floor hatches and escape hatches that need to meet project-specific requirements. In the specialist market of access covers, we offer a comprehensive range of standard products as well as development and production in line with individual requirements.

Bespoke Access Covers and floor doors

ACO Building Drainage

We offer high-quality covers that are either standard options or individually manufactured. They comprise of one or multiple parts, come equipped with an opening aid, an automatic opening function or without an opening aid altogether. They can be used as an escape hatch or floor hatch for any required design. Due to our wide-ranging expertise, there are very few requirements that we cannot meet. Our employees are on hand as your primary contact partner and would be happy to provide you with further assistance.

www.aco.co.uk/products/bespoke-access-covers

A wide range of options

Bespoke covers are always used when conventional covers are no longer able to satisfy the project-specific requirements. ACO Building Drainage is a specialist in this area and offers an individually tailored solution for every demand.

Individual advice and support
High-quality industrial or customised special covers in all desired shapes. With our broad expertise, hardly any wish remains unfulfilled.

Our team of employees with many years of expertise, plan, coordinate, design, renovate and maintain shaft coverings to meet project-specific requirements. Do not hesitate to contact us, we are happy to help with your specific needs.

Designs
Both round and rectangular designs are feasible. Should you require a bespoke design, please enquire with our team.

Load classes
From “Safe to walk on” to “Suitable for heavy duty traffic areas” and “Special loads”.

Materials
Hot-dip galvanised or coated steel, stainless steel, aluminium, concrete and reinforced concrete composite designs are all used, dependant on the application. Additional coatings can also be applied to protect against corrosive substances, to provide optical aspects and to add anti-slip properties to surfaces. The cover surfaces can be manufactured from metal, concrete or adapted to the surrounding surface (e.g. filled with stone or asphalt).

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Page 8 ## Automatic opening function and with/without opening aid

Simple operation
using a hydraulic drive

An opening aid provides assistance
to manually opening the cover

Small and handy or manhole
covers that are rarely opened –
without an assistance

Page 12 ## Escape and floor hatches

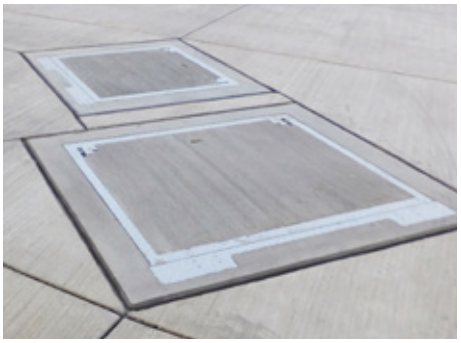
Hydraulic shaft covers that comply with the EC
Machinery Directive and have been confirmed as
being suitable for use as an escape hatch

Large, rectangular covers
on structural openings

Page 16 ## Surface adaptation

Special manhole covers offer the
option of visually blending into
the surrounding area

Page 19 ## Backwater and floodproof



Special manhole covers
with anti-flood and backwater
protection

Special manhole covers with automatic opening function

- **Use:** for covers that are opened frequently or need to be opened automatically as well as for heavy covers. Operated manually or automated (e.g. via a fire alarm system)
- **Applications:** access openings, emergency exits, entrances and exits, extraction dampers (dampers for smoke and heat venting systems) and woodchip silo covers
- Hydraulics, electric lifting cylinders and counterweights are used as opening aids, depending on the way it is operated. All covers are equipped with an additional mechanical backup opening function
- **Dimensions:** almost all clear openings are possible starting from 800 x 800 mm
- Single and multiple covers – depending on the size and weight
- **Materials:** hot-dip galvanised or coated steel, stainless steel, aluminium and concrete
- **Leak-tightness:** according to requirements, number of covers and dimensions – surface-water-tight, floodproof and backwater-proof
- Fire protection/heat insulation/ soundproofing available on request
- **Options:** Gratings and guardrails as anti-fall-in protection, joint gap heating, optical and acoustic alarms, connection to fire alarm and malfunction monitoring systems, e.g. circumferential drainage channel or shaft covers in a prefabricated reinforced concrete design
- **Service offering:** comprehensive advice on the full system, including assembly and control as per your requirements. Installation and maintenance on request

Hydraulic escape hatch cover, Stuttgart

Hydraulically actuated smoke extraction damper with collapse protection at the Isartor, Munich

Hydraulic heavy-duty cover made from prefabricated reinforce concrete, load class F 900, Frankfurt

Hydraulic cover on a woodchip silo with a fire protection classification of F90, Eisenstadt/Austria

Automatic opening even in the event of a power failure thanks to hydraulic pressure accumulators with integrated emergency power supply, Munich State Archaeological Collection

Special manhole covers with opening aids

- **Use:** for covers that are opened frequently. Usually operated manually. In the case of larger covers and/or heavier covers, operation will require two persons
- **Applications:** access openings, emergency exits, entrances and exits, extraction dampers, inspection openings and maintenance openings
- Gas rams, mechanical springs, counterweights and hydraulics are used as opening aids, depending on the way it is operated
- All covers are equipped with an additional mechanical backup opening function
- **Dimensions:** clear opening from 600 x 600 mm to 2000 mm x 6000 mm. Special dimensions available on request
- Single and multiple covers – depending on the size and weight
- **Materials:** hot-dip galvanised steel, stainless steel, aluminium and concrete
- **Leak-tightness:** according to requirements, number of covers and dimensions surface-water-tight, floodproof and backwater-proof
- Fire protection/heat insulation/ soundproofing available on request
- **Options:** e.g. general drainage or shaft covers in a prefabricated reinforced concrete design

Entry and exit at the Swiss Science Centre Technorama in Winterthur/Switzerland

Access and assembly opening, load class F 900

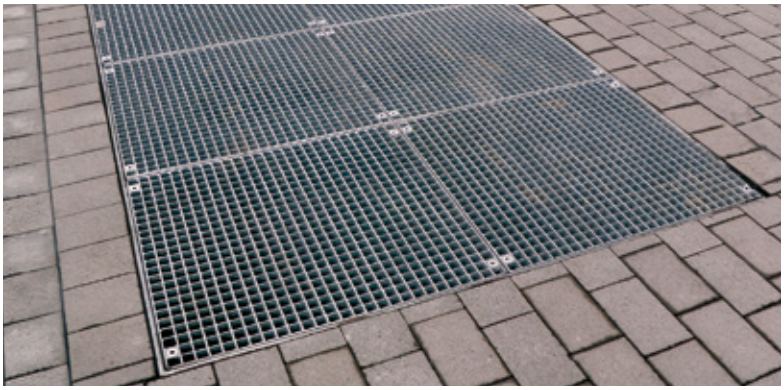
Heavy load cover with two inspection openings, load class F 900

Three-piece cover with opening aid and folding guardrail, Frankfurt

Special manhole covers without an opening aid

Row manhole cover with concrete surface, Krems at the Donau/Austria

- **Use:** for covers that are not opened frequently. Appropriate lifting equipment is needed for larger/heavier covers
- **Applications:** cable shaft covers and assembly openings
- **Dimensions:** almost all clear openings are possible starting from 300 x 300 mm
- **Surfaces:** metal, concrete or can be adapted to the surrounding surface (cover designed as a trough)
- **Leak-tightness:** according to requirements, number of covers and dimensions – surface-water-tight, floodproof and backwater-proof – inspection openings can be integrated
- Fire protection/heat insulation/ soundproofing available on request
- **Options:** e.g. drainage or shaft covers in a prefabricated reinforced concrete design



Six-piece grating cover, Frankfurt

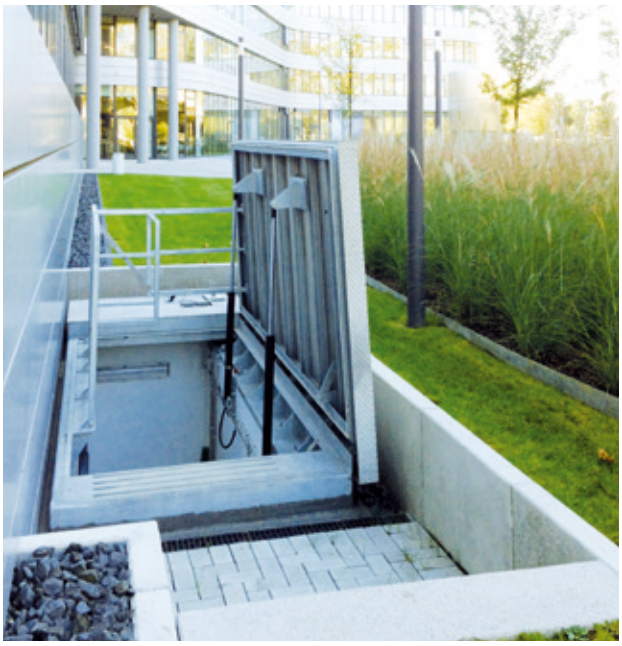
Two-piece shaft cover with concrete surface, Frankfurt

Backwater-proof covers filled with asphalt, Ansbach

Certified escape hatches

Security is our highest priority
To meet this requirement, we offer solutions tailored to the respective application, which guarantee reliable operation in all weather conditions and even in the event of a power failure. Take advantage of the extensive optional features available, such as optical and acoustic alarms, joint gap heating, remote operation and system status indicators.

Escape hatch with a telescopically retractable grating, Leverkusen



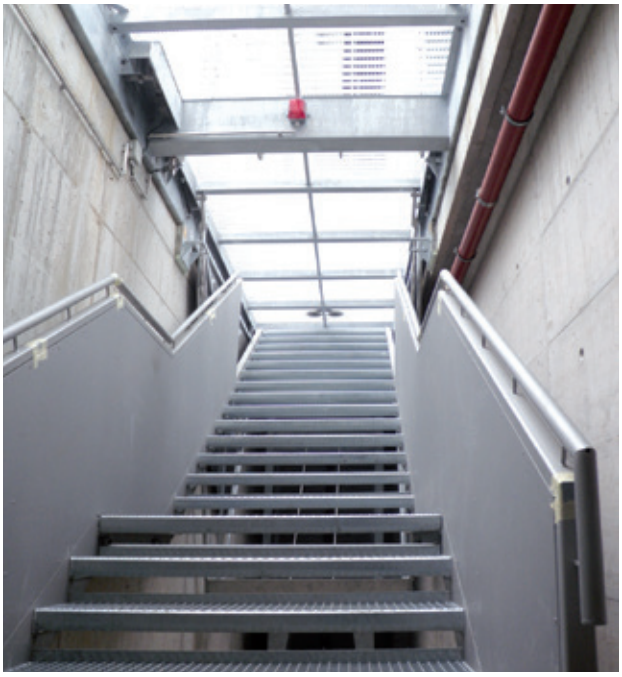
Hydraulic stainless steel escape hatch, Cologne

Escape hatch cover, safe to walk on, can be operated manually, Essen

Escape hatch with paved cover, Frankfurt

Small escape hatch that can be opened by hand

Small escape hatch that can be opened by hand, Cologne



Escape hatch with a counterweight drive, Berlin

Escape hatch with a hydraulic drive and grating, Ingolstadt

Hydraulic escape hatch with collapse protection, Berlin

Floor hatches

Large rectangular covers on structural openings are usually referred to as floor hatches. They are installed on staircase accesses, to or from underground infrastructure as well as on assembly and filling openings. They have hinges and opening aids or a drive (hydraulic, electric or counterweight).

The floor hatches are designed and built according to customer requirements with respect to the application and structure, and for all load classes from “Safe to walk on” to “Heavy duty”. The materials available for use are hot-dip galvanised steel, stainless steel and reinforced concrete.

Floor hatches that can be walked on are often installed on a structure, while floor hatches that can be driven over are always installed flush with the surface and in many cases are provided with the same covering as the surrounding traffic area.

ACO also attaches a great deal of importance to durability, the utmost level of safety and user-friendliness.

We also offer extensive options, such as:

- Integrated anti-fall-in solutions (automatically opening and retracting guardrails and gratings)
- Warning lights
- Signal alarms
- Joint gap heating
- Remote operation
- System status indicators

Floor gate and emergency exit at Berlin’s Futurium future museum in the immediate vicinity of the Reichstag and the main railway station: The escape staircase including handrail is fully extended and accessible within 25 seconds

2-piece floor hatch as an emergency exit, Munich

Pump station access, Seligenstadt

Floor hatch that can be walked on and comes equipped with an opening aid, Koblenz

Applications

- Entrances and exits, access/filling openings and assembly openings
- Hydraulics, electric lifting cylinders and counterweights are used as opening aids, depending on the way in which it is going to be operated
- All covers are equipped with an additional mechanical backup opening function
- **Dimensions:** clear opening from 800 x 1500 mm to 2500 x 6000 mm
- Single and multiple covers – depending on the size and weight
- **Materials:** hot-dip galvanised steel, stainless steel and reinforced concrete
- **Leak-tightness:** according to requirements, number of covers and dimensions – surface-water-tight, floodproof and backwater-proof
- Fire protection/heat insulation/sound insulation available on request
- **Options:** Gratings, guardrails as anti-fall-in protection, joint gap heating, optical/acoustic alarms, connection to fire alarm and malfunction monitoring systems
- Comprehensive advice
- Full system, including assembly and control as per your requirements
- Installation and maintenance possible

Special manhole covers with surface adaptation

Shaft covers with customised surfaces are becoming increasingly important, as they provide an interface between the functional aspects of drainage and the aesthetic elements in the public sphere.
ACO provides both of these to the highest quality.

Urban areas
These shaft covers have become indispensable in urban areas. In order to make the urban landscape of a city as pleasant as possible, ACO offers special shaft covers, escape hatches and floor hatches as well as shaft covers with customised surfaces. This ensures that shaft covers blend into the scenery in the best way possible.

Special spatial requirements
A good example of a cover that is perfectly adapted to its surroundings can be found at Berne Town Hall. Here, a special shaft cover with an automatic opening function has been installed. The cover blends in perfectly with the surrounding historical architecture and preserves the classic flair of this historic site.

Landscape architecture
The special manhole covers from ACO also blend perfectly into the scenery in landscape architecture and are therefore an excellent solution in terms of both functionality and aesthetics. The special shaft cover fits inconspicuously into the natural ambience.

Hint

Any questions about surface adaptation? Get in touch with us! Our contact details are listed on page 26.

Discreet, as little metal on the surface as possible – this can be realised with pavable floor hatches, Luxembourg

Large hatches, with a lot behind them – design meets function

Truck-accessible, watertight, hydraulic transformer covers with thermal insulation, Luxembourg

Large transformer covers with surface adaptation

The largest manhole covers that ACO has ever developed are also a prime example of several of our areas of expertise. The client was the Luxembourg tram company Luxtram, and a number of additional requirements had to be taken into account for the desired oversized floor flaps.

Electrically powered trams that run without overhead lines charge their batteries in seconds during stops at stations. This requires powerful transformers, which should disappear underground along with their infrastructure. When developing the transformer covers, it was very important that the design blends in with the local architecture.

There is no standard range of manhole hatches in the required sizes. The largest of the floor flaps realised has an area of 3 x 19 m and is watertight, thermally insulated and can also be accessed by trucks with automatic opening.

Bespoke covers with backwater and flooding protection

Manually actuated, backwater-proof cover with a load class of D 400 and an opening aid

For a number of specific applications, shaft covers have to be flood-proof, i.e. impervious to pressurised water (according to the pressure level/overflow level) from the top down, or backwater-proof, i.e. impervious to pressurised water (according to the pressure level) from the bottom up. In these systems, appropriate measures have to be taken to ensure that the cover is fixed in place on the shaft and that the seal is impervious to pressurised water. We would be delighted to offer you a solution tailored to your specific application.

View from below of a floodproof cover on an assembly opening, power plant on the river Danube near Augsburg

Backwater-proof covers filled with asphalt and with a load class of D 400, Ansbach

View from below of a floodproof cover on an assembly opening, power plant on the river Danube near Augsburg

2


LAYOUT_Channels
PP02-P14
PP02-P11
PP02-P12
PP02-P05
P41
P26
CHANNEL 9 slot type
Multiline V 300 (NW 300 mm)
Rinnenkörper, Einlaufkasten und Zubehör

Services and contact

ACO Building Drainage

With our committed team of industry experts, we deliver to our customer proficiency, in terms of a high level of customer focus and quality service. In addition to our range of products, we strive to satisfy your individual requirements and needs.

www.aco.co.uk/products/bespoke-access-covers

Hint

Or fill out our form at:
www.aco.co.uk/products/bespoke-access-covers

Planning assistance for covers

Company: .....
Telephone number: .....

Contact: .....
Fax: .....

Street: .....
E-Mail: .....

Postcode, town/city: .....
Date: .....

1. Basic information

Please fill out/mark with a cross

Intended use of the cover

☐ Assembly opening ☐ District heating ☐ Access opening ☐ Exit
☐ Entrance ☐ Firefighter access ☐ Inspection shaft ☐ Escape hatch
☐ Other .....

Intended use if escape hatch is selected above

☐ Public area ☐ Private premises ☐ For third parties ☐ For trained staff

Is there an emergency power supply?

☐ Yes ☐ No

Place of installation of the cover

☐ Shaft ☐ Road ☐ Concrete upstand ☐ Ceiling/roof of
☐ a building in a green space ☐ Square, paved area ☐ Unpaved area ☐ Materials silo

Shape of the structural opening:

☐ Round ☐ Rectangular ☐ Other .....

Clear opening of the structural opening:

..... x ..... mm

Cover:

☐ Able to be driven over (flush-mounted) ☐ Elevated (fitted)

Frequency of being driven over:

☐ Rarely ☐ Occasionally ☐ Frequently ☐ Very frequently

Frequency of being opened:

☐ Rarely ☐ Occasionally ☐ Frequently ☐ Very frequently

Indoors or outdoors?

☐ Cover is indoors
☐ Cover is outdoors

If outdoors:

☐ Is it under a roof or
☐ is it exposed to the weather?

☐ Does the cover come into contact
☐ with corrosive substances (e.g de-icing, salt)

What is below the cover?

☐ Drying room ☐ Wet room ☐ Underground car park ☐ Escape tunnel
☐ Stairwell ☐ Cable duct Sewage shaft Drinking water supply
Wood chip
Corrosive substances (e.g. faecal matter, industrial effluent, etc.)

☐ **Ex protection zone:** ☐ Zone 1 ☐ Zone 2

2. Equipement

Load class:

☐ Can be walked on ☐ Can be driven over ☐ ... by passenger cars ☐ ... by trucks – max. 7.5 t
☐ Heavy duty (e.g. industrial areas) ☐ Heavy duty (e.g. airports) ☐ ... by trucks – max. 30 t
☐ Other loads: ..... ☐ ... by trucks – max. 60 t

Preferred materials:

☐ Galvanised steel ☐ Stainless steel 1.4301 ☐ Stainless steel 1.4571 ☐ Aluminium
☐ Reinforced concrete ☐ Cast iron

Surface of the cover:

☐ Stud plate ☐ Brushed concrete ☐ Cast iron ☐ Aluminium
☐ cover in a trough design for surface adaptation with filling dimensions of ..... mm
☐ Polyurethane coating required (due to corrosive substances or non-slip safety)

Leak-tightness:

☐ Not airtight ☐ Surface-water-tight ☐ Gastight against unpressurised gases
☐ With ventilation: Ventilation shaft .....cm ☐ backwater-proof up to ..... bar
☐ Floodproof up to..... m water depth with circumferential internal trench and drainage pipes (to be connected on site)

Underside of cover:

☐ Heat insulation ☐ Sound insulation

Fire protection requirements:

☐ F30 ☐ F60 ☐ F90 ☐ From above
☐ From below ☐ From above/below

Operation method:

☐ Only manual ☐ With lifting equipment ☐ With an opening aid (gas spring, spring, counterweight)
☐ Automatic (hydraulic, electric, counterweight)

Number of covers

☐ Symmetrical cover parts ☐ Asymmetrical cover parts ☐ Cover with built-in inspection opening.
Size inspection opening: ..... x ..... mm

Position of hinges:

☐ Long side ☐ Short side

Anti-fall-in guardrails:

Guardrail:

☐ Folding guardrails ☐ Push-in guardrails ☐ Fixed guardrails

Material required:

☐ Aluminium ☐ Galvanised steel ☐ Stainless steel

Grating:

☐ Folding ☐ Fixed in place

Material required:

☐ Aluminium ☐ Galvanised steel ☐ Stainless steel

Operation:

Operation from above the cover:

☐ Opening and closing manually with an operating key, via screws etc.
☐ Automatically with a keyholder, remote control, etc.

Operation from below the cover:

☐ Opening and closing manually via a panic switch, pull cable, etc.
☐ Opening and closing electrically via a control panel, emergency exit button, etc.

Access security measures: e.g.

☐ Special screw-in locking lever head ☐ Transponder activation ☐ Signal contact in the cover

Drive type:

Hydraulic	Electric	Spring mechanism	Counterweight
☐ Gas rams	☐	☐	☐
☐			

Hydraulic power unit

Location of power unit and control panel:

Drying room	Wet room
☐	☐

Distance of the power unit and control panel from the cover:

..... mm

Hydraulic unit:

Mobile 12 V	Mobile 24 V	Mobile 230 V	Mobile 400 V
☐ Fixed	☐ Without a handpump	☐ With a separate handpump	☐ With a built-in handpump
☐	☐	☐	☐

For escape hatches without an emergency power supply:

With an accumulator	With a rechargeable battery/battery
☐	☐

Accessories:

Joint gap heating	Signal alarms	Flashing warning lights	Crush guard
☐ Prefabricated reinforced concrete frame	☐	☐	☐

☐ Control unit with interface for displaying status and error messages
☐ For stairwell access: short side of frame designed as step in the same gradient as staircase
☐

3. Installation

Assembly and Installation

Assembly support during installation and connection	Full assembly
☐	☐

Do you have any questions? Our team would be happy to help you!

www.aco.co.uk/products/bespoke-access-covers


ACO

Contact details for the ACO Building Drainage

askACO

Access Cover sales

Tel:+44 (**0**) 1462 810421
email: acsales@aco.co.uk

Specification and Design advice:
Tel:+44(**0**)1462 810400
abdtechnical@aco.co.uk

Order Enquiries

Tel:+44(**0**)1462 810400
abdcommercial@aco.co.uk

Sustainability

Playing our part

ACO recognise that sustainability is the single most important issue that the construction industry will face over the coming years. Our research and development programme aims to maximise the use of sustainable material but, importantly, also strives to improve manufacturing and administrative processes that impact our environment.

Responsible sourcing

ACO have developed a programme of continual improvement which seeks to ensure, where practical, all products manufactured are made from sustainable materials – recycled and recyclable.

The company has a programme of residues, ensuring that all packaging, palletising and office residues are segregated and managed in an ecologically sustainable manner.

Supply Chain Sustainability School (SCSS)

ACO have achieved gold level status with the Supply Chain Sustainability School (SCSS) through ACO staff using hundreds of educational resources and group training sessions. ACO have also engaged with board and special interest SCSS group meetings, implemented learning pathways into ACO's Sustainability Committee structure and induction process, and share knowledge and experience with other members.

Sustainable drainage systems (SuDS)

Sustainable Drainage Systems (SuDS) aim to control surface rainfall run-off by controlling the rate and volume of runoff from your site, relieving pressure on sewerage systems and mimicking natural drainage as closely as possible. Used effectively, SuDS can help developers deliver greener infrastructure.

We have unrivalled experience in designing, creating and advising on fully-integrated and sustainable surface water management systems. Whatever your requirements, we can help you deliver an effective solution and support you with best practice, relevant information and dedicated resources on an ongoing basis.

ACO believes that the best SuDS will be cost effective to operate and provide efficient drainage throughout their life. Rather than being inherently 'soft' or 'hard', they will instead include an optimized and integral mix of 'soft' and 'hard' components that will combine to bring out the best in each other.

Our service offer

Each project is different and has its own specifications and challenges. Aside from our products, we can also offer you our know-how and services, so we can develop tailor-made solutions together – from planning to support after completion. ACO is your first point of contact in all project phases.

askACO

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train:

Information and Further Education

In the ACO Academy we share ACO's know-how with architects, planners, engineers, contractors and traders, for whom quality is important. You are invited to share these benefits.

design:

Planning and Optimisation

The specification and design in rainwater management allows many variations. We help you to find the right answer.

Our invitation for you: askACO
ACO is one of the global market leaders in the Water-Tech segment and has taken on the challenge of developing products that precisely meet the respective requirements. The diverse climatic conditions and specific local differences require solutions that are both ecological and economical in each individual case. Together we will find the right answer to your specific drainage question.

support:
Construction Consultation and Support
To ensure that no unpleasant surprises occur between the planning and implementation of a solution, we advise and assist you for a specific project on your construction site.

care:
Inspection and Maintenance
ACO products are designed and produced for a long life. With our after-sales offers we ensure that ACO fulfils your high quality standards for many years.

ACO. we care for water

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

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

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

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

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

www.aco.com

Holder
Iver and Hans-Julius Ahlmann

Headquarters of the ACO Group
in Rendsburg/Büdelsdorf

5,200

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

1.2 Billion

Euro Sales in 2022

37

production sites in 18 countries

ACO Academy
for practical training

ACO. we care for water

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. We accept the challenge of reusing water, and thus establishing a resource-saving cycle.

ACO Building Drainage

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Bespoke Covers – 11/2024 – Subject to change